

Handling Emergencies in the Urgent Care Setting

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Emergencies in the Urgent Care Setting

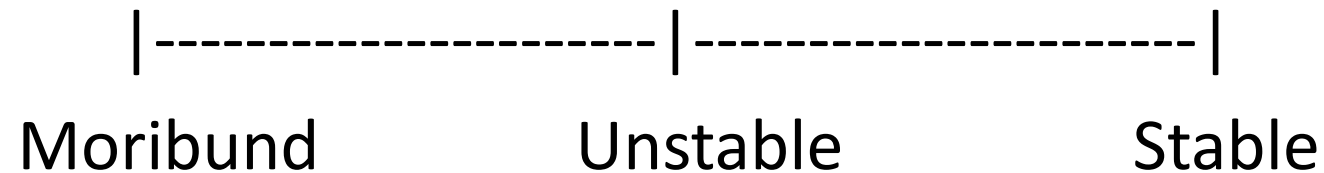
Objectives

- Recognize emergencies in the urgent care setting
- Describe the emergency equipment and supplies that would be most useful in an emergency
- Provide stabilizing care for emergencies, within the scope of the facility
- Implement strategies that promote ongoing preparedness
- Practice decision-making with some case-based scenarios

Emergencies in the Urgent Care Setting

Definition

- Emergency
 - Condition which presents a near-term threat to life, limb, sight, or other function
 - Condition which presents an immediate threat to life, limb, sight, or other function



Emergencies in the Urgent Care Setting

Who, What, When, Where, and Why?

- Presenting complaint
- Decompensation in clinic
- Medical emergency in the building
- Diversion to clinic on way to ED
- Patients with lesser emergencies who require referral for definitive care

“We need to know what we need to know, plus one step further”

Stuart Swadron, MD

Emergencies in the Urgent Care Setting

Rationale for this presentation

- These conditions occur with a very low prevalence
 - Lack of experience
 - False sense of security
- Empirical law of outcomes
 - When there's a bad outcome, if anything is apparently omitted or done incorrectly or improperly, it seems to be human nature to look to that as being causative.
- Team approach and preparation required
- Better to be lucky than good?
 - Better to be lucky and good.
 - Even better to be lucky, good, and prepared.

Emergencies in the Urgent Care Setting

Epidemiology – FP and Pediatric Offices

- Rural Australia – 8 emergencies per year
- North Carolina – 4 per year FP, 5 per year Peds
- Pennsylvania – 62% of pediatric practices see at least a child a week who requires hospitalization or urgent treatment
- Common theme: lack of preparedness – logistically and philosophically

Toback, S. Medical Emergency Preparedness in Office Practice. Am Fam Physician 2007;75:1679-84.

Emergencies in the Urgent Care Setting

Epidemiology

Urgent Care

Dachs RJ, Back E, Glick B.
Emergencies in the office:
Why are 911 calls placed
from family medicine and
urgent care offices? *J Urgent
Care Med.* 2007;1(3):19-25.

Table 3. Number and Type of 911 Calls by Practice

Type of 911 Call	Family Practice (n=310) n (%)	Urgent Care (n=396) n (%)	Total (n=706) n (%)	p value
Chest pain	96 (25.5)	139 (32.3)	235 (29.1)	N/S
Respiratory	82 (21.8)	87 (20.1)	169 (20.9)	N/S
Neurologic	34 (9.0)	30 (6.9)	64 (7.9)	N/S
Abdominal pain	19 (5.1)	37 (8.6)	56 (6.9)	N/S
Trauma	9 (2.4)	38 (8.8)	47 (5.8)	0.0002
Heart rate	18 (4.8)	16 (3.7)	34 (4.2)	N/S
Miscellaneous	22 (5.9)	12 (2.8)	34 (4.2)	N/S
EKG changes	19 (5.1)	8 (1.9)	27 (3.3)	0.004
Syncope	11 (2.9)	16 (3.7)	27 (3.3)	N/S
Dehydration	13 (3.5)	9 (2.1)	22 (2.7)	N/S
Psychiatric/toxicology	14 (3.7)	6 (1.4)	20 (2.5)	0.015
Blood pressure	11 (2.9)	2 (0.5)	13 (1.6)	0.003
GI bleed	7 (1.9)	5 (1.2)	12 (1.5)	N/S
Diabetes	5 (1.3)	5 (1.2)	10 (1.2)	N/S
Allergy	4 (1.1)	5 (1.2)	9 (1.1)	N/S
Fever/infectious disease	2 (0.5)	7 (1.6)	9 (1.1)	N/S
Unknown	3 (0.8)	5 (1.2)	8 (1.0)	N/S
CPR	3 (0.8)	4 (0.9)	7 (0.9)	N/S
OB/Gyn	4 (1.1)	1 (0.2)	5 (0.6)	N/S
Total	376 (46.5)	432 (53.5)	808 (100.0)	

Emergencies in the Urgent Care Setting

Do we have any guidance?

- American Academy of Pediatrics
- American Academy of Family Physicians
- American College of Physicians
- Urgent Care Association
- Massachusetts Gaming Commission

Emergencies in the Urgent Care Setting

UCA Clinic Accreditation Standards - Basic

- written protocols for the stabilization and transport/transfer of patients with medical emergencies
- process for rapidly identifying and triaging these patients to minimize delay (i.e., no insurance verification, no waiting in the existing patient queue)
- having an AED or standard defibrillator and some basic medications, oxygen, and ambu bags and in the clinic
- mechanisms for staff training and drills

Emergencies in the Urgent Care Setting

- Written Policies
 - Develop, maintain, and improve procedures and protocols
 - Encourage initial and refresher training
 - Maintain and update equipment and supplies
 - Regularly practice emergency procedures
 - Rapid triage of patients with potential emergency conditions
- Procedures/Protocols
 - Specific responsibilities during code situations
 - Lead, O2/airway, vitals, recorder, compressions, defibrillator, IV access, medications
 - Outline basic interventions
 - Means of arranging transport
 - Communication between clinicians

Emergencies in the Urgent Care Setting

Basic equipment

- Ability to deliver high-quality CPR
- Suction apparatus, bulb suction
- Oxygen, nasal canulae, masks
- Nebulizer
- Glucometer
- Ambu-bag, masks
- AED
- Nasal tamponade device
- Cervical collars
- Dressings, splints
- Gloves, masks, face shields, gowns



Emergencies in the Urgent Care Setting

Basic medications

- Albuterol
- Racemic epinephrine
- Epinephrine 1:1000 or Epi-pens (adult and child)
- Aspirin
- Nitroglycerine, sublingual
- Diphenhydramine
- Corticosteroid – short-acting
- Glucagon, oral glucose paste
- Epinephrine 1:10,000
- Charcoal
- Ceftriaxone

Emergencies in the Urgent Care Setting

Advanced equipment and medications

- Airway adjuncts – nasopharyngeal, oropharyngeal
- Advanced airways – ET tubes, LMAs, Combi-tube
- Laryngoscopes, Magill forceps
- 12-lead EKG
- Pulse oximeter, cardiac monitor, defibrillator
- IV or IO access, fluids – NS
- 25% and 50% dextrose for IV administration
- Atropine
- Adenosine, amiodarone
- Naloxone
- H2-blockers (ranitidine, famotidine)
- Anti-convulsants (midazolam, lorazepam, diazepam)
- Broselow tape
- Analgesics



Emergencies in the Urgent Care Setting

The Moribund Patient

- Determine and honor resuscitation wishes
- Stepwise patient assessment and, if needed, intervention
 - for each possible intervention, be aware of the next more aggressive step
- Administer whatever care you can capably administer
- Remember - "*Primum no nocere*"
- ABCs, AMPLE history, vital signs, secondary assessment, arrangements for transport

Emergencies in the Urgent Care Setting

The Moribund Patient - Assessment

- **Airway/Breathing:** assess adequacy of air movement, RR, O2 saturation – patent/not patent; secure/not secure; sufficient/insufficient
- **Circulation:** pulse, blood pressure, mentation, skin signs
- **AMPLE history:** Allergies, Meds, PMH, Last meal, Events
- **Secondary assessment** – further history and exam

Emergencies in the Urgent Care Setting

The Moribund Patient – Treatment

- Activate the EMS system
- High-quality CPR
 - Chest compressions
 - Ventilations
- Use an AED/Shock any “shockable” rhythm
 - VT, VF
 - Unstable AF
 - Unstable SVT

Emergencies in the Urgent Care Setting

The Moribund Patient - Interventions (if needed)

- Airway:
 - Suction
 - Jaw-thrust → head tilt, chin lift → nasopharyngeal airway → oropharyngeal airway → advanced airway
 - Heimlich maneuver, back blows, chest thrusts for obstruction; CPR if unconscious
 - Apply oxygen



Emergencies in the Urgent Care Setting

The Moribund Patient - Interventions (if needed)

- Breathing:
 - Mouth to mouth/mask to mouth → bag-valve-mask



Emergencies in the Urgent Care Setting

The Moribund Patient - Interventions (if needed)

- Circulation:

- **high-quality CPR** for pulselessness, or bradycardia with shock in children
- **defibrillation – 360 J (200 J biphasic)** for VF and pulseless VT
- **cardioversion (synchronized, start at 50J/100J mono)** for unstable tachycardias other than sinus or MAT (consider sedation/analgesia if awake)
- **IV fluids – Normal Saline (0.9% NaCL)**
 - 500-1000 ml bolus for adults (less if cardiac function is poor)
 - 10-20 ml/kg NS bolus in children (less if cardiac function is poor)

Emergencies in the Urgent Care Setting

The Moribund Patient - Interventions (if needed)

- Circulation (continued):
 - medications
 - epinephrine 1:10,000 for pulselessness
 - 1 mg (10 ml) for adults; 0.1 ml/kg for children
 - epinephrine 1:10,000 for bradycardia in children (only)
 - 0.1 mg/kg
 - atropine
 - 0.5 mg for bradycardia with a pulse
 - 0.02 mg/kg in children for either reason (minimum 0.1 mg)

Emergencies in the Urgent Care Setting

The Moribund Patient - High-quality CPR

- “Hard and fast” ≥ 100 compressions per minute
- Depth: 2 – 2.4 inches for adults; 1/3 to 1/2 the depth of the chest for children
- Allow full chest recoil
- Minimal interruption of compressions
- 30:2 compression to ventilation ratio
- Change compressors every 2 minutes (5 cycles)
- Avoid hyperventilation
- www.learncpr.org

Emergencies in the Urgent Care Setting

The Moribund Patient – Keep it simple...and effective!

- Activate the EMS system
- High-quality CPR
 - Chest compressions
 - Ventilations
- Use an AED/Shock any “shockable” rhythm
 - VT, VF
 - Unstable AF
 - Unstable SVT

Emergencies in the Urgent Care Setting

Respiratory Emergencies

- Respiratory arrest
- Asthma/COPD exacerbation
- Anaphylaxis/angioedema
- Airway foreign body
- Croup
- Bronchiolitis
- Tracheostomy tube dislodgement
- Epiglottitis
- Pneumothorax

Emergencies in the Urgent Care Setting

Cardiovascular/Hemodynamic Emergencies

- Cardiac arrest
- Shock
- Congestive heart failure
- Dysrhythmia – stable, unstable
- Acute coronary syndrome/MI
- Pericarditis/effusion/tamponade
- Aortic disasters

Emergencies in the Urgent Care Setting

Neurological Emergencies

- Seizure/status epilepticus
- Altered mental status
- Stroke/transient ischemic attack
- Intracranial hemorrhage
- Significant head injury
- Hydrocephalus/VP shunt malfunction
- Cerebral venous thrombosis

Emergencies in the Urgent Care Setting

Trauma/Orthopedic Emergencies

- Spinal fractures
- Cauda equina syndrome
- Head injuries
- Compartment syndrome
- Fractures with neurovascular compromise
- Most open fractures
- Some dislocations
- Intra-thoracic or intra-abdominal injury
- Severe burns

Emergencies in the Urgent Care Setting

Metabolic Emergencies

- Hypoglycemia
- Hyperglycemia, DKA, hyperosmolar state
- Hyponatremia
- Hypo/hyperkalemia
- Hypo/hypercalcemia
- Thyrotoxicosis/thyroid storm
- Renal or hepatic failure
- Overdose, toxic exposure
- Withdrawal

Emergencies in the Urgent Care Setting

Infectious Disease Emergencies

- Septic shock
- Meningitis
- Parapharyngeal space infection
- Endocarditis
- Necrotizing fasciitis
- Subacute bacterial peritonitis
- Surgical abdominal infections

Emergencies in the Urgent Care Setting

Psychiatric Emergencies

- Worsening schizophrenia
- Mania
- Severe depression
- Suicide issues

Emergencies in the Urgent Care Setting

Abdominal Emergencies

- Intestinal obstruction
- Mesenteric ischemia
- Abdominal aortic catastrophes
- Ectopic pregnancy
- Uterine rupture
- GI bleeding

Emergencies in the Urgent Care Setting

Ophthalmologic Emergencies

- Acute glaucoma
- Globe perforation or rupture
- Hyphema
- EOM entrapment
- Optic neuritis
- Intraocular foreign body
- Endophthalmitis

Emergencies in the Urgent Care Setting

Recognizing Emergencies

- Start with the chief complaint
 - Chest pain
 - Syncope
 - Shortness of breath
 - Altered mental status
 - Headache
 - Abdominal pain
 - Weakness and dizziness
 - Bleeding
 - Focal neurological symptoms
 - Palpitations
 - Severe pain

Emergencies in the Urgent Care Setting

Recognizing Emergencies

- Consider risk factors/PMH:
 - Prior emergency condition
 - Coronary artery disease
 - Congestive heart failure
 - Chronic lung disease
 - Abdominal aortic aneurysm
 - Dialysis/renal failure
 - End stage liver disease
 - Diabetes
 - Cancer
 - Pregnancy

Emergencies in the Urgent Care Setting

Recognizing Emergencies

- Look for abnormal vital signs
 - Pulse – too high or too low
 - Respiratory rate – too high or too low
 - Blood pressure - too high or too low
 - Pulse oximetry - < 90% ?

Emergencies in the Urgent Care Setting

Recognizing Emergencies

- Abnormal physical exam findings
 - Noisy respirations
 - Drooling
 - Retractions
 - Cool, pale skin; cyanosis; or diffuse erythema or urticaria
 - Diaphoresis
 - Altered mental status, focal neurological signs
 - Jugular venous distension
 - Abnormal pulmonary exam
 - Cardiac murmur
 - Pain “out of proportion” to expectations

Emergencies in the Urgent Care Setting

Emergency Management - Strategy

- Clinical Gestalt and symptoms
- Attention to Vital Signs
 - measure and record them frequently/continuously
 - cardiac monitor, pulse oximetry if available
 - “correct” them based on your capabilities
- Attention to Neurological Status
 - fingerstick blood glucose
- Attention to Injuries
 - control bleeding
 - reduce for NV compromise, splint, immobilize

Emergencies in the Urgent Care Setting

Emergency Management – General Interventions

- Basic
 - Consider supplemental oxygen
 - Is it possible to give too much?
 - goal for COPD patients: 88-92% sat by pulse oximeter
 - Wheezing?
 - nebulized albuterol (or repeated MDI) repeated or continuous
 - epinephrine 1:1000 SQ or IM if not “cardiac asthma”
 - 0.3-0.5 mg q10-15 minutes for adults
 - 0.01 mg/kg (max 0.3-0.5 mg) q10-15 minutes for children
 - steroids – IV/IM - for COPD, RAD, allergic etiologies
 - Stridor or upper airway edema or bleeding?
 - nebulized racemic epi 2.25% - 0.5 ml with 2.5 ml NS *or* epi 1:1000 - 3-5 ml
 - epinephrine 1:1000 SQ or IM
 - 0.3-0.5 mg q10-15 minutes for adults
 - 0.01 mg/kg (max 0.3-0.5 mg) q10-15 minutes for children
 - steroids – IV/IM – for stridor or edema

Emergencies in the Urgent Care Setting

Emergency Management – General Interventions

- Basic
 - Hypertensive urgency - cardiopulmonary
 - SL NTG 0.4 mg q 5 minutes = 80 micrograms per minute
 - beware PDE5-Is – sildenafil, vardenafil, tadalafil
 - AED/defibrillator to the bedside

Emergencies in the Urgent Care Setting

Emergency Management – General Interventions

- Advanced
 - IV/IO fluids for hypotension – Normal Saline
 - 500-1000 ml bolus for adults (less if cardiac function is poor)
 - 10-20 ml/kg NS bolus in children (less if cardiac function is poor)
 - Is it possible to give too much?

Emergencies in the Urgent Care Setting

Emergency Management – Diagnosis-specific

- Allergic reaction
 - Diphenhydramine
 - 25-50 mg PO or IM for adults
 - 1-1.5 mg/kg PO or IM for children
 - Corticosteroids – oral/IM/IV
 - H2-blockers (ranitidine, famotidine, cimetidine)
 - Epinephrine 1:1000
 - 0.3-0.5 mg SQ or IM for adults q10-15 minutes
 - 0.01 mg/kg (max 0.3-0.5 mg) SQ or IM for children q10-15 minutes
- Chest pain/MI/CHF
 - aspirin – 162-325 mg chew and swallow
 - sublingual nitroglycerin
 - 0.4 mg q 5 minutes = 80 micrograms per minute
 - beware PDE5-Is – sildenafil, vardenafil, tadalafil
 - consider assisting ventilation with ambu bag/mask = CPAP

Emergencies in the Urgent Care Setting

Emergency Management – Diagnosis Specific

- Seizure
 - Lorazepam
 - 2-4 mg IV for adults
 - 0.1 mg/kg IV for children
 - Midazolam
 - 10-15 mg IM for adults
 - 0.15 mg/kg IM for children
 - Diazepam
 - 5-10 mg IV for adults
 - 0.25 mg/kg IV or 0.5 mg/kg PR for children
- Hypoglycemia
 - Oral glucose paste
 - 25 g if under age 10
 - 50 g for adults and children 10 and older
 - Glucagon
 - 0.5 mg IM or SQ for children 20 kg and under
 - 1 mg IM or SQ for adults or children above 20 kg
 - 25% dextrose, 50% dextrose IV/IO

Emergencies in the Urgent Care Setting

Emergency Management – Diagnosis Specific

- Overdose
 - Poison Control Center consultation
 - oral activated charcoal
 - 1-2 g/kg for children
 - 50-100 g for adults
- Withdrawal
 - benzodiazepines – PO/SL/IM/IV
- Sepsis
 - antibiotics?
- Stroke
 - rapid transport to stroke center
- Severe eye injury
 - cover but don't compress the globe
 - initial doses of steroids, mydriatics, cycloplegics (in consultation with ophthalmologist)?

Emergencies in the Urgent Care Setting

Clinical Scenario: An 18 year old female had sudden lower AP earlier today and “vagalled” in the UC bathroom.

- What do you want to know?
 - Current sxs – lightheaded, severe sharp abdominal pain
 - PMH – none
 - May be currently pregnant
 - Vital signs: T: 99.0 P: 110 R: 24 BP: 85/40 Pulse Ox: 95%
 - Exam: tender left lower quadrant with mild guarding
- What do you want to do?

Emergencies in the Urgent Care Setting

Clinical Scenario: An 18 year old female had sudden lower AP earlier today and “vagalled” in the UC bathroom.

- What do you want to know?
 - Current sxs – lightheaded, severe sharp abdominal pain
 - PMH – none
 - May be currently pregnant
 - Vital signs: T: 99.0 P: 110 R: 24 BP: 85/40 Pulse Ox: 95%
 - Exam: tender left lower quadrant with mild guarding
- What do you want to do?
 - Urgent ambulance transfer
 - Attempt IV access and administer normal saline boluses
 - Recheck/monitor/“correct” VS
 - Obtain second IV line if possible

Emergencies in the Urgent Care Setting

Clinical Scenario: A 57 year old male with chest pain suddenly becomes unconscious, with tonic posturing.

- What do you want to know?
 - Breathing?.....No
 - Pulse?.....No
 - Rhythm?.....VF

- What do you want to do?

Emergencies in the Urgent Care Setting

Clinical Scenario: A 57 year old male with chest pain suddenly becomes unconscious, with tonic posturing.

- What do you want to know?
 - Breathing?.....No
 - Pulse?.....No
 - Rhythm?.....VF
- What do you want to do?
 - 911 ambulance
 - High-quality CPR
 - AED or Defibrillate at 360J monophasic/200J biphasic
 - IV access and 1 mg epi 1:10,000 – if capable and defibrillation fails

Emergencies in the Urgent Care Setting

Clinical Scenario: A 71 year old male smoker has had cough and dyspnea for 3 days.

- What do you want to know?
 - Looks uncomfortable, pale, diaphoretic
 - PMH: COPD/RAD
 - VS T: 101.0 P 120 R: 40 BP 80/60 Pulse Ox: 84%
 - Exam: decreased air movement, scattered slight wheezes
- What do you want to do?

Emergencies in the Urgent Care Setting

Clinical Scenario: A 71 year old male smoker has had cough and dyspnea for 3 days.

- What do you want to know?
 - Looks uncomfortable, pale, diaphoretic
 - PMH: COPD/RAD
 - VS T: 101.0 P 120 R: 40 BP 80/60 Pulse Ox: 84%
 - Exam: decreased air movement, scattered slight wheezes
- What do you want to do?
 - 911 ambulance
 - Supplemental O2, goal sat 88-92%
 - Nebulized albuterol, possibly ipratropium
 - 1-2 IV lines, saline boluses – if capable
 - Recheck/monitor/“correct” VS
 - Consider antibiotics, steroids
 - If failing, consider IM epi 1:1000 0.3 mg

Emergencies in the Urgent Care Setting

Clinical Scenario: A 6 year old girl became short of breath after eating a piece of candy. She is feeling lightheaded.

- What do you want to know?
 - Moving air, but stridorous and mildly uncomfortable
 - PMH: none
 - VS: P: 150 R: 34 Pulse ox: 96% sat
 - Exam: stridor and no obvious FB or facial/oropharyngeal edema
- What do you want to do?

Emergencies in the Urgent Care Setting

Clinical Scenario: A 6 year old girl became short of breath after eating a piece of candy. She is feeling lightheaded.

- What do you want to know?
 - Moving air, but stridorous and mildly uncomfortable
 - PMH: none
 - VS: P: 150 R: 34 Pulse ox: 96% sat
 - Exam: stridor and no obvious FB or facial/oropharyngeal edema
- What do you want to do?
 - 911 ambulance
 - Minimize agitation
 - If worsening, Heimlich maneuver
 - Likely no indication for inhaled epi

Emergencies in the Urgent Care Setting

Clinical Scenario: A 40 year old male undergoing cancer treatment feels weak and short of breath.

- What do you want to know?
 - Mild chest pain, no focal weakness
 - PMH: no DVT or PE, healthy otherwise
 - VS: T: 100.8 P: 110 R: 28 BP: 100/60 Pulse Ox: 92%
 - Exam: normal cardiac and lung exam, no JVD, no leg edema
- What do you want to do?

Emergencies in the Urgent Care Setting

Clinical Scenario: A 40 year old male undergoing cancer treatment feels weak and short of breath.

- What do you want to know?
 - Mild chest pain, no focal weakness
 - PMH: no DVT or PE, healthy otherwise
 - VS: T: 100.8 P: 110 R: 28 BP: 100/60 Pulse Ox: 92%
 - Exam: normal cardiac and lung exam, no JVD, no leg edema
- What do you want to do?
 - Supplemental O2
 - 1-2 IV lines, saline boluses – if capable
 - Recheck/monitor/“correct” VS
 - Consider antibiotics
 - ED transfer if not improving

Emergencies in the Urgent Care Setting

Take Home Points

- Maintain policies that facilitate preparedness
- Know what to do ahead of time
- Equip your clinic and train your staff
- Have protocols and procedures in place
- Practice them
- Transition from basic to advanced capabilities if competency can be assured