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Rapid Access Guide for **Triage and Emergency Nurses**

Chief Complaints With High Risk Presentations

Lynn Sayre Visser
Anna Sivo Montejano

Rapid Access Guide for TRIAGE AND EMERGENCY NURSES

Lynn Sayre Visser, MSN, RN, PHN, CEN, CPEN, is a registered nurse with over two decades as a certified emergency nurse working in community and trauma hospitals across northern California. Her career has been complemented by experience working in prehospital care on 911 and critical care transport ambulances, ICUs, postanesthesia care units, and as an organ procurement coordinator. Her passion for quality patient care led her to play instrumental roles in the implementation of a provider in triage, rapid triage assessment, and immediate bedding processes along with formalized triage education in multiple facilities. Ms. Visser is the author of *Fast Facts for the Triage Nurse: An Orientation and Care Guide in a Nutshell*, which won third place in the 2015 *American Journal of Nursing* Book of the Year awards in the critical care/emergency category. This book has since become available in the United Kingdom under the title *Essentials for the Triage Nurse: An Orientation and Care Guide*. Her author team donated hundreds of copies of the award-winning book to support fund-raising efforts for nursing scholarships, which they continue to do to this day. She is a graduate of the University of California-Davis, Samuel Merritt University, Walden University, and Semester at Sea. She holds a Master of Science degree in Nursing with an emphasis in education and a double Bachelor of Science degree in exercise physiology and nursing.

Anna Sivo Montejano, DNP, RN, PHN, CEN, has over three decades of experience in emergency nursing and triage education. She has taught nursing theory and aided the professional development of nurses as a preceptor, mentor, and clinical instructor. She has been a certified emergency nurse for more than 25 years. Her ED contributions include work as a staff nurse, primary preceptor, and assistant nurse manager, as well as in educational development. Dr. Montejano has worked to improve the quality and efficiency of patient care through projects such as the change process of rapid medical screenings and rapid triage assessments; as a project manager for a major ED expansion; and as an advanced cardiac life support instructor. She authored *Fast Facts for the Triage Nurse: An Orientation and Care Guide in a Nutshell*, which won third place in the 2015 *American Journal of Nursing* Book of the Year awards in the critical care/emergency category. This book has since become available in the United Kingdom under the title *Essentials for the Triage Nurse: An Orientation and Care Guide*. She received her doctor of nursing practice degree from California State University, Northern Consortium (Fresno and San Jose State University), her master's degree in nursing with a focus on education from the University of Phoenix, and her BS in nursing from California State University, Fresno.

Rapid Access Guide for TRIAGE AND EMERGENCY NURSES

CHIEF COMPLAINTS WITH HIGH-RISK PRESENTATIONS

**Lynn Sayre Visser, MSN, RN, PHN, CEN, CPEN
Anna Sivo Montejano, DNP, RN, PHN, CEN**

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*To the front-line healthcare provider who selflessly and fearlessly
cares for patients during their most vulnerable moments*

... and to every patient that we learned from and grew from, thank you.

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CONTRIBUTORS AND REVIEWERS

A special thanks to these talented individuals for bringing their years of experience, knowledge, and expertise to this publication. Their critical eye in writing and evaluating content brought this book to life.

CONTRIBUTORS

Erik Angle, RN, MICN, MEP
Shelley Cohen, MSN, RN, CEN
Dawn Friedly Gray, MSN, RN, CEN, CCRN
Beth Hawkes, MSN, RN-BC
Andrea Perry, MSN, RN, CNL, CEN, CPEN
Amanda Rose, MSN, RN, CEN, TCRN, PHRN
Polly Gerber Zimmermann, RN, MS, MBA, CEN, FAEN

REVIEWERS

Daniel A. Belajic, OD, FAAO
Shelley Cohen, MSN, RN, CEN
Mary Fardanesh, BSN, RN

Lori Gallian, EMT-P, BS
Dawn Friedly Gray, MSN, RN, CEN, CCRN
Valerie Aarne Grossman, MALS, BSN, RN
Yvonne Hansen, MS, RN, CCRN
Laura B. Hromanik, MSN, FNP-C, RN, Major, USAF, NSC
(Ret)
Deb Jeffries, MSN Ed, RN-BC, CEN, CPEN
Kim Johnson, LCSW
Kati Kleber, BSN, RN, CCRN
Andrea Perry, MSN, RN, CNL, CEN, CPEN
Lauren Schlavin Pittman, BSN, RN, CPEN, MICN
Amanda Rose, MSN, RN, CEN, PHRN, TCRN
Cheri Sabella, RN, MEd, BS
Polly Gerber Zimmermann, RN, MS, MBA,
CEN, FAEN

PREFACE

The fear of every nurse is missing a life-threatening or high-risk patient presentation that deteriorates while awaiting care. This guide is designed to help any healthcare provider (ED/urgent care/clinic nurse, paramedic/EMT) faced with determining the urgency of a patient's condition and prevent those misses or near misses.

This rapid access guide is the result of five decades of combined emergency nursing experience building upon what we called our pocket-sized "Book of Brains." As colleagues and friends, together we focused on continually learning by enhancing our critical thinking skills, improving our decision-making, and being on a quest to acknowledge what we did not know yet needed to know as nurses in a busy urban ED.

Designed with the user in mind, there are screening tools and checklists along with space to customize the book with frequently and infrequently needed contact numbers. Also included are notes sections to write out or paste facility-specific policies and procedures along with quick reference tables and resources to help you efficiently identify and initiate care for the sickest patients.

Content includes waiting room and legal issues, medical conditions, behavioral health, trauma, active shooter/active violence, and emergency management of disasters, providing you with action steps to help in prioritization during crisis moments. Each body system covers the most common chief complaints and lists questions, assessments, and interventions that are of utmost *priority* in determining the patient's level of urgency. Red flag findings throughout the sections bring attention to the most critical signs and symptoms and can be quickly located by the flag icon. Pediatric and older adult considerations, also identified by icons, are interwoven throughout the body system chapters.

Our sincere hope is that you utilize this guide in your daily practice, adding essential need-to-know content as new insights arise, and that soon you own a "Book of Brains" that is customized just for you.

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From Us Both

To our editor, Elizabeth Nieginski: To be guided by you, in your infinite knowledge and experience, has been a true gift. Throughout this journey, you blessed us many times over with never-ending support, patience, and insightful thoughts. You never stopped believing in us, despite the many unexpected twists and turns. Thank you for taking the path less traveled, trusting that our vision would flourish into a useable guide, making a difference to both patients and healthcare providers in the years ahead. We cannot wait to see what the future holds.

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From Lynn Sayre Visser

Anna Sivo Montejano: From day one as a new grad in the ED, you set the bar high for the nurse and patient advocate I wanted to be. I love our shared passion for learning and in challenging ourselves as people and professionals. From bedside colleagues who could care for the sickest of the sick without speaking a word, to educators, authors, and each other's sounding board ... you are an amazing colleague, stellar personal nurse, and always reliable friend. Thankful for you!

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To my family and friends: Thank you for being with me on this wild journey called “life” and for supporting me along the way. Scott, Chase, Colton, and Brody, no day is dull with you in it! I love you!

From Anna Sivo Montejano

Lynn, how does one express the amazing friendship that began between us over 25 years ago? We started off as colleagues, became friends, and then our relationship blossomed professionally as we both shared the same goal, providing safer patient care. We both knew to grow professionally leaves no borders to what we can accomplish. Learning from and guiding each other has provided us with the knowledge and wisdom needed throughout our many ventures together, and for that I thank you.

To all of the people I have crossed paths with throughout my life in gatherings, conferences, schools, jobs, teaching, and so forth, I cannot thank you enough for the opportunity to have gotten to know you, for you have played a part in the person I am today. Phil, Zsuzsa, Michael, and Marcus, thank you for always supporting me in every new venture I undertake. The future holds so many possibilities.

ABBREVIATIONS

A/O alert and oriented

AAA abdominal aortic aneurysm

A-B-C-D airway; breathing; circulation; disability

ABG arterial blood gas

abx antibiotics

AC alternating current

ACE angiotensin-converting enzyme

ACS acute coronary syndrome

ADLs activities of daily living

a-fib atrial fibrillation

AICD automatic implantable cardiac defibrillator

ALTE apparent life-threatening event

AMA against medical advice

AMI acute myocardial infarction

AMS altered mental status

APR air purifying respirator

ASAP as soon as possible

ATP advanced triage protocols

AVM arteriovenous malformation

BC blood culture

BiPAP bi-level positive airway pressure

BLS basic life support

BM bowel movement

BMP basic metabolic panel

BNP brain natriuretic peptide

BP blood pressure

BPH benign prostate hyperplasia

BSA body surface area

BVM bag valve mask

CA cancer

CAD coronary artery disease

CAT combat application tourniquet

CBC complete blood count

CBRN chemical, biological,
radiological, nuclear, and explosive

c.-diff *Clostridium difficile*

CHF congestive heart failure

CMP comprehensive metabolic panel

CMS Centers for Medicare and Medicaid Services

CNS central nervous system

c/o cause of; complaining of

CO carbon monoxide

COPD chronic obstructive pulmonary disease

CP chest pain

CPAP continuous positive airway pressure
CPOE computerized provider order entry
CPR cardiopulmonary resuscitation
CSF cerebrospinal fluid
CSM color, sensation, motor function
c-spine cervical spine
CT computed tomography
CTA computed tomography angiography
CVA cerebrovascular accident
CVP central venous pressure
CXR chest x-ray
d day
decon decontamination
DC direct current
DIC disseminated intravascular coagulation
DKA diabetic ketoacidosis
DM diabetes mellitus
DOB date of birth
DVT deep vein thrombosis
dx diagnosis, diagnosed
ECG electrocardiogram
ED emergency department
EDC estimated date of confinement
EEG electroencephalogram
EM emergency management
EMC emergency medical condition
EMS emergency medical service

EMTALA Emergency Medical Treatment and Active Labor Act
ENA Emergency Nurses Association
EOC emergency operations center
EOP emergency operations plan
ETOH ETOH alcohol
ETT endotracheal tube
FAST face numbness, arm weakness, speech difficulty, time
FBI Federal Bureau of Investigation
FHT fetal heart tones
FLACC Pain Scale
GC/chlamydia
GCS Glasgow coma scale
GDS geriatric depression scale
GERD gastroesophageal reflux disease
GI gastrointestinal
GPAL gravida, para, abortions, living
GSW gunshot wound
HA headache
HCC hospital command center
HCG human chorionic gonadotropin
HEPA high-efficiency particulate air
HF heart failure
HICS hospital incident command system
HIE hypoxic ischemic encephalopathy
HIPAA Health Insurance Portability and Accountability Act

HR heart rate
HTN hypertension
hx history
IAP incident action plan
IBS irritable bowel syndrome
IC incident commander
ICB intracranial bleed
ICP intracranial pressure
IDLH immediately dangerous to life and health
IED improvised explosive device
IM intramuscular
INR international normalized ratio
IPV intimate partner violence
IV intravenous
JVD jugular vein distention
L&D labor and delivery
LFTs liver function tests
LLL left lower lobe
LLQ left lower quadrant
LMP last menstrual period
LOC level of consciousness
LOS length of stay
LP lumbar puncture
LPMSE left prior to the medical screening exam
LR lactated Ringers
LUQ left upper quadrant
LWBS left without being seen

LWT left without treatment
MAP mean arterial pressure
MASS move, assess, sort, send triage algorithm
MCI mass casualty incident
MI myocardial infarction
mo month
MOI mechanism of injury
MONA morphine, oxygen, nitroglycerin, aspirin
MRSA methicillin-resistant *staphylococcus aureus*
MERSA methicillin-resistant *Staphylococcus aureus*
MS multiple sclerosis
MSDS Material Safety Data Sheets
MSE medical screening exam
MVC motor vehicle crash
N/V nausea/vomiting
N/V/D nausea/vomiting/diarrhea
NGASR nurses' global assessment of suicide risk
NHTRC National Human Trafficking
Resource Center
NIHSS National Institutes of Health Stroke Scale
NP nurse practitioner
NPA nasopharyngeal airway
NPO nothing by mouth
NS normal saline
NSAID nonsteroidal anti-inflammatory drug
O₂ oxygen
O₂ sat oxygen saturation

OPA/NPA oropharyngeal/nasopharyngeal airway
ox oximetry
P & P policies and procedures
PA physician assistant
PA/Lat posterior-anterior/lateral
PAPR powered air purifying respirator
PCI percutaneous coronary intervention
PE pulmonary embolism
PEEP positive end expiratory pressure
PID pelvic inflammatory disease
PIO public information officer
PMH past medical history
POC point of care
PPE personal protective equipment
PPV positive pressure ventilation
PQRST provokes/palliates; quality; region/radiation;
severity/associated symptoms; timing/temporal
relations
PRO-BNP pro-brain natriuretic peptide
PT prothrombin time
PTA prior to arrival
PTT partial thromboplastin time
PUD peptic ulcer disease
r/o risk of; rule out
RA room air
RAM risk assessment matrix
RHCC Regional Hospital Coordination Center

RICE rest, ice, compression, elevation
RLL right lower lobe
RS respiratory syncytial
RLQ right lower quadrant
RR respiratory rate
RSQ risk of suicide questionnaire
RSV respiratory syncytial virus
r-tPA tissue plasminogen activator
RUQ right upper quadrant
s/sx signs/symptoms
SALT sort, assess, lifesaving interventions, treatment/
transport triage algorithm
SANE sexual assault nurse examiner
SAR supplied air respirator
sat saturation
SBP systolic blood pressure
SCBA self-contained breathing apparatus
SCC squamous cell carcinoma
SCIWORA spinal cord injury without radiographic
abnormality
SIQ suicidal ideation questionnaire
SIQ-Jr suicidal ideation questionnaire-junior
SIRS systemic inflammatory response syndrome
SOB shortness of breath
START simple triage and rapid treatment/transport triage
algorithm
STEMI ST-elevation myocardial infarction

STI sexually transmitted infection
SWAT special weapons and tactics
TACO time of rupture, amount of fluid estimated, color of fluid, odor present
TBI traumatic brain injury
TCA tricyclic antidepressant
TEE transesophageal echocardiography
TIA transient ischemic attack
TKO to keep open
TSS toxic shock syndrome
Tx, tx treatment
UA urinalysis

URI upper respiratory infection
US ultrasound
UTD up to date
UTI urinary tract infection
VASA violence and suicide assessment form
VQ ventilation/perfusion
VS vital signs
VTE venous thromboembolism
WBC white blood cells
WMD weapons of mass destruction
yr year
yrs years

Share

**Rapid Access Guide for Triage and Emergency Nurses:
Chief Complaints With High Risk Presentations**



1 TRIAGE DOWN AND DIRTY

DEFINITION OF TRIAGE

Triage is a sorting process used to identify the sickest patients or those at greatest risk of demise so immediate medical needs can be rapidly addressed. Triage comes from the French verb “trier,” which means “to sort.”

GOALS OF TRIAGE

The goal of triage is to determine:

1. How sick or injured is the patient? What is this patient's potential for demise?
2. How quickly do interventions, care and treatment need to be delivered?
3. What treatment/waiting area of the department is most appropriate for the patient (main ED vs. Fast Track, internal waiting room, etc.)?

In this book, the focus is on identifying patients who require immediate or rapid intervention and care.

FIVE-LEVEL TRIAGE SCALE

Several valid and reliable five-level triage systems exist, but ***no specific triage system is referred to in this guide.*** Understanding a five-level triage scale is a complex process requiring formalized triage education followed by hands-on training with a preceptor. A combination of education, experience, and critical thinking, in conjunction with being a detective in questioning and assessment, plays a role in getting to the most accurate triage level. Terms associated with triage levels within this book refer to a five-level triage system only and include:

Level 1

- The patient is a **resuscitation**.

Level 2

- The patient has an **emergent** condition.

Level 3

- The patient has an **urgent** condition.

Level 4

- The patient has a **less-urgent** condition.

Level 5

- The patient has a **non-urgent** condition.

Source: Gilboy, N., Tanabe, T., Travers, D., & Rosenau, A. M. (2011, November). *Emergency Severity Index (ESI): A triage tool for emergency department care, version 4*. Implementation Handbook 2012 Edition. AHRQ Publication No. 12-0014. Rockville: MD. Agency for Healthcare Research and Quality.

THE PATIENT ARRIVAL

A **systematic approach** to triage helps rapidly identify the sickest patients and get them to the right care.

The initial assessment of the patient arrival should involve the following:

Primary Survey/Across the Room Assessment or the “Quick Look”

- Evaluate the patient’s A–B–C–D–E upon arrival.
- Act on any significant A–B–C–D–E impairments.
- Consider c-spine immobilization for any known traumatic injuries.
- If immediately identified as needing life-saving or rapid treatment, move patient straight to the treatment area.

Rapid Triage Assessment (takes <60–90 seconds)

- Obtain the **chief complaint, name, date of birth**.
- Consider the need for patient **decontamination**.
- Think **Red Flag Findings** and assess for them (**Red Flags** are listed in each body system section).
- Think **screening for trauma, STEMI, stroke, and sepsis**; initiate per protocol at triage! **Time is critical** and outcomes improve if timely treatment is initiated upon identification.
- Consider if the patient needs a **stat ECG** per protocol; think ECG in less than 10 minutes of arrival at facility.
- Continue to **evaluate for A–B–C–D–E** abnormalities and **c-spine immobilization** as information is available.

NOTE: A-B-C-D-E stands for Airway - Breathing - Circulation - Disability - Expose/Environment

RED FLAG FINDINGS—HIGH-RISK PRESENTATIONS

- While obtaining the chief complaint, the nurse asks questions to determine the patient's potential for a permanent impairment or demise.
- If the patient has a **red flag finding**, you may have a **life-threatening or high-risk patient presentation**; immediate or rapid medical care (in most cases) is needed.
- **Red flag findings always require critical thinking and clinical correlation with assessment.**

EMERGENCY KEY TIPS

- Key tips cover the most common concerns for the body system and apply to most of the chief complaints listed (unless otherwise stated).
- Other chapters to consider are addressed (e.g., do not assume arm pain is a musculoskeletal issue).
- Orders to anticipate are listed. Facility ATPs might include these orders.

ED METRICS

- **Arrival Time:** The time the patient enters the facility seeking care.
- **Door-to-Doctor Time:** The time interval in minutes between arrival time and patient consultation time by a physician/provider.
- **Door-to-Discharge Time:** The time interval in minutes between arrival at the facility and discharge.
- **ED LOS:** The time the patient spent in the ED from the arrival time until discharge.

PRIORITY SETTING

When considering what patient presentations may take precedence over others, refer to Table 1.1: Priority Setting at Triage.

Table 1.1: Priority Setting at Triage

FIRST PRIORITY	SECOND PRIORITY
Severe A–B–C–D–E impairment	Minor A–B–C–D–E impairment
Life-threatening situation	Limb-threatening situation
Cannot rule out worst-case scenario	Can rule out worst-case scenario
Acute onset	Chronic conditions (if condition has changed, consider increasing prioritization)
Systemic issues	Localized issues
High-risk factors (e.g., comorbidities)	No high-risk factors

2 THE SECRETS TO USING THIS GUIDE

THE GOAL OF THIS GUIDE

The goal of this rapid access guide is to help the healthcare provider quickly identify **high-risk patient presentations**. Many of these patients high-risk will be identified during the rapid triage assessment through brief questioning and/or identification of a Red Flag Finding. However, sometimes a comprehensive triage assessment may be needed (when feasible) to identify the patient as high risk. Although clinical diagnoses are mentioned throughout the guide to assist with critical thinking and consideration of the worst case scenario, **the nurse's role is not to diagnose**.

The content in this book will help *any* healthcare provider in the field or in the ED (EMS, triage, emergency, and/or urgent care nurse, etc.) who encounters a patient with a clinical complaint. Determination of the risk of an emergent condition is always the priority. Consider the rapid triage assessment to be the primary survey and the comprehensive triage assessment the secondary survey. In the ED, the assessment is often complaint specific and focused, while in other settings a more extensive assessment may be required.

CHAPTER LAYOUT (FOR CHIEF COMPLAINT CHAPTERS 8 TO 25)

Aside from the content provided in Chapters 1–7, this clinical guide is set up in a body systems format. Common, everyday chief complaints that have the potential to be of high concern are covered. Most sections include tables or other quick resource information to help the user. Some complaints and tables were purposely repeated in more than one chapter to help the user get to the right information as quickly as possible.

Each chapter is formatted as follows:

Chief Complaints: Each chapter begins with a list of chief complaints presented in *alphabetical order*.

Red Flag Findings: These findings likely indicate a high-risk presentation requiring immediate or rapid intervention. Of course, clinical correlation with the finding is always a priority. The red flag findings are also listed in alphabetical order.

Key Tips: This content may help you think about core measures, worst-case scenarios, and clinical information. Other chapters to consider and orders to (potentially) anticipate are covered.

CHIEF COMPLAINT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">Listed here are questions you may ask to quickly determine if a high-risk presentation exists. You may ask fewer questions or ask additional questions to make a final triage determination. Use critical thinking!
ASSESSMENT	<ul style="list-style-type: none">A–B–C–D–E assessmentThink abnormal VSAdditional complaint-specific assessment needs will be listed. **You may simultaneously palpate a pulse or observe the respiratory rate, but quick <i>simultaneous multitasking</i> is key.
INTERVENTIONS	<ul style="list-style-type: none">If any alteration in A–B–C–D–E, intervene immediately!Additional interventions required for the specific complaint will be listed.

Note: Once the patient is identified as needing life-saving intervention or to have a high-risk injury or illness, triage is over. The patient should be placed in a treatment area that has the staff and resources to assume care.

CHIEF COMPLAINT (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Additional complaint-specific questions help to identify if the patient is a high-risk presentation.• Tx PTA *PQRST (pain) *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• The complaint-specific assessment may be more involved than in the rapid triage assessment.• Full set of VS per discretion/policies. A full set of VS including temperature, HR, RR, BP, pulse oximetry, and pain scale may or may not be needed. What, if any, VS should be obtained at this point is based on your <i>critical thinking, facility P & P.</i>
INTERVENTIONS	<ul style="list-style-type: none">• Check glucose if indicated *Initiate Advanced Triage Protocols (ATPs) per policies

** If the patient was not identified as a high-risk presentation during the rapid triage assessment, the additional information obtained in the comprehensive triage assessment may help determine if the patient should be high-risk (though it may also confirm your suspicion that the patient is low-risk). **Simultaneously** asking questions while assessing and performing tasks (VS, glucose testing) is critical at triage.

TIP

- Additional information that may assist in your triage decision-making is covered here.

CHIEF COMPLAINT (*Continued*)



PEDIATRIC



OLDER ADULT

Some sections also include unique pediatric and/or older adult-specific information. If a chapter does not include this content, few differences were identified between the pediatric and older adult patient as compared to adults (other than normal physiological differences). Some of those physiological differences are covered in Chapter 4, Pediatric Considerations and Chapter 5, Older Adult Considerations.

WHAT THIS GUIDE IS

This guide is . . .

- Intended to help you **identify life-threatening and high-risk patient presentations**.
- A **quick access resource** to help prompt you in questioning and facilitate rapid decision-making.
- Jam packed with many **common chief complaints** you may encounter on a regular basis.
- A **mobile “book of brains”** created to be **customized** to fit your needs.
- A **tool** to use during **crisis moments** such as an active shooter or disaster event.

If you are looking for additional triage and/or emergency nursing content, check out our award-winning book *Fast Facts for the Triage Nurse* available at www.springerpub.com/fast-facts-for-the-triage-nurse.html

3 SCREENING TOOLS AND CHECKLISTS

The checklists that follow are for time-sensitive diagnoses. Research has proven that patient outcomes are improved and mortality decreased when the time standards indicated within the checklists are met. Utilize the checklists as guides, but always defer to facility policies and procedures.

STEMI CHECKLIST

*Note: Triage interventions are designated by ***

Upon Patient Arrival:

- ** Identify a patient with a potential STEMI **

Within 10 Minutes of ED Arrival:

- ** Obtain a STAT ECG **

As Soon As Possible:

- ** Place orders per ATPs or expedite provider order entry **
(CBC, chemistry panel, cardiac enzymes, CXR)
- Place two or more large bore IVs
- Start TKO IV fluids
- Consider MONA: **M**orphine, **O**xygen, **N**itroglycerin, **A**spirin

Within 30 Minutes of ED Arrival:

- If cath lab available, door to cath lab <30 minutes (door to needle <90 minutes)
- If cath lab unavailable, door to thrombolytics <30 minutes

SUSPECTED STROKE CHECKLIST

*Note: Triage Interventions are designated by ***

Upon Patient Arrival:

- ** Recognize stroke signs and symptoms **
- ** Activate stroke alert per hospital policy **
- ** Document last seen normal and arrival time **

Within 10 Minutes of ED Arrival:

- Provider/stroke team assessment; ***triage RN may need to help expedite ***
- STAT CT brain; ***triage RN may need to help expedite ***

Within 25 Minutes of ED Arrival:

- CT scan completed
- Neurological assessment completed per hospital policy

Within 45 Minutes of ED Arrival:

- CT scan interpreted
- Swallow screen completed per hospital policy

(continued)

Within 60 Minutes of ED Arrival:

- Start fibrinolytics within 60 minutes of arrival and 3 hours of symptom onset. *Thrombolytics can be given to low-risk patients up to the 4.5-hour time frame; providers make that determination.*
- Initiate frequent neuro assessments and VS checks per hospital policy*

Within 24 Hours of ED Arrival if No Thrombolytic Given:

- Aspirin 324 mg PO/PR

The Joint Commission specifies parameters for Certified Stroke Centers. After the initiation of thrombolytics, they require neuro/VS checks every 15 mins × 2 hours, then every 30 mins × 6 hours, then every 1 hour × 16 hours, then every 4 hours or per department standard of care.

SUSPECTED SEVERE SEPSIS SCREENING AND TREATMENT CHECKLIST

*Note: Triage Interventions are designated by ***

SEPSIS SCREENING CRITERIA

Part 1: Infection

- ** Suspicion/presence of infection
- ** Patient is taking antibiotics
- ** ***If yes to one of the questions listed, proceed to Part 2.***

Part 2: SIRS Criteria

- ** HR >90 bpm
- ** RR >20 breaths/min
- ** Temp >101.0°F (38.3°C) or <96.8°F (36°C)
- ** Hyperglycemia >140 mg/dL (not a diabetic)
- WBC >12,000 or <4,000
- ** ***If patient meets two of the Part 2 criteria, proceed to Part 3.***

Part 3: Acute Organ Failure

- ** Altered mental status (change from baseline)
- ** SBP <90 mmHg or MAP <65 mmHg
- SBP decrease >40 mmHg from baseline
- Lactate >2 mmol/L
- Platelets <100,000 μ L
- INR >1.5 μ L or PTT >60 secs
- Increased O₂ needed to keep O₂ saturation >90%

POSITIVE SEPSIS SCREENING TOOL/TREATMENT

- ** Complete sepsis screen per hospital policy **
- ** Document positive screen time as Time Zero **
- ** Activate Sepsis Alert per hospital policy **

SEVERE SEPSIS BUNDLE (COMPLETE IN FIRST 3 HOURS)

- Patient meets criteria if Suspicion of Infection AND 2+ SIRS criteria AND organ dysfunction
 - ** Place bundle orders using ATPs or expedite provider order entry**
(CBC, chemistry panel, blood cultures × 2, lactate, UA)
 - Collect blood cultures, 2 sets from 2 different sites ASAP
 - Collect lactate, CBC, chemistry panel, UA, other tests as indicated/ordered
 - Start IV broad-spectrum antibiotics AFTER blood culture collection
 - Start 30 mL/kg fluid bolus (NS, LR, plasmalyte) for hypotension (systolic <90, MAP <65) or lactate ≥ 3.9
 - **All patients with lactate ≥ 2 : Repeat lactate after fluids and within first 6 hours**

SEPTIC SHOCK BUNDLE (COMPLETE WITHIN FIRST 6 HOURS)

- *Patient meets criteria if persistent hypotension after completion of fluids **AND/OR** lactate ≥ 3.9*
 - Start vasopressors if patient has persistent hypotension
 - Focused reassessment
 - Focused exam completed by provider **OR** two of the following:
 - CVP
 - SvO₂
 - Passive leg raise
 - Fluid challenge
 - Cardiovascular ultrasound

The goal should be to complete the Severe Sepsis bundle components as close to Time Zero as possible.

Many facilities are striving to complete first lactate, blood cultures, fluids, and antibiotics within the first hour of recognition.

Every hour of delay increases chance of mortality.

4 PEDIATRIC CONSIDERATIONS



RED FLAG FINDINGS

- Abnormal airway sounds (stridor, grunting) or retractions
- Abnormal VS
- Altered mental status
- Apneic episode (current/reported), color change, and change in muscle tone
- Drooling that is inappropriate for the age of the child
- Fever > 100.4°F (38°C) if <3 mos
- Fever >104°F (40°C)
- Fontanel (bulging or sunken)
- Immunocompromised with fever
- Increased work of breathing (retractions, accessory muscle use, grunting)
- Injury does not match the story (think child abuse/sexual assault)
- Neonates: (0–28 days) RR >60 breaths/min or neonate with a fever 100.4°F (38°C) or greater
- Petechial rash (fever not required)
- Sepsis/signs of shock with indications of hypoperfusion (capillary refill >2 seconds)
- Severe pain or distress
- Syncope
- Unresponsive, active seizures, or long postictal phase

AGE CRITERIA: Neonate = 0 to 28 days; infant = 1 month to 1 year; child = 1 to 8 years



QUICK ASSESSMENT

STEP 1: PEDIATRIC ASSESSMENT “Across the Room Assessment” or “Quick Look”

- An initial **rapid** observational assessment; takes <60 seconds to perform
- Provides a first impression of the **physiological status** of the child and helps in prioritizing of patients

COMPONENTS OF THE ASSESSMENT

- **Appearance:** Look at the **overall appearance of the child**
Assess: LOC, look/gaze and cry, presence of spontaneous movements, muscle tone, body position, consolability, level of activity/interactiveness, looks ill
- **Breathing:** General impression of **how hard the child is working to breathe**
Assess: Visible movement, rate (normal, increased or decreased), audible airway sounds (stridor, wheezing), retractions (sternal, supraclavicular, intercostal), nasal flaring, and positioning (tripod, head bobbing)?
- **Circulation:** General impression of **circulatory status**
Assess: Skin color (gray, dusky, mottled, cyanotic, pale, pink), any obvious bleeding, diaphoresis?

Abnormal Pediatric Assessment = Facilitate immediate treatment for patient

STEP 2: PRIMARY ASSESSMENT

- A-B-C-D-E

STEP 3: SECONDARY ASSESSMENT

- Chief complaint and focused examination
- Medical history, VS, and pain
- All aspects of the secondary assessment *may not* be completed at triage but are important in pediatric evaluation

VITAL SIGN TIPS

- Respiratory compromise is the source of most pediatric arrests
- Severe respiratory distress may still maintain a pulse ox $>90\%$
- To determine work of breathing—look for seesaw respirations, retractions, and nasal flaring
- Normal pediatric BP: **$70 + (2 \times \text{age in yrs})$**
- A **change in BP** in a child is a **late finding**
- “Normal” VS does not always reflect physiological stability
- **Rectal temperatures** are gold standard for children **<2 yrs** of age but consider contraindications (neutropenic, recent rectal surgery, etc.)
- Child can be hypothermic, normothermic, or hyperthermic and be critically ill

Table 4.1: Normal Pediatric Vital Signs

AGE	HEART RATE (BEATS/MIN)	RESPIRATORY RATE (BREATHS/MIN)	OXYGEN SATURATION
<3 mos old	100–180	30–50	$>95\%$ on RA
3 mos to 3 yrs	100–140	20–40	$>95\%$ on RA
3–8 yrs	80–120	20–30	$>95\%$ on RA
>8 yrs	70–100	18–20	$>95\%$ on RA

MNEMONICS

Use of mnemonics helps to create a systematic format for the pediatric assessment.

Table 4.2: Mnemonics for Systematic Assessment

CIAMPEDS	AVPU	SAMPLE
C hief complaint I mmunizations, isolation A llergies M edications P ast medical history, parent's impression E vents surrounding illness or injury D iet, diapers S ymptoms	A lert V erbal P ainful stimuli U nresponsive	S igns/symptoms A llergies M edications P ast medical problems L ast food or liquid E vents leading to injury/illness

Source: Emergency Nurses Association. (2012). *Emergency nursing pediatric course provider manual* (4th ed.). Des Plaines, IA: Author.

PEDIATRIC TRIAGE PERILS

Initial Assessment

- **All** neonates, infants, and children should be **visualized upon arrival**.
- **Remove any blankets**. Visualize the face and skin. Even if the child is “sleeping,” you **must see** him/her.
- Evaluate the child in the caregiver’s arms when appropriate.
- When a **parent or caregiver says something is wrong, believe them!**
- If a child is verbal, **listen** closely to what they are telling you.
- If a child is nonverbal, be in tune to the intensity and pitch of their cry, facial expressions indicating distress (grimacing), and make note of whether or not the child is consolable.

***Refer to the appropriate chapter for info on complaint-specific questions, assessment, and interventions.*

Remember

- **Weigh in kilograms (undress the infant and remove the diaper)**; think Broselow tape if unable to weigh.
- Children often present with **vague/nonspecific** signs and symptoms.
- Kids **compensate** for awhile and **then suddenly decompensate**.
- If an injury is inconsistent with developmental stages and/or history, think child maltreatment.
- **Follow your intuition** when you sense something is not right with the child; no harm is done in getting the child to a treatment team immediately.
- Pediatrics have anatomical and developmental differences from adults.
- Collaborate with colleagues when uncomfortable with a presentation.
- Use water-filled wands, bright toys attached to a stethoscope, finger puppets, or bubbles to distract children during the assessment.

PEDIATRIC CONSIDERATIONS RESOURCES

Table 4.3: Pediatric Immunization Schedule Birth to 23 Months of Age

VACCINE	BIRTH	2 MO	4 MO	6 MO	12 MO	15 MO	18 MO	19-23 MO
Hepatitis B (HepB)	X	X		**	**	**	X	
Rotavirus (RV)		X	X					
Diphtheria, tetanus, and acellular pertussis (DTaP: <7 yrs)		X	X	X		**	**	
<i>Haemophilus influenzae</i> type b (Hib)		X	X			X		
Pneumococcal conjugate (PCV13)		X	X	X	**	X		
Inactivated poliovirus6 (IPV: <18 yrs)		X	X	**	**	**	X	
Influenza (IIV; LAIV)								X
Measles, mumps, rubella (MMR)					**	X		
Varicella (VAR)					**	X		
Hepatitis A (HepA)					**			X

** Final dose of the vaccination may be completed during this timeframe.

Source: Centers for Disease Control and Prevention. (2018). Recommended immunization schedules for persons aged 0 through 18 years. Retrieved April 25, 2018 from <http://www.cdc.orghttps://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>

Table 4.4: Pediatric Immunization Schedule Age 2 to 18 Years of Age

VACCINE	2-3 YRS	4-6 YRS	7-10 YRS	11-12 YRS	13-15 YRS	16-18 YRS
Meningococcal				X		Booster
Influenza				X	Annual	Annual
Tetanus, diphtheria, and acellular pertussis (Tdap: >7 yrs)		X		X		
Human papillomavirus (2vHPV: females only; 4vHPV, 9vHPV: males and females)				X	Start if not previously given	
Pneumococcal polysaccharide (PPSV23)	See CDC guidelines for all ages					

Source: Centers for Disease Control and Prevention. (2018). Recommended immunization schedules for persons aged 0 through 18 years. Retrieved April 25, 2018 from <http://www.cdc.orghttps://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>

5 OLDER ADULT CONSIDERATIONS

RED FLAG FINDINGS

- Apathy
- Change in mental status
- Change in physical function
- Dyspnea—increased respiratory rate may be the only sign of distress
- Fatigue
- History of falls
- Self-neglect

QUICK ASSESSMENT—OLDER ADULT

A-B-C-D-E of the Older Adult

- **Airway:** The tongue is the most common obstruction; kyphosis/c-spine alignment make airway ventilations difficult
- **Breathing:** Age-related changes lead to increased work of breathing and decrease in reserve so they decompensate more quickly
- **Circulation:** Beta blockers can mask an increase in heart rate; stress reaction requires increased frequency of vital signs; dysrhythmias may be normal
- **Disability:** Can be difficult to assess; pupil assessment may be difficult due to cataracts and macular degeneration
- **Expose/Environment:** Poor historians, decreased bone density may increase the risk for hidden injuries. Be vigilant when assessing! Reduced ability to perspire, decrease in subcutaneous fat produces an increased risk for thermoregulation challenges (hypothermia/hyperthermia), and may not become febrile despite an infectious process

VITAL SIGNS

- VS changes are a late sign; baseline VS are often altered due to pre-existing conditions and medications
- Hypoperfusion is often overlooked; lab tests help identify changes (lactate, electrolytes)
- Overall decreased physical reserve; will decompensate before VS change

MNEMONICS

Causes of Delirium: DELIRIUM

Dementia

Electrolyte imbalances

Lung, liver, heart, kidney, brain

Infection

Rx drugs

Injury, pain, stress

Unfamiliar environment

Metabolic

OLDER ADULT CONSIDERATIONS RESOURCES

Table 5.1: Dementia Versus Delirium

DEMENTIA	DELIRIUM
Slower onset	Acute illness
Change in brain tissue	Usually the result of another condition—infection, dehydration, medication related
Irreversible	Reversible
Affects memory	Associated with increased agitation, confusion, and inattention
Usually not oriented	Frequently oriented
Not curable	Treatment often cures disease

Patients with dementia are at increased risk for delirium.

Think medications, hypoxia, infection, dehydration, which are common causes of change in mental status and precursors to delirium.

Imperative to know the patient's baseline medical and functional status.

UTI is most common source of infection leading to delirium.

OLDER ADULT TRIAGE PERILS

Initial Assessment—Older Adult Behaviors

- Often underreport their symptoms
- In general, do not want tests performed
- Pain can be difficult to assess—unable to localize
- ETOH intake/abuse is fairly common
- High risk for dehydration (decreased thirst response, physical limitations, etc.)

Remember

- Increased risk for under-triage; think comorbidities, medications, and physiological changes which occur with aging
- Present with vague symptoms
- An atypical presentation is typical
- Minimize distractions—takes longer to triage due to PMH, medications
- Speak slowly and ask one question at a time
- Obtain permission to speak with their family
- Falls are most common injury; assess for patient taking blood thinners (higher risk for bleeding)
- Depression is not a normal aging presentation; find the underlying cause
- Important to know baseline cognitive and physical function; ask accompanying visitors
- Be aware of communication barriers; language and culture
- Recognize dementia and delirium are often superimposed on each other
- Asking about ADLs and how the illness, injury, or pain has impacted their ADLs may provide insight into the severity of the condition

6 WAITING ROOM ISSUES

The waiting room is one of the most **high liability** areas in any acute care setting. **Ongoing monitoring** of patients, even after the initial triage, is vital in order to watch for illness or injury progression, and to be able to intervene, in a timely manner, as needed.

PATIENTS WHO SHOULD NOT BE IN THE WAITING ROOM

Safety and Security Issues

- **Inmates from jail/prison or receiving medical clearance before booking into jail**
- **Suicidal** patients or others of high concern for harm to self or others
- **Aggressive** patients
- **Any patient whose personal safety is at risk** (e.g., suspected child maltreatment, intimate partner violence, or human trafficking)

Exposure Issues

- Patients who can potentially **expose others** to their illness
- **Immunocompromised** patients (can **be exposed** to other illnesses)

Miscellaneous (Consider NOT Placing in Waiting Room)

- Person with **severe psychological impact** (e.g., death of a loved one or other significant loss)

PRECAUTIONS: PREVENTING SPREAD OF GERMS

The staff member who is the first point of contact upon patient arrival must be familiar with the Centers for Disease Control recommendations and should initiate them. The most up-to-date information can be accessed at www.cdc.org

Table 6.1: Types of Isolation Precautions and Action

TYPE OF PRECAUTION	PATIENT ACTION	PRIVATE ROOM	STAFF ACTION	EXAMPLES
Contact	<ul style="list-style-type: none">• Ear loop procedure masks or behind the head tie surgical masks help to contain respiratory secretions. Standard protective masks adequate (N-95 or above not needed).• Sit 3 ft from others if coughing.• Cover mouth/nose with a tissue.• Dispose of tissue in trash containers.• Cover open wounds with dressings.	Required	<ul style="list-style-type: none">• Diligent hand hygiene per CDC guidelines.• Offer masks to patients judiciously.	<ul style="list-style-type: none">• Chickenpox/shingles• Impetigo• Lice• MRSA• Scabies• Smallpox

(cont.)

Table 6.1: Types of Isolation Precautions and Actions (Continued)

TYPE OF PRECAUTION	PATIENT ACTION	PRIVATE ROOM	STAFF ACTION	EXAMPLES
Droplet	<ul style="list-style-type: none"> Mask patient until placed in a negative pressure room with HEPA filter. 	Required	<ul style="list-style-type: none"> Wear loop procedure masks or behind the head tie surgical masks and initiate standard precautions. Initiate placing patient in a negative pressure room or a room with a portable HEPA filter. 	<ul style="list-style-type: none"> Group A strep Influenza Measles (Rubeola) Meningitis Mumps Norovirus Rubella (German measles) Whooping cough
Airborne	<ul style="list-style-type: none"> Mask patient until placed in a negative pressure room with HEPA filter. 	Required	<ul style="list-style-type: none"> Initiate placing patient in a negative pressure room or a room with a portable HEPA filter. Initiate standard precautions including gown, gloves, respirator like N95, N99, N100, or PAPR. 	<ul style="list-style-type: none"> Chicken pox/shingles Tuberculosis Smallpox

Note: A private room is typically required for the conditions discussed in this table. Refer to www.cdc.org for further information.

7 LEGAL ISSUES

CONCEPTS AND DEFINITIONS

Emergency Medical Treatment and Active Labor Act (EMTALA): To provide individuals determined to have an emergency medical condition with either stabilizing treatment or an appropriate transfer to another hospital regardless of their ability to pay.

Medical Screening Exam (MSE): Anything and everything that is necessary to determine whether or not the patient has an emergency medical condition (EMC).

*****Important Note: Triage is not a MSE!***

Emergency Medical Condition (EMC): Any presentation with acute symptoms of sufficient severity such that, if medical care were not provided, the patient (including those not yet born) would be at risk for serious injury or death. Symptoms of sufficient severity include pain (Centers for Medicare and Medicaid Services, 2012).

Left Without Being Seen (LWBS): Patients who leave after triage but before seeing a provider.

Against Medical Advice (AMA): Patients who have been advised of the risks associated with leaving against the advice of the provider but choose to leave despite those risks.

PATIENT LEAVING WITHOUT TREATMENT

Before the Patient Leaves

Before a patient leaves consider the following:

- Notify a medical provider for a determination about the patient's mental capacity
- Discuss additional examination and testing needed to rule out an EMC (completed by the medical provider)
- Discuss risks and benefits of leaving AMA (preferably completed by the medical provider)
- Obtain a written patient signature (when possible) refusing further evaluation and treatment

Documentation

Documentation should include:

- Date and time
- Detailed description of the examination performed including the patient's mental capacity
- A statement regarding the patient's condition upon leaving the facility
- Your signature and preferably a second signature/witness (if a patient refuses to sign AMA paperwork, have at least one more witness be part of the documentation of what was seen and heard and that the patient refused)

***These are suggestions. Following hospital P & P is always suggested.*

REPORTABLE CONDITIONS AND EVENTS

Conditions that are commonly reportable in most states include the following:

- Assault with weapons
- Child abuse
- Elder abuse
- Gunshot wounds
- Homicide
- Injury from explosives
- Injury, illness, or death from a medical device
- Sexual assault/rape
- Sexually transmitted infections
- Some communicable diseases (e.g., tuberculosis)
- Stab wounds
- Suicide

***This is not an all-inclusive list. Follow your state regulations, hospital P & P, and governing bodies.*

REPORT TO RISK MANAGEMENT

- Adverse event in waiting room
- Person threatening to sue
- Person threatening to harm patients/staff/building
- Arrival of unexpected media

***This is not an all-inclusive list. Follow your facility's P & P.*

TRIAGE PITFALLS AND HOW TO AVOID THEM

To avoid triage pitfalls and potential litigation, consider the following:

Assessment

- **Never use a first come, first served mentality**...the first patient is likely not the sickest.
- **Prioritize the “what”** (the complaint and associated signs and symptoms) **rather than the “who.”**
- **Avoid focusing on the red herring/distracting body part** (e.g., obvious fracture but is visibly SOB).
- **Perform a quick triage assessment with a good history every time.**
- **Inquire about (and document) the care the patient received prior to arrival** (e.g., antipyretics); sepsis can be easily missed without knowledge of prior treatment.
- **Think worst case scenario.**
- **No visual demonstration of pain does not indicate the patient is pain free** (possibly cultural, stoic, etc.).
- **Always use critical thinking** (avoid the cookbook approach).
- **Visualize the area of complaint/concern.**

Nurse Behaviors

- **Base treatment needs on the patient condition not the status of the department** (e.g., peer pressure).
- **Recognize that age and gender biases subconsciously exist** (e.g., younger patients can have an AMI).

Patient Behaviors and Comments

- **Repeat customers/frequent flyers should not be ignored**—they too can have an AMI and/or CVA.
- **Listen to the patient’s self-diagnosis but think beyond the patient’s comments** (avoid being too focused).
- **Do not be intimidated by someone threatening to sue** (provide quality care regardless).



Use critical thinking to **connect the dots** between the patient story provided and your clinical observations and assessment. **Document your findings!**

INTRODUCTION TO HIGH-RISK PRESENTATIONS

INTRODUCTION TO CHAPTERS 8 TO 25

The first two chapters in this book create the foundation for the body system chapters that follow. For departments using a dual or multi-RN triage system, the first nurse the patient encounters should perform the rapid triage assessment and determine if the patient requires immediate treatment. ***The questions listed under the rapid triage assessment are prompts to assist in identifying patients with immediate treatment needs. You do not need to ask all of the questions listed in the rapid triage assessment section every time.*** Sometimes you may ask only one or two questions and then determine the need for immediate treatment.

You may be thinking “I don’t work in a two-part triage system that uses both a rapid and comprehensive triage assessment process.” Then think of the rapid triage assessment (takes <60–90 sec) as the primary assessment and the comprehensive triage assessment (takes 2–5 min) as the secondary assessment. Additional information is gathered during the comprehensive triage assessment. At times the comprehensive triage assessment will immediately follow the rapid triage assessment, while at other times the comprehensive triage assessment may take place much later (sometimes by the bedside nurse).

THE A-B-C-D-E ASSESSMENT: A REVIEW

During the across the room and rapid triage assessment, you observe for A–B–C–D–E abnormalities that could make the patient in need of immediate treatment. You are assessing for abnormalities:

Assessment

- **Airway**—Obstruction (tongue, teeth, blood, emesis, foreign body), swelling, abnormal airway sounds (grunting, stridor, wheezing); unable to speak/cry
*** Tip: If the patient is talking, the airway is open.*
- **Breathing**—Work of breathing (labored, accessory muscle use, nasal flaring, retractions), rate (slow/fast), rhythm (irregular), depth (deep/shallow), positioning (tripod), chest rise and fall (unequal), speech patterns (number of words able to speak), tracheal position (deviated)
*** Tip: If the patient is speaking full sentences, likely breathing is sufficient.*
- **Circulation**—Pulse rate (slow, fast), quality (bounding, weak, absent), capillary refill (delay >2 seconds), skin color (cyanosis, pallor, mottling) and condition (moist, diaphoretic, turgor, tenting), bleeding (absent, uncontrolled)
*** Tip: If a pulse is present and capillary refill is <2 seconds, the patient's circulation is likely sufficient.*
- **Disability**—LOC (unresponsive, confused, moaning, crying), presence of neuro deficits
*** Tip: Any change in mentation from baseline should be concerning.*
- **Expose/Environment**—Expose anterior and posterior body surfaces, look for injuries, rash, etc., ask about recent exposure to infectious diseases; environmental concerns (hypothermia/hyperthermia)

This is quick information that you are *observing*. Every chapter does not mention that, for example, a cyanotic or unresponsive patient is a red flag finding, so remember that **abnormalities in the A–B–C–D–E assessment should raise high concerns.**

Interventions (if indicated)

- **Airway**—Consider c-spine precautions, open airway (head-tilt/chin-lift or jaw-thrust for suspicion of cervical injury), suction, insert OPA/NPA
- **Breathing**—Anticipate oxygen needs, begin respiratory assist with BVM, assess lung sounds
- **Circulation**—Start CPR if indicated, control bleeding
- **Disability**—Check blood sugar for altered LOC, maintain patient safety
- **Exposure/Environment**—Expose areas of injury/rash for better visualization, remove clothing; thermoregulation (warming measures for hypothermia/cooling for hyperthermia)

****For significant bleeding, the order of treatment is C-A-B-D-E.
Controlling life-threatening bleeding is critical.**

HIGH-RISK PATIENT PRESENTATIONS

In addition to routine triage questioning, always consider a patient's history and contributing factors that **may** make the patient a high-risk presentation. Factors to consider include:

- Patients <7 days old or >85 yrs old
- Organ transplant
- Immunocompromised
- Postsurgical patient
- Multiple comorbidities
- Aggressive or violent behaviors
- Abuse/neglect (think hidden injuries)
- High-risk mechanisms of injury
- Multiple risk factors in combination
- Child brought to the ED late at night
- Frequent flyers/loyal customers of the ED
- Return to the ED <72 hrs after discharge
- Return in <24 hrs after hospital discharge

Critical thinking is a must.

PQRST QUESTIONS

During the comprehensive triage assessment, a more thorough line of PQRST questioning occurs and includes:

Provokes/Palliates: What makes the pain worse or better?

Quality: What does the pain feel like (e.g., sharp, achy, cramping, dull, stabbing, pressure)?

Region/Radiation: Location? Does the pain radiate?

Severity/Associated Symptoms:

Pain scale: 0 = no pain, 10 = worst pain imaginable

Pain is mild, moderate, or severe

Other pain scales (faces, pediatric specific, etc.)

Timing/Temporal Relations: Onset/duration? Intermittent? Constant?

***Note:* PQRST questions can provide diagnostic clues and help you consider the worst case clinical scenario for the patient. Ask these questions!

ADVANCED TRIAGE PROTOCOLS

Upon completion of the triage, the nurse's responsibility is to initiate appropriate nursing interventions.

This is followed by relevant diagnostic testing and pain management that are covered by treatment protocols approved by the medical director and facility.

REASSESSMENT

For patients waiting, reassessments are critical as that time is an opportunity for the patient to deteriorate.

Reassessments are not covered throughout these chapters but should be a standard of care for any waiting patient. Critical thinking and P & P should drive how detailed of a reassessment is needed.

8 RESPIRATORY EMERGENCIES

CHIEF COMPLAINTS

- Apnea, event witnessed or reported
- Difficulty breathing
- Facial/tongue swelling
- Foreign body ingestion/aspiration



RED FLAG FINDINGS

- Altered level of consciousness or unresponsive
- Accessory muscle use, nasal flaring, or retraction
- Airway compromise, stridor with difficulty breathing, uncontrolled drooling
- Apneic event, witnessed or reported
- Apparent life-threatening event (ALTE)
- Burns (inhalation)
- Chemical inhalation
- Cyanosis (central)
- Foreign body aspiration
- Intubated by prehospital personnel
- Petechiae/purpura (palpable) in sick-appearing patient
- Respiratory distress w/wo chest pain and w/wo cyanosis
- Restlessness
- Speaks in one-to two-word sentences or unable to speak
- Trauma to chest (penetrating, blunt) and/or tracheal deviation
- Unilateral or absent breath sounds



KEY TIPS FOR RESPIRATORY EMERGENCIES

- Rapidly identify those with airway or respiratory compromise.
- If a parent/caregiver states something is wrong with their loved one, *believe them*.
- **Do not forget** to screen for the possibility of pneumonia or sepsis. **Think core measures.**
- **Consider Other Chapters:** Cardiac, musculoskeletal, abdominal, infectious.
- **Anticipate Orders:** Labs (CBC, CMP, lactate, D-dimer if suspect PE, PRO-BNP, flu swab, RS dx swab in children, sputum cultures, blood cultures); diagnostic tests (portable CXR or PA/Lat if stable, MRI, CT, VQ); meds (bronchodilators/anticholinergics via inhaler/nebulizer Tx, corticosteroids, smooth muscle relaxants, antipyretic for fever, abx for infection/sepsis).

APNEA, EVENT WITNESSED OR REPORTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Duration of the event?• Color of the skin (dusky or blue) at time of the event?• What happened right before the event?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Constant observation of the patient may be necessary; have appropriately sized NPAs, OPAs, suction, and BVMs ready



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Similar incident before? Recent illness?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Breath sounds (wheezing, crackles, diminished, absent)• Expose skin and assess for rashes, central cyanosis, skin temperature• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Provide supplemental O₂ per hospital policy/protocol if needed• Check glucose if altered LOC *Initiate ATPs per policy

TIP

- The triage nurse should have a high level of concern for a patient with a witnessed or reported event of apnea even if the person looks good.



PEDIATRIC:

- Ask the parent/caregiver “Was the child full term at birth?” Is the child vaccinated?
- Premature infants are more likely to experience apnea spells than healthy, full-term infants. It is likely that the event will not be witnessed in the ED; rather, a caregiver will describe an ALTE, which includes a combination of apnea, color change, muscle tone change, and choking or gagging (Rocker, 2015).
- Keep infant warm after assessment with a radiant warmer or blanket.
- Remember, pediatrics will compensate for a long time and then rapidly deteriorate.



OLDER ADULT:

- The **potential causes of apnea** in an older adult can be **endless so start with the history** and then progress to considering other potential circumstances.

DIFFICULTY BREATHING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Associated CP? Which started first, the SOB or CP?• Duration of SOB?• Intubation required in the past?• Exposed to anything? If so, what (allergens, smoke, etc.)?• Change in voice?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Safety first—for an exposure, remove the patient from triage and perform decontamination• Be prepared to administer supplemental O₂ per P & P or assist respirations• If the patient inhaled smoke or other irritating substance or there is a change in their voice (hoarseness), anticipate airway edema and the need for an emergent definitive airway

DIFFICULTY BREATHING (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• If rescue inhalers are used for asthma/COPD, how often have they been used today?• Vaccination UTD?• Recent cough or fever?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Medications *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Lung sounds and heart tones (fast/slow, regular/irregular)• Full set of VS per discretion/policies (O₂ sat)
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate supplemental O₂ and obtain ECG if not completed already• Glucose POC as indicated *Initiate ATPs per policies

TIP

- When triaging the patient with difficulty breathing, do not rely too heavily on pulse oximetry as this reading does not represent ventilatory effort. Assess the patient's work of breathing, skin signs, color of nail beds, and position of comfort as they are more accurate indicators of the patient's level of respiratory distress.

DIFFICULTY BREATHING (Continued)



PEDIATRIC:

- **Congenital heart disease** should be considered in infants up to 6 mo of age. **Cyanosis, tachycardia,** and **dyspnea** are common before dx along with s/sx of HF, **irritability** and/or, **diaphoresis with feeding**. If a parent comments on seeing the child blue (but they appear pink at triage), believe them!



OLDER ADULT:

- Decreased cilia with aging makes it more difficult to mobilize secretions creating an increased risk for developing pneumonia.
- Other respiratory considerations include COPD, emphysema, pneumonia, PE, etc.

NOTES:

FACIAL/TONGUE SWELLING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• SOB? Difficulty swallowing?• Sudden onset and rapidly progressing?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Visualize tongue and assess for drooling and ability to manage airway (stridor)• Ability to speak and number of words
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• If the patient's airway/breathing are affected, anticipate the need to support respirations; have appropriately sized NPAs, OPAs, and bag valve masks available



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Time of onset of s/sx?• Think of the cause: Recent dental issues? Signs of cellulitis? Trauma? Exposure to an allergen or bug/bee/spider (Did the patient use an EpiPen?)• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• If suspect allergy, assess for other system involvement (e.g., N/V/D, itching, SOB)• Lung sounds• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• If traumatic in nature or related to dental issue, apply ice• Glucose POC as indicated *Initiate ATPs per policies

FACIAL/TONGUE SWELLING (*Continued*)

TIPS

- Facial swelling can impede the airway and create SOB.
- Think allergic reaction, angioedema, ACE inhibitor adverse reaction, dental complication among many others.
- If there is swelling to the tongue, floor of the mouth, or neck, especially with recent dental work, consider the potential for **Ludwig's angina**, which can rapidly compromise the airway.



PEDIATRIC:

- Smaller airways can increase the risk for an obstruction.



OLDER ADULT:

- ACE inhibitors can be a common cause for unexplained facial, tongue, and neck swelling that can lead to difficulty breathing.

FOREIGN BODY INGESTION/ASPIRATION



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• SOB? Choking?• Able to swallow?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Number of words able to speak; presence of drooling
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If airway is obstructed, use BLS measures to attempt to clear the obstruction• Call Poison Control per policy/as indicated



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• What was the object?• How long ago did this happen?• Tx PTA *PQRST if applicable *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Lung sounds• Full set of VS per discretion/policies; O₂ saturation
INTERVENTIONS	<ul style="list-style-type: none">• Keep patient in position of comfort; anticipate x-ray to determine location of object• Initiate ATPs per policies

TIPS

- Patients swallow foreign bodies that may become lodged in the esophagus. The associated life-threatening emergency is aspiration. Upper airway obstruction is the most severe, as the patient will not be able to breathe.



PEDIATRIC:

- For any child who is **suddenly SOB or with a partial/complete airway obstruction think foreign body in airway**, especially if the child was left alone in a playroom, etc. Toddlers/school-age children like to explore with their mouths.
- **Beans** (that kids eat) can become lodged in the esophagus. The child may initially cough and then stop. Over time the bean swells within the esophagus and can cause **obstruction**. If no known object was aspirated, ask what the child last ate.
- Kids can **tripod backward** placing their arms behind their back. See this as a sign of distress.



OLDER ADULT:

- A risk of **dental prosthetic aspiration** is present along with other risks due to polypharmacy and alcohol use.

Table 8.1: Pediatric Infectious Respiratory Emergencies

DIAGNOSIS	SIGNS AND SYMPTOMS	TRIAGE INTERVENTIONS	PRECAUTIONS
Croup	<ul style="list-style-type: none">• Barking cough• Inspiratory stridor• Hoarseness• Symptoms worse at night• Moderate fever• Looks well	<ul style="list-style-type: none">• Keep patient in position of comfort• Isolate from other patients (generally caused by parainfluenza or RSV)	Contact and droplet
Epiglottitis	<ul style="list-style-type: none">• Drooling• Difficulty swallowing• Tripod positioning with mouth open and tongue out• High fever• Looks toxic	<ul style="list-style-type: none">• Airway is the priority• Keep patient in position of comfort• Do not perform procedures that may agitate the patient• Isolate from other patients (caused by <i>Haemophilus influenzae</i> B)	Contact and droplet
Measles^a	<ul style="list-style-type: none">• Fever (first to appear)• Cough• Coryza• Conjunctivitis• Koplik spots• Rash	<ul style="list-style-type: none">• Isolate from other patients	Contact and airborne

Table 8.1: Pediatric Infectious Respiratory Emergencies (Continued)

DIAGNOSIS	SIGNS AND SYMPTOMS	TRIAGE INTERVENTIONS	PRECAUTIONS
Diphtheria	<ul style="list-style-type: none">• Sore throat• Mild fever• Bull neck• Progressive paralysis• Infants may exhibit hoarseness, URI, foul odor from nose/mouth	<ul style="list-style-type: none">• Airway is the priority• Isolate from other patients	Contact and droplet
Pertussis^b	<ul style="list-style-type: none">• Signs/symptoms of the common cold• Paroxysmal coughing• Cyanosis during coughing• Vomiting after coughing• Whooping sound• Exhaustion	<ul style="list-style-type: none">• Minimize stimulation• Support ABCs• Isolate	Contact and droplet

^aMeasles considered emergent due to high contagion and increase in unvaccinated population.

^bPertussis considered emergent due to high contagion and increase in unvaccinated population. It is more concerning in children. Adults have better accessory muscle development, so can better tolerate paroxysmal coughing spells. Infants and children will fatigue and are more prone to periods of apnea.

Source: Siegel, J. D., Rhinehart, E., Jackson, M., Chiarello, L., & Healthcare Infection Control Practices Advisory Committee. (2017, October). *2007 guideline for isolation precautions: Preventing transmission of infectious agents in healthcare settings*. Retrieved from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf>

NOTES:

9 CARDIAC EMERGENCIES

CHIEF COMPLAINTS

- Chest, jaw, neck, back, epigastric, and/or scapular pain
- Dyspnea
- Fatigue/weakness
- Palpitations
- Syncopal episode



RED FLAG FINDINGS

- AICD automatically firing
- Bradycardia (symptomatic)
- Chest pain (suspicious of cardiac)
- Complaints of weakness, fatigue (women and elderly highest risk)
- Dyspnea, edema
- Ecchymosis to chest (with tearing abdominal or back pain)
- Impending doom or “I feel like I’m going to die”
- Palpitations
- Syncopal episode
- Tachycardia (symptomatic)
- Trauma to chest (penetrating, blunt)—think trauma criteria



KEY TIPS FOR CARDIAC EMERGENCIES

- **ECG within 10 min of arrival and interpreted immediately; identify STEMI and activate an alert per protocol.**
Delegate to obtain old ECG for comparison.
- **Door-to-thrombolytic <30 min or door-to-cardiac cath lab <30 min** (door-to-needle <90 min).
- **Think life-threatening conditions:** ACS, aortic dissection, PE, tension pneumothorax, pericardial tamponade, esophageal rupture, etc.
- **Cardiac risk factors:** HTN, hypercholesteremia, DM, smoking, and/or family hx.
- **Family Hx:** Cardiac disease, first- or second-degree relative with an unexplained death or cardiac death in an adult <50 yrs, or an AMI in a first-degree relative <55 yrs of age is highly concerning.
- **Atypical cardiac presentations are not uncommon** and include pleuritic CP, pain that changes with different body positions, lasts only a few seconds or over one day, or presents in the neck, shoulder, jaw, or back.
- **A normal 12-lead ECG and no complaint of CP does not mean the condition is not cardiac.**
- **Make no assumptions based on the age of the patient.**
- When a patient presents with CP and SOB, inquire which symptom began first. This may help guide you in determining if the origin is cardiac or respiratory in nature.
- **Consider Other Chapters:** Respiratory, musculoskeletal, abdominal.
- **Anticipate Orders:** Labs (CBC, CMP, calcium, magnesium, cardiac enzymes [CPK, troponin] every 4 to 6 hrs \times 3, BNP, PT/PTT, INR); diagnostics (ECG within 10 mins, CXR portable or PA/Lat if stable, CT, MRI, echo); meds (ASA 81 to 325 mg chewable, nitro drip/paste or sublingual \times 5 mins apart).

CHEST, JAW, NECK, BACK, EPIGASTRIC, AND/OR SCAPULAR PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset, duration, triggering factors, intensity, pain location, and radiation (epigastric, radiates to neck, jaw, shoulders, arms, back)?• Nature of the pain (heavy, squeezing, crushing)?• Recent trauma/injury?• Any accompanying sx (N/V, diaphoresis, anxiety)?• Similar pain before? Prior tx for a similar issue?• Cardiac hx?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Lung sounds (assess for rales)• Pulse: Regular/irregular and fast/slow• Stat ECG, ABGs (if indicated), CXR, maintain O₂ sat >90%• Positional pain (consider muscular), pain with inspiration (consider pleuritic)• Lung sounds and heart tones; pallor, JVD, peripheral edema• Assess contraindications for thrombolytic therapy (see Table 9.7)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Repeat ECG if pain worsens or continues• Anticipate the need to control pain and anxiety (morphine) to reduce myocardial O₂ demand• Call STEMI alert per protocol

CHEST, JAW, NECK, BACK, EPIGASTRIC, AND/OR SCAPULAR PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• ECG and cardiac monitoring ASAP• Obtain repeat ECG for continued chest pain• If considering aortic dissection, BP in both arms• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATP per policy

TIPS

- **Classic presentation of ACS** includes substernal left chest or back pain radiating to the neck, jaw, shoulder, or arm, and lasting from several mins to hrs; described as crushing, tight, or pressure with SOB, N/V, diaphoresis, dizziness, and/or weakness.
- Patient is at risk for ACS even with only epigastric pain
- **ACS** can have **atypical presentations in women** and the **elderly** (weakness, fatigue, dyspnea, and upper back, arm, and jaw pain).
- Vigorous physical activity can precipitate a STEMI.
- Pallor, clamminess, cool skin suggest decreased cardiac output.
- **Aortic dissection (hypertension, back, chest pain);** classic s/sx of aortic dissection is **moving back pain**.
- Always r/o an aortic dissection in a patient with **Marfan syndrome** (tall, lanky, long fingers and toes, deep-set eyes) even if not formally dx with it.
- **Mediastinitis:** Think oral infections, recent cardiac surgery, upper GI or airway procedures.
- Chest pain with recent cocaine use; Think cocaine-related ischemia.
- Consider aortic dissection, PE, acute decompensated HF



PEDIATRIC:

- Chest pain in children that is concerning is associated with ischemia, arrhythmias, acute chest syndrome, PE, pneumothorax, or infections like endocarditis, pericarditis, or myocarditis.
- Kids can have a difficult time localizing pain. Be alert for subtle cues to help identify acute presentation.



OLDER ADULT:

- An atypical presentation is typical.
- Older adults tend to minimize their symptoms. Be sure to obtain a complete history to *get* a complete history.

DYSPNEA



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Time of onset?• Activity prior to onset of symptoms?• Similar presentation in the past? Known cause?• Other sx?• Cardiac or respiratory hx?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Facial and/or oral swelling• Lung sounds (assess for rales) and heart sounds, tachycardia, tracheal deviation, JVD, pallor, peripheral edema
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Stat 12-lead ECG, ABGs, CXR, maintain O₂ sat >90%, cardiac monitor

DYSPNEA (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Hx of COPD or HF?• SOB on exertion or all the time?• Regular use of supplemental O₂?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies (continued monitoring of VS and O₂ sats)
INTERVENTIONS	<ul style="list-style-type: none">• Repeat ECG if patient develops CP• Consider need for CT for possible PE or US for possible DVT• Glucose POC as indicated *Initiate ATP per policy

TIPS

- Consider cardiac tamponade (assess for s/sx of shock), PE, acute decompensated heart failure, pneumothorax, or pulmonary edema.
- Peripartum cardiomyopathy: Dyspnea/fatigue are present in 90% of cases, tachycardia in 62%, and peripheral edema in 60%. Heart failure is developed in 78% of cases in the first 4 months postpartum (Sharma & Kumar, 2017).

DYSPNEA (*Continued*)



PEDIATRIC:

- **Congenital heart disease** should be considered in infants up to 6 mos of age. **Cyanosis, tachycardia,** and **dyspnea** are often common presentations before a dx occurs. S/sx of **HF, irritability with feeding, and diaphoresis with feeding are also common.** If a parent comments on seeing the child blue (but they appear pink at triage), believe them!



OLDER ADULT:

- Dyspnea may be the only presenting sx for females experiencing an AMI. **Do not minimize this complaint.**

NOTES:

FATIGUE/WEAKNESS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset, duration, triggering factors, intensity, pain location, and radiation (epigastric, radiates to neck, jaw, shoulders, arms, back)? CP OR SOB?• Nature (heavy, squeezing, crushing)?• If “yes” to discomfort, what relieves it?• Any accompanying sx (N/V, diaphoresis, anxiety)?• If sx are not new, ask “What is different today that brought you to the ER?”
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Positional pain (consider muscular), pain with inspiration (consider pleuritic)• Assess contraindications for a fibrinolytic (see Table 9.6) and hypotension (left ventricular failure)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Obtain an ECG, follow facility specific protocol (consider PCI, fibrinolytic)• Consider STEMI/ACS protocol, keep O₂ sat >90%• Control pain and anxiety (morphine) to reduce myocardial O₂ demand• Call STEMI alert per protocol (if indicated)

FATIGUE/WEAKNESS (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies• Consider other reasons for fatigue (e.g., drug overdose, infection, change in meds)
INTERVENTIONS	<ul style="list-style-type: none">• Stat ECG within 10 mins of arrival• Glucose POC if indicated *Initiate ATP per policy

TIPS

- Women who are dx with ACS often present only with fatigue, arm pain, or sleep difficulties.
- **Peripartum cardiomyopathy:** Dyspnea/fatigue are present in 90% of cases, tachycardia in 62%, and peripheral edema in 60%. Heart failure is developed in 78% of cases in the first 4 mos postpartum (Sharma & Kumar, 2017).



PEDIATRIC:

- Always have concern for potential cardiac abnormalities or use of meds or illicit drugs with an overly fatigued child.



OLDER ADULT:

- Older adults may present with only fatigue or weakness (no chest pain) and end up being dx with ACS.

PALPITATIONS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Duration of sx?• What does it feel like (e.g., heart is racing)?• SOB, dizzy, lightheaded?• Cardiac hx?• Recent anxiety provoking situation?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Pulse: Regular/irregular and fast/slow
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Stat ECG

PALPITATIONS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Hx of palpitations, anxiety and/or panic attacks?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess for hemodynamic instability• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Consider the need for continuous cardiac monitoring and/or cardioversion• Glucose POC as indicated *Initiate ATP per policy

TIPS

- **Potential causes of palpitations:** cardiac ischemia, heart failure, caffeine, electrolyte imbalances, anxiety, drug use.
- Any lethal dysrhythmias noted on 12-lead ECG will require immediate intervention.
- If suspicious of anxiety (e.g., tingling fingertips, lightheaded) component, have patient breathe into cupped hands to rebreathe CO₂ and see if sx resolve.



PEDIATRIC:

- Palpitations in children are not usually cardiac in origin. Dehydration can cause palpitations. In older children, be alert for drug and/or alcohol use that may be experimental.



OLDER ADULT:

- Many older adults have palpitations; determining if something is “new” or “different” is important. Hormonal changes in older women can cause palpitations.

SYNCO PAL EPISODE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Activity prior to the syncopal episode?• Witnessed or unwitnessed?• Struck head or fell (ground level or from a height)?• Loss of consciousness? If yes, did everything go black? Last memory before passing out?• Similar event in the past? Known cause?• Pacemaker?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Pulse: Regular/irregular or fast/slow
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate c-spine immobilization if indicated• Stat ECG after a syncopal episode

SYNCOPAL EPISODE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Other injuries?• S/sx of dehydration? Taking in adequate fluids?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Continue to monitor pulse (fast/slow, regular/irregular, bounding/weak/absent)• Assess for vertigo symptoms• Full set of VS per discretion
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATP per policy

TIPS

- Important to determine underlying cause. **Syncopal episodes can indicate serious dysrhythmias. Also consider orthostatic hypotension, medication reaction, dehydration, PE.**
- If patient struck his/her head, think trauma criteria and neurologic concerns (if AMS think possibility of an intracranial bleed and the need to call a Stroke Alert).
- Syncope associated with strenuous exercise, CP, SOB, palpitations, meds/drugs with an impact on the heart, or multiple syncopal episodes are highly concerning.
- Reports of **unusual motor movement prior to syncopal episode may be indicative of a seizure** especially when there is a postictal phase.

SYNCO PAL EPISODE (*Continued*)



PEDIATRIC:

- Obtain a stat ECG. Vasovagal is the most common cause of syncope in pediatrics, but at triage we should **assume a cardiac condition until proven otherwise.** Do not be fooled by age; young children can have life-threatening cardiac conditions too.



OLDER ADULT:

- Older adults may present with only syncope (no chest pain) and end up being dx with ACS.

NOTES:

CARDIAC EMERGENCY RESOURCES

Box 9.1: Signs and Symptoms of Atypical AMI Presentation in the Older Adult

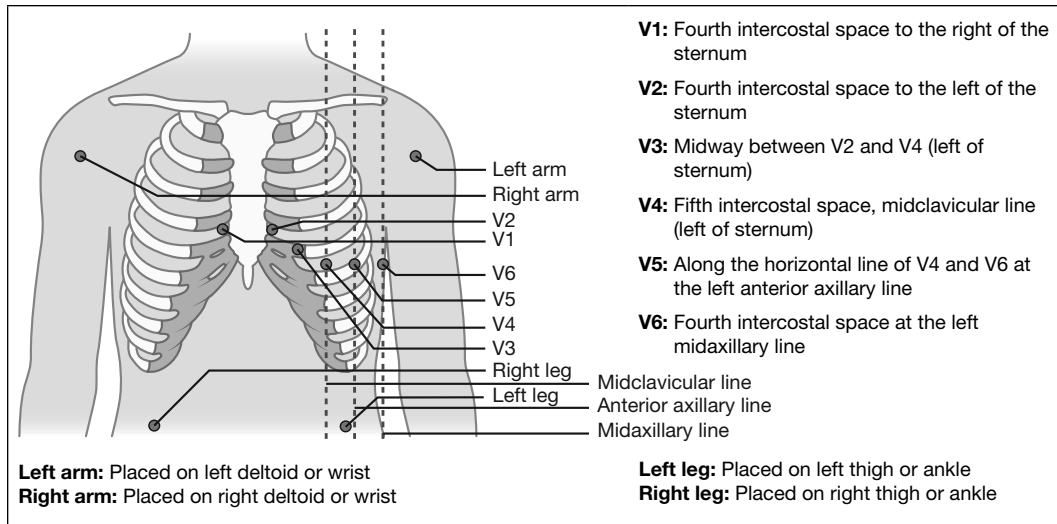
- Altered mental status (AMS)
- Atypical chest pain
- Syncopal or near syncopal episode
- Fatigue
- Neurologic deficits
- Generalized weakness
- Decline in daily function
- New onset falls
- Flu-like symptoms
- Nausea and/or vomiting
- Hypotension
- Difficulty walking

Table 9.1: STEMI Checklist

Inclusion Criteria (ALL must be a YES)

- **Identify a patient with a potential STEMI****
- **Obtain a STAT ECG within 10 mins of patient arrival****
- **Place orders per ATPs or expedite provider order entry****
CBC, Chem panel, cardiac enzymes, CXR
- Place two or more large bore IVs
- Start TKO IV fluids
- Consider MONA: **M**orphine, **O**xygen, **N**itroglycerin, **A**spirin
- If cath lab available, door-to-cath lab <30 mins** (door-to-needle <90 mins)
- If cath lab unavailable, door-to-thrombolytics <30 mins**
- **Triage interventions designated with**.**

Table 9.2: Standard (Left-Sided) 12-Lead ECG Lead Placement



The precordial electrodes are placed on the LEFT SIDE of the chest.

Table 9.3: Right-Sided ECG Electrode Placement

V1 – Fourth intercostal space to the left of the sternum

V2 – Fourth intercostal space to the right of the sternum

V3 – Midway between V2 and V4 (right of sternum)

V4 – Fifth intercostal space, midclavicular line (right of sternum)

V5 – Along the horizontal line of V4 and V6 at the right anterior axillary line

V6 – Fifth intercostal space at the right midaxillary line

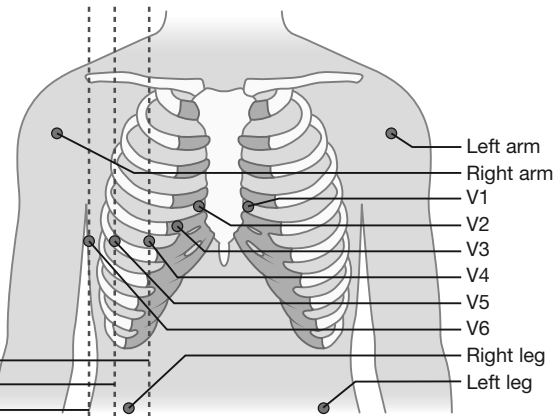
Midclavicular line
Anterior axillary line
Midaxillary line

Left arm: Placed on left deltoid or wrist

Right arm: Placed on right deltoid or wrist

Left leg: Placed on left thigh or ankle

Right leg: Placed on right thigh or ankle



The precordial electrodes are placed on the RIGHT SIDE of the chest.

Table 9.4: Leads Representative of Different Areas of the Heart

AREA OF HEART	LEADS
Septal	V1, V2
Anterior	V1, V2, V3, V4
Lateral	I, aVL, V5, V6
Inferior	II, III, aVF

Table 9.5: Absolute and Relative Contraindications to Thrombolytics

ABSOLUTE CONTRAINDICATIONS	RELATIVE CONTRAINDICATIONS
<ul style="list-style-type: none">• PCI immediately available• Active bleeding• Aortic dissection suspected• Hemorrhagic stroke	<ul style="list-style-type: none">• Prolonged CPR• GI bleed history• Trauma in the past 4 weeks• Pregnant or <10 days postpartum• Uncontrolled hypertension• Stroke in the past 6 months

Table 9.6: Cardiac and Respiratory High Acuity Conditions

CARDIAC ORIGIN	RESPIRATORY ORIGIN
Acute coronary syndrome Acute decompensated heart failure Aortic dissection Aortic stenosis Endocarditis Mitral valve prolapse Myocarditis	Asthma Inhalation injury Pertussis Pleural effusion Pneumonia Pulmonary embolism Pulmonary hypertension Respiratory distress/respiratory failure Tension pneumothorax Tuberculosis

Table 9.7: Differences Among Various Cardiothoracic Emergencies

DIAGNOSIS	SIGNS AND SYMPTOMS	RISK FACTORS	TREATMENT
ACS	SOB, chest pressure/pain in arm/neck/jaw	Older age, HTN, high cholesterol, smoking	Blood thinners, beta blockers, angioplasty, cholesterol meds
Aortic Dissection	CP (tearing) radiating to back, ecchymosis to chest, tearing abdominal pain, positive loss of consciousness	CAD, HTN, recent chest or abdominal trauma, CHF	Prepare for surgery, O ₂ , fluids, blood products, vasopressors for intractable hypotension; prepare for surgery
Endocarditis	Low-grade fever, chills, weakness, fatigue, weight loss, CP, heart murmur, splinter hemorrhages, petechiae	Loss of consciousness related to cardiac (heart valves—prosthetic, cardiac lesions, valve disease, etc.), non-cardiac (IV drug abuse), and/or procedure (dental)	Anticipate CBC, blood cx x 2, IV antibiotics, fluids, rest, and an antipyretic for fever
Esophageal rupture	Severe vomiting followed by chest or epigastric pain, SOB, fever	Procedures (endoscopy, TEE), trauma, peptic ulcer disease	Antibiotics, surgery, IV therapy; high mortality risk
Myocarditis	Dyspnea, nausea, vomiting, pleuritic CP; may progress to pericarditis resulting in a pericardial rub	Infectious process, chemical and pharmacologic factors, radiation therapy	Meds used if the patient has HF (beta blockers, ACE inhibitors). The focus is to decrease the workload of the heart with meds, rest periods, spacing out activities, and providing a quiet environment

Table 9.7: Differences Among Various Cardiothoracic Emergencies (Continued)

DIAGNOSIS	SIGNS AND SYMPTOMS	RISK FACTORS	TREATMENT
Pericardial tamponade	CP, SOB, weakness, orthopnea, JVD, hypotension, muffled heart tones	Chest trauma, pericarditis, AMI, incorrect central line placement	Prepare for pericardiocentesis or thoracotomy, O ₂ , fluids, vasopressors
Pericarditis	CP is sharp and severe, increases with deep inspiration/supine, sitting up and tilting forward decreases pain, dyspnea, pericardial friction rub, ST elevation in multiple leads	Possibly infectious (viral, bacterial, fungal), noninfectious (MI, radiation, neoplasms), or automimmune; at risk for decreased cardiac output and tamponade	Bed rest, anti-inflammatory agents
Pneumonia	Fever, sharp pleuritic CP, hypoxia, cough	Immobility, immunosuppression, very young and older adults at greater risk	O ₂ , CXR, BC x 2, antibiotics, IV fluids, antipyretic
Pneumothorax	SOB, pleuritic CP, shoulder pain, low-pulse ox, decreased breath sounds	COPD, Marfan syndrome, young/thin males, smoking hx	Needle decompression or chest tube insertion
Pulmonary embolus	Fever, hypoxia, dyspnea, tachypnea, tachycardia, anxiety, chest wall tenderness is common (fever is rare)	Risks that cause venous thromboembolus (trauma, immobility, pregnancy, cancer, etc.), HF	O ₂ , 12-Lead ECG, CXR, D-dimer; expect need for blood thinners and/or ventilatory support

10 NEUROLOGIC EMERGENCIES

CHIEF COMPLAINTS

- Altered mental status (AMS)
- Face and/or arm numbness/weakness, slurred speech/difficulty speaking
- Headache
- Seizure, suspected



RED FLAG FINDINGS

- Age 55 yrs or older with HA
- Difficulty breathing
- Fever with neck stiffness and/or petechiae
- Fever with a rash with suspicion of meningitis
- HA, first-time or worst ever
- Inability to protect the airway
- Neurologic deficit, new onset (e.g., facial droop, loss of limb function)
- New onset confusion/mental status change from baseline
- Tonic/clonic movement (suspected seizure), new onset
- **Pediatric** (suspected) seizure: Fever for more than 24 hrs for ages <6 mos or >5 yrs, focal seizure activity, more than one suspected febrile seizure in 24 hrs (no nuchal rigidity), not vaccinated, or a child with unexplained strange behavior
- **Neonate** (suspected) seizure: Lip smacking, strange behavior (unexplained), “spacing out” then back to normal behavior



KEY TIPS FOR NEUROLOGIC EMERGENCIES

- ***Time is brain!*** If suspected stroke, inquire and document when last seen normal and perform a **FAST assessment** (see Table 10.1).
- Consider if the patient meets criteria for a **stroke alert** (or trauma, sepsis) and initiate per protocol.
- **For stroke metrics, see Figure 10.1. Time zero begins when the patient enters the facility seeking care.**
- Best outcomes for ischemic stroke occur if r-tPA is given within 1 hr of symptom onset for an ischemic stroke but can be given up to 3 to 4.5 hrs from time of symptom onset.
- For any patient with an altered LOC, check O₂ saturation and bedside glucose; stabilize.
- **Consider other chapters:** Cardiac, ocular, infectious conditions, respiratory (hypoxia), behavioral (last consideration after all medical conditions have been ruled out); electrolyte imbalances also of potential concern.
- **Anticipate orders:** (PT, PTT, INR, CBC, CMP, glucose POC, ammonia if liver disease, urine toxicology); dx tests (ECG, CT brain, CTA, CXR, MRI brain); meds; ASA (after swallow evaluation, antipyretic for fever, antihypertensives if applicable, if treating CVA, antiseizure meds).

ALTERED MENTAL STATUS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• When did sx begin? What is the change? What is baseline?• Any neuro deficits in addition to the AMS?• Any drug/alcohol use?• Any fever/nuchal rigidity/rashes?• Any recent trauma (fall, assault, etc.)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Disability—LOC, GCS, neurologic deficits• FAST assessment to evaluate for stroke (see Table 10.1)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Spinal immobilization if trauma is suspected• If abnormal finding on FAST assessment consider stroke alert and immediate provider assessment, consider• Initiate droplet precautions immediately if bacterial meningitis is suspected

ALTERED MENTAL STATUS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Any other s/sx (e.g., cough, fever, dysuria)?• *PQRST *Pertinent PMH *Drug & Alcohol Use *Medications *Allergies
ASSESSMENT	<ul style="list-style-type: none">• GCS assessment• Sepsis screen• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Obtain (delegate) an ECG per protocol, anticipate the need for a UA• Check glucose for altered LOC *Initiate ATPs per policy

TIPS

- AMS does not just mean decreased LOC. Do not forget that agitation and restlessness are also alterations in mental status. N/V in addition to AMS can indicate increased ICP.
- Listen to caregivers/family regarding what is a change in mental status from baseline. Their insight may provide possible clues as to causation.
- Remember pain medications or sedation may alter your ability to assess the patient.

ALTERED MENTAL STATUS (*Continued*)



PEDIATRIC:

- Many conditions (not neurologic related) can cause AMS, a classic presentation in kids being an **intestinal catastrophe (e.g., intussusception)**. **Do not assume the condition is neurologic.**
- Hypoglycemia is a common finding of AMS following alcohol use in teenagers.



OLDER ADULT:

- **Think causes for AMS:** Neurologic (stroke, head trauma), metabolic (hypoxia, hypoglycemia), infection (urosepsis, pneumonia), and alcohol use.
- Assess for recent falls, changes in medications or potential overdose, trauma, or dehydration.

NOTES:

FACE AND/OR ARM NUMBNESS/WEAKNESS, SLURRED SPEECH/DIFFICULTY SPEAKING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• When did sx begin?• Taking anticoagulants/blood thinners?• Recent head trauma? HA?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• FAST assessment to evaluate for stroke (see Table 10.1)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If abnormal finding on FAST assessment consider stroke alert and immediate provider assessment, consider• Activate stroke alert per hospital policy• Obtain an ECG per protocol (atrial fibrillation may be the cause of stroke)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Recent drug or alcohol use?• Hx of a-fib, HTN, CVA/TIA, anticoagulants, and NSAIDs?• Tx *PQRST (if applicable) *PMH *Drug & Alcohol Use *Meds *Allergies
ASSESSMENT	<ul style="list-style-type: none">• Quick neuro assessment• GCS assessment• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Check glucose if altered LOC *Initiate ATPs per policy

TIPS

- If patient awoke with stroke s/sx ask: When did they go to bed? When did someone last see or talk to the patient?
- Acronyms like **FAST** are helpful to remember for the **most common signs of stroke: face numbness, arm weakness, speech difficulty, and time.**
- Remember cerebellar strokes have the **five Ds** and respond with urgency: **dizziness, dysarthria, dystaxia, diplopia, and dysphagia.**
- Bell's palsy tends to present with an eyelid that cannot close, drooping of the mouth on the same side, and pain behind the ear. If unsure, assume the patient presents with a stroke until proven otherwise.



PEDIATRIC:

- With a neurologic insult children tend to deteriorate rapidly since they do not have much room within the skull to swell before symptoms are significant and apparent. With infants, measuring head circumference can provide information regarding increasing ICP.



OLDER ADULT:

- Older adults have more atrophy in their brains so there is more room to swell. Symptoms may appear at a slower rate than in pediatrics and adults.

HEADACHE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Previous HA of this type and severity? Worst HA of the patient's life?• N/V?• Recent head trauma?• Numbness/tingling/weakness (neuro deficits noted by patient)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Neuro deficits• FAST assessment to evaluate for stroke (see Table 10.1)• Fever/nuchal rigidity/rashes
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If abnormal finding on FAST assessment consider stroke alert and immediate provider assessment• Initiate droplet precautions immediately if meningitis is suspected

HEADACHE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Describe the HA: When did it start? Where is the pain? What type of pain is it?• Hx of HTN, stimulant use, anticoagulants, and/or NSAIDs?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies
ASSESSMENT	<ul style="list-style-type: none">• Full GCS assessment and neuro check (grips, sensation, pupils)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Decrease stimuli• Anticipate need to medicate with antiemetic (prevent vomiting and increased ICP) and head CT• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Hemorrhage is generally the worst-case scenario the triage nurse wants to rule out—especially if the patient describes it as **“the worst headache ever”** or if it’s the **patient’s first headache**.
- HA can also be a symptom of meningitis; temporal arteritis could cause loss of vision.

HEADACHE (*Continued*)



PEDIATRIC:

- **Worsening HAs over time** should raise concern. Think AVM, ICB, subdural hematoma, tumor, meningitis, and encephalitis. Consider head trauma, possibility of abuse. **Classic migraine sx** are unilateral/bilateral throbbing pain with sensitivity to sound and light and often recurrent. The concern increases when the migraine is different than the typical migraine.
- **Pediatric hydrocephalus** s/sx of increased ICP include HA, irritability, vomiting, and lethargy.



OLDER ADULT:

- **Think possible stroke, giant cell arteritis, acute angle closure glaucoma, encephalitis, or meningitis. HAs in older adults are often life-threatening.** Migraines less common in older adults and lessen with age.

NOTES:

SEIZURE, SUSPECTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Hx of seizures? Similar type of seizure-like activity?• Seizure hx? Take seizure meds?• Recent head trauma?• Recent fever? (febrile seizures more common in pediatrics but may occur in adults)
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• If seizing stops, FAST assessment to evaluate for stroke (see Table 10.1)
INTERVENTIONS	<ul style="list-style-type: none">• If any other alteration in A–B–C–D–E, intervene immediately!• If trauma suspected, place patient in c-spine immobilization; otherwise in rescue position• If abnormal finding on FAST assessment consider stroke alert and immediate provider assessment

SEIZURE, SUSPECTED (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Duration of seizure-like activity? What did the body movements look like?• Loss of control of bowel or bladder function?• ETOH/last drink?• Seizure meds or recent change to meds?• Tx *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• GCS assessment, assess for signs of injury during convulsions (bitten tongue/lip, head injury, etc.)• Incontinence (bowels or urine)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• If taking seizure meds, anticipate the need for a drug level to determine if the dosage is at a therapeutic level• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Status epilepticus is continuous >20 to 30 mins or no lucid period between seizures.**
- A true seizure has a sudden onset, loss of consciousness, nonpurposeful movement, and a clear postictal period.
- If the patient is actively seizing, do not attempt to place anything in the patient's mouth.
- Recognize that not all tonic/clonic activity is a "seizure"; **syncope and dysrhythmia must also be considered.**

SEIZURE, SUSPECTED (*Continued*)



PEDIATRIC:

- **Red flag seizure presentation:** Fever >24 hrs for ages <6 mos or >5 yrs old, focal seizure activity, more than one seizure in 24 hrs, not vaccinated, or a child with unexplained strange behavior.
- **Neonate seizure** may present with lip smacking, strange behavior (unexplained), “spacing out” then back to normal behavior.
- Most concerning seizures include evidence of infection, inflammation, metabolic, or accompanying neurologic deficits.
- **Febrile seizures** are **most common** in **children 6 mos to 5 yrs** with a rectal temperature >38°F with no other concerns.
- In an **afebrile child** <2 yrs, the most common cause of seizures is **hyponatremia**.
- New onset seizure anticipates the need for CBC, CMP, tox screen, CT, and LP.



OLDER ADULT:

- Consider **potential causes** for the seizure including CVA, intracranial mass, metabolic imbalances, alcohol withdrawal, trauma, or CNS infections.

NEUROLOGIC EMERGENCY RESOURCES (TABLES 10.1–10.6)

Table 10.1: FAST Assessment, the Down and Dirty Neurologic Examination

BODY PART	ASSESSMENT	CONCERNING FINDING
Face	Have patient smile or stick out tongue	Facial asymmetry/drooping
Arms	Test palmar drift—arms up, palms down	Inability to raise arms or weakness
Speech	Have patient state name and answer questions	Slurred speech
Time	Time is brain!	If any of these three tests shows an abnormality, move FAST to further evaluate for a stroke

Table 10.2: Increased Intracranial Pressure: Signs and Symptoms

EARLY	LATE
Altered LOC—may be restless, agitated, combative, or confused	Worsening of altered LOC, progressing to coma
Pupils sluggish, unilateral change in pupil size/shape	Dilated, fixed pupil (unilateral, progresses to bilateral with herniation)
HA, N/V	Cushing's triad: bradycardia, abnormal respirations, widened pulse pressure

Table 10.3: Stroke Treatment Timeframes

TIMEFRAME	TREATMENT
0–10 min	Perform a triage assessment neurologic screening ED medical provider evaluation
0–15 min	Activate stroke team
0–25 min	Obtain CT scan of head
0–45 min	Head CT interpretation
<1 hr	Determine candidacy for fibrinolytic therapy Begin postfibrinolytic pathway Door-to-drug time

Table 10.4: Thrombolytic Therapy: Absolute and Relative Contraindications Checklist

Inclusion criteria (ALL must be a YES)

- Ischemic stroke dx with measurable neurologic deficit(s)
- Onset of sx was <4.5 hrs ago

Exclusion criteria (if yes to any of these, patient is NOT a candidate for r-tPA)

- Current intracranial or subarachnoid hemorrhage
- Internal bleeding
- Head trauma or stroke within the past 3 mos
- Bleeding diathesis
- Uncontrolled HTN

Exclusion criteria if time window between 3 and 4.5 hrs (if yes to any of these, patient is NOT a candidate for r-tPA)

- Age > 80 yrs
- NIHSS >25
- Taking an oral anticoagulant
- Previous stroke with a hx of diabetes and prior stroke

Source: American Stroke Association. (2017). Acute ischemic stroke. Retrieved from <https://www.strokeassociation.org>

Table 10.5: Suspected Stroke Checklist

Upon patient arrival:

- **Recognize stroke signs and symptoms****
- **Activate stroke alert per hospital policy****
- **Document time last seen normal and arrival time****

Within 10 min of ED arrival:

- Provider/stroke team assessment ***triage RN may need to help expedite***
- STAT CT brain order ***triage RN may need to help expedite***

Within 25 min of ED arrival:

- CT scan completed
- Neurologic assessment completed per hospital policy

Within 45 min of ED arrival:

- CT scan interpreted

Triage interventions designated with**.

Table 10.5: Suspected Stroke Checklist (Continued)

Within 60 min of ED arrival:

- Complete checklist for thrombolytic therapy for ischemic stroke: Absolute and relative contraindications.
- Start fibrinolytics within 60 mins of arrival and 3 hrs of symptom onset. *Thrombolytics can be given to low-risk patients up to the 4.5 hr timeframe; providers make that determination.*
- Initiate frequent neurologic checks and VS per hospital policy^a

Within 24 hrs of ED arrival if no thrombolytic given:

- Aspirin 324 mg PO/PR

Triage interventions designated with**.

^aThe Joint Commission specifies parameters for certified stroke centers. They require neuro/VS checks every 15 mins × 2 hrs, then every 30 mins × 6 hrs, then every 1 hrs × 16 hrs, then every 4 hrs or per department standard of care.

Table 10.6: Causes of Altered Level of Consciousness - AEIOU TIPS

A	E	I	O	U	T	I	P	S
ALCOHOL	EPILEPSY	INSULIN	OXYGEN	UREMIA	TRAUMA	INFECTIONS	PSYCHIATRIC	STROKE
With-drawal or intoxication	Condi-tions in the environ-ment; febrile	Too little or too much	Too little or too much	Think of meta-bolic causes	Tumors Toxicity Regu-lating tem-pera-ture	Ischemia	Poisons	Synco-pal episode Cardio-vascular or neuro-logic causes

Source: Hammond, B. B., & Zimmermann, P. G. (Eds.). (2013). *Sheehy's manual of emergency care* (7th ed.). St. Louis, MO: Elsevier Mosby.

NOTES:

11 ABDOMINAL EMERGENCIES

CHIEF COMPLAINTS

- Abdominal pain
- Abdominal pain: pediatric
- Bloody or black stools
- Foreign body
- Heartburn/epigastric pain
- Hiccups
- Nausea/vomiting/diarrhea
- Urinary catheter problems
- Urinary problems (retention or loss of control)

RED FLAG FINDINGS

- Abdominal pain accompanied by shoulder pain
- Abdominal distension with jaundice
- Abdominal pain and signs of sepsis
- Abdominal pain post trauma (MVC, bicycle accident, stabbing, etc.)—see trauma section
- Age >60 yrs presenting with severe pain radiating to the back with no history of kidney stones (think aortic dissection)
- Ecchymosis to flank areas with acute pain
- Failure to eat with s/sx of dehydration
- Pulsatile abdominal mass
- Rigid abdomen, rebound tenderness, guarding
- Stool with frank blood or currant jelly stools
- Sudden onset with pain out of proportion to clinical findings
- Vomiting of stool or frank blood



KEY TIPS FOR ABDOMINAL EMERGENCIES

- **Abdominal pain** accompanied by **chest pain or epigastric pain, think ECG and possible STEMI.**
- Abdominal pain caused by trauma, **consider trauma criteria** and expedite imaging.
- Consider **electrolyte imbalances** in the patient with persistent vomiting or diarrhea.
- See Table 11.2 for Considerations Based on Anatomy of the Abdomen.
- **Consider Other Chapters:** Respiratory, cardiac, OB/GYN, infectious.
- **Anticipate Orders:** Labs (CBC, CMP, type and crossmatch, amylase, lipase, LFTs); diagnostics (CXR, US, FAST, abdominal x-ray, abdominal CT, MRI, EEG); meds (GI cocktail).

ABDOMINAL PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Location of pain?• Duration of pain?• CP or SOB? (If yes, consider cardiac or respiratory emergencies chapters)• Trauma? (If yes, go to trauma emergencies chapter)
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess location and visualize area if injury has occurred• Assess for hypovolemic shock (tachycardia, low BP, cool, clammy, and change in mental status from baseline)• Observe patient for objective signs of pain—difficulty ambulating, diaphoresis, pale skin
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• ECG if suspicion of cardiac involvement• NPO until potential need for surgical intervention is ruled out

ABDOMINAL PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Nausea, vomiting, or diarrhea? If so, for how long?• LMP delayed? (Consider abdominal or OB/GYN chapters)• Similar pain in the past?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies
ASSESSMENT	<ul style="list-style-type: none">• Assess pain using appropriate pain scale (numeric or FACES)• Abdominal distension
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for radiology scans (CT, x-ray, US)• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Think bowel obstruction** (cancer hx is #1 cause)/ **perforation, ischemic/infarcted bowel** (ischemia with sudden onset with pain out of proportion to clinical findings), **splenic rupture, appendicitis, cholecystitis, pancreatitis.**
- **Atypical presentations of ACS, pericarditis, pneumonia, and PE** should also be considered.
- If patient has history of cirrhosis, examine abdomen for swelling and excess fluid.
- Abdominal distention should cause you think possible bowel obstruction or ascites.

ABDOMINAL PAIN (*Continued*)



PEDIATRIC:

- **Additional red flags:** Severe pain increasing over time or lasting >2 hrs, difficulty ambulating or ambulating bent over, RLQ/LLQ pain with fever, poor appetite, currant jelly stools (late sign for intussusception), or abdominal trauma (think splenic injury with bicycle accident/over the handlebars injury).
- **Gastroenteritis is the most common medical cause**, while **appendicitis is the most common surgical cause**. Kids are at increased risk of ruptured appendix. **Think sepsis** or pain due to **possible ingestion**.
- **Assess whether pain or vomiting started first;** for surgical causes, the pain usually starts first; the opposite is true of medical causes.
- See next section (Abdominal Pain—Pediatrics) for additional information.



OLDER ADULT:

- Older adults often **wait longer to seek medical treatment** so may be acutely ill even if they do not appear so. **Think sepsis**.
- Often **do not present with classic findings of acute abdomen** and are at an increased risk of ruptured appendix. Abdominal pain in older patients can be caused by anything from constipation, to **mesenteric ischemia, malignancy**, or the immune system.
- Dx is often difficult due to decreased sensation (e.g., neuropathy), underlying conditions (e.g., diabetes), and medication use.
- If presenting with diarrhea, use of antibiotics within the last 8 wks, hospitalization, recent surgery, or a horse barn odor should increase suspicion for *c-diff*. Isolation per policy.

ABDOMINAL PAIN—PEDIATRICS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Recent fever (think sepsis)?• N/V/D?• Wet or dirty diapers? How many/frequency?• Blood in vomit or stool?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Screen for sepsis• Child inconsolable• Distended abdomen or olive shaped mass (think pyloric stenosis)• Draws legs up with inconsolable crying lasting a few minutes (think intussusception)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Keep NPO until surgical possibilities are ruled out

ABDOMINAL PAIN—PEDIATRICS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Immunization status?• Last oral intake?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Projectile vomiting (think pyloric stenosis)• Stool appears to be currant or grape jelly-like (think intussusception)• Obtain a weight in kilograms; infants• If a rectal temperature is taken consider putting on a urine bag as the child may void while taking the temperature and you will likely need a UA)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Consider radiology exams• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- Additional **red flags:** Severe pain increasing over time or lasting >2 hrs, difficulty ambulating or patient guarding abdomen, RLQ pain with fever, N/V, poor appetite, or abdominal trauma (think splenic injury with bicycle accident/over the handlebar injury).
- Strep throat can cause abdominal pain so check both the abdomen and throat.
- Consent is required for the treatment of minors; be aware of state and hospital regulations.

BLOODY OR BLACK STOOLS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Stools with bright red blood, dark red blood, or black?• Number of episodes and estimated quantity (large amounts)?• Abdominal pain, lightheaded, or dizzy?• Recent travel or travel to a foreign country in the last 6 mos?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Quickly assess for hemodynamic stability: Are peripheral pulses weak? Is the patient pale, clammy/diaphoretic, and/or cool?
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Keep patient NPO

BLOODY OR BLACK STOOLS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Blood clots in stool?• N/V (hematemesis or coffee ground appearance)?• Hx of diverticulitis, ulcerative colitis, or Crohn's disease?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Consider orthostatic VS (possible hypotension, tachycardia)• Full set of VS per discretion/policies (special attention to BP and HR)
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIP

- When assessing the patient for lower GI bleed, **assess** both the **color of the blood and the amount seen**. Bright red blood when wiping after a bowel movement (likely non-urgent) paints a very different picture than three episodes of heavy bleeding (likely emergent) into the toilet.

BLOODY OR BLACK STOOLS (*Continued*)



PEDIATRIC:

- Consider **intussusception** in children **age 3 mos to 6 yrs**. They will present with **acute, crampy abdominal pain, and grape or currant jelly-like stools**; sudden pain followed by relief of pain.



OLDER ADULT:

- Assess the **use of NSAIDs and anticoagulants**. Various coagulation studies may be required followed by reversal therapy.

NOTES:

FOREIGN BODY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What is the object?• How long has it been in place?• Abdominal pain?• Recent fever (think sepsis)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Quickly assess for hemodynamic stability—peripheral pulses weak, skin pale, clammy/diaphoretic, and/or cool skin• Screen for sepsis• Abdominal distension
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Keep patient NPO (anticipate need for sedation/surgery for object removal)

FOREIGN BODY (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Throat pain or rectal pain?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess for signs of abuse/maltreatment; if suspect sexual abuse, notify law enforcement per hospital policy• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate need for expedited imaging to determine location/nature of object and if it is intact• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Esophageal foreign body:** If object is >3 cm it will likely not pass the pylorus (large objects like nails and glass); surgical intervention is likely. **Button batteries** in the esophagus require immediate intervention; can cause internal burns and perforations within 6 hrs. Worst outcomes are with **lithium batteries**.
- **Rectal foreign body: Glass objects are the most concerning**, but anything that can break and **perforate the rectum** is of concern. The patient can quickly become **septic** if there has been a perforation and will need emergent intervention.
- **Esophagus and rectal foreign bodies: Illicit drugs are common;** if the packaging ruptures, a large amount of drug could enter the bloodstream. Monitor for changes in A–B–C–D–E that could signal this especially with patients in custody.

FOREIGN BODY (*Continued*)



PEDIATRIC:

- **Rectal foreign bodies** are rare in children. **If present in a child, suspect sexual abuse** and act per hospital policy. Regardless, have sensitivity to the developmental and emotional state of the patient.



OLDER ADULT:

- Presentation is almost always delayed due to patient embarrassment, increasing the risk of sepsis or other complications.

NOTES:

HEARTBURN/EPIGASTRIC PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• When did it start?• Does the pain radiate anywhere?• Associated CP, SOB, N/V?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Quickly assess for hemodynamic stability— are peripheral pulses weak? Is the patient pale, clammy/diaphoretic, and/or cool?• Assess for jaundice
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Obtain an ECG per policy (epigastric pain could be an AMI!)

HEARTBURN/EPIGASTRIC PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• What was the last meal (large, heavy meal could trigger pancreatitis, or cholelithiasis)?• Able to keep fluids down?• Assess for frequency of alcohol use; can trigger pancreatitis• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Signs of dehydration (dry mucous membranes, poor skin turgor)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Think cardiac etiology until proven otherwise.**
- **Dehydration** can be significant in the patient with pancreatitis. Aggressive rehydration is necessary to prevent end organ dysfunction. About 20% to 30% of patients experience complications such as pancreatic necrosis and organ failure; care of the suspected pancreatitis patient should be expedited to prevent such complications.
- Consider liver disease or pancreatitis in a jaundice patient.

HICCUPS—PERSISTENT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Associated CP or SOB?• Difficulty swallowing?• Weakness or change in mentation?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Quickly assess for hemodynamic stability (peripheral pulses weak, pale, clammy/diaphoretic, and/or cool)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Obtain an ECG per policy if any complaint of CP



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Recent infections like pharyngitis or laryngitis, cardiac hx, cardiac or cancer hx, aortic aneurysm?• Tx PTA *PQRST *PMH *Drug and alcohol use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIP

- **See Table 11.1: Emergent Causes of Persistent Hiccups.** Prolonged episodes of hiccups have been associated with significant morbidity (causes damage to vagus or phrenic nerves or is indicative of CNS lesions). Attacks **lasting longer than 48 hrs** are considered **persistent; longer than 1 mo are intractable**. Patient may have increased ICP, pericarditis, or STEMI among other issues.

NOTES:

NAUSEA/VOMITING/DIARRHEA



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How many episodes? Over how many days?• Lightheaded or dizzy?• Any fevers/recent travel?• Recent antibiotic use?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Quickly assess for hemodynamic stability (peripheral pulses weak, pale, clammy/diaphoretic, and/or cool)• Signs of dehydration (dry mucous membranes, poor skin turgor)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If patient is actively vomiting, consider an antiemetic in triage per facility policy• Consider isolating patient if suspicion of infectious disease (think <i>c. diff</i>, influenza, norovirus, etc.)

NAUSEA/VOMITING/DIARRHEA (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vomiting/diarrhea; quantity, frequency, and color?• Able to keep any fluid down?• Consider medication list—could these be symptoms of medication withdrawal?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Further evaluation for s/sx of dehydration (dry mucous membranes, poor skin turgor)• Full set of VS per discretion/policies (special attention to BP and HR; consider orthostatic VS)
INTERVENTIONS	<ul style="list-style-type: none">• Consider ECG (think atypical AMI presentation, electrolyte abnormalities)• Glucose POC as indicated *Initiate ATPs per policy

TIP

- Assess whether the **vomiting** or diarrhea has been profound. Vomiting will lead to the loss of acid, contributing to **metabolic alkalosis**. Base is lost in stool, so substantial **diarrhea** could result in **metabolic acidosis**.

NAUSEA/VOMITING/DIARRHEA (Continued)



PEDIATRIC:

- Children have less ability to tolerate **dehydration** than adults. The triage nurse must look for chapped lips, dry mucous membranes, sunken fontanel, sunken eyes, decreased capillary refill and/or activity, decreased urine output (e.g., dry diapers), and recognize that the child is in need of emergency intervention. Glucose replacement will likely be necessary.



OLDER ADULT:

- Ask about **recent use of antibiotics**. If diarrhea, **think possible c-diff**. Initiate isolation per policy.
- **Consider the impact that dehydration has on the older adult's medications**. For instance, lithium toxicity causes N/V/D that may increase serum levels, thus increasing the toxicity. The patient may complain of N/V/D but may also experience other overdose s/sx.

NOTES:

URINARY CATHETER PROBLEMS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Length of time the catheter has been in place and why (post-op, quadriplegic, etc.)?• If blocked, duration of time and presence of any blood or clots in the urine?• Associated pain (if so, where)?• Recent fever (think SIRS criteria)?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Screen for SIRS criteria• Assess abdomen for distension• Visualize catheter (sediment indicates infection)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Recent trauma (may impact perineum)?• Constipation? Last BM?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Knowing why the patient has a catheter** can help determine the cause of the problem.
- Be aware that **untreated urinary issues may lead to acute renal failure.**



PEDIATRIC:

- Inquire with the patient/caregiver about the indications of the catheter.
- Presenting with typical UTI s/sx is rare. The patient with a catheter might simply have a change in urine quality and mentation.



OLDER ADULT:

NOTES:

URINARY PROBLEMS (RETENTION OR LOSS OF CONTROL)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Recent loss of control of bladder/bowel?• Associated pain?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• If patient reports loss of bladder function, assess for numbness/altered sensation in lower extremities, saddle parasthesia• Abdominal distension• If patient is describing increased frequency, assess for increased thirst, tachypnea, tachycardia, and dry mucous membranes (think DKA)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Sense of urgency, increased thirst?• Hx of bladder or prostate issues, kidney stone, UTI?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Urinary retention can be neurologic** (spinal cord injury, MS, or diabetes) **or mechanical** (due to urethral stricture, prostatic hyperplasia, or meatal stenosis).
- **Kidney stones** can cause obstruction but also **mimic other dx** including AAA, testicular torsion, appendicitis, incarcerated hernia, ectopic pregnancy, and biliary colic. **Renal colic is commonly diagnosed when AAA is the issue.** Do not assume.
- Patients may present with a chief complaint of severe pain and have hypertension and tachycardia as a part of that pain response. If the patient is also **febrile**, the triage nurse should consider the patient **high-risk for sepsis** and expedite treatment.
- Be aware that **untreated urinary issues may lead to acute renal failure.**



PEDIATRIC:

- **New onset DKA is a medical emergency** that may need to be ruled out.
- If a child presents with dysuria, genital pain, UTI, or voiding dysfunction and **eliciting a hx from the caregiver is difficult**, the triage nurse should **consider sexual abuse** and proceed per hospital policy/protocol.



OLDER ADULT:

- Older patients can suffer from **spontaneous osteoporotic compression fractures**. In the patient, **c/o loss of bowel or bladder control, think potential for cauda equine syndrome.**

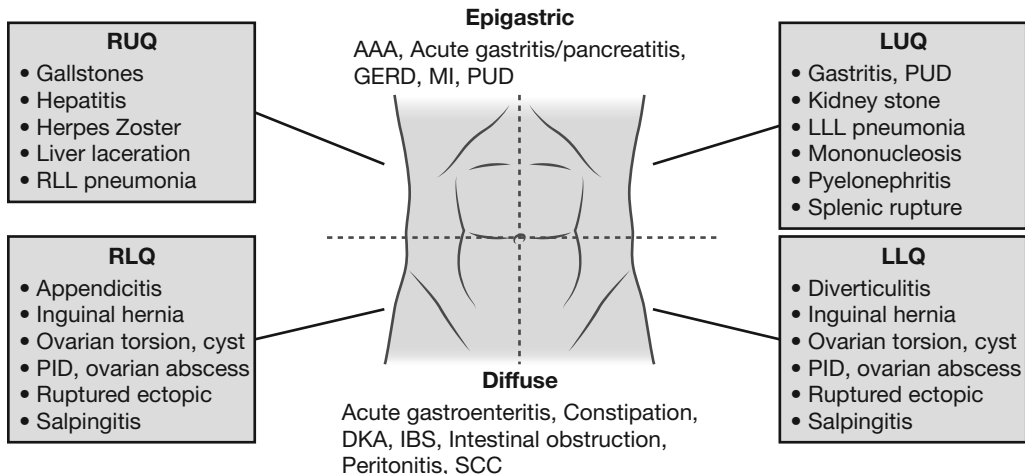
ABDOMINAL EMERGENCY RESOURCES

Table 11.1: Emergent Causes of Persistent Hiccups

Cardiac	<ul style="list-style-type: none">• Myocardial ischemia• Pericarditis• Pacemaker lead complications
Vagus nerve irritation	<ul style="list-style-type: none">• Meningitis• Mass lesions/thyroid enlargement• Thoracic tumor• Thoracic or AAA• Appendicitis, cholecystitis, pancreatitis
Procedure-related	<ul style="list-style-type: none">• Hyperextension of neck• Manipulation of diaphragm or stomach• Laparotomy• Thoracotomy• Craniotomy
Metabolic	<ul style="list-style-type: none">• Hyponatremia• Hypokalemia• Hypocalcemia• Hyperglycemia• Fever
Drug-related	<ul style="list-style-type: none">• Benzodiazepines• Barbiturates (short-acting)• Dexamethasone

Source: Wilkes, G. (2017). Hiccups. In S. C. Dronen (Ed.), *Medscape*. Retrieved from <http://medicine.medscape.com/article/775746-overview#a1>

Table 11.2: Diagnostic Considerations Based on Anatomy of the Abdomen



NOTES:

12 OBSTETRIC EMERGENCIES

CHIEF COMPLAINTS

- Abdominal and/or back pain
- Imminent delivery
- Leaking fluid
- Trauma greater than 20 weeks
- Vaginal bleeding
- Vomiting



RED FLAG FINDINGS

- Abdominal pain in 1st or 3rd trimester of pregnancy
- Abnormal VS: Maternal HR <50 bpm or >120 bpm; FHTs <120 bpm or >160 bpm for 1 min
- Abnormally low or high FHT by doppler
- Crowning
- Dyspnea of significance in 2nd or 3rd trimester
- Fetal movement absent or decreased
- Headache with altered mental status, dizziness, and/or visual disturbances unrelieved by a recommended analgesic; persistent epigastric complaints not relieved by antacids
- Hemorrhaging
- Imminent delivery/woman actively bearing down
- Leaking amniotic fluid or sudden release of fluid when lying flat
- Patient states, "I have been sexually assaulted"
- Prolapsed cord
- Seizure-like activity with known pregnancy
- Signs of uterine or placenta abruption
- Syncopal episode
- Trauma in a pregnancy of >24 weeks gestation
- Vaginal bleeding



KEY TIPS FOR OBSTETRIC EMERGENCIES

- **Fetal demise or death of mother will always be of highest concern. Remember: You have two patients** when caring for a pregnant woman; **both** must be considered in decision-making.
- **Confirm suggested EDC** via pregnancy wheel or App; **when LMP is known.**
- **EDC = LMP – 3 mos + 7 days + 1 year**
- Always **correlate the FHTs with the mother's pulse.** If the rate obtained is the same, likely the FHTs are not being obtained accurately and the mother's pulse is being traced.
- In utero, **normal FHTs is 120–160 bpm. Monitor pulse of mother.**
- **VS changes in pregnancy:** RR increases by 20%, HR increases by 20 bpm (blood volume expands by 30%)
- **Think about intimate partner violence** in pregnant women and possibility of injuries (see Chapter 24). Consider all pieces of the patient story and assess RR if the details make sense.
- **Medical screening exam includes the mother and fetus.**
- **If the fetus delivers,** obtain **APGAR** scores at 1, 5, and 10 minutes.
- **Peripartum cardiomyopathy** in pregnancy can be difficult to identify. Increase your concern in women with dyspnea, fatigue, tachycardia, and/or peripheral edema.
- **Consider Other Chapters:** Abdominal, GYN, musculoskeletal.
- **Anticipate Orders:** Labs (CBC, CMP, UA, Hcg, type and crossmatch, Rh); diagnostics (abdominal US, Doppler US for FHTs); meds (magnesium sulfate, pain meds, antipyretics, antiemetics).

**AWHONN has a Maternal Fetal Triage Index used for OB triage. For information on this system refer to www.awhonn.org/?page=MFTI

ABDOMINAL AND/OR BACK PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset and duration of s/sx?• LMP? EDC?• Recent trauma? (If yes, see trauma chapter)• Recent fever?• Fetal movement? Indication of fetal distress?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Imminent delivery• Screen for sepsis• Frequency/duration of any contractions
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!

ABDOMINAL AND/OR BACK PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Localized and acute uterine pain?• Back pain suspicious of back labor?• Vaginal bleeding (quantity of pads saturating hourly) or leaking?• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Time contractions if indicated• Full set of VS per discretion/policy (obtain pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Place patient in left lateral position as needed to displace uterus off aorta• Anticipate the need for high flow O₂, two large bore IVs, CBC, type and crossmatch, and transfer to the OR or birthing center• Notify OB/neonatal teams if the resource is available• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Abruptio Placentae:** Could cause localized and acute uterine pain or backaches (separation of the placenta from the uterine wall).
- **Consider** the possibility of **back labor** in a pregnant woman with back pain.

IMMINENT DELIVERY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• LMP? EDC?• Rupture of membranes? Color of fluid (concern for meconium)?• Number of babies expected?• Medications or illicit drugs in the past 4 hrs? What and how much?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Look for bulging membranes, visible head, or body part
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Call for extra staff, notify physician immediately, call RT for stand-by• Transfer to birth center per policies (think EMTALA before transfer)• If labor is progressing rapidly, prepare for imminent delivery• Anticipate need for emergency delivery tray, OB/neonate/pediatric cart/supplies• Position mother on left side, support with O₂, IV fluid, etc. as needed• Neonate postdelivery care

EDC, estimated date of confinement; OB, obstetric.

IMMINENT DELIVERY (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy (obtain pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for large bore IV• Call for delivery/neonate team per facility policies• Check glucose if mother is a known diabetic or neonate appears jittery• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Avoid pulling on the fetus in attempt to deliver faster.**
- **Prolapsed cord:** Call for immediate help/notify ED physician, place mother in **Trendelenburg** (mom supine with legs up), **visualize vagina** (may note presenting part), gently **insert sterile gloved hand** into vagina to **lift the baby off of the cord**, monitor FHT, anticipate fetal bradycardia. **RN is to remain holding the presenting part until fetus is delivered via emergency C-section.** (Yes, one's hand is going to ache like never before!)
- **Breech fetus:** Anticipate the need for an emergency C-section, notify ED physician, OB and neonatal teams per policy/availability, and **support presenting body parts** (do not let them hang!)
- A neonate's normal blood glucose level can be as low as 40 mg/dL. If less, anticipate intervention (mom's breast for feeding, etc.)

Table 12.1: APGAR Score

BREATHING		
0 Not breathing	1 Slow irregular	2 Crying
HEART RATE		
0 No heartbeat	1 <100	2 >100
MUSCLE TONE		
0 Floppy	1 Some tone	2 Active movement
REFLEX/GRIMACE		
0 No response	1 Facial grimace only	2 Pulls away, cries, coughs, or sneezes
SKIN COLOR		
0 Pale blue	1 Body pink, hands and feet blue	2 Entire body is pink

NOTES:

- *Assessment intervals:* 1 min, 5 min, 10 min.
- *Abnormal APGAR:* At 5 min, if the score is <5 this is likely due to a C-section, traumatic birth, or fluid within the neonate's lungs. Notify physician immediately for any APGAR <7 and continue to reassess every 5 min.
- *Normal APGAR:* 7 to 10 considered within normal range.

NEONATAL CARE POST-DELIVERY

- Support ABCs; start CPR if HR <60 bpm, clear airway and give positive-pressure ventilation (PPV) if HR <100
- Apply pulse ox to right wrist onto preductal vessel (most accurate); normal O₂ sat >40% at birth
- Place neonate skin-to-skin on mother (preferably) or on warming table if available
- Dry, warm, stimulate
- Obtain APGAR scores at 1-, 5-, 10-min intervals (see Table 12.1)
- ID bands onto mother and baby (two bands are needed)
- Document time of delivery and the time of placenta delivery
- Watch for O₂ sat to rise
- Approximately 10 min post-delivery O₂ sat should be >80%
- Best place for infant is on mom's chest, skin-to-skin after drying and if infant is not in distress
- Only use 100% FiO₂ if needing ETT or under CPR, blended O₂ is best (21%–30%). Giving increased PEEP is more important.



Don't stress about APGAR scoring when performing care after a delivery. All of the aspects for APGAR will be noticed as you are assessing and caring for the infant—appearance (color), pulse, grimace, activity and respiration. Monitor closely neonates who have moderate to severe respiratory depression at birth.



Low APGAR scores are partial criteria when deciding if an infant could have hypoxic ischemic encephalopathy (HIE) and needs to undergo hypothermia treatment. HIE is a brain injury caused by O₂ deprivation to the brain known as intrapartum asphyxia. The newborn can compensate for a period of time but when the asphyxia lasts too long, permanent brain tissue damage occurs.

LEAKING FLUID



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• EDC?• Onset/duration of leaking, description (color and quantity)?• Trauma or pain?• Fetal movement?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for sepsis
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• UTI s/sx (dysuria/hematuria/increased urinary frequency)?• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST if associated pain (not typical) *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Delegate obtaining FHTs• Full set of VS per discretion/policy (obtain pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Prepare for emergent fetal monitoring (call for rapid response team, OB team, etc.)• Glucose POC as indicated *Initiate ATPs per policy (e.g., testing amniotic fluid with nitrazine paper)

TIPS

- **Leaking Amniotic Fluid/Rupture of Membranes:** Patient may report spontaneous gush of fluid. Use **TACO mnemonic:** Time of rupture, Amount of fluid estimated, Color of fluid, Odor present.
- **Fever With Urinary Symptoms:** Ask about urinary s/sx. In the first trimester, a UTI can cause a miscarriage and in the third trimester the presence of fluid could be leaking amniotic fluid (sometimes confused with a UTI). Inquire about spontaneous gush of fluid.

NOTES:

TRAUMA GREATER THAN 20 WEEKS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI (MVC, assault, etc.) and time of incident?• Fetal movement since incident?• LMP? EDC?• Vaginal bleeding, leaking fluid, contractions?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for trauma criteria (see Trauma section)• Imminent delivery• Frequency/duration of any contractions
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Consider calling Trauma Alert (if meets trauma criteria) and call OB team• Consider c-spine immobilization for any traumatic injury• Attend to any life-threatening conditions• High flow O₂ to mother to ensure fetal oxygenation• Anticipate the need for left side-lying positioning, two large bore IVs, labs• NPO status until the need for emergency C-section ruled out

TRAUMA GREATER THAN 20 WEEKS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• If bleeding, quantity of pads used hourly?• Other injuries?• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Delegate FHT• Visualize for other injuries• Full set of VS per discretion/policy (obtain pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate a workup congruent with specific injuries• If MOI assault/alleged partner violence ensure safety for patient• Involve law enforcement per state/local policies• Anticipate possible emergency C-section/close fetal monitoring, IV, labs, type and crossmatch• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **High concern for preterm labor or fetal demise.**
Recognize the potential for preterm labor, notify physician. Fetus is at risk for higher mortality with “less” trauma due to position within the mother’s abdomen.
- Anticipate the need to **monitor for** uterine contractions/irritability and signs of **fetal distress**.
- Anticipate **the possibility of an emergency C-section**.
- Mother may have **delayed s/sx of shock** (due to slightly higher HR and increased fluid volume) with **decreased U/O potentially as the first indication of shock** (instead of VS).
- Late pregnancy can make assessment of injuries difficult—fetus can displace organs so be aware of atypical presentations of pain from traumatic injuries.
- **Think about intimate partner violence** in pregnant women; especially in the third trimester.

NOTES:

VAGINAL BLEEDING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset of bleeding and quantity of pads saturating hourly?• LMP? EDC?• Back pain?• Trauma? (If yes, see trauma complaint)• Fetal movement?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Shock indicators like hypotension, tachycardia, delayed capillary refill
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• NPO until further questioning• Anticipate possible emergent delivery or C-section

VAGINAL BLEEDING (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Prior uterine surgery or uterine abnormalities?• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Obtain FHTs (often will be within normal range); delegate this task• Full set of VS per discretion/policy (obtain pulse ox)
INTERVENTIONS	<ul style="list-style-type: none">• Place patient in left lateral position as needed to displace uterus• Anticipate the need for oxygen, a large bore IV, CBC and type and crossmatch, and transfer to the OR or birthing center• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Abruptio Placentae:** Dark red *painful bleeding*, (placenta pulls away from uterine lining), localized and acute uterine pain with/without backaches often occurring after blunt abdominal trauma.
- **Placenta Previa:** Bright red *painless bleeding*, shock indicators like hypotension, tachycardia, delayed capillary refill.

VOMITING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• LMP? EDC?• Hx of HTN or known preeclampsia/eclampsia?• Duration of vomiting, frequency?• Fetal movement?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• S/sx of dehydration (sleepy, dizzy, dry mucous membranes, poor skin turgor, etc.)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

VOMITING (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• GPAL questions (refer to Table 12.2), prenatal care?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• S/sx of dehydration (think of impact on fetus)• Delegate and obtain FHTs• Full set of VS per discretion/policy (concern if HTN even if pt looks normal; obtain pulse ox)
INTERVENTIONS	<ul style="list-style-type: none">• Place in tilted in left side-lying position, initiate seizure precautions• Anticipate possible high flow O₂, IV, labs including UA/dip urine for protein, NPO• Anticipate the potential for emergency C-section for HTN (delivery is the only cure)• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Preeclampsia:** S/sx of HTN (BP >140/90), **headache, change in vision**, edema, sudden weight gain, right upper quadrant pain. Occurs when >20 wks pregnant. S/sx may be vague and pt may appear “normal” but there is a **risk of cerebral hemorrhage**. **Risk factors** include age <20 yrs or >40 yrs, hx of HTN, DM, multiple gestation, obesity, family hx, prior molar pregnancy.
- **Eclampsia: Preeclampsia + seizures;** postictal state up to 30 mins. **FHTs decrease during seizures placing the fetus at risk**. **Complications** may be intracranial bleed, end-organ failure, or splenic/liver hemorrhage.
- **Dehydration:** S/sx dry mucous membranes/tongue, poor skin turgor, dizziness, tachycardia, hypotension; consider impact of dehydration on fetus.
- **Hyperemesis:** S/sx include frequent vomiting, HAs, extreme fatigue, and dehydration. Dehydration, especially in a pregnant woman, is concerning.

NOTES:

OBSTETRIC EMERGENCY RESOURCES

Table 12.2: GPAL System for a Woman's Obstetric History^a

Gravida	Total number of pregnancies (including the current pregnancy)
Para	Total number of deliveries past 20 wks gestation or the age of viability (e.g., if a woman had one pregnancy with twins at term gestation she would still be a para 1 [or P1] since parity refers to deliveries, not babies)
Abortion	Total number of pregnancies terminated either spontaneously or electively
Living	Total number of living children

^aUse the system preferred by your facility and policies.

Table 12.3: TPAL System for a Woman's Obstetric History^a

Term	Total number of deliveries > or = 37 wks
Preterm	Total number of deliveries <37 wks
Abortion	Total number of spontaneous or elective abortions at >20 wks
Living	Total number of living children

^aUse the system preferred by your facility and policies.

Table 12.4: TGPAL System for a Woman's Obstetric History^a

Term	Total number of term pregnancies born after 37 wks (includes live and stillborn)
Gravida	Total number of pregnancies
Para	Total number of deliveries past 20 wks gestation or the age of viability (e.g., if a woman had one pregnancy with twins at term gestation she would still be a para 1 [or P1] since parity refers to deliveries, not babies)
Abortion	Total number of pregnancies terminated either spontaneously or electively (or due to medical necessity)
Living	Total number of living children

^aUse the system preferred by your facility and policies.

Table 12.5: Pregnancy Abbreviations and Definitions

C/S or c-section Cesarean section

D & C Dilatation and curettage

Dilation The amount in centimeters that the cervix has opened. Contractions and pressure from the presenting fetal part dilate the cervix to 10 cm just prior to a vaginal delivery.

EDC Estimated date of confinement

EDD Estimated date of delivery

Effacement The length of the cervix expressed in percentages (between 0% and 100%) as it relates to the thinning of the cervix. Effacement is assessed by manual vaginal exam. Length of the cervix is determined by a transvaginal US.

FHT Fetal heart tone

GA Gestational age

LMP Last menstrual period (first day of)

Multiparous—aka “Multip” A woman with more than one child

Nulliparous—aka “Nullip” A woman with no children

POC Products of conception

PPROM Preterm premature rupture of membranes

ROM Rupture of membranes

SAB Spontaneous abortion

SROM Spontaneous rupture of membranes

Station Measurement of how the baby is moving through the pelvis. Zero station is when the presenting part is level with the ischial spines.

TAB Therapeutic abortion

TACO (for ruptured membranes)

T = time of rupture

A = estimated amount of fluid

C = color of fluid/secretions

O = odor noted (none or foul)

VBAC Vaginal birth after cesarean

NOTES:

13 GYNECOLOGIC EMERGENCIES

CHIEF COMPLAINTS

- Pelvic pain/lower abdominal pain
- Postpartum hemorrhage
- Sexual assault



RED FLAG FINDINGS

- Abdominal pain (severe) within 48 hrs after delivery
- Abdomen rigid and accompanied by severe pain
- Foreign object retained (s/sx of sepsis, obstruction)
- Menses delayed >2 wks, severe pain, and possibility of pregnancy
- Pain (severe) that awakens a person from sleep
- Rebound tenderness in abdomen
- Retained products of conception, partial or complete (suspicion of)
- Sexual assault
- Shoulder pain with abdominal pain or pelvic pain
- Syncopal episode with vaginal hemorrhage
- Trauma to vagina (or rectum) from foreign object
- Vaginal bleeding, uncontrolled



KEY TIPS FOR GYNECOLOGIC EMERGENCIES

- **Time is ovary!** Delay of treatment can cause permanent injury or loss of the ovary.
- **Think** possibility of **appendicitis, ovarian torsion, ectopic pregnancy, toxic shock syndrome** along with **abuse/sexual assault**.
- Consider **SIRS criteria** if there is a known infection or suspicion of an infection.
- Do not assume a young female is not pregnant. Anticipate the need for a pregnancy test for females with menses, >11 yrs old, and/or per policy.
- Consider pediatric/older adult abuse with GYN complaints.
- Shoulder pain with abdominal pain or pelvic pain; think perforation and free air.
- **Consider Other Chapters:** Abdominal, OB.
- **Anticipate Orders:** Labs (CBC, CMP, UA, HCG, beta quantitative, GC/chlamydia, type & screen/crossmatch, Rh blood type); diagnostics (abdominal US (FAST) or transvaginal, r/o ectopic); meds (analgesics, antiemetics, antimetabolites [Methotrexate]).

PELVIC PAIN/LOWER ABDOMINAL PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Location of the pain (unilateral/bilateral)?• Acute onset? Progressively worsening?• Recent fever?• Syncope?• LMP? EDC, GPAL (refer to Table 12.2 if applicable)? Vaginal bleeding?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If patient meets SIRS criteria, act!• Initiate NPO status until surgical intervention ruled out

PELVIC PAIN/LOWER ABDOMINAL PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaginal bleeding or spotting?• Shoulder pain?• If fever, duration? How high? Prior tx (e.g., analgesics given)?• Recent use of tampons or other foreign object placed in pelvic area?• Discharge/foul-smelling odor?• UTI s/sx?• Previous ovarian torsion/cysts, PID, fertility treatments?• Tx PTA *PQRST *PMH (Medical/Surgical Hx) *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Abdominal assessment to further identify area of pain/rebound tenderness• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for a UA/U-preg and/or hCG level per policy• Glucose POC if indicated *Initiate ATPs per policy

ATP, Advanced Triage Protocols; EDC, estimated date of confinement; hCG, human chorionic gonadotropin; LMP, last menstrual period; PID, pelvic inflammatory disease; POC, products of conception; U-preg, urine pregnancy; UTI, urinary tract infection.

PELVIC PAIN/LOWER ABDOMINAL PAIN (*Continued*)



PEDIATRIC:

- **Consider sexual abuse.** Does the story match the complaint and is there unexplained pain or injuries? **Mandated reporter** for “suspicion” of abuse.
- Pneumonia and DKA are sometimes dx when the presenting complaint is abdominal.
- Pregnancy test for females with menses or >11 yrs of age (and per policy).



OLDER ADULT:

- If the patient is pre-menopausal or post-menopausal, ask about the date of their last menses and any side effects like hot flashes, flushing, vaginal dryness, night sweats, and/or mood swings.

TIPS

- **Appendicitis:** RLQ or periumbilical pain; think high-risk for a pt returning to the ED with persisting abdominal pain.
- **Ectopic pregnancy:** Classic triad: pain, amenorrhea, vaginal bleeding; shoulder pain (typically referred pain is a high probability for a ruptured ectopic pregnancy).
- **Ovarian cyst:** Menses longer than normal, pressure, or dull ache/pain unilaterally.
- **Ovarian torsion:** Ovarian torsion can be the symptom of another gynecological issue (mass, bleeding). Remember, **time is ovary.**
- **Toxic shock syndrome:** Recent tampon use, sudden fever up to 102°F, HA, sunburn-appearing rash; decreased BP.
- **Postpartum eclampsia:** Occurs 48 hrs to 6 wks postpartum. S/sx abd pain (often upper abd), HTN >140/90 mmHg, weight gain, HAs, N/V, decreased urination, and change in vision.
- Always consider **abuse/sexual assault.**
- **Think potential high-risk** presentation if the patient is pregnant.

POSTPARTUM HEMORRHAGE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Vaginal bleeding/spotting?• Quantity of pads saturating per hour (≥ 1 maxi pad/hr = concern)?• Syncope, dizziness, weakness?• Delivery date (obtain basic info about delivery)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Signs of shock, hypovolemia or sepsis if retained products of conception
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• NPO status until further evaluation

POSTPARTUM HEMORRHAGE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Swelling and pain to perineal/vaginal area?• Abdominal pain?• C-section vs. vaginal delivery?• Tx PTA *PQRST *PMH (Medical/Surgical Hx) *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Abdominal and fundal assessment• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate fundal massage and/or vaginal packing, possible blood transfusion• Anticipate potential surgical intervention if fundal massage/packing does not control bleeding• Glucose POC if indicated *Initiate ATPs per policy



PEDIATRIC:

- **Do not assume that a young female is not or has not been pregnant.** A pregnancy is sometimes kept secret from others.

TIPS

- Hemorrhage typically occurs from **24 hrs to 12 wks after delivery** but is most common in the first 2 wks. More than 1,000 mL of blood loss or >10% drop in HCT after a vaginal delivery is considered hemorrhage.
- **Up to 72 hrs after delivery**, if the patient is still bleeding, **consider retained POC** and potential for **sepsis**.

SEXUAL ASSAULT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Injuries? HA, neck/back pain, CP, SOB?• Loss of consciousness (consider trauma criteria if violent incident)?• Pregnant (LMP and EDC, if applicable)?• Weapons involved or drugged?• Any of the following PTA: shower, changed clothing, used douche?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visual inspection of areas of injury that can be seen without moving clothing
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Act on any emergent conditions• Involve law enforcement per protocol• Any evidence patient carries into ED should be collected and stored per policies (e.g., typically in a paper bag with name, DOB, date/time, receiver's initials); critical to follow chain of evidence protocols and forensic standards of care• Advise patient not to wash up, change clothes, etc. until informed it's okay

SEXUAL ASSAULT (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Witnesses?• Do you have children? Where are they? Are they safe (safety is of high concern)?• Tx PTA *PQRST *PMH (Medical/Surgical Hx) *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Other injuries• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Ensure patient safety and emotional support• Call for resources available per policy (SANE, social worker, chaplain, etc.)• Advocate for ongoing support (e.g., social worker)• Anticipate a sexual assault evidentiary exam with a SANE (when available) if the patient presents within the first 96 hrs following incident• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- **Preservation of evidence** is important. Place each item in a separate paper bag. Follow P & P.
- Documentation of injuries visualized is essential.
- **Advise patient not to change clothing or wash body** until treatment plan/examination can be discussed/performed.

GYNECOLOGIC EMERGENCY RESOURCES

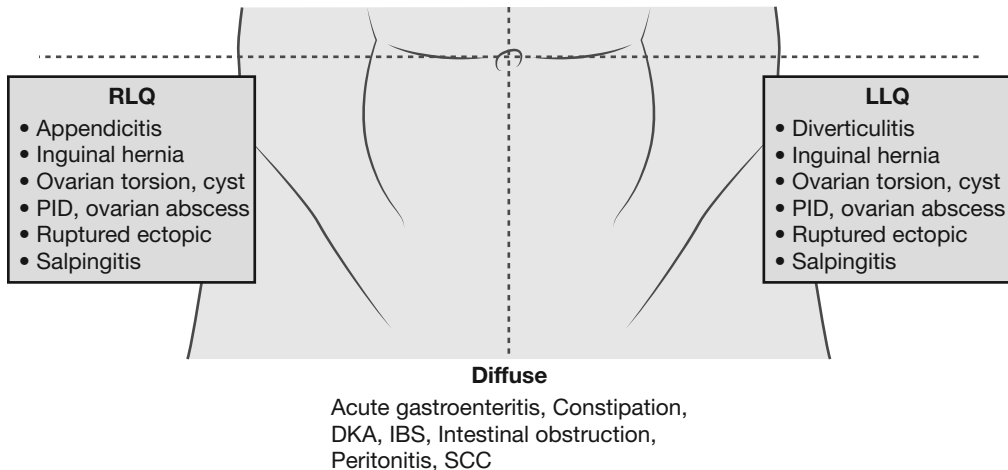


Figure 13.1: Lower Abdominal Diagnostic Considerations Based on Anatomy of the Abdomen

DKA, diabetic ketoacidosis; IBS, Irritable bowel syndrome; LLQ, Left lower quadrant; PID, pelvic inflammatory disease; RLQ, right lower quadrant; SCC, squamous cell carcinoma.

14 MALE REPRODUCTIVE EMERGENCIES

CHIEF COMPLAINTS

- Difficulty urinating
- Pain: Male genitalia
- Urinary catheter problems



RED FLAG FINDINGS

- Abdominal pain (severe) with fever
- Catheter not draining (symptomatic)
- Difficulty/inability to void (symptomatic)
- Erection, sustained
- Flank pain, severe
- Foreskin unable to pull forward (with tenderness/swelling to glans)
- Necrosis or cellulitis to the penis, scrotum, or perineal area (think necrotizing fasciitis, Fournier gangrene)
- Testicular pain, sudden onset
- Traumatic injury
- Uncontrolled bleeding



KEY TIPS FOR MALE REPRODUCTIVE EMERGENCIES

- **Consider risk of ischemia to penis/testicles. Time is testicle and possibly infertility.**
- Pain to male genitalia is often referred to surrounding areas and abdomen.
- Goal is to identify acute penis/scrotum conditions to prevent future fertility/erectile difficulties.
- Screen for **SIRS criteria**.
- **Consider Other Chapters:** Abdominal.
- **Anticipate Orders:** Labs (CBC, CMP, UA, urethral swabs, cultures); diagnostics (US, CT, MRI); meds (antipyretics, antibiotics).

DIFFICULTY URINATING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Time of last void?• Back pain, fever?• Hematuria or clots?• Recent hospital discharge or post-op with indwelling catheter recently removed?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

DIFFICULTY URINATING (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Penile rings or penile/scrotal piercings?• If bloody drainage in catheter, does pt take blood thinners?• Recent constipation (causing obstruction)?• Penile discharge (what color)? Swelling or discoloration of the scrotum?• Acute or chronic problem?• Hx of prostate problems or genitalia surgeries?• *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visualize and palpate abdomen (firm, rigid, abdominal distension)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate UA (void/straight cath), bladder scan, and US as indicated• Ice and elevation for trauma or ecchymosis• Initiate ATPs per policy

TIPS

- **Kidney stones:** Urethral pain when stone is passing can cause pain that radiates to testicle.
- **Obstruction:** May be caused by inserting objects into the urethra resulting in swelling.

DIFFICULTY URINATING (*Continued*)



PEDIATRIC:

- **Fever:** Greater than 100.4°F (38°C) rectally in infants <3 mos is a high-risk presentation. Think bacterial infection (septic workup) and assess for signs of dehydration; assess ill-appearing children up to age 3 yrs with similar workup.
- **Uncircumcised males at higher risk** for infection.



OLDER ADULT:

- Think potential for **urosepsis** and septic work up.
- Urinary retention highest risk if >70 yrs, hx of benign prostate hyperplasia (BPH), or taking meds (TCAs, antihistamines, decongestants). Be aware patients can progress to renal failure and/or sepsis.

NOTES:

PAIN: MALE GENITALIA



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What happened? Injury/trauma?• Prolonged erection?• Location of pain?• Enlarged/discolored scrotum?• Fever with genitalia swelling?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

PAIN: MALE GENITALIA (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Penile rings or penile/scrotal piercings?• Penile discharge (what color)? Swelling or discoloration of the scrotum?• Prostate problems or genitalia surgeries?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Inspect and palpate surrounding tissue/area for infection/abscess/penile discharge• Swelling or discoloration of scrotum• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate a culture for penile discharge, UA, US for suspected torsion• Initiate ATPs per policy

TIPS

- **Testicular torsion:** Sudden onset, severe pain to testicle. **Time is testicle!** Patient needs immediate surgical intervention within 4 hrs to save the viability of the testicle. Torsion may be a gradual onset with lower abdominal pain, scrotal swelling, and may awaken the patient from sleep (less common presentation).
- **Incarcerated inguinal hernia:** Occurs after testicular trauma with development of scrotal mass.
- **Foreskin unable to pull forward** (with tenderness/swelling to glans) is a urologic emergency; necrosis may occur if blood flow is impaired.
- **Fractured penis: Hematoma** develops following intercourse or aggressive masturbation. Penis will not be fully erect after several episodes of intercourse and requires surgical management.

PAIN: MALE GENITALIA (*Continued*)



PEDIATRIC:

- **Testicular torsion:** Can occur at any age. Urologic emergency as patient can lose a testicle. Adolescent will present c/o abdominal pain due to embarrassment. Begin with less personal questions first.
- **Hair tourniquet:** In an irritable child assess for a hair tourniquet (can cause amputation of the penis). Often occurs in age 2 to 5 yrs.
- Correlate sx or story to r/o **sexual abuse**. Remember healthcare professionals are **mandated reporters** if **“suspicion” of abuse** is present. Assess for unexplained injuries. Use open-ended questions. Bruises to buttocks a common location for maltreatment. Act fast if suspicion is present, as photos should be taken early.



OLDER ADULT:

- **Sudden groin pain think AAA** until you can rule it out.
- **Infection, trauma, or Fournier’s scrotal gangrene** (pain out of proportion to clinical assessment of scrotum, genitalia, or rectum) are common causes of genital pain in men.
- Testicular torsion is less common in older adults.

URINARY CATHETER PROBLEMS



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Length of time the catheter has been in place and why (post-op, urinary retention etc.)?• Is the catheter draining (amount, color, blood clots)?• If blocked, duration of time, presence of blood or clots in the urine?• Taking blood thinners?• Associated (severe) pain (if so, where) or recent fever?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria• Assess abdomen for distension• Visualize urine characteristics in catheter (if quickly able)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

URINARY CATHETER PROBLEMS (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Penile discharge (what color)? Swelling or discoloration of the scrotum?• When and where was catheter placed? Attempts at irrigation?• Constipation? Last BM?• Hx of bladder or prostate issues, obstruction, kidney stone, UTIs?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess for abdominal distension• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate bladder scan and UA per policy/protocol• If bloody drainage or clots, anticipate an order for a triple lumen indwelling catheter or per policies• Glucose POC as indicated per policy for altered LOC or known diabetic with urinary frequency/increased thirst *Initiate ATPs per policy

URINARY CATHETER PROBLEMS (*Continued*)



PEDIATRIC:

- Inquire about the indications for the catheter.
- **Consider sexual abuse** if a child presents with genital pain, dysuria, or voiding dysfunction and **eliciting a hx from the patient/caregiver is difficult**; the triage nurse should proceed per hospital policy/protocol.



OLDER ADULT:

- Older adults are at risk for UTIs and urosepsis. Sometimes the first sign of infection may be altered mental status.

TIPS

- If the catheter is not draining for a prolonged period of time and the patient is **febrile, think SIRS criteria** and consider **high risk for urosepsis**.
- **Knowing why the patient has a catheter** can help determine the cause of the problem. Be aware that **untreated urinary issues may lead to renal failure**.
- **Urinary retention can be neurologic** (spinal cord injury, multiple sclerosis or diabetes) **or mechanical** (due to urethral stricture, prostatic hyperplasia, or meatal stenosis).
- **Kidney stones** can cause obstruction but also **mimic other dx including AAA, testicular torsion, appendicitis, incarcerated hernia, ectopic pregnancy, and biliary colic. Renal colic is commonly diagnosed when AAA is the issue.** Do not assume.
- **Epididymitis:** Indwelling catheter placement or entrance of a scope into the urethra can lead to untreated chronic infections or abscess that can cause epididymitis (onset over 24 to 48 hrs, scrotal swelling, fever, and/or discharge). Apply ice packs to groin area if suspected.

NOTES:

15 BEHAVIORAL HEALTH EMERGENCIES

CHIEF COMPLAINTS

- Change in behavior: Anxious, aggressive, violent, bizarre, agitated, manic, depressed, crying (inconsolable)
- Suicidal attempt: Overdose
- Suicidal attempt: Wound infliction
- Thoughts: Intention to harm others
- Visual and auditory hallucinations



RED FLAG FINDINGS—HIGH-RISK PRESENTATIONS

- Bleeding continuous from wound(s) and/or pulsatile
- Hanging attempt
- Manic behavior
- Overdose (known/suspected or recent narcotic use)
- Possession of a weapon
- Prehospital patient on an involuntary hold
- Psychotic episode
- Tonic/clonic movement (ongoing or new onset)
- Self-care capacity significantly diminished
- Suicide attempt, intent to act, or emotional disturbance with plan in place
- Violent/aggressive behavior toward self or others



KEY TIPS FOR BEHAVIORAL HEALTH EMERGENCIES

- Rapidly identify a person with the potential to act out. **Maintain safety for yourself and others!**
- **Past attempt at self-harm is the strongest predictor of future risk of suicide.**
- Do not place a potential suicidal or homicidal patient back in the WR. Continuous observation is required.
- Inquiring with the patient how they are eating, sleeping, caring for themselves, and spending their time enhances communication with the patient.
- Avoid wearing anything (stethoscope) around your neck and remove scissors and other objects that could be used as a weapon.
- Never turn your back on a behavioral health patient in potential crisis. You put your own safety at risk.
- **Always have an exit route.** Position yourself so you are closest to the door and unable to get pinned in a room.
- Always consider a medical condition before assuming the issue is a behavioral health presentation.
- **Consider Other Chapters:** Toxicology.
- **Anticipate Orders:** Labs (CBC, CMP, TSH, acetaminophen/salicylate levels, urine tox, UA, hCG); diagnostics (depends on complaint); meds (anti-psychotics, pain medication/opioids).



PEDIATRIC:

- ENA recommends suicide risk screening in the ED for children **over the age of 10.**



OLDER ADULT:

- ENA recommends the Geriatric Depression Scale as a valid and reliable screening tool for the older adult.

CHANGE IN BEHAVIOR: ANXIOUS, AGGRESSIVE, VIOLENT, BIZARRE, AGITATED, MANIC, DEPRESSED, CRYING (INCONSOLABLE)



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Tell me what you are experiencing?• CP or SOB? If yes to CP, consider moving to cardiac emergencies chapter• Suicidal/homicidal thoughts, attempt, or plan in place?• Recent trauma? HA? (Think potential for neuro with infectious involvement)
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Irritable or impulsive• Pressured speech, flight of ideas• Observe for tachypnea, tachycardia, tremors
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If there is an object involved, encourage surrender of access to any lethal means; involve other agencies as needed (e.g., police, security) per policy• If suicidal, initiate continuous observation immediately• If ingestion involved, Poison Control should be notified

CHANGE IN BEHAVIOR: ANXIOUS, AGGRESSIVE, VIOLENT, BIZARRE, AGITATED, MANIC, DEPRESSED, CRYING (INCONSOLABLE) (Continued)



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• What may be causing this change in behavior?• Hear voices? If yes, what are they saying? Do the voices tell you to harm yourself or others?• Ingestion with intent to overdose? If so, what was ingested, what time and quantity?• Delusional? Change in eating habits?• Sleeping patterns? Recent change?• Tx PTA *PQRST *Medical, Mental & Social Hx (drug & alcohol use) *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• See Table 15.2 for violent behavior s/sx to assess• Verbal and non-verbal communication• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Continuous observation of patient; may require an evaluation for suicidal intent• Provide a nonthreatening presence and calm demeanor• Ask simple, straightforward questions; be patient as you wait for a response• Orient the patient to the present as needed and limit environmental stimulation• Glucose POC if indicated *ECG *Initiate ATPs per policies

TIPS

- **Manic:** Think bipolar, depressive phase at risk for suicide; in the manic phase, the patient worries someone will take away their joy.
- **Agitation, Aggression, or Violent Behavior:** Could be related to abuse of prescription medication(s), an emotional event from a significant loss, a medical condition (metabolic), or behavior (psychosis, substance abuse). De-escalation is critical before further escalation puts many in danger. See Table 15.3 for de-escalation tips. Avoid crossing of arms, which may be seen as an aggressive stance and can escalate a response.
- **Anxiety:** Can quickly lead to agitation followed by violence. Identifying what factors are causing the anxiety can help you intervene when able. Be on guard with anxious patients and visitors. Their condition can change quickly.
- **Depression (Sad, Crying, and Inconsolable):** Do not place a potential suicidal or homicidal patient back into the waiting room; continuous monitoring is required to ensure safety for all. When having difficulty obtaining information from the patient, inquiring about how they eat, sleep, and spend their time is one way to open up the lines of communication while simultaneously connecting in a caring manner. Depression may be caused by some medications (e.g., narcotics, steroids, anti-hypertensives) or frequent alcohol use.
- **Miscellaneous:** Consider that the behavior could be related to abuse of prescription medication(s) with potentially multiple medications involved or an emotional event from a significant loss (e.g., loss of a spouse/child) contributing to the behavior.

NOTES:

SUICIDAL ATTEMPT: OVERDOSE



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What did you take?• Quantity?• Were you trying to harm yourself?• What time did you take the medication(s), substance(s), etc.?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess for s/sx of alcohol withdrawal; refer to Table 15.1
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Advocate for initiation of seizure precautions if indicated• Remove all medications from the patient's possession, secure per facility policy; delegate as needed• Notify Poison Control; delegate as needed

SUICIDAL ATTEMPT: OVERDOSE (*Continued*)



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• What did you take the medications with (alcohol, drugs, water, etc.)?• Have you ever done this before? If yes, what was the outcome?• Tonic/clonic movement(s)? If yes, length of episode? Full body or localized to one area? Continuous or intermittent?• Visual or auditory hallucinations?• Tx PTA *PQRST *PMH, Mental & Social hx (drug and alcohol use) *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Calculate the number of pills and estimate the total dose ingested• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Place patient in a gown, remove belongings, and ensure no weapons are present• Remove cables, cords, and other potentially harmful objects• Notify crisis management per facility policy and provide emotional support• Continuous observation of patient; may require an evaluation for suicidal intent• Glucose POC if indicated *ECG (especially with TCA overdoses) *Initiate ATPs per policies

TIPS

- Do not place a **potential suicidal patient** back into the WR; **continuous monitoring is required**.
- Always consider the **possibility** of a **polypharmacy overdose**. Inquire about multiple medications.
- Think absorption time with medication ingestion and recognize the **patient may not be** completely **truthful** with you.
- Additional information is available in Table 15.1 regarding s/sx of alcohol withdrawal.
- Consider that **abuse of other substances** may not be limited to illicit drugs but **may also include prescription medication(s)**.

NOTES:

SUICIDAL ATTEMPT: WOUND INFLECTION



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What did you do? Were you trying to harm yourself?• If an object was involved, what was it? How deep did it penetrate (length)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the wound and assess for bleeding
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Ensure patient safety• Control bleeding if indicated



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Have you ever done this before? If yes, what was the outcome?• Tx PTA *PQRST *PMH, Mental & Social hx (drug and alcohol use) *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Continuous observation of patient; may require an evaluation for suicidal intent• Glucose POC if indicated *ECG * Initiate ATPs per policies

TIPS

- Do not place a **potential suicidal patient** back into the waiting room; **continuous monitoring** is required.
- Think trauma criteria. Do you need to call a trauma alert?
- If a **sharp object** (e.g., knife, scissors) was used **ask** the patient about **width and depth** of the object and use this information to consider the potential organ injury **especially if the wound appears minor**.

NOTES:

THOUGHTS: INTENTION TO HARM OTHERS



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Do you have a plan? If “yes,” do you have the means to carry out the plan?• Do you have anything with you right now that you could use to harm yourself or others?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Encourage surrender of any lethal means; involve other agencies as needed (e.g., police, security) and follow facility policy• Place patient in a safe area where cables, cords, and other potentially harmful objects are removed

THOUGHTS: INTENTION TO HARM OTHERS (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Refer to suicide risk assessment tool (see Boxes 15.1 and 15.2)• Have you ever done this before? If “yes,” what was the outcome?• Do you have a plan? If “yes,” do you have the means to carry out the plan?• Anything with you that could be used to harm others?• Tx PTA *PQRST *PMH, Mental & Social Hx (drug and alcohol use) *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Continuous observation of patient; may require an evaluation for suicidal intent• Glucose POC if indicated *ECG *Initiate ATPs per policy

TIP

- Think psychotic episode, schizophrenia, and/or substance abuse.

VISUAL AND AUDITORY HALLUCINATIONS



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What are you seeing and/or hearing?• Are the voices telling you to harm yourself/others? If “yes,” continuous observation.
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• As the patient is talking, listen carefully for indications regarding thoughts
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Decrease stimuli (if able)• Approach patient with reality-based intervention; the hallucinations are real to the person but need to stay reality focused



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH, Mental & Social hx (drug and alcohol use) *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Continuous observation of patient; may require an evaluation for suicidal intent• Glucose POC if indicated *ECG *Initiate ATPs per policy

TIPS

- Speak in simple, clear sentences.
- Think psychotic episode, schizophrenia, substance abuse.

Box 15.1: Warning Signs of Suicide

- Loss of interest in things the person used to care about
- Irritability and edginess increases
- Giving things away
- Visiting or calling people and saying “Goodbye”
- Methodically making amends, settling quarrels
- Withdrawal and isolation from friends and family
- Sudden decline in functioning at school or work
- Suddenly happier, right after a long, deep depression
- Change in appearance—hygiene, and so forth
- Increased risk-taking behavior (e.g., use of drugs, reckless driving)
- Talking about feeling hopeless, helpless, or worthless
- Hoarding of pills, hiding of weapons

- Talking about suicide and/or what it would be like to die (preoccupied with death)
- Self-injury
- Threatening suicide

Indirect statements

- “What’s the use of going on?”
- “My parents would be happier if I’d never been born.”
- “I just can’t take it anymore.”

Direct statements

- “Sometimes I just feel like killing myself.”
- “If I killed myself, then people would be sorry.”
- “You won’t have to worry about me much longer.”

Box 15.2: Degree/Severity of Suicide Risk

- Does the person have a plan?
- If yes, what is the plan and does the person have access to items necessary for this plan?
- How often does the person think about suicide?
- How badly does the person wish to end his or her life?
- Has the person felt suicidal in the past, or is this the first time?
- Has the person ever attempted suicide before? When?
- Is the person using drugs or alcohol—does he or she have access?
- Will the person be home alone?
- Does the person take medications for mental health concerns—has he or she been taking them?

Table 15.1: Signs and Symptoms of Alcohol Withdrawal

STAGES	EARLY	SEIZURE	HALLUCINATION	DELIRIUM TREMENS
Signs and Symptoms	<ul style="list-style-type: none">• Anxiety• Tremors• Restlessness• Piloerection• Mood—labile	<ul style="list-style-type: none">• Tonic/clonic movement	<ul style="list-style-type: none">• Auditory• Visual• Tactile	<ul style="list-style-type: none">• Increased heart rate/BP• Diaphoresis• Agitation• Delirium
Last Drink	6–8 hrs	6–48 hrs	12–48 hrs	48–96 hrs

Table 15.2: Anger Pathway: Signs and Symptoms

ANGER PATHWAY	SIGNS AND SYMPTOMS	NURSING INTERVENTIONS
Anxiety	<ul style="list-style-type: none">• Tense, tremors• Feeling something bad is about to happen• Palpitations, tachycardia• Hyperventilation, dry mouth• Paresthesia, chest pressure• Urinary frequency• Tremors	<ul style="list-style-type: none">• Active listening• Use a direct, simple approach when answering questions• Encourage and support the patient
Agitation	<ul style="list-style-type: none">• Tone—what kind?• Speech—what kind? Description?• May use profanity	<ul style="list-style-type: none">• Do not react to the anger by giving it validation• Reassure that “we” are here to help• Patient’s responses need to be acknowledged• Attempt to decrease stimuli• Speak calmly• Do not criticize the patient or tell them what to do such as: “You cannot swear here, there are little children present!”• Maintain distance when introducing yourself• Do not cross your arms, keep a nonthreatening position

Table 15.2: Anger Pathway: Signs and Symptoms (Continued)

ANGER PATHWAY	SIGNS AND SYMPTOMS	NURSING INTERVENTIONS
Aggression	<ul style="list-style-type: none">• Pacing• Restless• Trembling, shaking, repetitive movements• Jaw or fists clenched• Disrespect authority• Use of foul language• Blames others for mistakes• Avoids eye contact• Violent gestures• Diaphoresis	<ul style="list-style-type: none">• Notify security or initiate an overhead code to increase awareness of the situation• Appear in control and unthreatened• Keep at least a 5-ft distance from the patient to ensure safety• Avoid eye contact• Be aware of your surroundings to ensure an escape route

Table 15.3: De-escalation Techniques

TECHNIQUES	SUGGESTIONS
Communication (verbal and nonverbal [e.g., body language])	<ul style="list-style-type: none">• Listen with empathy• Individualize attention• Be nonjudgmental• Focus on the individual's feelings; they feel important and validated• Allow time to be silent• Clarify statements (Dufresne, 2017)

NOTES:

Insert the screening tool utilized in your practice setting

According to the Emergency Nurses Association (2012), the tools that are valid and reliable for assessing suicide risk in the ED include:

- Beck's Suicide Intent Scale (SIS)
- Depressive Symptom Inventory-Suicidality Sub-Scale (DSI-SS)
- Geriatric Depression Scale (GDS): GDS-30/GDS-15/GDS-5
- Nurses Global Assessment of Suicide Risk (NGASR)
- Risk Assessment Matrix (RAM)
- Risk of Suicide Questionnaire (RSQ)
- Suicidal Ideation Questionnaire (SIQ)
- Suicidal Ideation Questionnaire-Junior (SIQ-Jr) Violence and Suicide Assessment Form (VASA)

NOTES:

16 TOXICOLOGY EMERGENCIES

CHIEF COMPLAINTS—TOXICOLOGY EMERGENCIES

- **Ingestion:** Alcohols
- **Ingestion:** CNS stimulant (e.g., cocaine, methamphetamine, caffeine, phenylpropanolamine, pseudophedrine, energy drinks)
- **Ingestion:** Iron



RED FLAG FINDINGS

- Altered LOC
- Cyanosis
- Organophosphate contamination
- Respiratory depression



KEY TIPS FOR TOXICOLOGY EMERGENCIES

- Your responsibility is to **rapidly identify those with airway or respiratory compromise**.
- Interventions to **stop absorption** and facilitate elimination are priorities in all ingestion patients. Depending on the substance, this may require induced emesis, gastric lavage, activated charcoal, binding agents, external decontamination, dialysis, or antidote administration.
- **High potential for permanent irreversible organ damage.**
- **Contact Poison Control to assist with identification of pills or to aid in anticipated course of s/sx and necessary treatment.**
- **Consider Other Chapters:** Behavioral.
- **Anticipate Orders:** Labs (urine toxicology, salicylate, acetaminophen levels, LFTs); diagnostics (CXR, ECG); meds (naloxone for opioid OD, flumazenil for benzodiazepine OD, labetalol, nitroprusside, phentolamine for symptomatic HTN due to a cocaine OD, atropine for a beta blocker OD, sodium bicarbonate for a tricyclic OD, glucagon for beta blocker or calcium channel blocker OD, physostigmine for anticholinergic OD).



PEDIATRIC:

- When no clear cause is available for a sick child, always consider the possibility of poisoning or overdose. Children can deteriorate rapidly especially if cardiac or antidepressant medications are ingested causing seizures, arrhythmias, and/or shock.



OLDER ADULT:

- These patients often are prescribed multiple long-term medications in addition to other prescriptions. Many aging factors may contribute to the older adult either accidentally or intentionally misusing medications.

INGESTION: ALCOHOLS



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What did you drink?• How much did you drink?• Did you take anything else with it?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Assess for airway impairment• Assess for respiratory distress and/or depression• Assess LOC
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Ensure patient safety• Support airway and respirations as needed• Anticipate vomiting; position patient to prevent aspiration

INGESTION: ALCOHOLS (*Continued*)



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• How many drinks consumed on a daily/weekly basis?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIP

- While ingestion is the most common route of exposure, alcohols can also be inhaled or absorbed. See Table 16.1 for clinical manifestations of the various alcohols.

Table 16.1: Toxic Alcohols

	ETHANOL	METHANOL	ISOPROPANOL	ETHYLENE GLYCOL
FOUND IN	Beverages	Windshield wiper fluid, paint remover	Rubbing alcohol, nail polish remover	Antifreeze, polishes, coolants
CLINICAL FINDINGS	<ul style="list-style-type: none">• N/V• Decreased LOC• Hypoglycemia	<ul style="list-style-type: none">• N/V• Abdominal pain• Decreased LOC	<ul style="list-style-type: none">• Fruity breath (acetone)• Vomiting• Hypotension	<ul style="list-style-type: none">• Seizures• Ataxia• Decreased LOC• Dysrhythmias

Source: Sturt, P. (2010). Toxicologic emergencies. In P. K. Howard & R. A. Steinmann (Eds.), *Sheehy's emergency nursing: Principles and practice* (6th ed., 564–577). St. Louis, MO: Elsevier.

NOTES:

INGESTION: CNS STIMULANT (e.g., cocaine, methamphetamine, caffeine, phenylpropanolamine, pseudophedrine, energy drinks)



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What was ingested?• How much was ingested?• What time was it taken?• What was it taken with (alcohol, meds, etc.)?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Assess for severity of ingestion; see Table 16.2
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Ensure patient and staff safety• Charcoal may be given, but anticipate supportive therapy based on sx; pt may require anything from airway support to benzodiazepines to control seizure activity• Advocate for initiating cardiac monitoring as soon as possible

INGESTION: CNS STIMULANT (*Continued*)



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• How did you take it (swallow, snort, inhale, inject, etc.)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIP

- Patients who have ingested large quantities (like a balloon of cocaine) may be asymptomatic but are high risk for balloon rupture and absorbing a massive dose. Rapid intervention to prevent this from happening is a must.

Table 16.2: CNS Stimulant Symptom Stages

Mild	Restless, agitated, hyperactive, tremor, aggressive
Moderate	Hypertension, tachycardia, HA, chest pain, hallucinations
Severe	Paranoia, fever, seizures, coma, MI

Source: Sturt, P. (2010). Toxicologic emergencies. In P. K. Howard & R. A. Steinmann (Eds.), *Sheehy's emergency nursing: Principles and practice* (6th ed., 564–577). St. Louis, MO: Elsevier.

NOTES:

INGESTION: IRON



RAPID ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How much was ingested?• When was it taken (time)?• What was it taken with (alcohol, meds, etc.)?• Blood present in vomit or stool?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess for hypovolemia (pulse rate and strength, skin signs)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Expedite rooming to initiate chelating therapy

INGESTION: IRON (*Continued*)



COMPREHENSIVE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate abdominal x-ray to assess for bezoar formation• Glucose POC as indicated *Initiate ATPs per policy

TIP

- Iron is commonly ingested by children and causes severe toxicity (severe metabolic acidosis by interfering with aerobic metabolism). Patients may have a latent period after initial sx, but this does not mean the danger has passed (see Table 16.3).

Table 16.3: Stages of Iron Toxicity

STAGE 1 (0-6 HRS)	<ul style="list-style-type: none">• GI symptoms ranging from nausea to massive GI bleed• Irritability• Drowsiness to coma• Unstable VS
STAGE 2 (6-48 HRS)	<ul style="list-style-type: none">• Latent period, condition improves
STAGE 3 (12-48 HRS)	<ul style="list-style-type: none">• Shock• Seizures• Coagulopathy• Metabolic acidosis
STAGE 4 (2-5 DAYS)	<ul style="list-style-type: none">• Liver failure• Hypoglycemia• Confusion/coma• Death
STAGE 5 (2-5 WKS)	<ul style="list-style-type: none">• Abdominal scarring, causing pain and obstruction• Cirrhosis can develop later

Source: O'Malley, G., Jefferson, T., & O'Malley, R. (2017). Iron poisoning. *Merck manual: Professional version*. Retrieved from <https://www.merckmanuals.com/professional/injuries-poisoning/poisoning/iron-poisoning>

OTHER MEDICATIONS/DRUGS

Many medication and drug ingestions have a similar course of questioning and treatment. Table 16.4 provides the standard questions, assessment, and interventions for most of these ingestions. More information related to the specific medication/drug can be found in Table 16.5.

Table 16.4: Rapid and Comprehensive Triage Assessment for All Medication/Drug Ingestions

TRIAGE ASSESSMENT	QUESTIONS	ASSESSMENT	INTERVENTIONS
Rapid Triage Assessment	<ul style="list-style-type: none"> • What did you take? • How much did you take? • When did you take it? • What did you take it with (alcohol, meds, etc.)? 	<ul style="list-style-type: none"> • A–B–C–D–E 	<ul style="list-style-type: none"> • If any alteration in A–B–C–D–E, intervene immediately! • Initiate continuous observation • Ensure patient safety
Comprehensive Triage Assessment	<ul style="list-style-type: none"> • How did you take it (swallow, snort, inject)? • Do you have the bottles? If not or obtained illegally, do you have a new dealer? • Tx PTA *PQRST • PMH *Drug & Alcohol Use • Meds *Allergies 	<ul style="list-style-type: none"> • Full set of VS per discretion/policies • Continuous observation of patient; may require an evaluation for suicidal intent 	<ul style="list-style-type: none"> • Glucose POC as indicated • Initiate ATP per policy

Table 16.5: Medication/Drug Ingestion Information

DRUG	SIGNS AND SYMPTOMS	INTERVENTION(S)	TIPS
<i>Acetaminophen</i>	<ul style="list-style-type: none">• S/sx of toxicity: GI upset, N/V, diaphoresis, RUQ pain, oliguria, jaundice	<ul style="list-style-type: none">• Expedite rooming for charcoal administration (if within 2 hr of ingestion) and administration of N-acetylcysteine	<ul style="list-style-type: none">• Look for co-toxicities as acetaminophen is frequently combined with diphenhydramine or a narcotic• Pediatric ingestions are usually accidental• Adult ingestions are usually intentional
<i>Antidiabetic Oral Medications (including sulfonylureas, meglitinides, biguanide)</i>	<ul style="list-style-type: none">• Assess for signs of hypoglycemia—diaphoresis, decreased LOC, seizure	<ul style="list-style-type: none">• Fingerstick glucose—<i>perform frequently</i>• If patient is awake and able to follow commands, give food or juice as indicated	<ul style="list-style-type: none">• <i>Biguanide is unique in that it causes severe lactic acidosis, which can cause cardiovascular collapse</i>• <i>Causes the most deaths among antidiabetic meds</i>

Table 16.5: Medication/Drug Ingestion Information (Continued)

DRUG	SIGNS AND SYMPTOMS	INTERVENTION(S)	TIPS
<i>Calcium channel or beta-blockers</i>	<ul style="list-style-type: none">• Assess circulation (pulse rate and strength, skin signs)• Dizziness or lightheaded• Possible altered LOC	<ul style="list-style-type: none">• Obtain ECG• Expedite rooming for pacing and medication administration• Fingertstick glucose	<ul style="list-style-type: none">• Hyperglycemia is common with calcium channel blockers while beta-blockers cause hypoglycemia• If a beta-blocker was ingested, plan to secure large doses of glucagon• Children can be symptomatic with ingestion of just one tablet
<i>NSAIDs (e.g., ibuprofen, naproxen, celecoxib, diclofenac)</i>	<ul style="list-style-type: none">• GI symptoms (N/V, pain, blood in stool), abdominal pain, bradycardia, agitation, dizziness, seizures	<ul style="list-style-type: none">• Expedite rooming for charcoal administration (if within 2 hr of ingestion)	<ul style="list-style-type: none">• Ibuprofen and naproxen are the two most common NSAIDs taken in overdose

Table 16.5: Medication/Drug Ingestion Information (Continued)

DRUG	SIGNS AND SYMPTOMS	INTERVENTION(S)	TIPS
<i>Opiates (Prescription or Illicit)</i>	<ul style="list-style-type: none">• S/sx: CNS depression, respiratory depression, pinpoint pupils, altered LOC, hypotension• Assess for complications related to use: abscesses, cellulitis, constipation, malnutrition	<ul style="list-style-type: none">• Expedite rooming and anticipate naloxone administration• Ventilatory support is the most important intervention for patients with opioid ingestion	<ul style="list-style-type: none">• Pills have varied absorption rates; ask if pills were taken at once or in intervals over time• A new dealer for illegally obtained medications often means a change in the concentration of the drug, which could bring new and/or different symptoms
<i>Organophosphate Exposure</i>	<ul style="list-style-type: none">• Salivating, N/V/D, urinating frequently	<ul style="list-style-type: none">• Scene safety first• Prepare to decontaminate the patient!• Have suction ready and support airway and respirations as needed	<ul style="list-style-type: none">• Organophosphates cause cholinergic stimulation—remember the SLUDGE acronym. Salivation, Lacrimation: Urination, Defecation, GI distress, Emesis

Table 16.5: Medication/Drug Ingestion Information (Continued)

DRUG	SIGNS AND SYMPTOMS	INTERVENTION(S)	TIPS
<i>Organophosphate Exposure (cont.)</i>			<ul style="list-style-type: none">• Anticipate the need for large doses of atropine• Ask patient if they were in a field where pesticides were being sprayed
<i>Salicylates</i>	<ul style="list-style-type: none">• Toxicity: N/V, dizziness, tachypnea, seizures, sweating, agitation, ataxia, ringing in ears• Severe toxicity: hypotension, cardiac dysrhythmias, petechial rash	<ul style="list-style-type: none">• Expedite rooming for charcoal administration or gastric lavage• ECG	<ul style="list-style-type: none">• Expect respiratory alkalosis and metabolic acidosis• Respiratory sx are more pronounced in adults• Metabolic symptoms will be more pronounced in children; may be hypoglycemic from increased metabolic demand

Table 16.5: Medication/Drug Ingestion Information (Continued)

DRUG	SIGNS AND SYMPTOMS	INTERVENTION(S)	TIPS
<i>Sedatives (Benzodiazepines, Barbituates, Antihistamines)</i>	<ul style="list-style-type: none">• Respiratory and cardiovascular depression, altered LOC	<ul style="list-style-type: none">• Ensure patient safety	<ul style="list-style-type: none">• Flumazenil is a reversal agent for benzodiazepines; assess whether the patient has a history of benzodiazepine use. In the habitual user, flumazenil will cause seizures
<i>TCAs (e.g., Amitriptyline, Nortriptyline)</i>	<ul style="list-style-type: none">• Assess for respiratory depression and/or seizure (occurs very quickly!)• Assess circulation (pulse rate and strength, skin signs)• Altered LOC	<ul style="list-style-type: none">• Ensure patient safety• Support airway and respirations as needed• Expedite ECG and cardiac monitoring• Fingertstick glucose	<ul style="list-style-type: none">• TCA overdoses are usually intentional; they are cardiotoxic, neurotoxic, and anticholinergic with a high risk of patient death• The vast majority of patients overdosing on TCAs die before they get to the hospital

NOTES:

NOTES:

17 EYE EMERGENCIES

CHIEF COMPLAINTS

- Chemical burn to eye(s)
- Eye infection
- Eye pain
- Eye trauma/foreign body
- Loss of vision (total or partial)



RED FLAG FINDINGS

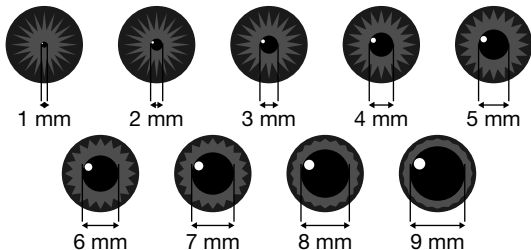
- Blood in the eye
- Burns: Chemical or steam burns to eye(s)
- Pain: Severe or persistent to eye(s)
- Pupils: Asymmetrical and/or nonreactive or diminished pupillary response
- Seeing red or bleeding from eye with one or more present: HTN, bleeding disorder, trauma, c/o pain or change in vision
- Toxic appearance
- Trauma to eye(s), penetrating object to the eye
- Vision loss (total, partial, or segmental)
- Vision: Sudden onset of a change, visual field as a curtain or veil, presence of peripheral floaters or halos around light



EYE EMERGENCY—KEY TIPS

- **Permanent total loss of vision will always be of highest concern. Remember: Time is vision!**
- **Always consider a suspected stroke with vision loss especially when transient.** Anticipate initiating a **Stroke Alert** per facility policies and procedures if indicated.
- **Chemical burn to the eye requires continuous immediate irrigation of the eye.**
- **True eye emergencies include orbital cellulitis, open globe, retinal artery occlusion, ischemic optic neuropathy, third nerve palsy, acute angle closure glaucoma, and endophthalmitis.**
- **Examine the pupil(s) for a defect; this can tell a lot about the situation and severity!**
- **Consider Other Chapters:** Neurological, trauma.
- **Anticipate Orders:** Labs (CBC, CMP, STI panel); diagnostics (slit lamp evaluation, fluorescein stain examination, visual acuity, retinal detachment US, orbital floor fracture CT, x-ray, MRI); meds (anesthetic ophthalmic drops, analgesic, and antiemetic).

Grading pupil size



CHEMICAL BURN TO EYE(S)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Type of substance (e.g., house cleaners, pool chemicals, or hair products)?• Length of exposure?• Concentration of the substance known?• Treatment/eye flushed before arrival?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• DO NOT perform a Visual Acuity exam. <i>Time is vision!</i>
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate immediate irrigation of the eye(s) with copious amounts of water or NS; DO NOT let irritant run from one eye into the other• Remove contact lenses ASAP and instruct not to rub eyes



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Delegate someone to call Poison Control to obtain information on the substance• See Table 17.1 (interventions depend on type of chemical exposure)• Glucose POC as indicated *Initiate ATPs per policies

TIPS

- Any burn of significance to the **face/eye(s) or neck will be a high-risk patient.**
- Remember **alkali substances** are worse than acids and **cause liquefaction necrosis**, which is why it is critical not to stop for a visual acuity exam.
- Refer to <http://www.msds.com/> or the MSDS at your facility to direct further treatment

Table 17.1: Types of Chemical Burns and Associated Treatment for Eyes

CHEMICAL	TREATMENT
Hydrocarbons	Blistered skin will heal on its own Watch for respiratory concerns and liver failure
Hydrofluoric acid	Irrigate with water up to 30 mins Apply calcium chloride gel Watch for hypocalcemia
Phenols	Water irrigation followed by polyethylene glycol
Tar/asphalt	Cool compresses and water Remove with fat emollient—bacitracin, mineral oil, and so forth.

EYE INFECTION



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset, duration of sx, MOI?• Discharge? Thick watery? One eye or both?• Recent fever? If so, how high?• Stiff neck and/or HA?• Vision changes?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Screen for sepsis criteria• Painful movement of the eye• Bulging eyeball (proptosis)• Significant swelling to eye or face
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Consider isolation• Cover if draining

EYE INFECTION (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Eye draining (one eye or both)? Color of drainage?• Recent sinus/dental infection?• Given antipyretic for fever or other tx?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visual acuity; impaired visual acuity (late finding)• Pupil exam; pain with eye movement• Toxic appearance, swelling to cheek or face, bulging eyes, shiny red or purple eyelid• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Advise to remove contact lenses until infection resolved• Anticipate the need for sinus x-rays and a CT scan of the sinuses and orbits• Anticipate antipyretics, antiemetic, labs including blood cx, and IV abx• Glucose POC as indicated *Initiate ATPs per policies

TIPS

- **Decreased vision with s/sx of infection to both upper and lower lid; think orbital cellulitis and potential for meningitis!**
- **Orbital cellulitis can progress rapidly.** Complications may include optic nerve damage and loss of vision, hearing loss, meningitis, or a blood clot that develops at the base of the brain known as cavernous sinus thrombosis.

EYE PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Sudden and severe onset? Sudden change in vision? Trauma?• Halos around lights?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Change in appearance to eye (blood, eye reddened); foggy appearance to cornea
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Consider cause; think eye pressure, trauma, infection



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• HA, N/V, current eye doctor?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate orders for eye drops• Glucose POC as indicated *Initiate ATPs per policies

TIP

- Individuals who are highly farsighted (thick glasses/contact lenses) are at a higher risk for a closed angle attack.

EYE TRAUMA/FOREIGN BODY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI (blunt or penetrating trauma)?• Loss of consciousness?• Sudden loss of vision or eye pain?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Head/neck injury• Quick look at the eye and if other injuries• Pupil: Look for change in appearance (fluid leakage, bulging eyeball, blood in eye, teardrop-appearing pupil deviating toward the side of injury)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate c-spine immobilization as needed• Vision loss, intervene immediately. Time is vision!• Anticipate possibility of surgery; patient NPO

EYE TRAUMA/FOREIGN BODY (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• High velocity projectile? Safety glasses worn? Size of object impacting orbit?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visual acuity, ocular motility, pupil function• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• If c-spine immobilization not needed, keep head elevated (keep blood pooling inferiorly)• Remove contact lenses ASAP• Stabilize any impaled objects in place and do not remove• Patch eye(s) with an eye shield• Anticipate the need for an ophthalmology consult; high risk for vision loss if not treated rapidly• DO NOT place anything in the eye (including eye drops) if you suspect ruptured globe• Glucose POC as indicated *Initiate ATPs per policies

TIPS

- **Hyphema:** S/sx blunt trauma, seeing floaters or red hue to vision, sudden decreased vision, blood in anterior chamber of eye. **Tx:** If blunt trauma, patch with an eye shield. Keep head elevated to keep pooling inferiorly if c-spine not indicated or place c-spine patient in reverse Trendelenburg.
- **Penetrating Object to Eye:** S/sx change in vision and appearance to eye (blood present, irregular pupil shape), and/or fluid leaking from eye. **Tx:** Stabilize object in place and do not remove; cover both eyes to avoid consensual movement; if blunt trauma, patch unaffected eye with an eye shield to limit consensual eye movement.
- **Ruptured Globe:** S/sx include a **penetrating object** (e.g., knife, pellets from a gun) or **high-speed projectiles**, blurred vision, **teardrop-appearing pupil** deviating toward the side of injury, sudden loss of vision, eye pain, possible visible vitreous humor. **DO NOT place anything in the eye if you suspect ruptured globe; this includes eye drops.** **Tx:** Patch the unaffected eye to limit consensual eye movement. If eye pain or blurry vision, anticipate the need for an ophthalmology consult; high risk for vision loss if not treated rapidly.
- **Orbital Fracture:** S/sx include pain, **decreased extraocular movements if muscle entrapment**, crepitus, periorbital edema, ecchymosis, deformity. **Tx:** Ice pack, x-ray, ophthalmology consult (concern regarding entrapped extraocular muscles), anticipate abx.

NOTES:

LOSS OF VISION (TOTAL, PARTIAL, OR SEGMENTAL)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Time of onset? Sudden or gradual?• Halos around lights?• Unilateral or bilateral? Total or partial vision loss?• Chemical/injury to eye(s)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• True vision loss (total/sector) or only blurred vision
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Vision loss, intervene immediately. Time is vision!• For chemical exposure, irrigate, irrigate, irrigate!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Transient or lasting vision loss? (Both can be concerning)• Current eye doctor?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visual acuity (do not delay irrigation for chemical burns for a visual acuity)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Acute Angle Closure Glaucoma:** S/sx include sudden and severe onset; **unilateral** pain, **halos** around lights, headache, nausea, onset after entering a dark room, may notice change in appearance to eye or redness. **Tx:** Place supine, anticipate an antiemetic and medications to decrease intraocular pressure.
- **Central Retinal Artery Occlusion:** S/sx include **painless, unilateral vision loss**, vision may be transient if occlusion is mobile in vessel, pupil may be dilated with decreased pupillary reaction. **Tx:** If recent onset, anticipate orders for medications that decrease intraocular pressure, patient should breathe into paper bag (increasing CO₂ causes vasodilation. Retinal perfusion needs to be rapidly reestablished; irreversible vision loss can occur within 100 minutes of the occlusion).
- **Retinal Detachment:** S/sx include **painless** sudden onset loss of vision or visual field, peripheral vision impaired, common symptoms may include **flashing lights or presence of peripheral floaters**, partially dilated pupil with partial or full afferent pupil defect. **Tx:** Anticipate an emergency ophthalmology referral, protect the globe with eye shield. Treatment can be time sensitive; some conditions can be stabilized or surgically repaired with timely treatment.



PEDIATRIC:

- **Think child maltreatment for any pediatric eye injury/trauma**, vision test for ages 4 to 6 yrs should include symbols or the letter E and older than 6 yrs use Snellen chart; distractors for exam for neonate to 3 mo use black or red objects and if older than 3 mo use brightly colored objects; toy wands with floating sparkles, flashlights, or finger puppets can be good distractors.



OLDER ADULT:

- **Consider the possibility of the injury caused by a fall or maltreatment; increased risk of poor outcome if taking blood thinners.**

EYE EMERGENCY RESOURCES

Table 17.2: Tips for Obtaining a Pin Hole Vision Test

STEP	ACTION
1	Completely cover non-tested eye; do not allow squinting
2	Use an index card and punch a small hole and have patient look through the hole
3	If no improvement when looking through hole = pathology involved
4	Improvement when looking through hole = refractive. This means blurred vision is likely long-standing, and not what brought them into the ED. What is the real reason they are seeking care?
5	Document if corrective lenses (glasses or contacts) were used

Table 17.3: Types of Visual Acuity Tests

TEST	EXAM
Snellen Chart	Eye chart to examine visual acuity
Count Fingers	Ask patient how many fingers they can see and document at what distance (e.g., 2 ft, 3 ft)
Hand Motion	Ask patient if they can see motion of the hand
Shadows or Light	Ask patient to identify if they can see shadows or light vs. dark?
No Light Perception	Document if unable to recognize light

Table 17.4: Tips for a Pediatric Eye Exam

STEP	ACTION
1	Distract the child with a flashlight/pen light, wand with sparkles, or a colorful toy around your stethoscope.
2	If eye drops are needed, place the drops with the eyes closed into the inner canthus.
3	Encourage the child to blink three times. The eye drop should roll into the eye.

These tips make an eye exam much more effective than prying the lids open to examine the eyes as children can be very strong!

Table 17.5: Tips for Inserting a Morgan Lens

STEP	ACTION
1	Anesthetic to eye per protocol
2	Instruct patient to look down as much as possible
3	Lift upper lid and slide lens under the upper lid
4	Instruct patient to look up and pull lower lid over inferior lens edge

NOTES:

18 EAR, NOSE, AND THROAT EMERGENCIES

COMPLAINTS

- Dysphagia
- Facial/head trauma
- Facial swelling (including eyes/mouth)
- Foreign body—throat
- Sore throat (severe, rapid onset)
- Tooth avulsion/dental pain
- Vocal change, new onset

RED FLAG FINDINGS

- Airway compromise post-ENT injury
- Battle's sign
- Drooling, new onset
- Foreign body in throat
- Halo sign indicative of CSF fluid leaking from ear/nose post injury (halo sign also noted as a “double ring sign”)
- Lateral gaze palsy
- Muffled voice
- Nasal bleeding, uncontrolled (even with pressure) or taking a blood thinner
- Secretions difficult to control, airway compromise
- Severe sore throat, rapid onset
- Swelling to floor of mouth
- Tooth avulsed with root intact
- Tripod position
- Upward gaze limited



KEY TIPS FOR ENT EMERGENCIES

- **Think airway, airway, airway!**
- **Screen for sepsis and think Sepsis Alert** if applicable.
- Do not assume what appears to be a simple ENT complaint is actually low-risk until proven so!
- ENT complaints can turn into pneumonia or sepsis.
- Evaluate change in mentation. Perform a quick neuro exam.
- **Consider Other Chapters:** Neurological, trauma, infectious, toxicology.
- **Anticipate Orders:** Labs (CBC, CMP, Rapid Strep, mono); diagnostics (CT, facial/soft tissue neck x-rays, MRI, US); meds (glucocorticoids for allergic reaction, Racemic Epi for epiglottitis, Epi for anaphylaxis, diphenhydramine for angioedema hives, analgesics for pain).

DYSPHAGIA



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset (sudden or gradual) and duration?• Anything put into the mouth (food or other object)?• Fever?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Stridor or tripod positioning• Number of words patient can speak• Visualize oral cavity (swollen tongue, kissing tonsils)• Check pulse oximetry if result will help determine if patient is high-risk• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Prepare for intubation if airway is compromised



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• SOB?• Tonsils still present?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Think **CVA/TIA, anaphylaxis, Ludwig's angina, foreign body, epiglottitis**, among others.
- **Risk of choking and aspiration** with potential for pneumonia if patient aspirates.



PEDIATRIC:

- If a child is **drooling or unable to control their airway, do not stick anything in the mouth**, support the airway and seek expert consultation.
- **Minimize stimulation** to allow the child to maintain a position of comfort as long as they are maintaining their airway. If airway is remotely compromised, think potential life-threatening situation.
- Possible causes of dysphagia in children that may be highly concerning include **epiglottitis** and **tonsillitis**.
- Strep throat can cause abdominal pain so check both the abdomen and throat.



OLDER ADULT:

- Older adults can have osteoporotic changes so maintaining the airway in a “neutral” position is important.

FACIAL/HEAD TRAUMA



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Time injury sustained? MOI? Object involved? If “yes” what object?• Taking blood thinners?• Loss of consciousness or loss of vision?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Facial asymmetry or blood/fluid from nose/ears• Bruising around eyes (raccoon eyes) or behind ears (Battle’s sign)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate c-spine immobilization if patient was struck in head with significant force



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Current eye doctor?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Neurologic assessment (quick and basic—FAST assessment)• Able to open mouth• Evaluate for nystagmus or ocular neglect (upward gaze limited; lateral gaze palsy)• Perform halo test• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- MOI typically requires great impact and force to break the facial bones which can be highly concerning especially with any airway compromise and/or **potential cervical injury**.
- For significant head trauma (e.g., raccoon eyes and Battle's sign), think serious MOI and the potential for other injuries. Refer to Chapter 22: Trauma Emergencies.
- To perform a halo test, allow liquid from nose or ears to drain onto gauze, and evaluate if a halo sign is present.



PEDIATRIC:

- Anticipate airway compromise with facial and nasal fractures.
- Increased irritability or difficulty in arousal can signify head trauma.
- Maintain a heightened awareness/**suspicion for child maltreatment**.



OLDER ADULT:

- Look for asymmetry of facial features to help identify facial trauma.
- Maintain a heightened awareness/**suspicion for elder maltreatment**.

FACIAL SWELLING (INCLUDING EYES/MOUTH)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset of symptoms (sudden or gradual) and duration?• Trauma (think trauma criteria)?• SOB, dysphagia, or fever?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Number of words patient can speak• Visualize oral cavity (swollen tongue, kissing tonsils); presence of drooling• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Fever, chills, pain, change in vision?• Routine dental visits?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visualize pupils, oral cavity (assess hygiene), neck for swelling• Full set of VS per discretion/policies (including pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Snellen chart (vision test) if indicated• Anticipate eye exam and possible ophthalmology consult• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Think **Ludwig's angina** if the swelling is specific to the mouth; think potential for airway obstruction.
- **Angioedema** can be caused by angiotensin-converting enzyme (**ACE**) **inhibitors** such as lisinopril or a possible **allergic reaction**.
- Potential or actual loss of vision is concerning (may occur from an infection, trauma or other causes). Refer to Chapter 17, Ocular Emergencies for additional information.



PEDIATRIC:

- Consider allergic reaction as a cause of swelling. Observe carefully as kids can decompensate fast.



OLDER ADULT:

- Consider shingles for swelling to one side of the face.

FOREIGN BODY: THROAT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Able to speak?• What object was swallowed?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Stridor with variation in tone
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Abdominal thrusts if patient is unable to speak or swallow and appears to be choking• If patient does not have complete airway obstruction, encourage patient to cough• Maintain NPO status



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Time of sx onset?• Retching, gagging, and vomiting?• Tx PTA *PQRST (when able)*PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies (including pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Small batteries** from a hearing aid or other items can **cause a burn through the esophagus** resulting in mediastinitis.
- Objects made out of lead (painted toy) can release the substance into the body. Think potential for toxic poisoning.



PEDIATRIC:

- **Avoid blind finger sweep** for foreign object/choking.
- Stridor with variation is suggestive of a foreign body especially for children ages 1 to 3 yrs.



OLDER ADULT:

- Keep patient calm as anxiety can worsen symptoms.

NOTES:

SORE THROAT (SEVERE, RAPID ONSET)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Pain (e.g., pressure, aching) to left side of throat, left arm, or left chest?• Onset time of sore throat?• Stiff neck (abscess in deep neck space) or rash?• Exposure to anyone recently ill?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the oral airway (abscess? kissing tonsils? foreign body?)• Drooling or stridor• Speech (clear, able to speak)• S/sx of dehydration (dry mucous membranes, chapped lips, dry tongue)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Anticipate an ECG if angina suspected

SORE THROAT (SEVERE, RAPID ONSET) (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• High fever?• Painful to swallow (odynophagia)? Able to eat and drink (keep fluids in)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Visible exudate, erythema to throat• Hydration status (signs and symptoms of dehydration)• Full set of VS per discretion/policies (including pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate rapid strep test if infectious process• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Referred pain from a sore throat can be from angina!**
- A sore throat can be caused by an infectious process (e.g., abscess—think sepsis), allergic reaction, ACE inhibitor.
- An untreated group A strep can develop into rheumatic fever, which may progress into rheumatic heart disease.

SORE THROAT (SEVERE, RAPID ONSET) (Continued)



PEDIATRIC:

- Assess for s/sx of dehydration including sunken fontanelle, sunken eyes, dry diapers, or no tears when crying.
- Untreated alpha strep can lead to rheumatic fever.



OLDER ADULT:

- Sore throat as evidenced by **hoarseness** can also be a **symptom of a thoracic aneurysm**. Less serious, but it can also be a symptom of sinusitis. Stay alert for atypical presentations.

NOTES:

TOOTH AVULSION/DENTAL PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Time of onset?• MOI? Trauma or loss of consciousness (think trauma criteria)?• Location of the tooth?• Type of care rendered for the dislodged tooth PTA (time is tooth for permanent ones)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Amount of bleeding/blood loss• Evaluate patient's tooth if present and visualize oral airway
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Place tooth in whole milk, tooth preservative (Save-A-Tooth), or patient's tooth socket if able. Handle by the crown only; DO NOT TOUCH THE ROOT



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Current dentist?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies (including pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Anticipate the need to consult dentistry.
- If the **tooth has debris, irrigate with normal saline** using an 18 gauge angiocath.
- If the **tooth is placed in the socket, the patient can bite down on gauze** placed over the tooth to properly seat it.
- Refer to sore throat in this section if suspicious of an infectious process (fever, pain, and/or swelling).



PEDIATRIC:

- Avulsed primary teeth are usually not reimplanted due to unnecessary risk to a **permanent tooth. Permanent teeth should be reimplanted ASAP for best outcomes.**



OLDER ADULT:

- Use a multidisciplinary approach for older adults to achieve best possible outcomes in the case of dental injury/avulsion. Dentition is important to help maintain nutritional status in older adults.

VOCAL CHANGE, NEW ONSET



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Onset of sx (sudden or gradual)? Circumstances?• Able to speak? SOB?• Swallowing difficulties?• Recent trauma to neck? If so, when and MOI?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Drooling or stridor• Soot in nares or mouth• Number of words patient can speak
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies (including pulse oximetry)
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIP

- Voice muffled or sudden change can be the result of exposure to fire or smoke (inhalation burns), laryngeal fracture, bee/wasp sting, and so on. Airway compromise can occur rapidly.



PEDIATRIC:

- Airway compromise can happen quickly—**hoarseness** can be a sign **of impending airway collapse**.



OLDER ADULT:

- **Hoarseness** can be a sign **of thoracic aneurysm or TIA/CVA**.

NOTES:

NOTES:

19 MUSCULOSKELETAL EMERGENCIES

CHIEF COMPLAINTS

- Amputation
- Back pain
- Bleeding, unable to control
- Crush injury to extremity
- Dislocation/fracture, suspected
- High pressure injury
- Loss of function/sensation to extremity
- Neck pain/Injury
- Pain, severe (with musculoskeletal complaint)

RED FLAG FINDINGS—HIGH-RISK PRESENTATIONS

- Amputation
- Back pain that radiates from the chest or abdomen
- Bone protruding through skin
- Capillary refill >2 secs or pulseless extremity
- Color and/or temperature change to extremity
- Crush injury
- Ecchymosis over area of major organs
- High-pressure injury (e.g., paint gun)
- Injury with uncontrolled bleeding
- Loss of bowel or bladder function
- Loss of function and/or sensation to extremity
- Pain at rest or during the night and >60 yrs
- Pain out of proportion to injury
- Paralysis to extremity, new onset
- Penetrating injury (significant force)



KEY TIPS FOR MUSCULOSKELETAL EMERGENCIES

- **Think** about the **potential for neurologic** (e.g., possibility of stroke), **cardiac** (e.g., complaint of pain to jaw, neck, chest), **abdominal/chest** (e.g., ecchymosis over major organs), **behavioral health** (e.g., self-inflicted injury), or **trauma** (e.g., physiological, anatomical, or MOI criteria) involvement.
- Always visualize the joint above and below the area of injury and compare to the uninjured side. Think about the potential for other injuries that may not be visible. Do not assume a minor complaint is all that is present.
- Remove any jewelry, tight-fitting clothing, or other objects that minimize circulation.
- Consider the MOI and **possibility of maltreatment of children or/older adults or intimate partner violence**. Does the story match the injuries? Assess for bruising in different stages of healing.
- **Consider Other Chapters:** Cardiac, neurologic, abdominal, behavioral health, trauma.
- **Anticipate Orders:** Diagnostics (e.g., CT scan, US, x-ray, Doppler), physician consults (e.g., orthopedic, vascular and/or trauma surgeons); meds (e.g., pain control, tetanus shot/booster if >5 yrs since tetanus and per policy).



PEDIATRIC:

- Most **amputations** in children will be reimplanted so **think surgical intervention**.
- **Beware of a posterior knee dislocation.** The tibial artery can spasm with the **potential** of a **leg amputation**. **Reassess often** especially in teenage athletes. Initially the knee may reduce spontaneously and there is no sign of vascular injury, but delayed treatment of >6 to 8 hrs can lead to amputation.



OLDER ADULT:

- These patients have a higher risk for fractures due to osteoporosis. Some older adults are poor historians thus asking about how their injury or pain impacts ADLs may shed light into the severity of the condition. A thorough assessment is essential.

AMPUTATION



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What was amputated?• Location of the amputated part (currently with the patient or elsewhere)?• Length of time the part has been amputated (obtain time of incident)?• Other injuries?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Examine for partial or total amputation• Evidence of hypovolemic shock (tachycardia, hypotension)• Quickly assess CSM to affected part to evaluate for neuro deficits
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Apply direct pressure to control bleeding, followed by a pressure dressing; use a tourniquet as last resort• Place amputated part in sterile gauze moistened with sterile saline, secure into a sterile container, label with patient's name/DOB and put in ice water• Delegate removal of jewelry from affected extremity

AMPUTATION (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess patient for CSM abnormalities• Control bleeding if indicated with pressure dressing• Full set of VS based on critical thinking/policies
INTERVENTIONS	<ul style="list-style-type: none">• Remove tight clothing, athletic gear, or shoes• Splint above and below joint for stabilization• Monitor blood loss and anticipate lab work (e.g., CBC, type & screen/crossmatch)• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- **Time is critical for successful reattachment**; an amputation is considered a potential threat to life or limb.
- Amputated parts should **never** be placed directly onto ice.

BACK PAIN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Acute onset (higher level of concern) vs. chronic (lower concern)?• Pain radiates to chest, jaw, neck, arm? (think cardiac)• Neuro deficits to extremities? (think neurologic)• Loss of bowel or bladder control? (think neurologic)• Pain radiating to or numbness to rectal/pelvic/groin area? (think neurologic)• Pain rapidly increasing in severity?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Stat ECG and BP in both arms if cardiac concern (see Chapter 9, Cardiac Emergencies)• Penetrating objects should be stabilized in place rather than removed

BACK PAIN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Weakness to legs worsening with time?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for analgesics• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Repeat ECG if patient reports continued or new CP/back pain and anticipate lab work to check for elevated troponins.
- Think about the **possibility of cardiac involvement** with back pain.
- **Loss of sensation to lower extremity or extremities** could be trauma (**spinal involvement** so think trauma criteria), neurologic (**stroke or TIA**), or cardiac involvement (think **ACS or aortic dissection** especially if >60 yrs).
- Although patients may have a normal ECG, patients can present with elevated troponins, which is concerning for acute or chronic cardiac injury.
- **Red flags in lower back pain:** Pain at night, hx of cancer with no pain relief, chronic infections, fever, or HIV positive.
- **A chronic condition does not mean the patient is not ill. Avoid judgment regarding chronic issues, especially back pain.** Ask questions, seek answers.

BLEEDING, UNABLE TO CONTROL



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What happened (consider MOI and trauma criteria)?• Duration of bleeding?• Attempt to harm self/call for help?• Trauma involved (think trauma criteria)?• Taking blood thinners or a person with a blood disorder?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the area the patient reports is bleeding if not profuse blood loss• Pulsatile bleeding (think arterial bleed)• Palpate pulse: Pulses weak or absent• Evidence of hypovolemic/hemorrhagic shock (increased HR, decreased BP)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Elevate extremity above the level of the heart• Apply direct pressure followed by pressure dressing if bleeding profusely; tourniquet as last resort• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity

BLEEDING, UNABLE TO CONTROL (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• How long have you been bleeding?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Control bleeding as indicated with pressure dressing• Rest, ice, compression, elevation (RICE)• Assess and consider the possible need for a blood transfusion• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Consider if patient will require tourniquet or clotting mechanisms to control bleeding• Evaluate need for tetanus shot• Anticipate need for analgesics and follow-up blood work (CBC, type and screen)• Glucose POC if indicated *Initiate ATPs per policies

TIPS

- **Pediatrics and older adults** are most susceptible to hypovolemic/hemorrhagic shock. Condition occurs when a person has lost 20% of their blood volume.
- Think about a possible arterial bleed (can be pulsatile leading to faster blood loss and deterioration). Arterial bleeds tend to cause bleeding to be faster and more profuse.
- Think about the possibility of a self-inflicted wound. Consider the need for a suicide risk assessment screening. If indicated, implement continuous monitoring to ensure safety for the patient and others.

CRUSH INJURY TO EXTREMITY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI (consider trauma criteria if indicated)?• Neurologic deficits to extremity?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Palpate pulse of affected extremity: Pulse weak or absent
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity• Initiate NPO status (consider potential for conscious sedation)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Duration of time extremity was crushed?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Evaluate the 6 Ps (pain, pulseless, pallor, paresthesia, paralysis, poikilothermia)• Rest, ice, compression, elevation (RICE)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Ice and analgesics per policy• Stabilize joint in position of comfort• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Think about amount of tissue injury and the MOI; complications are determined by these factors.
- **Consider compartment syndrome and rhabdomyolysis.**
- If torso was crushed, consider trauma protocols. See Chapter 22: Trauma Emergencies.
- Patients with **crush injuries of the limb are at high risk for an ischemic limb if not treated promptly.**

NOTES:

DISLOCATION/FRACTURE, SUSPECTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI?• When did this happen?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize area of injury• Palpate pulse of affected extremity: Pulse weak or absent• Obvious deformity or dangling extremity• Neuro deficits in affected extremity• Severe pain• Presence of open wound(s) or bone protrusion
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate NPO status in anticipation of conscious sedation• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity

DISLOCATION/FRACTURE, SUSPECTED (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• 6 Ps (pain, pulseless, pallor, paresthesia, paralysis, poikilothermia)• Rest, ice, compression, elevation (RICE)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Stabilize joint in position of comfort• Advocate for analgesics as needed• Evaluate the need for tetanus injection (follow policies)• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- If neurovascular compromise or severe pain, act fast.
- An **obvious open fracture** (bone protruding and visible) is a **high-risk for infection**. Cover with a sterile dressing and anticipate the need for analgesics and antibiotics.
- If a person's **pain is out of proportion to their injury**, think about the possibility of **compartment syndrome; irreversible damage occurs in 4 to 6 hrs.**

HIGH PRESSURE INJURY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What substance was involved?• How close to the blast was the patient (consider trauma criteria)?• Number of wounds present?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize area of injury; check pulse of affected extremity
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Anticipate immediate surgical intervention to preserve nerves• Pain out of proportion to injury (think compartment syndrome)• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• 6 Ps (pain, pallor, paresthesia, paralysis, pulselessness, poikilothermia)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for analgesics, abx, and x-rays per protocol• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Patients with high pressure injuries where a substance is injected are at risk for **compartment syndrome**. **Irreversible damage may occur 4 to 6 hrs after onset.**
- **Poikilothermia means the extremity cannot regulate temperature and the limb is cool.**
- **Oil-based paint can cause ischemia followed by possible amputation. Emergency debridement and intervention required.**
- Common substances injected into the hand include paint, hydraulic fluid, and grease.

NOTES:

LOSS OF FUNCTION/SENSATION TO EXTREMITY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• When was the last time seen/felt normal (if no obvious injury think possible stroke)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize extremity of concern• Perform a quick neuro assessment to further evaluate for a stroke (asymmetrical smile, tongue deviates, difficulty shrugging shoulders, grips weak and/or unequal)• If injury, palpate pulses distal to the injury; pulses weak or absent, assess CSM of extremity
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Initiate NPO status if possible surgical intervention is suspected or concern for stroke• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity

LOSS OF FUNCTION/SENSATION TO EXTREMITY (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Compare extremity of concern to opposite extremity• Extent of sensation loss; how far up or down the extremity is there loss of sensation• 6 Ps (pain, pulseless, pallor, paresthesia, paralysis, poikilothermia)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIP

- Think DVT or arterial occlusion among others. Think increased risk of infection if open wounds present.

NECK PAIN/INJURY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI (think trauma criteria)?• Loss of consciousness?• Weakness, numbness/tingling to extremities?• Muscle spasms?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Cervical tenderness with palpation• Assess for neuro deficits
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Consider c-spine immobilization if indicated and per P & P• Initiate NPO status due to possible surgical intervention



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Frequent neuro assessments per policy• If c-spine immobilization is initiated, continue with precautions• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIP

- A spinal cord injury should always be considered with neck pain.

NOTES:

PAIN, SEVERE (WITH MUSCULOSKELETAL COMPLAINT)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• MOI?• Neck or back pain, weakness, numbness/tingling to extremities?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Utilize critical thinking as to when to initiate c-spine immobilization• Visualize area(s) of concern• Assess for neuro deficits
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Consider initiating NPO status due to possible surgical intervention

PAIN, SEVERE (WITH MUSCULOSKELETAL COMPLAINT) (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies *
ASSESSMENT	<ul style="list-style-type: none">• Compare extremity of concern to opposite extremity• Extent of sensory loss; how far up or down extremity has change in sensation• 6 Ps (pain, pulseless, pallor, paresthesia, paralysis, poikilothermia)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIP

- Think **possibility of compartment syndrome** in patients with trauma to an extremity and **pain out of proportion to the injury**. A patient with **both a radial and ulnar fracture** that presents days after the injury is **high risk for compartment syndrome**. **Irreversible damage occurs 4 to 6 hrs after onset.**

MUSCULOSKELETAL EMERGENCY RESOURCES

Table 19.1: Musculoskeletal Considerations in Pediatrics and Older Adults

POPULATION	PEDIATRICS	OLDER ADULTS
Physiological Differences	<ul style="list-style-type: none">• Pliable bones: more difficult to fracture• Risk for stunted growth if growth plate fractures	<ul style="list-style-type: none">• Decreased muscle mass and mobility• Risk for fractures due to osteoporosis
Good to Know	<ul style="list-style-type: none">• Spiral fractures should raise the concern of child maltreatment as they typically occur during a struggle or from a pulling and twisting motion• Children can have fractures that may not be visible on x-ray; follow-up with a pediatric orthopedist may be recommended	<ul style="list-style-type: none">• Older adults tend to have more comorbidities placing them at risk for falls and injury

20 BITE AND STING EMERGENCIES

CHIEF COMPLAINTS

- Bites: Dog, cat, other nonhuman mammals, human
- Marine animal injuries (jellyfish, sting rays, venomous fish, sea urchins)
- Snake bites: Pit vipers (rattlesnake, coral snake, etc.)
- Spider bites: Black widow, brown recluse
- Stings: Bee, hornet, wasp, fire ant, scorpion



RED FLAG FINDINGS

- Altered level of consciousness
- Anaphylaxis s/sx (e.g., respiratory distress/stridor, rash, hypotension)
- Hemotoxic envenomation s/sx (e.g., generalized weakness, muscle fasciculation/myokymia, tachycardia, hypotension, uncontrolled bleeding)
- Neurotoxic envenomation s/sx (e.g., visual disturbances, extremity weak/numb, cognitive deficit from baseline)
- Severe muscle pain or cramping
- Uncontrolled traumatic hemorrhage



KEY TIPS FOR BITE AND STING EMERGENCIES

- Venomous bites/stings to the face, tongue, mouth, and/or neck are potential imminent airway emergencies.
- Some patients may bring the spider, insect, or snake with them. Do not open a container that may contain anything venomous.
- Avoid handling even dead snakes until identified.
- Determine LMP/pregnancy status (if applicable).
- **Consider Chapters:** respiratory, cardiac.
- **Anticipate Orders:** labs (CBC, CMP); diagnostics (x-ray, CT, MRI); meds (antivenom, analgesics, abx).



PEDIATRIC:

- Envenomations present unique problems in children. Venom injected that may not be enough to cause death in an adult may be disastrous for a child, especially with snake envenomations or black widow bites. Systemic allergic reactions from insect stings to children are limited to cutaneous signs, with urticaria and angioedema.



OLDER ADULT:

- Preexisting medical conditions and medication use can place older adults at greater risk with snake envenomations or black widow bites.

BITES: DOG, CAT, OTHER NONHUMAN MAMMALS, HUMAN



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Cause of injury (e.g., dog, cat, bat, rat, human)?• How long ago did the bite occur?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E• Expose and visualize the wound• Determine if CSM is intact distal to the injury• Determine if there is any uncontrolled hemorrhage and stop the bleeding
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A-B-C-D-E, intervene immediately!• Delegate the removal of restrictive clothing• Remove jewelry ASAP from the affected extremity

BITES: DOG, CAT, OTHER NONHUMAN MAMMALS, HUMAN (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaccination hx of the animal if known?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for potential psychosocial support• Loosely immobilize or splint injury (if in extremity)• Place in position of comfort at or above heart level• Apply ice pack for pain management as needed• Report the bite according to facility and health department P & P• Glucose POC as indicated *ECG *Initiate ATPs per policy

TIPS

- Stop the bleeding for uncontrolled hemorrhage!
- Obtain a clear hx of how the injury occurred. Even a cut on a hand or knuckle from **someone that punched another** person in the mouth has a **very high-risk for infection**.
- Anticipate the need for radiology studies if concerned about retained foreign body (e.g., tooth, fang, or claw).
- Anticipate the need for a tetanus, hepatitis and/or rabies vaccination(s), wound debridement, and ongoing wound care.
- Be concerned with bleeding, infection, and wound healing complications in the young and old and in individuals with significant health hx.

MARINE ANIMAL INJURIES (JELLYFISH, STING RAYS, VENOMOUS FISH, SEA URCHINS)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Cause of the sting injury if known (e.g., jellyfish and sea urchins)?• Location (e.g., tropical, semitropical, nontropical water, or fresh vs. salt water)?• Hx of being bitten by jellyfish, sea urchins, etc., in the past?• How long ago DID the sting(s) occur; number of stings?• SOB or chest tightness?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the bite or sting site
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Act on signs of severe marine stings or traumatic penetrating injury (e.g., sting ray)• DO NOT immediately pull out spines; bandage them in place• Removal of restrictive clothing• Remove jewelry ASAP from the affected extremity

MARINE ANIMAL INJURIES (JELLYFISH, STING RAYS, VENOMOUS FISH, SEA URCHINS) (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaccination history?• LMP/pregnancy status (if applicable)?• Tx PTA *PQRST *PMH *Meds *Allergies Hx of allergies related to equine (horse)-based serums if considering antivenom use (e.g., stonefish antivenom)?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the removal of foreign bodies (if not in major organ/vessel)• Hot water immersion of the involved area with water temperatures from 120°F to 130°F (40°C to 45°C) for up to 90 min• Anticipate the need for cardiac monitoring• Initiate early contact with a specialized agency (e.g., Poison Control) to consult with a physician expert/toxicologist in marine envenomation management• Anticipate antivenom, analgesics, tetanus prophylaxis, and antihistamines if indicated• Wash and clean injury site(s) but ensure safety with PPE (e.g., avoid stinging tentacles)• Anticipate potential surgical intervention for deep, penetrating traumatic injuries• ECG (>50 yrs or with cardiac hx should have a baseline)• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Knowing where the injury occurred (e.g., tropical, semitropical, nontropical water, or fresh vs. salt water) may help determine what marine life may have injured the person.
- Prepare for the removal of visible foreign bodies (e.g., jellyfish tentacles, bits of coral, sea urchin, or stingray spines) and debridement of wounds.
- Secondary infection and retained foreign bodies create an increased risk to the patient.
- **Jellyfish:** Cause stings when their tentacles contact skin. The jellyfish does not need to be alive to inject venom. **S/sx:** painful, linear red, urticarial lesions typically develop within minutes to several hours. Severe s/sx include N/V, diaphoresis, tachycardia, and hypertension. **Tx:** To remove jellyfish tentacles, wash the site with warmed water and apply white vinegar. Cold compress to sting sites for mild pain.
- **Sting rays:** Stingrays have whip-like tails that have a serrated, barbed spine containing venom sacs and should be managed similarly to penetrating trauma to the chest and abdomen. Most injuries occur in the extremities. **S/sx:** Pain, edema, penetrating trauma. **Tx:** Deep penetrating traumatic injuries into the abdomen or chest due to sting ray barbs should be managed as penetrating trauma with great concern for trauma to the chest and abdomen.
- **Venomous fish:** These wounds usually caused when the fish is grasped or stepped on. Wounds are routinely small in size, but can be exceedingly painful. **S/sx:** Local paresthesia, numbness, edema. **Tx:** See interventions.
- **Sea urchin:** May have single or multiple puncture wounds from the spines; some urchins have venom glands at the tip of the spines. **S/sx:** Pain, edema, penetrating trauma. **Tx:** See interventions.

NOTES:

SNAKE BITES: PIT VIPERS (CORAL SNAKE, RATTLESNAKE, ETC.)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Cause of the injury (type of snake) and if the bite may be due to a venomous species?• How long ago did the bite occur?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Expose and visualize the wound to evaluate fang marks and if swelling present• Determine if CSM is intact distal to the injury• Determine if there is uncontrolled hemorrhaging• If you assess a tourniquet in place, DO NOT immediately remove; wait until antivenom therapy has been initiated
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Loosely immobilize or splint injury (if in extremity) and place in a position of comfort at or above heart level• Remove restrictive clothing• Remove jewelry ASAP from the affected extremity

SNAKE BITES: PIT VIPERS (CORAL SNAKE, RATTLESNAKE, ETC.) (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Ever received antivenom before? If “yes,” any adverse reaction?• Vaccination history? LMP/pregnancy status (if applicable)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies to papain, chymopapain, pineapple, papaya, and/or sheep products may potentially, even though rare, place the patient at risk for allergic response to pit viper antivenom
ASSESSMENT	<ul style="list-style-type: none">• Life-threatening bleeding or risk of airway compromise (especially with bites to the face, mouth, and/or neck), neurologic dysfunction, or cardiovascular collapse• Observe for fang marks, blanching around site, edema, and ecchymosis• Continue to reassess pulses distal to the bite• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Mark the edge of the swelling with a permanent marker (date/time every 15 min)• Monitor circumference as size may increase from swelling or compartment syndrome• Anticipate the need to clean wound site as time allows• ECG (>50 yrs or with cardiac hx should have a baseline ECG)• Initiate contact early with specialized agencies/experts (e.g., Poison Control, pharmacy, local zoo, physician experts) to consult regarding snake bite management• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- **Time is tissue!** Earlier administration of antivenom can reduce morbidity and mortality in victims of pit viper envenomation. Reassess frequently as pit viper venoms contain a complex mixture of toxins that can linger in tissue and affect the body in multiple ways.
- **Do not** place patient identification wristband or BP cuff on the affected extremity. Swelling may impede circulation.
- When measuring the swelling to the bite area, use your forefinger to palpate downward toward the bite until the leading edge of the swelling is palpated. This demarcation should be timed and dated and be repeated frequently.
- **Rattlesnake:** **S/sx:** redness around puncture site(s), numbness in the face/limbs, difficulty breathing, blurred vision, N/V, salivating, diaphoresis. **Tx:** Monitor for at least 8 hours. **DO NOT apply ice pack to bite site for pain management.**
- **Coral snake:** Brightly colored snake with lack of early s/sx. The severity of these bites may be underestimated at presentation. **S/sx:** Although venom toxins vary among species, coral snake venoms can cause paralyzing and flaccid paralysis in humans with minimal local tissue impact and delayed s/sx presentation. **Tx:** Obtaining antivenom can be challenging. Ongoing monitoring is needed sometimes up to 24 hours due to delayed s/sx presentation.

NOTES:

SPIDER BITES: BLACK WIDOWS, BROWN RECLUSE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Cause of the bite (e.g., black widow, brown recluse, other nonvenomous spider)?• Hx of being bitten by a black widow/brown recluse spider in the past?• SOB or chest tightness?• How long ago did the bite(s) occur?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the bite site(s)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Plan and prepare for management of anaphylactic reactions• Monitor for systemic and severe venom reactions• Remove restrictive clothing/jewelry ASAP from the affected extremity

SPIDER BITES: BLACK WIDOWS, BROWN RECLUSE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaccination history?• LMP/pregnancy status (if applicable)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies (include previous stings)?
ASSESSMENT	<ul style="list-style-type: none">• Reassess for complaints related to airway patency (e.g., angioedema, stridor, hoarseness of voice, difficulty swallowing, or excessive secretions)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Initiate contact early with specialized agencies/experts (e.g., Poison Control, pharmacy, local zoo, physician experts) to consult regarding snake bite management• Apply ice packs to the bite site(s) to reduce pain and swelling• Wash and clean bite site(s) if time allows• Anticipate the need for tetanus update as indicated• Advocate for opioid analgesics for severe pain, antiemetic for N/V, benzodiazepines for severe muscle spasms• ECG (>50 yrs or with cardiac hx should have a baseline ECG)• Glucose POC is indicated *Initiate ATPs per policy

TIPS

- **Black widow:** The majority of bite victims fully recover with either no treatment at all or supportive care only. Initial pain around bite site may be minor but s/sx evolve in the first hours. **Mild s/sx:** (cramping/pain) may begin within 1 hour and worsen. **Severe s/sx:** (widespread muscular pain in back/groin/abdomen and/or chest, diaphoresis, GI distress, hypertension, bronchospasms, neurologic effects). **Tx:** Pain Control and Antivenom (only if severe venom reaction)
- **Brown recluse:** Initial pain around bite site may be minor and overlooked. Within a few hours, local tissue destruction can begin and be seen as a blue halo forming around the bite site. **Mild s/sx:** (local pain, urticarial, myalgia, bleb formation, and leukocyte infiltration at the bite site. **Severe s/sx:** GI distress, necrotic lesions at bite site, systemic toxicity with coagulopathy, acute renal failure), or expanding and worsening necrotic lesions. **Tx:** Monitor closely and tx s/sx; currently **there is no antivenom** available.

NOTES:

STINGS: BEE, HORNET, WASP, FIRE ANT, SCORPION



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Cause of the sting injury (e.g., bee, wasp, hornet, scorpion)?• SOB or chest tightness?• Hx significant reaction to stings (anaphylaxis)?• How long ago the sting(s) occurred, number of stings?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visualize the sting site(s) and examine if any stingers or sting sacks are present
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Remove stingers by scraping them away if present• Plan and prepare for management of anaphylactic reactions• Initiate contact early with specialized agencies (e.g., Poison Control, local zoo) to obtain consult with a physician expert/toxicologist in scorpion sting management• Remove restrictive clothing/jewelry ASAP from the affected extremity

STINGS: BEE, HORNET, WASP, FIRE ANT, SCORPION (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaccination hx?• Last monthly period/pregnancy status (if applicable)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies (include previous stings)?
ASSESSMENT	<ul style="list-style-type: none">• Reassess for complaints related to airway patency (e.g., angioedema, stridor, hoarseness of voice, difficulty swallowing, or excessive secretions)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Apply ice packs to keep the sting sites cool and reduce swelling• Wash and clean sting site(s) if time allows• Anticipate the need for a tetanus update as necessary• Monitor for systemic and severe venom reactions especially in those of extremes of age• ECG (>50 yrs or with cardiac hx should have a baseline ECG)• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Recognize mild s/sx (itching, swelling at the sting site(s), flushing of the skin) versus severe systemic s/sx (laryngeal edema, severe bronchospasm, profound hypotension) due to venom.
- **Bee sting:** Stingers should be gently scraped away. Avoid picking them out; may still have poison sacs attached that can be squeezed accidentally and inject more venom.
- **Hornets and wasps:** Do not lose their stingers and each can sting multiple times.
- **Fire ants:** Remove by scraping them away or brushing them away with a gloved hand. Do not wash off with water; may cause them to latch on with their mandibles causing increased pain and making them more difficult to remove.
- **Scorpion sting:** Neurotoxic venom, usually causes only mild s/sx; one potentially lethal scorpion lives in the United States (areas of risk include Arizona, New Mexico, southwest California, and far west Texas) but no fatalities have occurred since 1969.

NOTES:

NOTES:

21 INFECTIOUS DISEASE EMERGENCIES

CHIEF COMPLAINTS

- Fever with cough
- Rash, rapidly progressing
- Rash with fever (Rocky Mountain spotted fever, meningitis, etc.)



RED FLAG FINDINGS

- Cough with fever
- Drooling, stridor, or throat swelling (new onset)
- Edema to face or tongue
- Hives, sudden onset with rapid progression
- Petechiae/purpura w/wo fever
- Rash rapidly progressing
- Rash with fever, stiff neck, severe HA
- SIRS criteria met
- Skin red and pulling off in sheets



INFECTIOUS EMERGENCY KEY TIPS

- Your responsibility is to **rapidly identify those with contagious, transmittable, and/or life-threatening diseases**; notify the CDC of reportable illnesses (Ebola, Zika, West Nile, etc.); and prevent secondary exposure to patients, visitors, and staff.
- Always inquire about recent travel out of the country within the last 6 months.
- Assess vaccination status.
- Notify necessary hospital resources and clinical charge nurse of potential infectious disease.
- Screen for SIRS criteria and act accordingly (see Chapter 3, Screening Tools for criteria).
- **Consider Other Chapters:** Respiratory, abdominal, neurologic, or environmental emergencies.
- **Anticipate Orders:** Labs (CBC, CMP, FLU, RSV in peds, hepatitis, HIV, C-diff., MRSA, blood/sputum/stool cultures, UA, STI panel); diagnostics (CXR, r/o TB, lumbar punctures to r/o meningitis); meds (antivirals, abx, pain meds).



PEDIATRIC:

- Assess for bulging fontanel, irritability or continuous crying which may indicate meningitis.



OLDER ADULT:

- Prompt detection can be challenging with the older adult population, because s/sx, such as fever, are often absent.

FEVER WITH COUGH



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How long has the fever been present? How high?• Coughing up blood?• Experiencing night sweats? Recent weight loss?• Immunosuppressed? Compromised living conditions with close contact with others (e.g., homeless shelter)?• Influenza vaccination this past year?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria• Diaphoretic, cool, or clammy
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• If suspected TB, initiate airborne precautions• Place surgical mask on patient until placed in negative pressure room• Place mask on anyone in close contact with suspected infectious patient; keep precautions in place until deemed noninfectious

FEVER WITH COUGH (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Positive TB skin test in the past?• Has the fever responded to antipyretics (if given)?• Productive cough?• Fatigue?• Tx PTA* PQRST *PMH *Drug & Alcohol Use *Meds*Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Provide tissues and educate the patient to cover nose/mouth when sneezing/coughing• Educate the patient on hand hygiene• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- Close living conditions increase the risk of TB (correctional and long-term facilities, nursing homes).
- If patient has known or suspected TB, don mask or respirator specified by facility and put patient into a negative pressure room.

RASH, RAPIDLY PROGRESSING



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Duration of rash? How rapidly is the rash progressing?• Fever?• SOB or CP/tightness?• Severe swelling to lips/tongue/face/eyes?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess the rash (macules, papules, vesicles, sloughing of skin/peeling off in sheets, etc.)• Presence of rash (petechiae/purpura)• Presence of sub Q air (think concern for necrotizing fasciitis)• Screen for SIRS criteria
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

RASH, RAPIDLY PROGRESSING (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Any flu-like symptoms?• Viral/bacterial diseases?• Tx PTA* PQRST *PMH *Drug & Alcohol Use *Meds (any new meds?) *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Initiate isolation precautions per CDC guidelines; see Tables 21.1-21.3 for additional information• Glucose POC as indicated *Initiate ATPs per policy

TIP

- Stevens-Johnson syndrome is an uncommon and unpredictable reaction to medication (antibiotic being one of the most common causes). It can occur while using the medication or up to 2 wks after use of medication.

RASH WITH FEVER (Rocky Mountain Spotted Fever, Meningitis, etc.)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How long has the rash and fever been present? How fast is it progressing?• What started first, the rash or the fever?• SOB or CP/tightness?• Severe swelling to lips/tongue/face/eyes?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Screen for SIRS criteria and dehydration (dry mucous membranes, poor skin turgor, etc.)• Presence of rash (petechiae/purpura)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• ECG if indicated• Initiate droplet precautions if meningitis is suspected and place patient in a private room

RASH WITH FEVER (Rocky Mountain Spotted Fever, Meningitis, etc.) (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Progression pattern of rash (began on head and moving down body, etc.)?• If fever present, length of time? How high? Antipyretics given?• Photophobia?• Recent travel (both in and out of the country)?• Bitten by a tick?• Been in any wooded areas?• Menstruating? Tampon use?• Recent blood transfusion, surgery?• Immunocompromised (cancer hx)?• Tx PTA* PQRST *PMH *Drug & Alcohol Use *Meds (blood thinners) *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess if the patient is able to place chin to chest (nuchal rigidity)• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Initiate isolation precautions as indicated• Place patient in a private room• Check glucose if altered LOC *Initiate ATPs per policy

TIPS

- Rocky Mountain spotted fever can occur 2–14 days after a tick bite; a red-spotted rash occurs in most cases.
- Think toxic shock syndrome if using tampons. Can quickly progress to septic shock.
- DIC can be life-threatening; treat the underlying cause.

NOTES:

Table 21.1: Types of Isolation Precautions and Actions

TYPE OF PRECAUTION	PATIENT ACTION	PRIVATE ROOM	STAFF ACTION	EXAMPLES
Contact	<ul style="list-style-type: none">• Ear loop procedure masks or behind the head tie surgical masks help to contain respiratory secretions. Standard protective masks adequate (N-95 or above not needed).• Sit 3 ft from others if coughing.• Cover mouth/nose with a tissue.• Dispose of tissue in trash containers.• Cover open wounds with dressings.	Required	<ul style="list-style-type: none">• Diligent hand hygiene per CDC guidelines.• Offer masks to patients judiciously.	<ul style="list-style-type: none">• Lice• Scabies• Impetigo• Smallpox• Chickenpox/shingles• MRSA
Droplet	<ul style="list-style-type: none">• Mask patient until placed in a negative pressure room or a room with a portable HEPA filter.	Required	<ul style="list-style-type: none">• Wear loop procedure masks or behind the head tie surgical masks and initiate standard precautions.	<ul style="list-style-type: none">• Meningitis• Norovirus• Group A strep• Influenza• Mumps• Rubella (German measles)• Measles (Rubeola)• Whooping cough

Table 21.1: Types of Isolation Precautions and Actions (Continued)

TYPE OF PRECAUTION	PATIENT ACTION	PRIVATE ROOM	STAFF ACTION	EXAMPLES
Airborne	<ul style="list-style-type: none">Mask patient until placed in a negative pressure room or a room with a portable HEPA filter.	Required	<ul style="list-style-type: none">Initiate placing patient in a negative pressure room or a room with a portable HEPA filter.Initiate standard precautions including gown, gloves, respirator like N95, N99, N100, or PAPR.	<ul style="list-style-type: none">TuberculosisChicken pox/shinglesSmallpox

Note: A private room is typically required for the conditions discussed in this table. Refer to www.cdc.org for further information.

Table 21.2: Infectious Conditions, Questions, and Interventions

CONDITION	QUESTIONS	INTERVENTIONS
Ebola	<ul style="list-style-type: none">• Travel outside the United States in the last 6 mos?• Fever?• Leaking body fluids?	<p><i>Droplet Precautions</i></p> <ul style="list-style-type: none">• Droplet precautions require anyone in close contact with a patient with respiratory infection s/sx (especially with presence of fever) to wear a surgical or procedure mask and initiate standard precautions. These precautions should be maintained until determined that the cause of sx is not an infectious agent that requires droplet precautions.• Refer to specialized facility preparation and PPE for Ebola Guidelines
West Nile Virus	<ul style="list-style-type: none">• Travel outside the United States in the last 6 mos?• Any mosquito bites?• Do you have a rash?	<ul style="list-style-type: none">• No specific tx. Viral cx from urine or blood may help with dx. Careful monitoring for s/sx of meningeal signs, increased ICP, or dehydration. Anticipate the potential need for pain control and an antiemetic.

Table 21.2: Infectious Conditions, Questions, and Interventions (Continued)

CONDITION	QUESTIONS	INTERVENTIONS
Zika	<ul style="list-style-type: none">• Have you had recent travel outside the United States?• Presence of a fever?• Presence of a rash?• Presence of conjunctival findings?• Any insect bites?• Are you sexually active?• LMP? Pregnant? EDC?	<ul style="list-style-type: none">• Obtain blood and urine (diagnosis can be made through blood and urine).

Table 21.3: Pediatric Infectious Respiratory Emergencies

DIAGNOSIS	SIGNS AND SYMPTOMS	TRIAGE INTERVENTIONS	PRECAUTIONS
Croup	<ul style="list-style-type: none">• Barking cough• Inspiratory stridor• Hoarseness• Symptoms worse at night• Moderate fever• Looks well	<ul style="list-style-type: none">• Keep patient in position of comfort• Isolate from other patients (generally caused by parainfluenza or RSV)	Contact and droplet
Epiglottitis	<ul style="list-style-type: none">• Drooling• Difficulty swallowing• Tripod positioning with mouth open/tongue out• High fever• Looks toxic	<ul style="list-style-type: none">• Airway is the priority• Keep patient in position of comfort• Do not perform procedures that may agitate the patient• Isolate from other patients (caused by <i>Haemophilus influenzae B</i>)	Contact and droplet
Measles^a	<ul style="list-style-type: none">• Fever (first to appear)• Cough• Coryza (runny nose)• Conjunctivitis• Koplik spots• Rash	<ul style="list-style-type: none">• Isolate from other patients	Contact and airborne

Table 21.3: Pediatric Infectious Respiratory Emergencies (Continued)

DIAGNOSIS	SIGNS AND SYMPTOMS	TRIAGE INTERVENTIONS	PRECAUTIONS
Diphtheria	<ul style="list-style-type: none"> • Sore throat • Mild fever • Bull neck (from membrane forming over pharynx) • Progressive paralysis • Infants may have nasal/laryngeal diphtheria and present with hoarseness, URI symptoms, and a foul odor from nose/mouth 	<ul style="list-style-type: none"> • Airway is the priority • Isolate from other patients 	Contact and droplet
Pertussis^b	<ul style="list-style-type: none"> • Initially present with s/sx of the common cold • Paroxysmal coughing • Cyanosis during coughing • Vomiting after coughing • Whooping sound in inspiration post-episode • Exhaustion 	<ul style="list-style-type: none"> • Minimize stimulation • Support ABCs • Isolate from other patients 	Contact and droplet

^aMeasles considered emergent due to high contagion and increase in unvaccinated population.

^bPertussis considered emergent due to high contagion and increase in unvaccinated population. It is more concerning in children. Adults have better accessory muscle development, so can better tolerate paroxysmal coughing spells. Infants and children will fatigue and are more prone to periods of apnea.

Source: Siegel, J. D., Rhinehart, E., Jackson, M., Chiarello, L., & Healthcare Infection Control Practices Advisory Committee. (2017, October). 2007 guideline for isolation precautions: Preventing transmission of infectious agents in healthcare settings. Retrieved from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf>

22 TRAUMA EMERGENCIES

CHIEF COMPLAINTS

- Amputation proximal to wrist and ankle
- Blunt trauma—MVC, pedestrian impact, vehicle/cyclist impact, explosion, assault
- Falls—Head injury, spinal cord injury
- Falls—Other injuries
- Penetrating trauma—Gunshot(s), stab wound(s), or high pressure injury



RED FLAG FINDINGS

Physiologic Trauma Triage Criteria

- Altered mental status after trauma, GCS <14 with loss of consciousness; GCS <13 otherwise
- **Adult VS:** BP <90 mmHg, RR <10 or >29. **Pediatric VS:** BP <80 mmHg, RR <20 or >29 (consider age, normal VS). **Infant VS:** RR <20 if younger than 1 yr

Mechanism of Injury Trauma Triage Criteria

- Fall: Adult >20 feet, pediatric >10 feet or 2 to 3 times the height of the child; if <3 yrs of age a fall 3 feet or more; ground level fall in a patient on blood thinners
- Pedestrian/cyclist struck: Adult >20 mph, pediatric >15 mph
- Ejection from vehicle



RED FLAG FINDINGS (*Continued*)

- Fatality in same passenger compartment
- Passenger compartment intrusion >12 inches

Anatomic/Physiologic Trauma Triage Criteria

- Amputation proximal to wrist and ankle
- Crushed or degloved extremity
- Flail chest
- Impalement injury
- Loss of consciousness with a lucid period followed by change in mental status
- Open fracture or fracture of two or more long bones
- Paralysis
- Penetrating trauma to head, neck, thorax, or abdomen
- Seatbelt sign
- Shoulder pain after abdominal trauma
- SOB after chest trauma
- Uncontrolled bleeding

Special Considerations for Trauma Triage Criteria

- Head injury if on blood thinners
- Low-impact mechanism (e.g., ground level falls) in adult 65 yrs or older
- Pregnancy >20 wks with trauma



KEY TIPS FOR TRAUMA EMERGENCIES

- **Think GOLDEN HOUR.** Call **trauma alert** if indicated.
- Trauma patients **younger than 5 yrs of age** and **older than 55 yrs of age** are at greatest risk for injury.
- Time of injury is important to consider with all trauma patients. Mechanism of injury can indicate great risk but as time passes the severity of the risk decreases (but do not allow that to let your guard down).
- **Distracting injuries can mask more serious underlying conditions.**
- Consider mechanism of injury to determine if more in-depth questioning is warranted.
- Spinal cord injuries can present with varying s/sx including unusual presentations of pain, numbness, and tingling. Do not discount these s/sx.
- Trauma patients can initially present with minimal symptoms. Stay alert for potential changes while the patient waits.
- **Consider Other Chapters:** Respiratory, cardiac, neurologic.
- **Anticipate Orders:** Labs (CBC, CMP, coags, type & cross, etc.); diagnostics (multiple x-rays, CT, MRI, etc.); meds (multiple, IV fluids, blood products, etc.).

AMPUTATION PROXIMAL TO WRIST AND ANKLE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What was amputated?• Location of the amputated part (currently with the patient or elsewhere)?• What occurred and the length of time the part has been amputated (obtain time of incident)?• Other injuries?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Examine for partial or total amputation• Evidence of hypovolemic shock (tachycardia, hypotension)• Quickly assess CSM to affected part to evaluate for neuro deficits
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Apply direct pressure/tourniquet to control bleeding followed by a pressure dressing• Clean off any debris and place amputated part in sterile gauze moistened with sterile saline, place into a sterile container or ziplock bag, label with patient's name/DOB, and place on ice water• Initiate NPO status

AMPUTATION PROXIMAL TO WRIST AND ANKLE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Assess CSM• Control bleeding as indicated with pressure dressing• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Remove jewelry, tight clothing, athletic gear, or shoes from affected extremity• Splint above and below joint for stabilization if fracture is present above amputation• Rest and elevate extremity• Anticipate the need for x-ray, pain control, and a consult with orthopedic and vascular surgeons• Evaluate the need for a tetanus shot/booster (>5 yrs since tetanus, consider tetanus per policy)• Monitor blood loss and anticipate further lab work (e.g., CBC, type and screen etc.)• Glucose POC if indicated *Initiate ATPs per policy

AMPUTATION PROXIMAL TO WRIST AND ANKLE (*Continued*)



PEDIATRIC:

- Amputated parts are almost always reimplanted so plan for surgical intervention.



OLDER ADULT:

- Make sure to investigate the cause of the amputation (e.g., dizziness preceding the event).

TIPS

- **Time is critical** for successful reattachment but stabilizing the patient always comes before attending to the amputated part.
- Amputated parts should **never** be placed **directly onto ice**.
- An amputation is considered a “potential threat to life or limb.”

NOTES:

BLUNT TRAUMA—MVC, PEDESTRIAN IMPACT, VEHICLE/CYCLIST IMPACT, EXPLOSION, ASSAULT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What happened? Speed of vehicle/cyclist? Number of vehicles/cyclists involved?• When did incident occur? Side of vehicle struck and amount of damage to vehicle?• Restraints? Safety devices?• Loss of consciousness? Change in mentation since incident?• Chest or abdominal pain?• Pregnancy >20 wks?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess for flail chest, abdominal tenderness• Presence of seatbelt sign (significant especially when present over abdomen)• FHT (for pregnant patients >14 wks)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Place in c-collar immobilization if suspect injury• GCS—see age appropriate Tables 22.1–22.3• Obtain an ECG and O₂ as indicated

BLUNT TRAUMA—MVC, PEDESTRIAN IMPACT, VEHICLE/CYCLIST IMPACT, EXPLOSION, ASSAULT (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Pain on inspiration?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Place in c-spine immobilization if suspect cervical injury• GCS—see age appropriate Tables 22.1–22.3• Ventilate if hypoventilating (“cure” for flail chest)• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Blunt trauma patients are at **high risk for internal injury** without any external signs. A full assessment and rapid imaging are required to quickly determine potential life-threatening injuries (**the Golden Hour**). **Splenic injury is the most common.** Assess for splenic injury and inquire about a MVC in the last 3 wks if a patient has pain suspicious of this injury.
- A **seatbelt sign** is highly concerning if across the abdomen; fractures and small bowel injuries (ruptured

diaphragm, mesenteric laceration, viscus tear) are common yet often missed. We catch the obvious with seatbelt straps across the chest.

- Injuries associated with explosions can be more extensive than the patient presentation and complaint.
- For **assault** situations, maintain strict **chain of evidence** and follow P & P.
- **Pulmonary contusion** s/sx (pleuritic chest pain, crackles, cough, wheezing) can present **hrs after injury.**

BLUNT TRAUMA—MVC, PEDESTRIAN IMPACT, VEHICLE/CYCLIST IMPACT, EXPLOSION, ASSAULT (*Continued*)



PEDIATRIC:

- See Tables 22.2 or Table 22.3 for GCS assessment depending on age.
- Initially kids may appear physiologically stable with limited tenderness, but may be bleeding into their abdomen. Frequent reassessment is critical.
- Careful concern for Down syndrome babies who have unstable joints and are at high risk for cervical injuries.



OLDER ADULT:

- Multiple rib fractures from blunt trauma are high-risk as pulmonary contusions, pneumothorax, and aspiration are not apparent until later.

NOTES:

FALLS—HEAD INJURY, SPINAL CORD INJURY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How far was the fall?• Loss of consciousness?• Prescribed blood thinners?• Loss of consciousness followed by a period of lucidity with a subsequent altered mental status?• Potential cervical injury? Numbness or tingling in extremities?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• GCS—see age appropriate Tables 22.1–22.3• Check for hematomas, lacerations, skull depressions, and facial deformities• Look for rhinorrhea, otorrhea, nosebleed, racoon eyes, and Battle's sign—see Table 22.4
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Place in c-spine immobilization for suspected cervical injury• Apply pressure dressing if bleeding• Consider the need for an ECG following syncope, lightheadedness, etc.

FALLS—HEAD INJURY, SPINAL CORD INJURY (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• When did this happen?• Any additional injuries?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- **Consider WHY the patient fell** (e.g., syncopal episode, dizzy, lightheaded). Discovering the underlying reason for the fall is critical.
- Cervical injuries can present with mild weakness and/or numbness and tingling to extremities. Think spinal cord injuries.
- Subtle changes to mental status can be hard to detect. **Listen to family/friends** for clues to urgent concern.
- Change in mental status can be caused by ETOH/drugs.
- Let the patient tell the story of what happened; look for gaps in the story.
- Subarachnoid hemorrhages usually present with photophobia and worst HA ever while subdural hematomas have a slower onset.
- Patients with an **epidural bleed** may have a **positive loss of consciousness followed by a lucid period** and then a rapid deterioration. Ipsilateral pupil is dilated in most cases (impending herniation). **Do not dismiss a significant injury just because the patient regained consciousness.**

FALLS—HEAD INJURY, SPINAL CORD INJURY (*Continued*)



PEDIATRIC:

- Remember that **a fall three times the height of the child or 3 ft or more if the child is >3 yrs is significant.**
- **GCS may vary** as children develop **diffuse cerebral edema.**
- **SCIWORA:** Central cord syndrome is not seen on CT scan. Ask the patient to squeeze your little finger. If they cannot do so, high concern for a cord injury. Bump on forehead is a cord injury until proven otherwise. SCIWORA most common in children. Focus on your neuro assessment.
- **Scalp hematoma** is a significant indicator of a **potential skull fracture** in children **<2 yrs.**
- Scalp lacerations can bleed profusely, causing increased risk for shock. Monitor closely and reassess if waiting.



OLDER ADULT:

- Consider applying a **c-spine** immobilization for patients **>65 yrs with even just a ground-level fall.**
- Increased risk of falls with age (commonly trip). More fragile bones and osteoporosis increases the chance of fractures.

FALLS—OTHER INJURIES



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How far was the fall (adults >20 ft or pediatrics >10 ft or 2–3 times the height of the child or if <3 yrs of age a fall 3 ft or more is concerning)?• Loss of consciousness?• Abdominal pain? Shoulder pain (possibly referred pain)?• Prescribed blood thinners?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess for abdominal tenderness, guarding, or rigidity• Open fracture present; assess neurovascular status of affected extremity• See Table 22.4 for list of signs (e.g., Battle's, Cullen's, Gray-Turner signs)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Place in c-spine immobilization if suspect cervical injury• C-spine and cover open fractures with dry dressing

FALLS—OTHER INJURIES (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• N/V?• How did patient land (head, hands) and on what (concrete, carpet)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Obvious deformity?• Full set of VS per discretion/policies (consider performing orthostatic VS)
INTERVENTIONS	<ul style="list-style-type: none">• Prepare to immobilize fractures, pain control per policy, large bore IV, and fluid resuscitation• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- Recognize that **abdominal trauma can be masked by distracting injuries.**
- Shoulder pain can be an indication of abdominal trauma. Do not discount its importance.
- The spleen is one of the most commonly injured organs. Assess for orthostatic hypotension, abdominal pain, and/or shoulder pain.
- Bilateral calcaneus fractures are often associated with spinal and pelvic fractures.
- Scapular and sternal fractures require tremendous force; if these are present, consider other injuries.

FALLS—OTHER INJURIES (*Continued*)



PEDIATRIC:

- Refer to Tables 22.2 and 22.3 for GCS assessment criteria depending on age. Careful concern for **Down syndrome babies** who have unstable joints and are at high risk for cervical injuries.



OLDER ADULT:

- Increased risk of falls with age (commonly trip). Increased chance of fractures due to osteoporosis.

NOTES:

PENETRATING TRAUMA—GUNSHOT(S), STAB WOUND(S), OR HIGH PRESSURE INJURY



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Gunshot wound or stabbing?• Location of injuries? Number of wounds noted?• SOB?• Wound caused by high pressure device? Chemical? Quantity of material?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Lung sounds (diminished or decreased breath sounds)• Assess for deviated trachea• See Table 22.4 for signs of Beck's triad• Uncontrolled bleeding from wound(s) and/or pulsatile• Signs of shock present—hypotension, tachycardia
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Apply pressure to wounds if uncontrolled bleeding• Anticipate immediate needle decompression if tension pneumothorax• Secure triage area and ED as necessary

PENETRATING TRAUMA—GUNSHOT(S), STAB WOUND(S), OR HIGH PRESSURE INJURY (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• How many shots were heard?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• If injury to distal extremity, evaluate CSM• Full set of VS per discretion/policies (consider performing orthostatic VS)
INTERVENTIONS	<ul style="list-style-type: none">• Glucose POC if indicated *Initiate ATPs per policy



PEDIATRIC:

- Penetrating trauma is rare in kids.



OLDER ADULT:

- Older adults have less reserve so will decompensate more quickly. Remember, medications and comorbidities can mask early symptoms of physiologic stress.

TIPS

- Consider cardiac tamponade, hemothorax, pneumothorax, and tension pneumothorax with chest trauma.
- **Injuries below the nipple line** impact **chest and abdominal organs**. Also concerning is the head, neck, axilla, thorax, pelvis, and groin.
- **Pregnancy and trauma: Maternal mortality risk is low, fetal mortality risk is high (see Chapter 12).**
- High pressure device injuries can appear as small puncture wounds but put the patient high risk for future disability and/or compartment syndrome. These presentations may require emergency surgery!
- With any penetrating trauma (or trauma as a result of violence), **safety** of the staff, patient, and others should be the **primary concern**. Maintain **chain of evidence** with clothing and belongings and place in paper bag(s).
- For gunshot wound cases, anyone who was involved with the gun or injured by the gun should have their hands placed in paper bags and secured in place with loose rubber bands (potential evidence due to gun residue/injuries).
- Place these patients in an area away from open view to protect the safety of all. If the patient is in a gang, an opposing gang member could come looking for the patient at any time.
- **A penetrating injury to the liver is the most common. Assess for this!**

NOTES:

TRAUMA EMERGENCY RESOURCES

Table 22.1: Adult Glasgow Coma Scale

EYE OPENING	VERBAL RESPONSE	MOTOR RESPONSE
4 Spontaneously	5 Oriented	6 Obeys commands
3 To speech	4 Confused	5 Localizes to pain
2 To pain	3 Inappropriate	4 Withdraws to pain
1 None	2 Incomprehensible	3 Flexion to pain
	1 None	2 Extension to pain
		1 None

Table 22.2: Pediatric Glasgow Coma Scale

EYE OPENING	VERBAL RESPONSE	MOTOR RESPONSE
4 Spontaneously	5 Oriented	6 Obeys commands
3 To speech	4 Inappropriate words	5 Localizes to pain
2 To pain	3 Persistent cries/screams	4 Withdraws to pain
1 None	2 Grunts	3 Flexion to pain
	1 None	2 Extension to pain
		1 None

Table 22.3: Glasgow Coma Scale Children <18 Months

EYE OPENING	VERBAL RESPONSE	MOTOR RESPONSE
4 Spontaneously	5 Oriented	6 Obeys commands
3 To speech	4 Inappropriate words	5 Localizes to pain
2 To pain	3 Persistent cries/screams	4 Withdraws to pain
1 None	2 Grunts	3 Flexion to pain
	1 None	2 Extension to pain
		1 None

Table 22.4: Key Trauma Signs, Symptoms, and Suggested Injury

SIGN	SIGNS & SYMPTOMS	SUGGESTED INJURY
Battle's sign	Mastoid ecchymosis	Basilar skull fracture
Beck's triad	Hypotension Distended neck veins Muffled heart sounds	Cardiac tamponade
Cullen's sign	Bruising around umbilicus	Retroperitoneal/intra-abdominal bleeding
Gray Turner sign	Flank bruising	Retroperitoneal bleeding
Kehr's sign	Shoulder pain in supine position	Blood in peritoneal cavity
Raccoon eyes	Periorbital ecchymosis	Basilar skull fracture

NOTES:

23 BURN EMERGENCIES

CHIEF COMPLAINTS

- Chemical burns (e.g., contact, inhalation, injection, ingestion)
- Electrical burns (e.g., contact with power lines, electrical wires, lightning strike)
- Thermal burns (e.g., house fire, auto collision)



RED FLAG FINDINGS

- Airway involvement
- Burn to adult >20% of BSA
- Burn to pediatric >25% BSA
- Circumferential burns
- Electrocution with evidence of wounds
- Singed nasal hairs or soot around mouth



KEY TIPS FOR BURN EMERGENCIES

- **For chemical burns, identify the substance and protect yourself and others from exposure.**
- **Think stop the burning process.** Protect skin. Remove clothes, jewelry, and anything else that will retain heat.
- Follow facility **decontamination policies.** Contain the chemical as clothing is removed.
- Call Poison Control.
- **Burns to the face (eye), neck, perineum, hands, feet, and/or joint spaces may be life-threatening or life-altering.**
- Full-thickness burns will likely require transfer to a trauma center.
- **Consider Other Chapters:** Respiratory.
- **Anticipate Orders:** Labs (CBC, CMP, liver function tests, lactate, wound cultures, UA); diagnostics (x-ray, CT, MRI, US); meds (fluid resuscitation, analgesics, antibiotics).



PEDIATRIC:

- Keep a high index of suspicion for **possible maltreatment/abuse.**



OLDER ADULT:

- Keep a high index of suspicion for **possible maltreatment/abuse.**

CHEMICAL BURNS (e.g., contact, inhalation, injection, ingestion)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Type of substance (house cleaners, pool/hair products)? Is substance with the person?• What happened?• Chemical to eye(s)?• Length of exposure and how much of an exposure (full body vs. a body part)?• What was the concentration of the substance?• Anyone else exposed (if so, think disaster/potential MCI)?
ASSESSMENT	<ul style="list-style-type: none">• A-B-C-D-E
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Immediately separate from others until the chemical is identified and next steps are taken• Reference the MSDS to direct chemical-specific interventions• Remove contact lenses ASAP; if chemical to eye(s) irrigate continuously• Consider the need for an ECG (dependent on substance, route of contact)• Initiate NPO status• Initiate continuous observation/suicide precautions as indicated for self-harm circumstances

CHEMICAL BURNS (e.g., contact, inhalation, injection, ingestion) (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Immediate tx given PTA?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Delegate someone to call Poison Control to obtain information on the substance• See Table 23.1 (interventions depend on type of chemical exposure)• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- **Stop the burning process.** Clothing/jewelry removal is the number one priority (unless it is a radiation exposure).
- Follow facility **decontamination** policies and use caution to contain the chemical as clothing is removed.
- **Protect from exposure to** yourself, other staff, and patients/visitors.
- Any burn of significance to the **face, neck, perineum, hands, feet, and/or joint spaces is concerning.**
- Inhalation injury may not show signs for 12 to 36 hrs.
- **Do not induce emesis** as it may cause further burning to the GI system and its structures.
- Refer to <http://www.msds.com/> or the Material Safety Data sheet at your facility to direct further treatment.

CHEMICAL BURNS (e.g., contact, inhalation, injection, ingestion) (*Continued*)



PEDIATRIC:

- Think about the potential for kids getting into chemical sprays, **button batteries**, and agents (hydrofluoric acid extremely harmful).



OLDER ADULT:

- Wound healing is often more complex due to other health issues. The older adult **may present not at the time of injury but days later with a significant infection. Screen for SIRS criteria.**

Table 23.1: Types of Chemical Burns and Associated Treatment

CHEMICAL	TREATMENT
Hydrocarbons	Blistered skin will heal on its own Watch for respiratory concerns and liver failure
Hydrofluoric acid	Irrigate with water up to 30 mins Apply calcium chloride gel Watch for hypocalcemia
Phenols	Water irrigation followed by polyethylene glycol
Tar/Asphalt	Cool compresses and water Remove with fat emollient—bacitracin, mineral oil, etc.

ELECTRICAL BURNS (e.g., contact with power lines, electrical wires, lightning strike)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• How much voltage? AC (most concerning)? DC?• Any seizure activity (tonic/clonic movements noted?) Full body or localized to one area?• Concurrent trauma?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Look for any wounds indicative of the travel of electrical current
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Obtain ECG stat and advocate for cardiac monitoring



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Duration of contact?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Examine for number of wounds/burns• Full set of VS by discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for wound treatment• Glucose POC if indicated *Initiate ATPs per protocol

TIPS

- An electrical shock puts a person at **risk for** arrhythmias for the first 12 hrs post incident.
- Examine the tongue for trauma (often a wound location that is easily missed).
- AC current causes more damage than DC current.
- **Electrical burns may not leave visible tissue damage.** Internal damage may be significant even in the absence of other findings.
- Muscle damage from electrical burns may occur. Increasing edema may raise compartment pressures and increase the possibility of compartment syndrome.



PEDIATRIC:

- Kids who have chewed on **electrical cords** may **develop a scab in the corner of the mouth**. When the **scab falls off** approximately 2 weeks later, the labial artery in the corner of the mouth is exposed, and the **child can bleed to death**.



OLDER ADULT:

- Older adults often seek care later, and therefore have an increased risk for arrhythmias upon initial presentation.

THERMAL BURNS (e.g., house fire, auto collision)



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What happened and when?• In an enclosed space? Airway involvement? Concurrent trauma?• Burns to face, nares, mouth? Singed hairs and/or soot around mouth?• Hand, foot, face, and/or genitalia involvement?• Circumferential burns (risk for edema limiting circulation)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Refer to Figure 23.1 to determine BSA involved
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately?• Stop the burning process• 100% O₂ if airway involvement• Anticipate the need for intubation for burns to face and/or neck• Apply dry, sterile dressings to burns

THERMAL BURNS (e.g., house fire, auto collision) (Continued)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• VISUALIZE the airway; look in the naso/oropharynx for soot• Full set of VS by discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Cover with clean dry dressing (do NOT use ice)• Anticipate need for pain control, fluids ASAP for burns >20% BSA per protocol• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- **Adult High-Acuity Burns:** >10% BSA for **full-thickness** burns, >25% BSA for partial-thickness burns.
 - **Pediatric High-Acuity Burns:** >20% BSA, any respiratory compromise.
 - Any burn of significance to the **face, neck, perineum, hands, feet, and/or joint spaces is concerning.**
- These burns often require specialized evaluation and rehabilitation requiring a referral to a burn center.
- Assess for **child or older adult maltreatment.**
 - If trauma mechanism involved, refer to a trauma center.

THERMAL BURNS (e.g., house fire, auto collision) (Continued)



PEDIATRIC:

- Use the **rule of 9's** for calculating the percentage of total BSA burned (partial and full thickness). Accuracy is required for fluid resuscitation.
- Highly concerning burns for pediatrics are >25% BSA and/or any respiratory compromise.
- For scattered or irregular small burns, use the patient's palm (including fingers) to estimate percent of burn involvement. The **palm of the hand is equivalent to 1% of total BSA.**
- **Possible child maltreatment** should be considered. **Key findings** include circumferential burns to arms/feet, a donut sign to the buttocks, or sharply defined water lines, hand or feet burns where the palms and/or soles are scarred.
- Children may not recognize danger or escaping from a dangerous situation may be difficult. Be aware of potential prolonged exposure (think airway issues).



OLDER ADULT:

- High risk of mortality due to existing underlying disease. The older adult may also have difficulty escaping from a dangerous situation so be aware of potential prolonged exposure (think airway issues).

BURN EMERGENCY RESOURCES

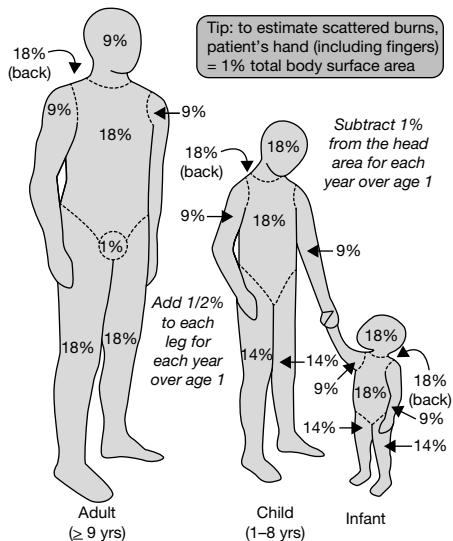


Figure 23.1: Burn Table (Rule of 9's)

NOTES:

24 UNIQUE SITUATION EMERGENCIES

CHIEF COMPLAINTS

- Child maltreatment, suspected
- Human trafficking, suspected
- Intimate partner violence
- Older adult maltreatment, suspected
- Sexual abuse



RED FLAG FINDINGS

- **Bruises in different stages of healing**
- **Patient accompanied by a person who is controlling, speaks for the patient, and will not leave the patient's side**
- **Teenager or adult unfamiliar with where they are and without control of their identification**



KEY TIPS FOR UNIQUE SITUATION EMERGENCIES

- **Better to report a suspected maltreatment situation and allow experts to further investigate than to keep concerns to yourself. Always be a patient advocate!**
- **Consider Other Chapters:** OB/GYN, pediatric, older adult considerations.
- **Anticipate Orders:** Labs (STI panel, GC/chlamydia, HIV, hepatitis panel, UA, U-preg, or HCG); diagnostics (x-rays, US); meds (analgesics, antibiotics, anti-anxiety, antiemetics).

CHILD MALTREATMENT, SUSPECTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• What happened? When did this happen?• Who else was there when the incident happened?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess if the story matches the injury
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Keep the child safe; do not leave alone with suspected abuser



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Completely undress the child to look for additional injuries/assess for bruises in different stages of healing, which should alert you to possible abuse• Assess if there are other children with the suspect who could be in danger• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Initiate ATPs per policy

TIPS

- Ask questions to fully understand if the patient presentation and the story are plausible explanations.
- Have a high index of suspicion of maltreatment; better to report a suspicion and let experts follow up.
- Know your state mandates for reporting suspected abuse. Act quickly and report honestly.

NOTES:

HUMAN TRAFFICKING, SUSPECTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Area of injuries?• UTI s/sx?• Currently pregnant? EDC (if yes, refer to Chapter 12, Obstetric Emergencies)?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Paranoia, anger, fearful, hypervigilant• S/sx of drug withdrawal or drug abuse• Bruises in different healing stages and/or many old scars• Look for a raised area on skin that is evidence of an implantation chip (inside of forearm, behind earlobe, in the web of thumb and pointer finger)• Evidence of branding/tattoos (names, dollar signs, numbers) on chest, lower back, neck, fingers, etc.
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!

HUMAN TRAFFICKING, SUSPECTED (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Genital injuries or STIs (inquire when able to speak to patient alone)?• Hx of mental illness, pregnancies, abortions (common with human trafficking)?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• GCS assessment• Screen for sepsis criteria• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Assure the patient that the assessment and interactions are confidential• Contact the National Human Trafficking Resource Center (NHTRC) hotline if you need assistance with the assessment or planning next steps 1-888-373-7888 (24/7)• If the patient is forthcoming about trafficking circumstance, provide the NHTRC number and resources (available at www.traffickingresourcecenter.org)• For minors, involve law enforcement per state and institutional policies for child abuse• Initiate ATPs per policy

TIPS

- **Improving the health of the potential victim and ensuring safety should be the main concern.**
- **Red flag behaviors** that a person is being trafficked include a youth who does not have identification, has fake identification, and/or does not have control over personal documents. An adult with a minor may be controlling and does most of the speaking. The minor may stare at the ground, look for permission from the adult to speak, and does not know their whereabouts. The adult being controlling is not limited to minors—this can happen with adult/adult interactions as well.
- **Be observant for nonverbal communication;** remain calm throughout any interactions, avoiding any facial gestures that may indicate a look of surprise, disgust, etc.
- **Interview the patient alone while sitting and listening carefully;** avoid repeated interviews by multiple care providers (may cause retraumatization).
- The patient should feel in control of the physical exam; move slowly and always ask for permission to touch.
- **Human trafficking can also occur to pediatric patients.**

NOTES:

INTIMATE PARTNER VIOLENCE



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Trauma? Hit, kicked, punched, choked (see Exhibit 24.1 for how to ask the questions)?• Forced to perform sexual acts?• Loss of consciousness?• Neck, chest, abdominal or back pain?• Pelvic pain or vaginal bleeding? Possibility of pregnancy? LMP? Active contractions?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Assess if the perpetrator is with the patient (e.g., answering for the victim)
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Ensure safety of the patient; notify security as needed• Know your facility's policies regarding pregnant mothers• For some facilities, if <20 wks gestation are often treated in the ED; if >20 wks gestation and an L&D unit is in the same building, the patient might transfer to L&D if deemed stable (know your policies and think EMTALA)• If unstable, facilitate fetal monitoring in the ED• Note: Some facilities send mothers with an earlier gestation to L&D; defer to policies

INTIMATE PARTNER VIOLENCE (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• If pregnant, EDC? GPAL Questions (See Table 12.2 for details)• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Obtain FHTs or kick counts if pregnant• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Anticipate the need for an obstetric consult if pregnant• Treat injuries as needed; stabilizing the mother and fetus is the priority• Anticipate the need for fetal monitoring if pregnant• Notify law enforcement per policies and patient wishes• Glucose POC if indicated *Initiate ATPs per policy

TIPS

- If the patient is a victim of IPV, the perpetrator may stick close to the patient's side, answer questions, etc. The perpetrator may take the victim and leave if questioning becomes uncomfortable or if staff seem suspicious of IPV.
- **Assess the patient alone if able.** A need for a urine sample is often a good attempt to separate from a companion who will not leave the person's side. In addition, telling the perpetrator the patient is going for an x-ray is an opportunity to talk to the patient alone.
- **The risk of IPV in pregnancy is increased, which also increases the risk for substance abuse, depression, and anxiety.**

EXHIBIT 24.1: Screening Tool for Intimate Partner Violence

- Is anyone close to you threatening or hurting you?
- Is anyone hitting, kicking, choking, or hurting you physically?
- Is anyone forcing you to do something sexually that you do not want to do?

Source: Courtesy of Women & Infants Hospital, Providence, RI.

NOTES:

OLDER ADULT MALTREATMENT, SUSPECTED



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Are you safe where you are living?• Who do you live with? Who cares for you?• When was your last meal?
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• S/sx of mistreatment with no plausible explanation; abrasions, bruising, fractures• Eye contact while answering questions can provide clues to feelings of safety
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Ask simple, direct questions in private to make sure older adult is safe and needs are met

OLDER ADULT MALTREATMENT, SUSPECTED (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Who helps with ADLs; bathing, shopping (e.g., needs being met? Think financial abuse)?• Is heat and/or air-conditioning being used to make the patient comfortable?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Meds *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Skin integrity/turgor (clues to overall nutritional status; assess for dehydration and malnutrition)• Clothing (odor), hygiene, nutritional status, and overall presentation can provide clues to abuse• Unexplained bruises/injuries, genital pain, excoriation• Failure to obtain medications or necessary care• Full set of VS per discretion/policy
INTERVENTIONS	<ul style="list-style-type: none">• Ensure safety and comfort for patient• Notify appropriate agencies for reporting purposes per applicable laws• Glucose POC as indicated *Initiate ATPs per policy

TIPS

- Caregiver stress is not uncommon when older adults live with family members. Assess how caregivers are coping in addition to the patient.
- Financial/emotional abuse may be evident by hygiene and depression in the older adult. Watch for subtle clues.

NOTES:

SEXUAL ASSAULT



RAPID TRIAGE ASSESSMENT (takes <60–90 seconds)

QUESTIONS	<ul style="list-style-type: none">• Injuries?• Weapons involved or has the patient been drugged?• Loss of consciousness?• **Ask enough questions during the rapid triage assessment to determine if you are dealing with a sexual assault and the patient is stable. Other questions can occur at the time of the exam.
ASSESSMENT	<ul style="list-style-type: none">• A–B–C–D–E• Visual inspection of areas of injury seen at triage
INTERVENTIONS	<ul style="list-style-type: none">• If any alteration in A–B–C–D–E, intervene immediately!• Act on any emergent conditions• Involve law enforcement per protocol• Any evidence patient carries into department should be collected and stored per policies (e.g., typically in a paper bag with name, DOB); critical to follow chain of evidence protocols

SEXUAL ASSAULT (*Continued*)



COMPREHENSIVE TRIAGE ASSESSMENT (takes 2–5 minutes)

QUESTIONS	<ul style="list-style-type: none">• Vaginal or anal tearing?• Witnesses?• Tx PTA *PQRST *PMH *Drug & Alcohol Use *Medications *Allergies?
ASSESSMENT	<ul style="list-style-type: none">• Other injuries (documentation of injuries visualized is essential)• Full set of VS per discretion/policies
INTERVENTIONS	<ul style="list-style-type: none">• Ensure patient safety and emotional support• Call for resources available per policy (SANE, social worker, chaplain, etc.)• Anticipate a sexual assault evidentiary exam with a SANE if the patient presents within the first 96 hrs following incident• Glucose POC if indicated *Initiate ATPs per policy

TIP

- **Advise patient not to change clothing or wash body** until treatment plan/examination can be discussed/performed.



PEDIATRIC:

- Think child maltreatment.



OLDER ADULT:

- Think elder maltreatment.

NOTES:

25 ACTIVE SHOOTER AND/OR ACTIVE VIOLENCE

RESOURCE NUMBERS

- Hospital Emergency Preparedness Coordinator/Manager: _____
- Hospital Security Services Director: _____
- Hospital Safety Officer: _____
- Hospital Public Information Officer/Communications Services: _____
- Local Law Enforcement: _____
- Local SWAT Commander (if applicable): _____
- Local EMS Agency: _____
- Local transport EMS Company: _____
- Local Fire Department: _____
- Local FBI Liaison/WMD Coordinator (if applicable): _____
- Local Public Health Officer: _____

DEFINITIONS

- **Active Shooter:** One or more subjects who are actively engaging in killing or attempting to kill people in confined or populated areas.
- **Active Violence:** One or more subjects who participate in an active, ongoing attack putting additional potential victim(s) in harm's way. Similar to "active shooter" but subject(s) utilizes a weapon other than a firearm.
- **Situational Awareness:** Being aware of what is happening in the environment.

RECOGNITION OF A POTENTIAL THREAT

- **Situational Awareness** is crucial to recognizing potential threats.
- Notify Security immediately upon identifying any level of threat. Contact number _____
- Notify your Supervisor or HR Department if the threat is from a staff member.
Contact number _____

Table 25.1: Acronyms for Emergency Response

Agency	Acronym	Acronym Description
HOSPITAL/HEALTHCARE RESPONSE	R.A.I.N.	<ul style="list-style-type: none">• R: RECOGNIZE your surroundings. Be aware of any situation that potentially could be hazardous to your health.• A: AVOID any direct involvement.• I: ISOLATE yourself and others from the threat.• N: NOTIFY Security as soon as SAFELY possible. Remain calm, talk slowly, and provide as many details as possible.
EMS, FIRE, LAW ENFORCEMENT RESPONSE	T.H.RE.A.T.	<ul style="list-style-type: none">• T: Threat suppression• H: Hemorrhage control• RE: Rapid Extrication to safety• A: Assessment by medical providers• T: Triage/Transport for care

SITUATIONAL AWARENESS—WEAPON CONCEALMENT

Use the following to recognize individuals who may be concealing weapons and follow your hospital policy for Security and Law Enforcement notifications:

- **Self-Security Check**—The most common areas to conceal a weapon are the waistband and pockets.
- **Quick Adjustments**—Individuals may make quick movements, adjustments of the hands or may keep their hands in constant contact with the weapon or even keep their hand tucked inside their shirt or jacket.
- **Body Blading**—When the assailant finds the need to walk through a crowd, they take an oblique stance to avoid a face-to-face encounter.
- **Weapon Palming**—Assailants, especially those who are concealing an edged weapon, may keep the weapon hidden along their arm or their leg or may keep their hands in pockets and not remove them when requested.
- **Conspicuous/Unseasonable Clothes**—Those attempting to conceal weapons may be wearing clothes that are not appropriate for the season or clothes that are odd, mismatched, or out of place.

INCIDENT RESPONSE FOR ACTIVE SHOOTER/ACTIVE VIOLENCE

Incident Occurs Inside the Facility

- Follow your facility policy for Active Shooter/Active Violence Incident response.
- Call the hospital emergency number and notify of the incident and location (most hospitals use Code Silver as the emergency code for Active Shooter/Active Violence; other facilities use plain language).
- Call the external (911, etc.) emergency numbers and notify of the incident and location.

Incident Occurs Outside on the Facility Grounds or Parking Areas

- Follow your facility policy for Active Shooter/Active Violence Incident response.
- **RUN:** Seek cover/protection and warn others as able. **STAY LOW and DO NOT RUN in a straight line if possible.**
- **HIDE:** Take cover behind something that is capable of stopping a bullet.
- **FIGHT the attacker** if your life and others are at **immediate** risk.
- Call the hospital emergency number and notify of the incident and location.
- Call the external (911, etc.) emergency numbers and notify of the incident and location.

Suspicious Package or Improvised Explosive Device Discovered

If a suspicious package, bag, backpack, or suspected **Improvised Explosive Device (IED)** is discovered during the incident:

- Utilize **R.A.I.N.** to keep you safe.
- **DO NOT** approach or touch the suspicious package, bag, backpack, or suspected device.
- Staff should remain calm, clear immediate area, and make emergency notifications.
- Attempt to get as much distance between you and the device and shield yourself behind a solid item (e.g., desk, door).
- Law Enforcement will direct all actions.
- If instructed to do so, **immediately turn off (not just silence) cell phones, radios, and pagers.**

Incident Occurs Outside Your Department/Unit

- Avoid the announced area of threat.
- Close and secure doors (main doors, hallway doors, and doors to patient rooms) in your department and stand by for further instructions.
- **DO NOT** let visitors, patients, and other staff members leave the area or walk the halls.
- Waiting Room/Lobby Patients: If concerned that the threat may impact those patients, plan to calmly evacuate them to a secondary, more secure location.
- Remain in “lockdown” mode until you hear “All Clear” declared.

Incident Occurs Inside Your Department

- Key actions are **RUN, HIDE, and FIGHT**; remain calm but think survival mode.
- **RUN: Evacuate the immediate area and warn others as able.**
 - If safe to do so, remove patients from hallways or take them with you when you evacuate the area.
 - Close doors (main doors, hallway doors, and patient rooms) in your department and stand by for further instructions.
 - **Take your cell phone** (leave other personal belongings behind). **Silence** your phone but keep it turned on.
 - Do not attempt to move or treat wounded people unless you have time, training, and it is safe to do so.
 - Do not activate the fire alarm.
 - Do not stay behind if others are not willing to go.
- **HIDE: Hide if running and evacuation are not an option.**
 - Hide in a securable location, such as rooms with lockable doors (e.g., bathrooms, lounges, med rooms).
 - Lock, secure, and barricade doors by any means (e.g., using furniture, belt, door wedge). **Know which way the door will swing** to do this successfully.
- **FIGHT: Fight the attacker if your life and others are at immediate risk.**

- **FIGHT: Fight your fear as fear can be your worst enemy in these incidents.**
 - Instinct and nature will work against you. To relax, take four deep, four-count breaths to consciously bring your body back under some degree of control.
 - If it is decided to fight back, try to coordinate with others for maximum impact. Use objects in your immediate environment as weapons (e.g., fire extinguishers, laptops, trauma shears, and hot coffee). Commit to your actions to fight like your life depends on it because it does.

PREPARE FOR LAW ENFORCEMENT RESPONSE

- Initial responding law enforcement team; **GOAL IS TO STOP THE ATTACKER**, they **WILL NOT** assist victims.
- When law enforcement arrives, remain calm and follow their instructions.
- You may be yelled at and forcibly placed to the ground as a physical protective measure.
- You will have weapons pointed at you by law enforcement; they do not know who the assailant is.
- Avoid pointing, running, or screaming at them.
- Keep your hands raised, open, and away from your body.
- Ask before reaching for objects under desks, clothing, and so on.

STOP THE BLEED: THE CRITICAL FIRST MINUTES POST INJURY

Definitive medical care **may be delayed** until the shooter is stopped. Hospital personnel may be the initial first rescuers to victims. Be aware and use Situational Awareness and R.A.I.N. to identify any threats to you or others, even when trying to save victims.

Identify “Life-Threatening” Bleeding

Examples of life-threatening bleeding include:

- Blood spurting out of a wound, continuous or pooling on the ground, or clothing or bandages that are soaked with blood.
- Loss of all or part of an arm or leg.
- Bleeding in a victim who is now confused or unconscious.

Treating the Bleeding

- Identify life-threatening bleeding.
- Tear/cut clothing away from wound.
- Wipe away blood—visualize injury.
- For uncontrolled, life-threatening bleeding and/or amputation of an extremity, use a CAT (Combat Application Tourniquet) and wrap the bleeding extremity with the tourniquet 2 to 3 inches above the bleeding site. Do not place on a joint, go above it. **Note** the time the tourniquet was applied. If the bleeding does not stop with the single initial tourniquet, a second tourniquet can be applied 2 to 4 inches above the first.
- Cover wound with a clean cloth, pack wound if deep. If trauma/first aid kit available, use bleeding control gauze.

NOTES:

26 EMERGENCY MANAGEMENT DURING A DISASTER

KEY CONTACT NUMBERS

Hospital Emergency Preparedness Coordinator/Manager_____

Hospital Security Services Director_____

Hospital Safety Officer_____

Hospital Public Information Officer/Communications Services_____

Local Law Enforcement_____

Local SWAT Commander_____

Local EMS Agency_____

Local Transport EMS Company_____

Local Fire Department_____

Local FBI Liaison/Weapons of Mass Destruction Coordinator_____

Local Public Health Officer_____

DEFINITIONS

- **Emergency Management:** The managerial function challenged with creating the framework within agencies, facilities, and communities to reduce vulnerability to hazards and risks and to cope with disasters.
- **Disaster:** A serious disruption of the functioning of a society, causing widespread human, material, or environmental losses that exceed the ability of the affected society to cope using only its own resources.
- **Risk:** A risk is related to the probability, based on history, that identified hazards (natural or caused by human activity) will occur and need to be planned for.
- **Emergency Operations Plan (EOP):** Describes how the hospital will respond to and recover from a threat, hazard, or other incident.
- **The Hospital Incident Command System (HICS):** An emergency management system that employs a logical, flexible structure; defined responsibilities; clear reporting channels; and a common nomenclature.
- **Multiple Patient Incident:** These incidents have fewer than 10 victims/casualties. Examples may include motor vehicle collisions, small hazmat incidents, and structure fires.
- **Multiple Casualty Incident:** These incidents have more than 10 but less than 100 victims/casualties. Examples may include mass transit collisions, tornadoes, and moderate scale hazmat incidents.
- **Mass Casualty Incident (MCI):** These incidents involve the greatest amount of victims/casualties, deaths, and property damage. Examples may include major earthquakes, tsunamis, and large-scale terrorist/active shooter incidents.
- **Surge Capacity:** The maximum potential delivery of required resources either through augmentation or modification of resource management and allocation. Resources include: system, space, staff, and supplies.

THE HOSPITAL INCIDENT COMMAND SYSTEM (HICS)

When a disaster happens, there is a change in the normal daily operations to respond and the HICS is activated. Some key leadership positions in HICS are:

The Command Section

The Incident Commander (IC): The only position always activated in HICS. The IC is responsible for the management of the incident within the hospital.

The Public Information Officer (PIO): Personnel in this position are responsible for coordinating information sharing inside and outside the hospital.

The Liaison Officer: Personnel in this position are the hospital's primary contact for external agencies assigned to support the hospital during incident response.

The Safety Officer: Personnel in this position monitor the hospital response operations to identify and correct unsafe practices.

Medical-Technical Specialists: Personnel in this position are persons with specialized expertise in areas such as infectious disease, legal affairs, risk management, medical ethics.

The General Staff Section

Depending on the incident, other General Staff positions may be activated by the IC in charge of the facility during the Operational Period.

Operations Section: Manages all incident tactical activities and implements the Incident Action Plan (IAP).

Planning Section: Collects, evaluates, and disseminates situational information and intelligence regarding incident operations and assigned resources.

Logistics Section: Provides for all the support needs of the incident (acquires resources from internal/external sources, uses standard and emergency procedures, etc.).

Finance/Administration Section: Coordinates personnel time; orders items and initiates contracts; arranges personnel-related payments and Workers' Compensation; and tracks response and recovery costs and payment of invoices.

DISASTER INCIDENTS AND RESPONSE

Response levels for the facility can be tailored (such as a Limited vs. Full Activation) to the Incident Types and the amount of impact to the facility. **Internal incidents** could include trauma due to building collapse or active shooter incidents or terrorism incidents in the hospital. **External incidents** include motor vehicle collisions, extreme weather, active shooter, and terrorism incidents.

Natural Disasters: Natural disasters occur suddenly or there may be some warning.

Anticipate:

- Patients may surge to hospitals and EDs, even if they do not have injuries.
- Planning for the surge should include staffing, additional food, water, and augmented standards of care such as MCI Triage, to successfully handle these incidents.
- Plan for pediatric victims and anticipate the need to manage unaccompanied minors.
- Plan for patients with access and functional needs.

MCI—Trauma Incidents: Motor vehicle or transportation incidents, active shooters, terrorism

Anticipate:

- There may be a sudden surge in the inflow of injured patients.
- The first priority is to rapidly process a large number of casualties through the system.
- Need to implement the Emergency Operations/Disaster Plans and the HICS early.
- Involve key personnel from identified departments or units outside the ED ahead of time: administration, surgery, ICU, and other clinical areas.
- Plan for pediatric victims and anticipate the need to manage unaccompanied minors.
- Plan for patients with access and functional needs.

Knowing how to emergently control life-threatening bleeding in an MCI Trauma Incident is critical, especially when incidents of mass violence occur. See next page for treat the bleeding info.

Treating the Bleeding

Knowing how to control a hemorrhage in MCI Trauma Incidents is especially critical when intentional incidents of violence occur.

- Identify life-threatening bleeding.
- Tear/cut clothing away from wound.
- Wipe away blood—visualize injury.
- Apply continuous direct pressure with both hands as hard as you can until relieved by medical responder. **For CAT** (Combat Application Tourniquet with a trauma/first aid kit) wrap the bleeding extremity with a tourniquet 2 to 3 inches above bleeding site. Do not place on a joint, go above. **Note** the time the tourniquet was applied. If the bleeding does not stop with the single initial tourniquet, a second tourniquet can be applied 2 to 4 inches above the first.
- Cover wound with a clean cloth, pack wound if deep. If trauma/first aid kit available, use bleeding control gauze.

Mass Casualty Incident (MCI)—Medical Incidents: These involve multiple victims, usually related to a single geographic region or area and may gradually occur over time.

Anticipate:

- A drastic influx of ill patients presenting for care.
- A potential issue with resource management, such as the management of protective N-95 masks and ventilators.
- If the level of the Medical MCI is large enough (e.g., Pandemic Flu or Ebola), ventilators and PPE will be critical pieces of equipment.
- Plan for pediatric victims and anticipate the need to manage unaccompanied minors.
- Plan for patients with access and functional needs.

MCI—Hazmat Incidents

Anticipate:

- An influx of patients with a risk of contamination and need to perform mass decontamination.
- Plan for an area to place the incoming patients; contaminated patients may pose a significant threat to the staff, other patients, and the facility.
- Prepare for the influx of patients and the potential for contamination. If contaminated individuals gain entrance to the facility, think built-in decon systems/showers, decon tents, or hose and a pop-up pool.
- Set up perimeters to prevent the spread of contamination.
- Plan for pediatric victims and anticipate the need to manage unaccompanied minors.
- Plan for patients with access and functional needs.

RECOMMENDED CONTROL ZONES FOR DECONTAMINATION

- **Exclusion/Hot/Red Zone:** Highest level/risk of contamination in the field. Victims stage to await triage and decontamination. Access is restricted to responders and receivers with proper levels of training and PPE.
- **Contamination Reduction/Warm/Yellow Zone:** Decontamination activities are conducted. The zone should have different lanes for ambulatory and nonambulatory victims. Consider and plan for the vulnerable populations and populations with special needs. Contamination belongings are labeled with a unique identifier to the patient and sealed in plastic bags. These belongings could be also considered evidence by local law enforcement and federal agencies.
- **Support/Cold/Green Zone:** For command and support personnel working to manage the incident, decon team staging, and where other “post decon” activities such as on-going triage, medical treatment, and transfer occur. Utilize gloves, gowns, masks and other forms of PPE as appropriate.

PERSONAL PROTECTIVE EQUIPMENT

Many different types of PPE are available to be utilized.

- **Level A Protective Ensemble:** Highest level of protection against vapors, gases, mists, and particles. Fully encapsulated, chemical protective suit with either a Self-Contained Breathing Apparatus (SCBA) tank or a supplied air respirator (SAR) with an escape cylinder.
- **Level B Protective Ensemble:** Chemical protective suit that provides protection against splashes from a hazardous chemical. It has either a SCBA tank or a SAR with an escape cylinder.
- **Level C Protective Ensemble:** *Most common* type found in healthcare receiving facilities. Protective ensemble is a level B chemical protection suit, but different respiratory protection.
- **Level D Protective Ensemble:** No respiratory protection and minimal dermal protection (e.g., EMS jumpsuit, firefighter gear, healthcare provider's scrub wear).

Donning/Doffing of Level C Ensemble for CBRN* Decontamination

Following is one recommended method for Donning (putting on) and Doffing (removing); refer to your facility policies.

Predonning Level C Ensemble:

- Hydrate with 8 to 16 ounces of water.
- Use the restroom before donning the suit.
- Remove anything that may pierce the suit or restrict movement such as jewelry and contents in pockets.
- If long hair, tie it back.
- Medical screening must be performed (e.g., VS, meds, health hx, pregnancy status).

Donning Level C Ensemble:

- Locate your respirator, boots, gloves, suit, and tape.
- Inspect the suit and respirator for any holes or tears. Assemble PAPR cartridges and battery pack.

*CBRN (chemical, biological, radiological, nuclear, and explosive)

- Turn on PAPR test for airflow in included airflow meter. Check airflow at exit and the distal end.
- Pull on nitrile inner gloves.
- Pull on chemical and biological protective suit to the waist only. If needed, place **Cooling Vest** on.
- Pull on boots and pull suit over top of boots. Seal together with chemical-resistant tape.
- Pull suit up fully and seal front zipper to chest height.
- Apply outer gloves and pull suit over ends of gloves, sealing together with chemical-resistant tape.
- Apply the PAPR belt and pack and secure the battery to the belt. Turn on unit, check airflow.
- Pull hood up and over the head. Ensure the air hose comes over the shoulder. Tuck inner hood into the suit.
- Seal suit to neck and cover the zipper seal with chemical-resistant tape.
- Perform a Safety Check on your suit and your partner's suit. Remember, BUDDY system!
- Receive Job Assignment and briefing before performing decontamination.

Doffing Level C Ensemble:

- Perform Decon on suit and equipment, ensuring all areas are washed, including soles of the boots. Once completed, begin doffing with a partner.
- Remove and dispose of tape from the boots and outer gloves; do not remove gloves or boots.
- While keeping on PAPR hood, unzip and open the suit.
- Remove the outer suit. Roll the suit away from you, inside out (with help from partner) from the shoulders.
- Remove the outer gloves along with the sleeves of the outer suit. Sit down, remove boots, and place in designated area for cleaning or disposal.
- Unbuckle PAPR, remove hood, place PAPR and hood in designated area.
- Remove suit the rest of the way by rolling the suit away and down completely to trap any potential contaminants. Dispose of in designated area.
- Remove inner gloves and dispose of in designated area.
- Postdecon medical monitoring will occur at this time.
- Remove and change scrubs/clothes worn under decon suit.

MULTI-CASUALTY/MCI TRIAGE

MCI Goals and Challenges

- *To do the greatest good for the greatest number of people* rather than identifying the priority of care.
- Disaster triage is unique in that there are large numbers of patients to be prioritized, usually with fewer available care providers than there are patients.
- Providers are faced with potential danger to themselves and others.

Types of Disaster Triage Methods

Know what triage disaster method your facility and region uses. Some examples of Disaster Triage are:

- **MASS** (Move, Assess, Sort, Send) MCI Triage Algorithm
- **SALT** (Sort, Assess, Lifesaving Interventions, Treatment/Transport) MCI Triage Algorithm
- **START** (Simple Triage and Rapid Treatment/Transport) MCI Triage Algorithm

Color-Coded Triage System

- **Minor Care Patients: Green Tag.** Ambulatory “walking wounded” adults and pediatrics with minor or no injury. These patients have:
 - Normal respirations
 - Normal capillary refill/radial pulse
 - Normal mentation

- **Delayed Care Patients: Yellow Tag.** Patients with the potential for serious injury need treatment but have non-life-threatening injuries. These patients have:
 - Normal respirations
 - Normal capillary refill/radial pulse
 - Normal mentation
- **Immediate Care Patients: Red Tag.** Patients with the potential for fatal injury who need emergency treatment and lifesaving measures. These patients have:
 - Abnormal respirations:
 - Adults: Rate over 30 breaths/min
 - Pediatrics: Rate less than 15 breaths/min or greater than 45 breaths/min.
 - No radial pulse or cap refill more than 2 seconds. Altered mentation in adults and/or posturing in pediatrics.
- **Expectant/Deceased Care Patients: Black Tag.** Patients that are deceased or unsalvageable and cannot be saved. These patients have:
 - No spontaneous respirations after opening airway in adults or no spontaneous respirations after opening airway and providing five rescue breaths in pediatrics.
 - No palpable pulse. Remember, do not perform CPR in MCI Triage unless the resources are available to do so!
 - Unsalvageable due to massive injury or obvious signs of death.
 - Expectant victims still receive palliative care!

****Note:** Do not gravitate toward pediatric patients or individuals you know. Look at the bigger picture and use your protocols to guide you.

DISASTER RESPONSE AND VULNERABLE POPULATIONS: FOR PEDIATRIC, PREGNANT, AND OLDER ADULT PATIENTS

Pediatric Considerations

- Infants have larger heads, at higher risk for traumatic brain injury (TBI).
- Chest injuries by blunt-force impact are a common cause of death in children.
- Children are more prone to abdominal injuries because of smaller, more pliable ribs.
- Children have narrower airways and as a result are more prone to bronchospasm and obstruction.

Pregnancy Considerations

- You are treating a minimum of two patients.
- Incident involving high explosives can travel through the amniotic fluid, causing injury to the placenta (e.g., detachment).
- *Second or Third Trimester of Pregnancy:* After life-threatening conditions have been stabilized, should be admitted to labor and delivery for fetal monitoring and further testing.

Older Adult Considerations

- Increased risk of fractures (loss of bone calcium and muscle density).
- Thinner skin and decreased subcutaneous fat contribute to maintaining body temperature.
- Natural changes in brain size with aging; older patients can sustain a significant amount of intracranial bleeding from a closed head injury before symptoms occur.
- Chronic medical conditions exacerbated by the incident and potential medication history.

CRITICAL INCIDENT STRESS MANAGEMENT DURING AND AFTER DISASTER

- Disaster incidents cause powerful emotional reactions, especially in children.
- Choices you make may stay with you forever.
- Recognize signs of critical incident stress (difficulty sleeping, stomach problems, confusion, etc.). Acknowledge, focus on strengths, and accept help in order to recover.
- Talking with your family, friends, and Employee Assistance Programs can assist with incident stress debriefing and counseling.
- Recognize the 1-year anniversary of the incident and the emotional difficulty.

EMERGENCY MANAGEMENT RESOURCES

Table 26.1: Mass Casualty Incident Triage Emergency Management Acronyms

ACRONYM	ACRONYM DESCRIPTION
MASS	Move Assess Sort Send
SALT	Sort Assess Lifesaving Interventions Treatment/Transport
START	Simple Triage and Rapid Treatment/Transport

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