READY.
SET.
GROW

2024 NERUCA
CONFERENCE

"Are you ready to save a life?"

Management of Emergencies in Urgent Care

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NERUCA
NORTH EAST REGIONAL URGENT CARE ASSOCIATION

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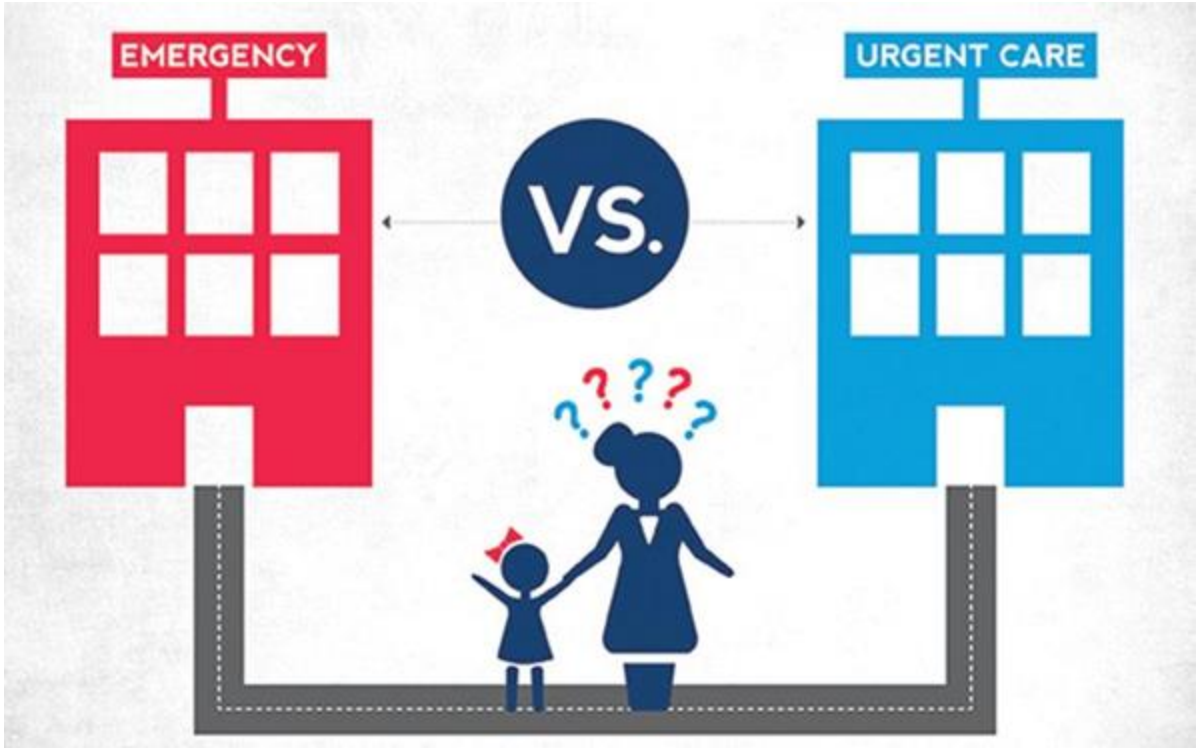
- City MD Urgent Care
- Jersey Shore Medical Center
- Pallisaides Medicial Center
- Point of Care Ultrasound Expert
- ***Nothing to disclose***


EMERGENCY
VS.
URGENT CARE


ER vs. Urgent Care
ER
✓ Sudden shortness of breath
✓ Intense chest pain
✓ Severe and sudden stomach pain
✓ Broken bone
✓ Severe burn or bleeding
✓ Crushing intense headache
✓ Open wounds
Urgent Care
✓ Cold, flu or sinus pain
✓ Sprain
✓ Rashes and minor burns
✓ Sore throat
✓ Ear pain
✓ Animal or insect bite
✓ Fever over 101.5
Remember, if you have a medical emergency, go to your nearest emergency room or call 911.


Urgent Care or the Emergency Department?
Where to seek treatment
COLD/FLU
SPRAINED ANKLE
BROKEN BONES
(WRIST, HAND, ANKLE, FOOT)
SORE THROAT
NAUSEA
MINOR CUTS
EYE OR EAR INFECTION
MINOR BURNS
EXTREMELY HIGH FEVER
SEVERE TRAUMA
BROKEN BONES
THAT ARE SEVERELY DISPLACED OR HAVE PUNCTURED THE SKIN
DIFFICULTY BREATHING
HEART ATTACK/STROKE
UNCONTROLLED BLEEDING
POISONING
MAJOR BURNS
MICHIGAN MEDICINE

Objectives

- Learn to rapidly assess and stabilize high acuity patients in the urgent care setting
- Review supplies and procedural skills necessary to care for high acuity patients in the urgent care setting
- Understand limitations to providing high acuity care
- Determine ideal mode of transport for critically ill patients

Man clutching chest collapses in waiting room

Cardiac Arrest

- 1st 90 seconds are critical
- Stay calm
- Check for pulse while instructing staff to get AED and call 911
- Begin chest compressions
- Secure airway
- Attempt IV access

Chest Compressions

High quality CPR saves lives

100-120 / minute

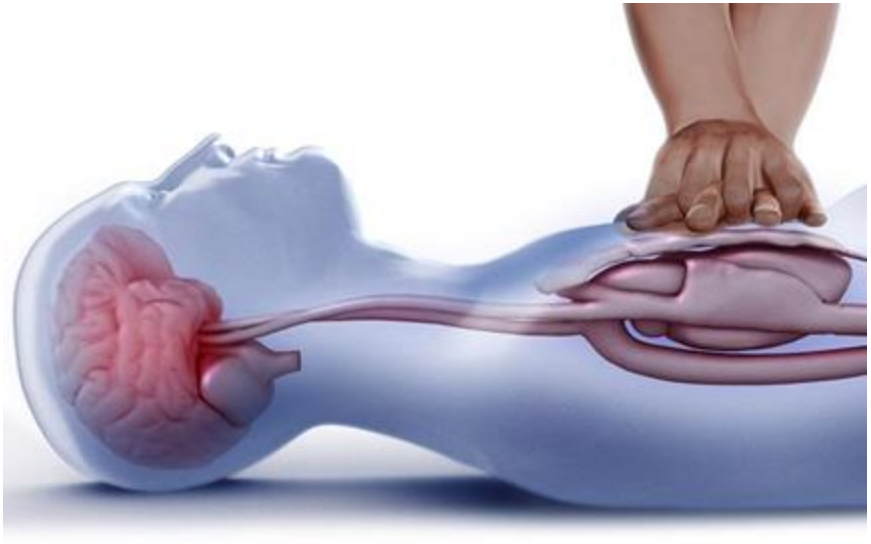
Depth 2 inches in adults

1/3 depth of AP dimension in child

2 hands on lower half of the sternum

Minimize interruptions

Switch providers if one getting tired



Steil et al., What is the role of chest compression depth during out of hospital cardiac arrest
Critcial Care Medicine 2012 , 40 1192-96

Airway

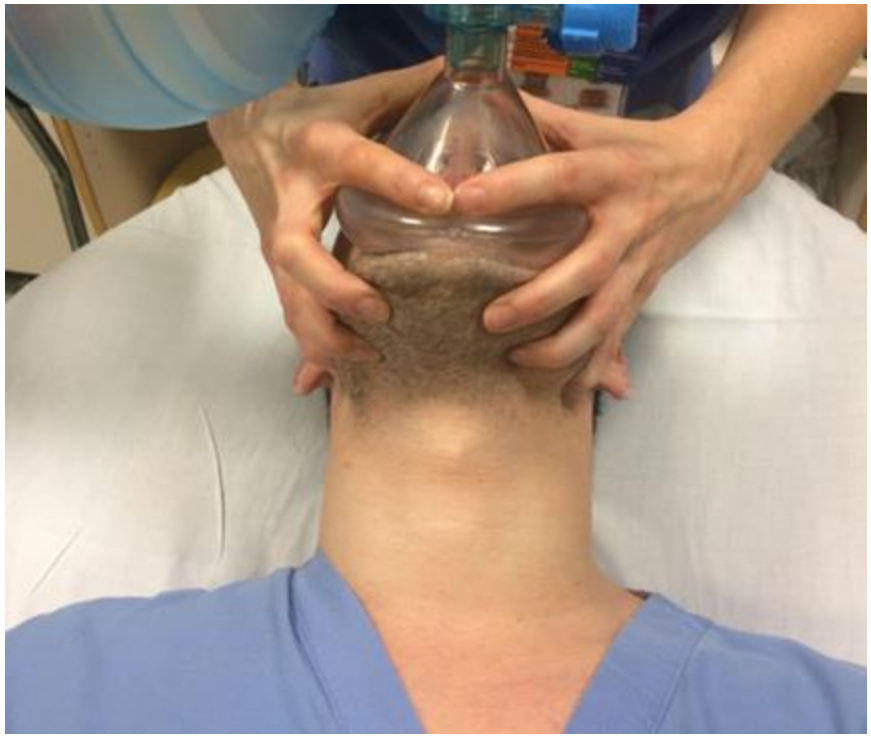
Should rest on the bridge of nose and extend over the molar eminences

Consider oral airway

Jaw thrust

EC technique to provide tight seal

Ideally 2 providers, one gives administers ventilation while other maintains tight seal



Airway

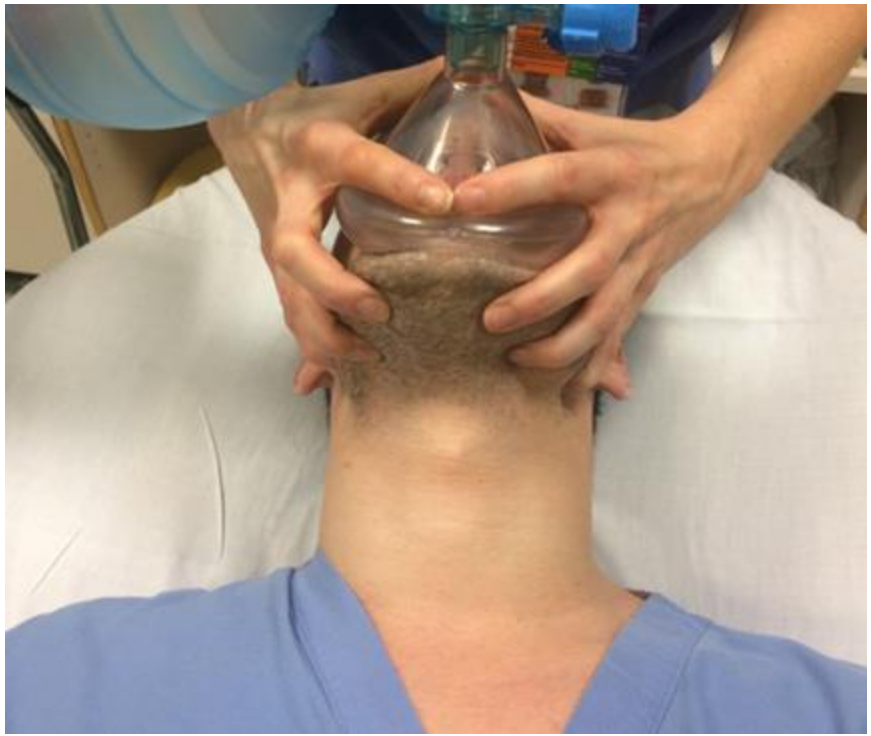
Avoid early aggressive BVM

Ideally 6 cc / kg or TV 350 for 70 kg patient

5-6 seconds between each delivered breath

Watch for chest rise

Not working? : Check equipment, mask size, insert oral airway, re-adjust jaw thrust



EMSWorld.com: Beginner face mask ventilation techniques, 2016

Airway

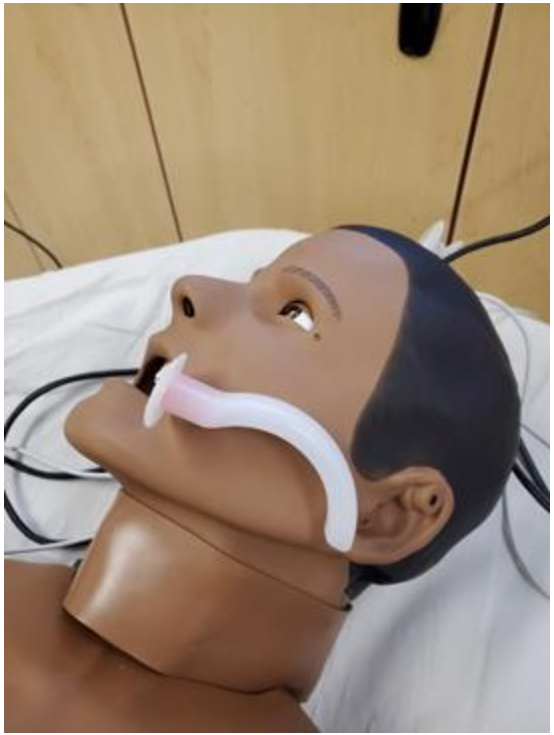
Consider if difficult to bag

Distract the tongue from the posterior pharynx

Correct size is important. Measure from lips to angle of mandible

Use tongue depressor to aid insertion

Successful placement will dramatically improve respiration



Circulation - AED

AED can increase survival 5x

Ensures adequate CPR being performed (sensor guides rate and depth)

Cut shirt , shave hair to ensure pads stic

Blom et al, Improved survuval of out of hospital cardiac arrest and use of AED Circulation, Volume 130, number 20

Circulation

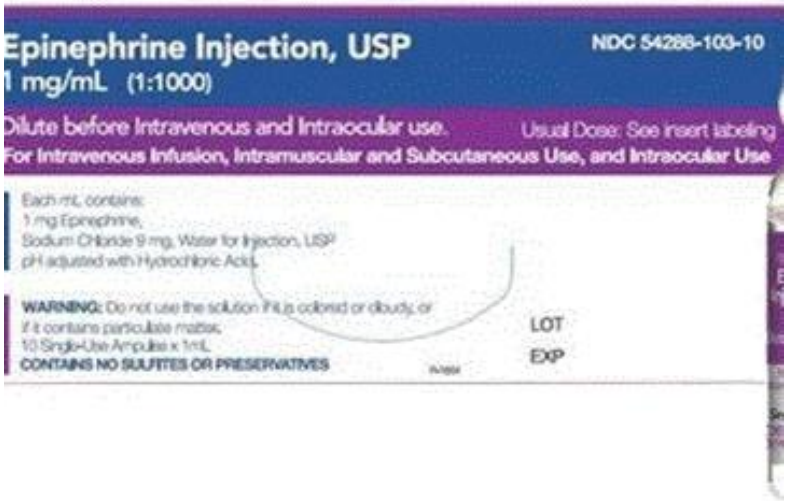
The NEW ENGLAND JOURNAL of MEDICINE

SPECIALTIES TOPICS MULTIMEDIA CURRENT ISSUE LEARNING/CME AUTHOR CENTER PUBLICATIONS

ORIGINAL ARTICLE

A Randomized Trial of Epinephrine in Out-of-Hospital Cardiac Arrest

Authors: Gavin D. Perkins, M.D., Chen Ji, Ph.D., Charles D. Deakin, M.D., Tom Quinn, M.Phil., Jerry P. Nolan, M.B., Ch.B., Charlotte Scomparin, M.Sc., Scott Regan, B.A., +17, for the PARAMEDIC2 Collaborators* Author Info & Affiliations



“My throat is closing”

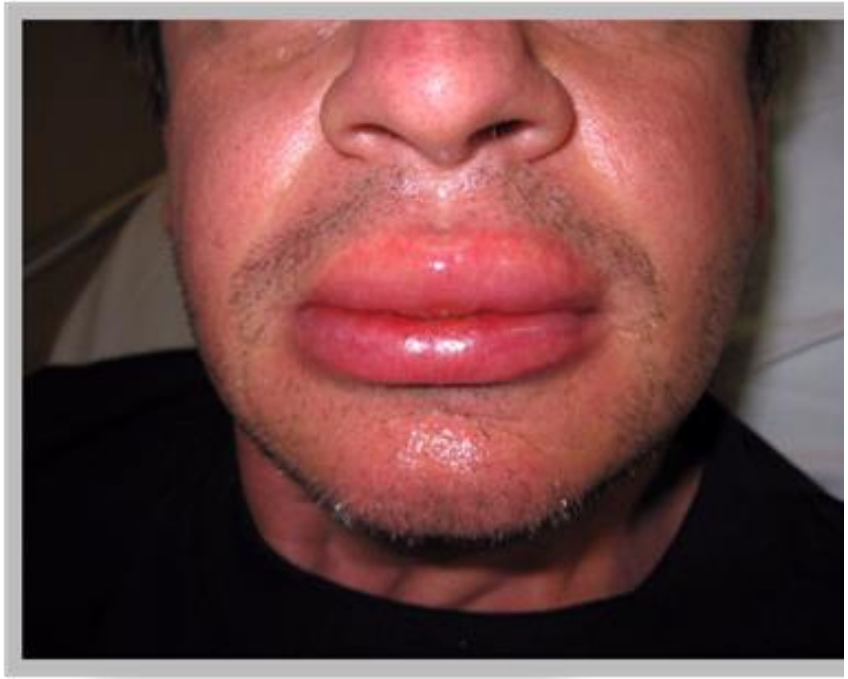
32 year old male rushed back to a room

Itchy rash, feels like throat closing, coughing, and vomiting 5 min after eating a cupcake

02 sat 92%, T-98, BP 90/50, RR- 30, HR 100

Appears ill, diaphoretic, in mild respiratory distress

Exam pertinent (+) swollen lips, wheezing, generalized hives, flushed



Anaphylaxis is a severe, life threatening, generalized or systemic hypersensitivity reaction

Rapidly developing life- threatening airway and/or breathing and/or circulation problems usually associated with skin and mucosal changes

Airway

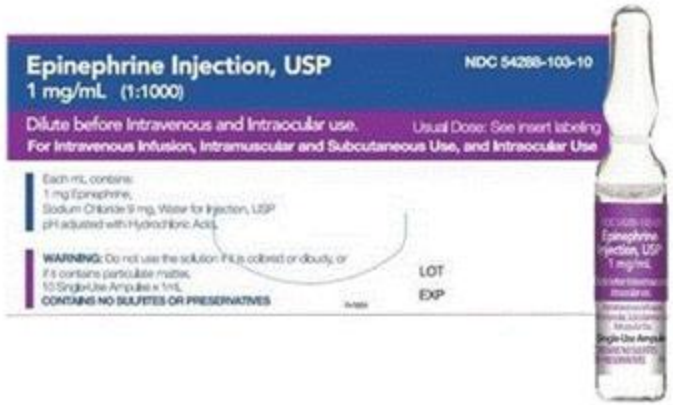
IM 0.3 mg adults, 0.15 mg pediatrics

Breathing

Circulation

Epinephrine

IV 1-4 mcg / min



Put 1 mg in 1000 ml NSS bag

Start at 1 ml / min

Piggyback into high flow saline

You will be giving 1 mcg / min

Every minute, double dose as needed

Initiate PRIOR to EMS arrival

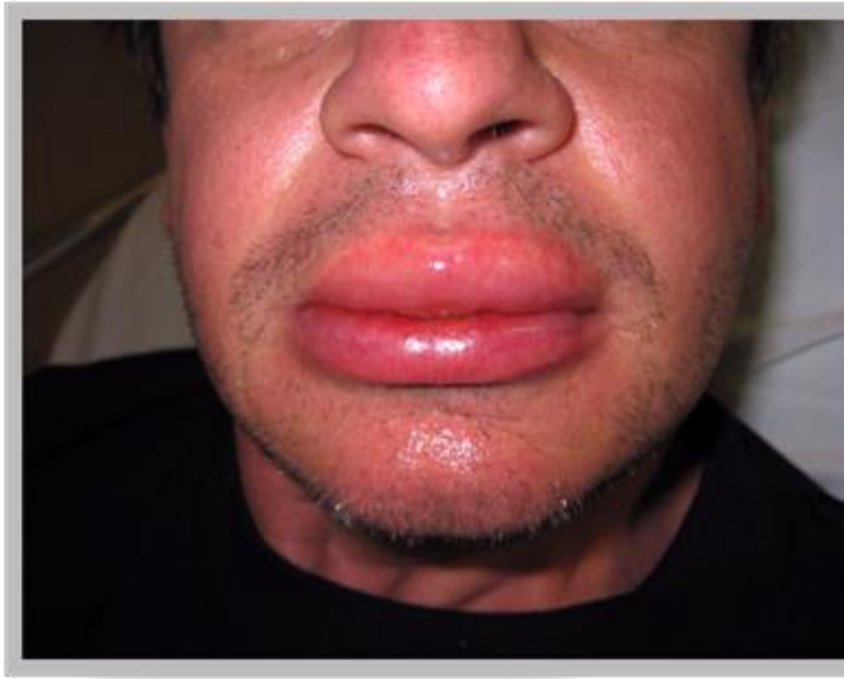
Epinephrine

Benadryl

Steroids

H2 blocker

Volume



“My chest feels tight and I can’t breath well”

65 year old male c/o left side CP, SOB x 1 hr

Thought he pulled a muscle after workout yesterday

PMH: DM, HTN, Hyperlipidemia

Smoker 1 PPD - 40 years

T 98, BP 185/100, HR 110, RR 30, 02 sat 88%

Exam: Appears pale and ill, trachea ML, no JVD, heart sounds NL, lungs basilar rales

Chest Pain DDX

Acute MI

Pulmonary embolism

Aortic dissection

Pneumothorax

Pericarditis

Myocarditis

Arrhythmias

Acute Dyspnea DDX

Acute MI

Pulmonary Embolism

Pneumothorax

CHF

COPD

Pleural Effusion

Pneumonia

Key exam findings

Sick or not sick appearing

Abnormal vitals

Trachea ML / JVD

Diminished breath sounds

Friction rub

Murmurs

Extremity edema

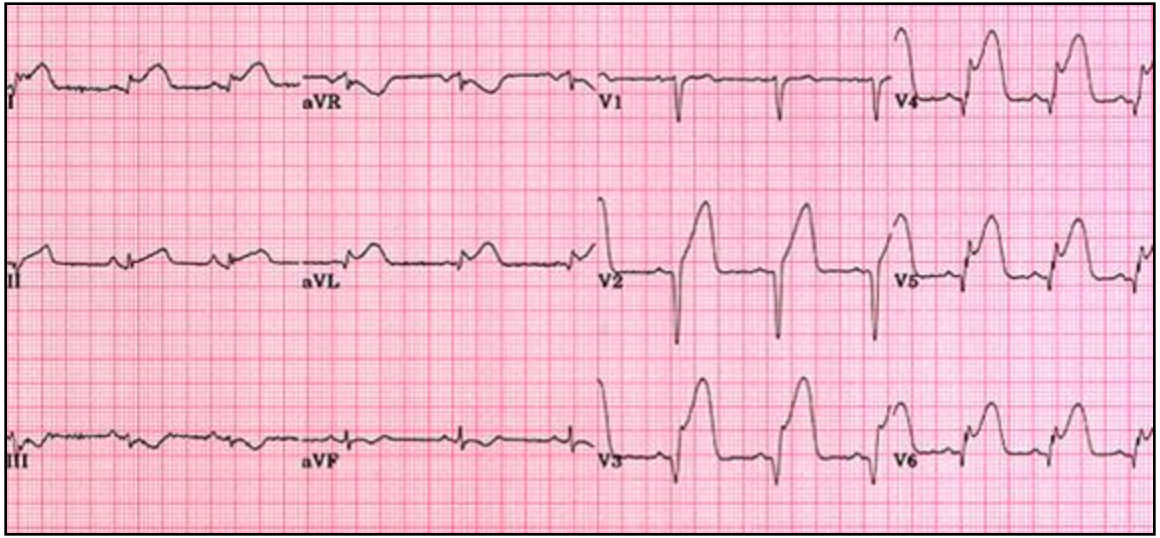
Point of care testing

EKG

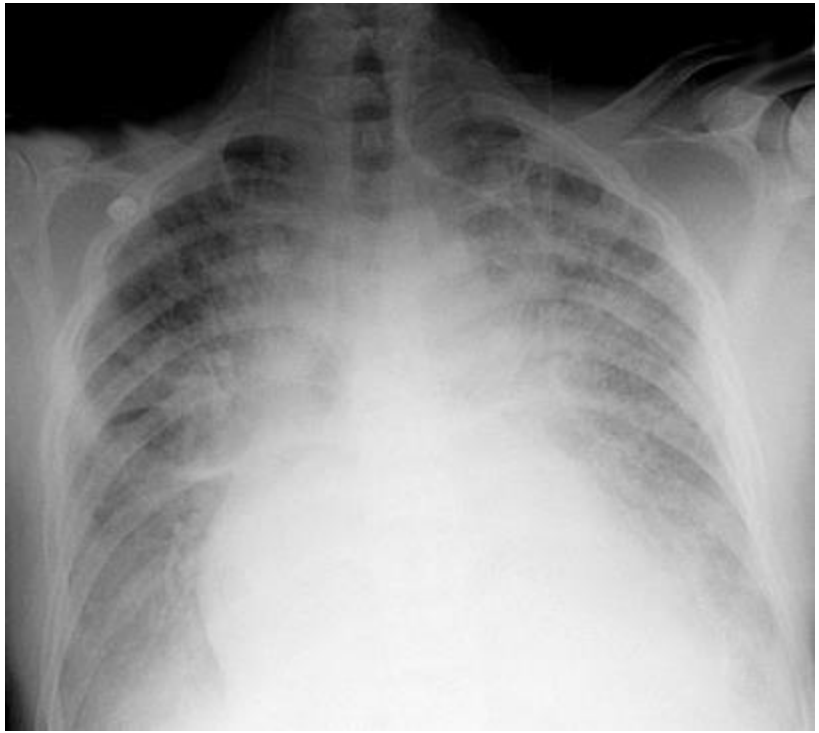
CXR

Ultrasound ?

STEMI



Acute Pulmonary Edema



Criteria for transfer to ED

Dynamic EKG changes

STEMI

Hemodynamic instability

Ripping pleuritic CP

High risk associated symptoms

CP started 6 hours ago

Treatment

Call 911

Notify local ED

325 mg ASA

NTG s/l

Oxygen 2L

“My nose won’t stop bleeding”

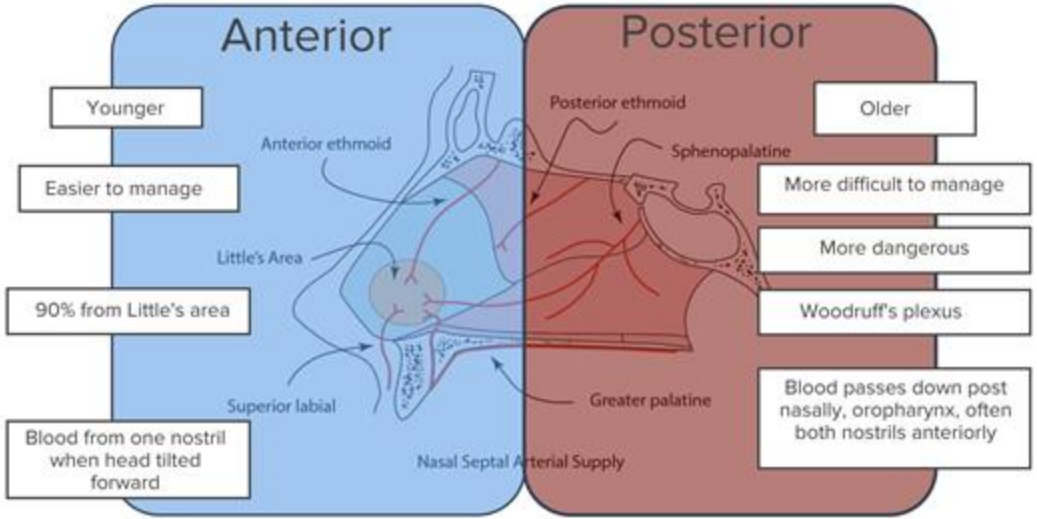
32 year healthy female atraumatic nose bleed for 20 minutes despite direct pressure

Feels lightheaded and almost passed out in waiting room

Does not take any medications

Vitals T 98, BP 100/60, HR 105, RR 22, 02 sat 98%

Epistaxis


Anterior
Posterior
Younger
Easier to manage
90% from Little's area
Blood from one nostril when head tilted forward
Anterior ethmoid
Little's Area
Superior labial
Posterior ethmoid
Sphenopalatine
Greater palatine
Nasal Septal Arterial Supply
Older
More difficult to manage
More dangerous
Woodruff's plexus
Blood passes down post nasally, oropharynx, often both nostrils anteriorly

Initial approach

Primary survey

Why is patient bleeding?

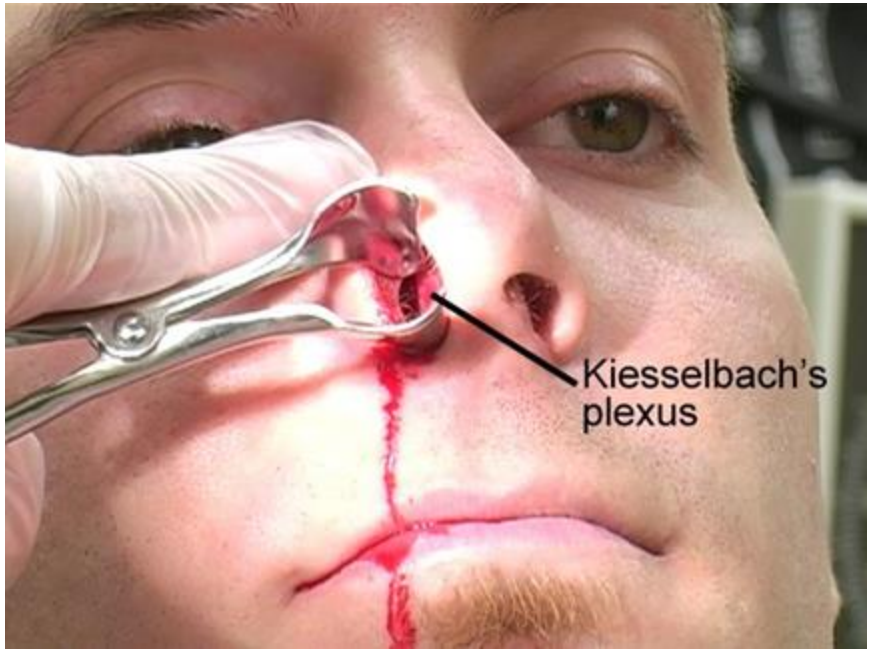
Pinch nose (sniffing position)

Clear mucous

Analgesia and sedation (oxymetazoline/Lido)

Find bleeding site

Vast majority do not need labs or ER transfer



Management

Clear nose of mucous

Vasoconstrictors / lidocaine

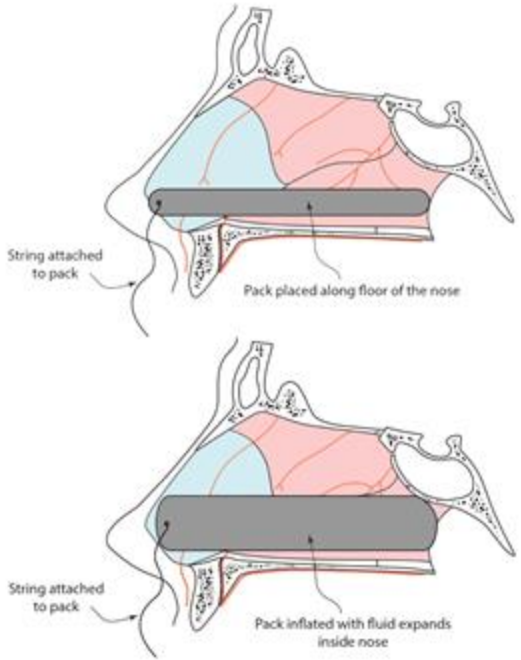
Direct pressure

Silver nitrate (circumferential approach)

Anterior packing

Is it working ?

ER transfer



“My face feels funny”

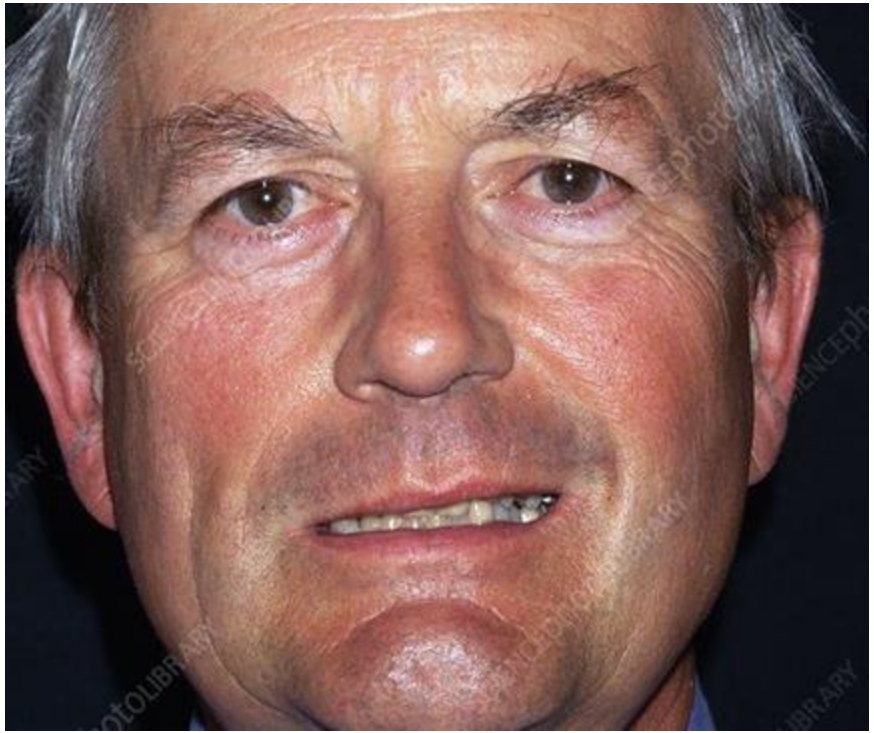
72 yr old male right face droop

Daughter states he is confused started 2 hrs ago

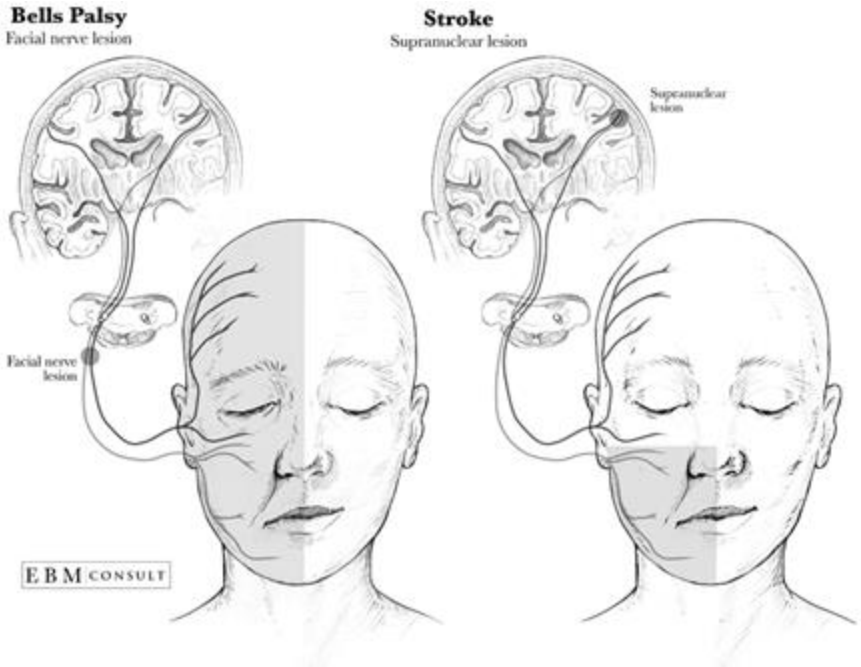
PMH: DM, HTN

No associated symptoms

T-98, BP 190/80. HR 101, RR 20, 02 sat 98%



Bells Palsy or CVA?



“My face feels like it is drooping”

AAO x 2

Right facial droop

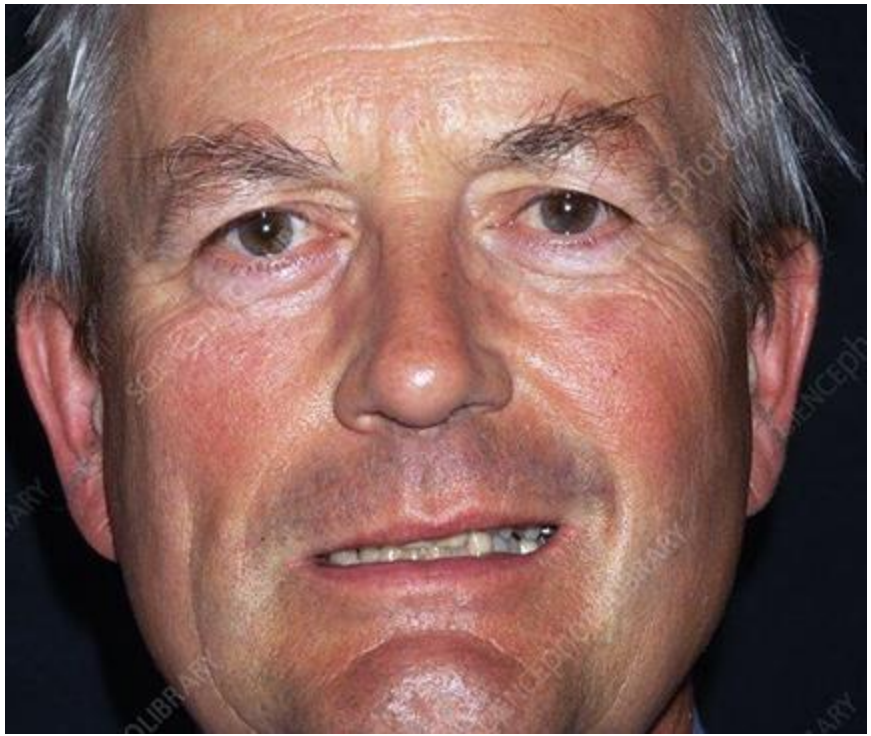
Dysarthria

Right arm pronator drift

Gait is normal

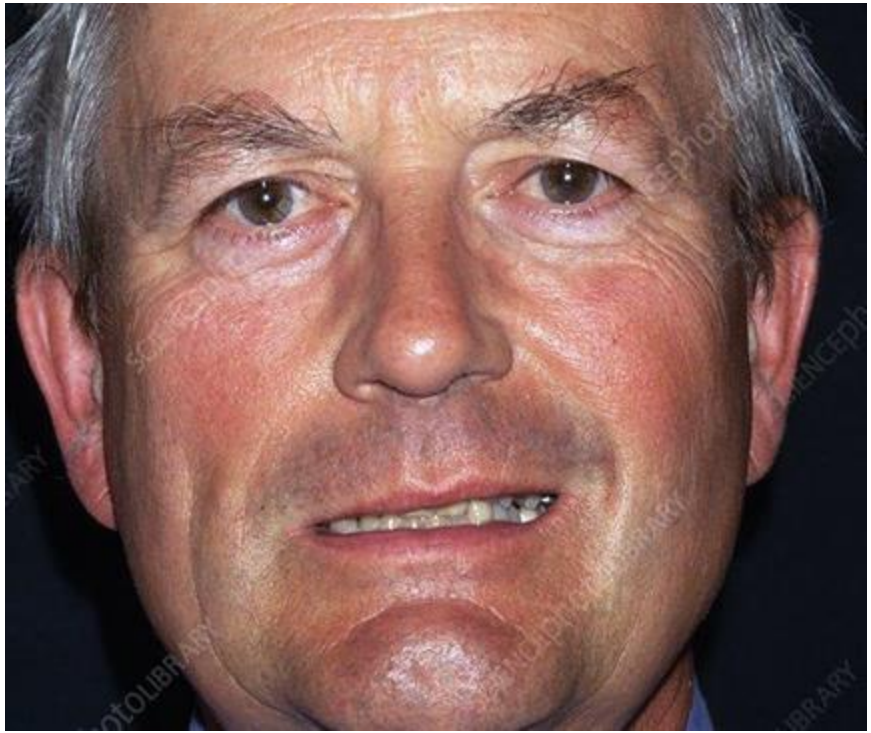
Check glucose

Transfer to ER via ALS as code stroke



Stroke Mimics

Brain
Epilepsy
Hyponatremia
Intoxication
Neuro: migraines
Dissection / disc prolapse



Bells Palsy

- Drooping off eyelid of unable to completely close eye
- Unilateral
- Drooping of corner of mouth
- Unable to raise eyebrow or crinkle forehead
- Dry eye
- Loss of taste on one side
- Hyperacusis

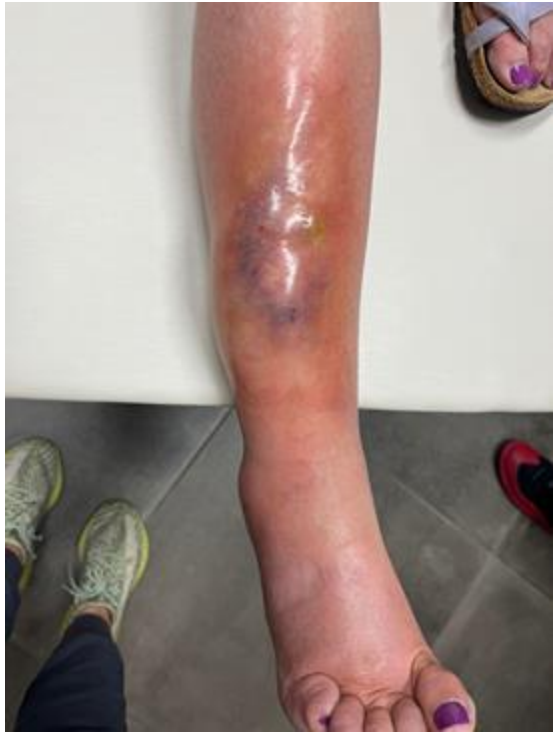
“My leg hurts”

70 year old male h/o arthritis c/o right leg redness and pain x 2 weeks

Diagnosed with hematoma after trauma 6 month ago, no underlying fracture

2 weeks ago seen at UC started on Bactrim without improvement

Second UC 2 days ago noted no improvement and started Keflex



“My leg hurts”

T 101, HR 110, BP 95/60, RR 30, 02 sat 97%

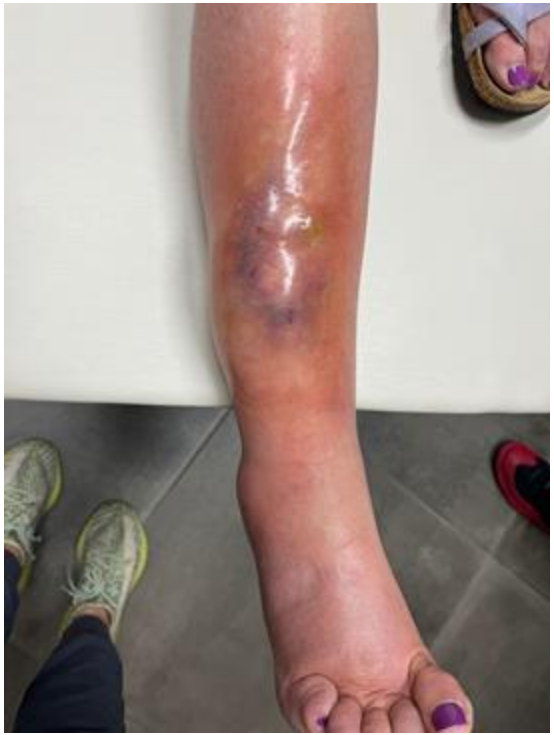
Erythema

Indurated

Tender

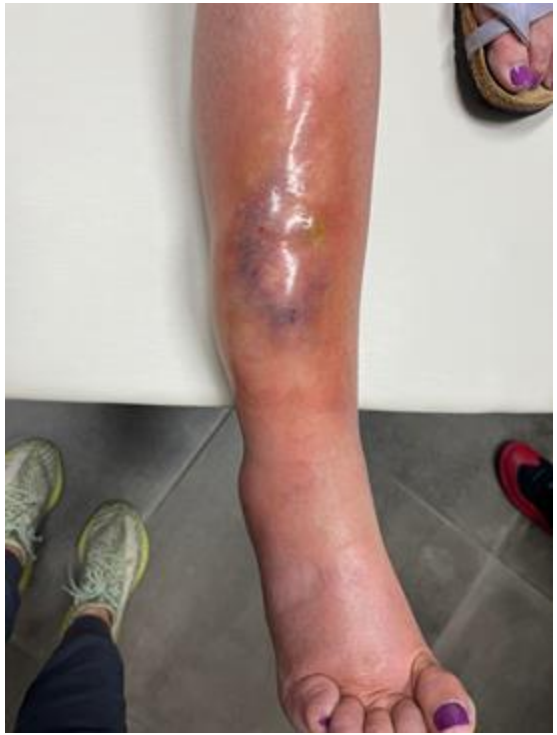
No crepitus

Bruising



Necrotizing soft tissue infections

- Pain is most common finding
- Subcutaneous emphysema (poor sensitivity)
- Bruised appearance
- Blistering or bullae
- Fever only present in 25% of patients on admission*
- Labs can be normal in early presentations
- Plain films have poor sensitivity



Tesssier JM et al, Necrotizing soft tissue infections, A focused review of pathophysiology, diagnossi, oeprative management, and antimicrobial therapy, Infectious disease 2020 , Mar 21 81-93

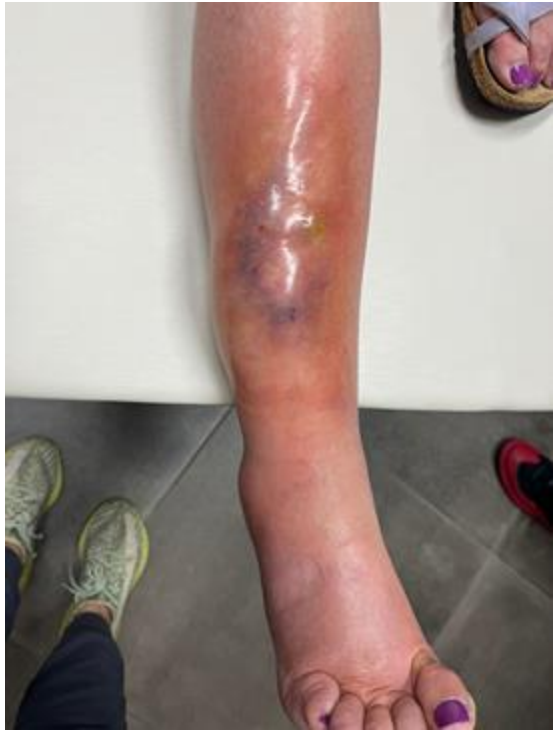
IV vs Oral Antibiotics

Large randomized study comparing IV to PO antibiotics *

Oral antibiotics were non inferior to IV

Most oral antibiotics have great bio-availability

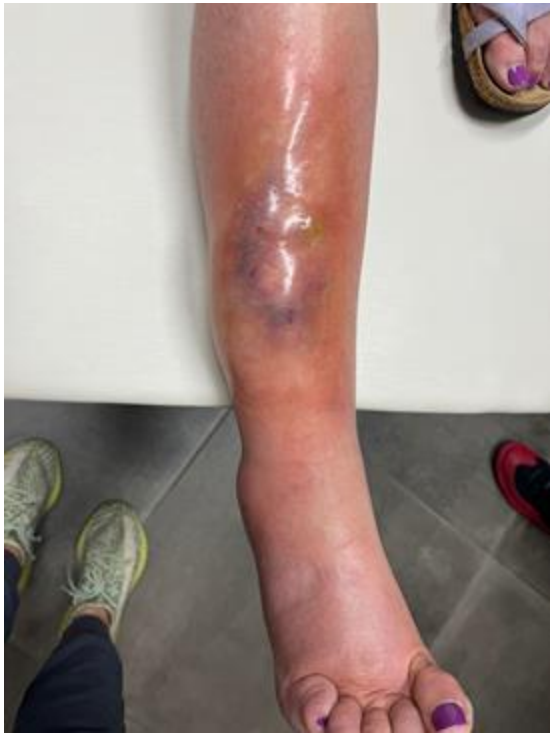
Even single dose IV antibiotics in ED has been associated with diarrhea



Aboltins et al, Oral vs parenteral antimicrobials for treatment of cellulitis, J antimicrobial therapy
2015, 70: 581-86

Management

- Consider PO dose of antibiotic and re-evaluation in 72 hours
- Expect redness to expand 1-2 days after initial diagnosis even if antibiotics are working
- Send to ER if unable to tolerate PO, GI absorption issues, multiple co-morbidities, concern for NSTI or sepsis
- Routine ER transfer for “failure of outpatient antibiotics” is not always warranted



“She is having a hard time breathing”

- 10 y/o old female asthmatic c/o SOB and cough x 2D
- Mom states she has been fighting a “cold” all week
- Has been using her albuterol 4-5 x / day
- She has never been hospitalized for asthma
- Vitals: T-98, BP 130/60, HR 100, RR 32, 02 sat 92%
- Speaking broken sentences, diaphoretic, decreased breath sounds, exp wheezing, using accessory muscles

Differential Diagnosis

Asthma

Pneumothorax

Pneumonia

Anxiety

Myocarditis

Foreign body aspiration

Management

Epi

0.3 mg IM epi auto injector

Call 911!

*0.01 mg/kg IM up to 4mg

Management

2 L oxygen NC

Beta agonist and Ipratropium nebulizers

IV Dexamethasone

Close observation until EMS arrive

Role of IM Dexamethasone in Acute Asthma

Randomized trial in Annals EM 2015 (watnick et al)

Single dose 0.3 mg/kg IM and 3 days prednisolone equally effective

More vomiting in oral group

Severe cases excluded

Another patient collapses in waiting room

Unresponsive

Agonal respirations

Pale

Pulses are palpable

Another patient collapses in waiting room

T 98, BP 80/40, RR 12, HR 65, 02 sat 85%

Pupils constricted

Unresponsive

Palpable thready pulse

Track marks

Opioid Overdose - Naloxone

Can be administered via IN, IM, and IV route

Adults 0.4-2 mg up to 4 mg IN

Pediatrics 0.1 mg/kg IV, IM or IN (max dose 2 mg IV or IM)

Doses may be repeated every 2-5 minutes

Regardless of dose, adequate oxygenation and ventilation is primary goal

“I feel weak and nauseated”

50 year old female type 1 diabetic

1 week of URI symptoms, diminished PO intake

Compliant with insulin

Vitals T-98, BP-100/60, HR-110, RR 30, 02 sat 97%

Appears diaphoretic, vomited in room and falls to ground having convulsions

Hypoglycemia

Mimics: CVA, syncope, seizures

Blood glucose < 60

Altered mental status

Lethargy

Diaphoretic

Nausea

Oral glucose if patient can tolerate

“I feel like I am about to pass out”

35 year old female c/o palpitations and dizzy

No medical history

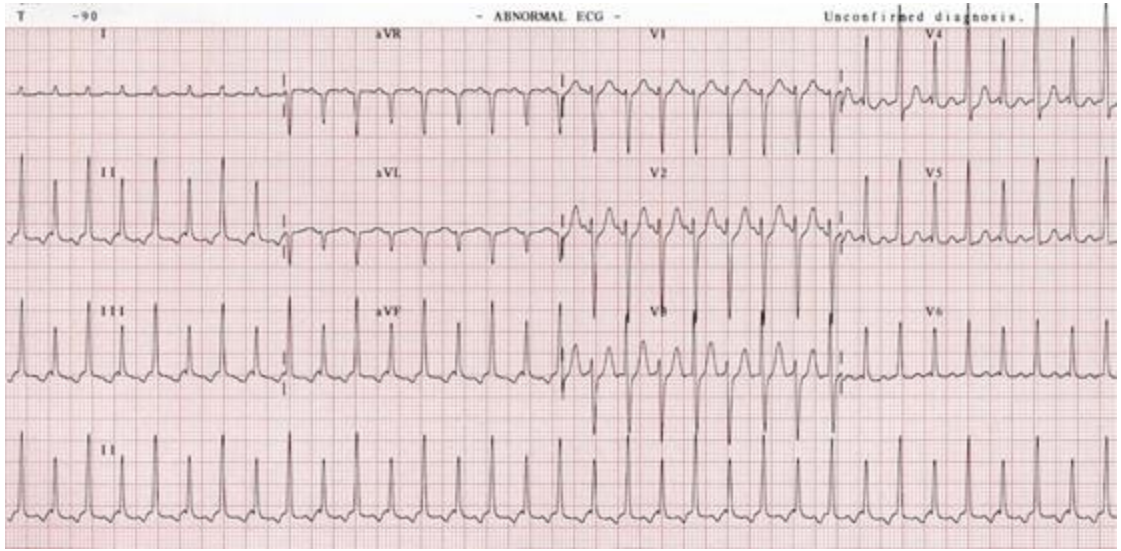
Heavy alcohol intake x 1 week

Vitals: T-98, HR-145, BP-90/50, RR-20, 02 sat 99%

Appears weak, holding left chest

Thready pulse otherwise unremarkable

Supraventricular Tacycardia



Management

Vagal maneuvers

IV access

Fluids

Adenosine if available

ALS transport

“I passed out at home right before coming here”

DDx

Cardiogenic

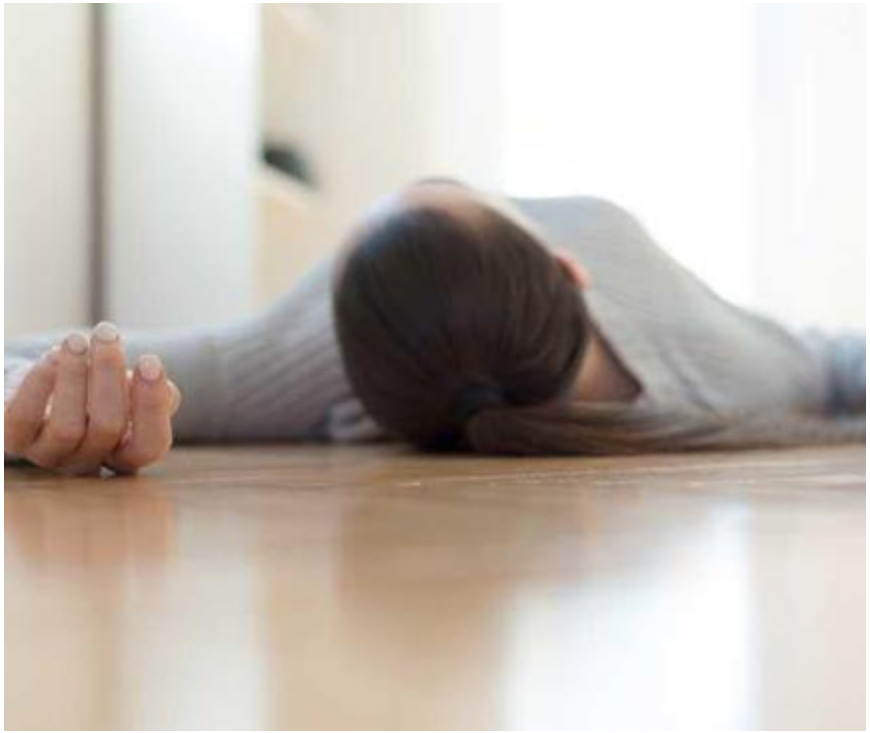
Cerebrovascular

Metabolic

PE

Ruptured ectopic

Vasovagal



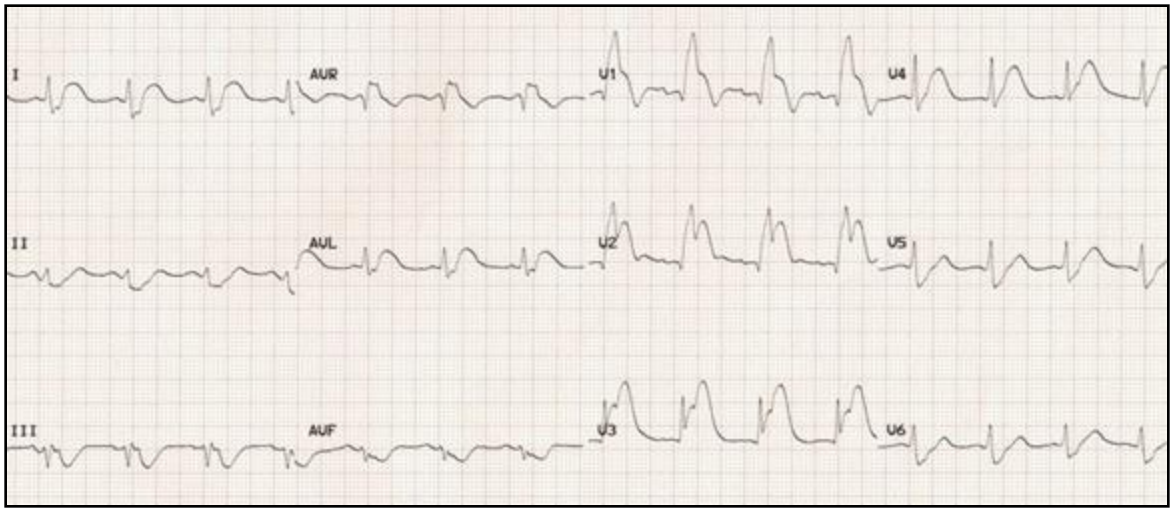
Send to hospital ?

History

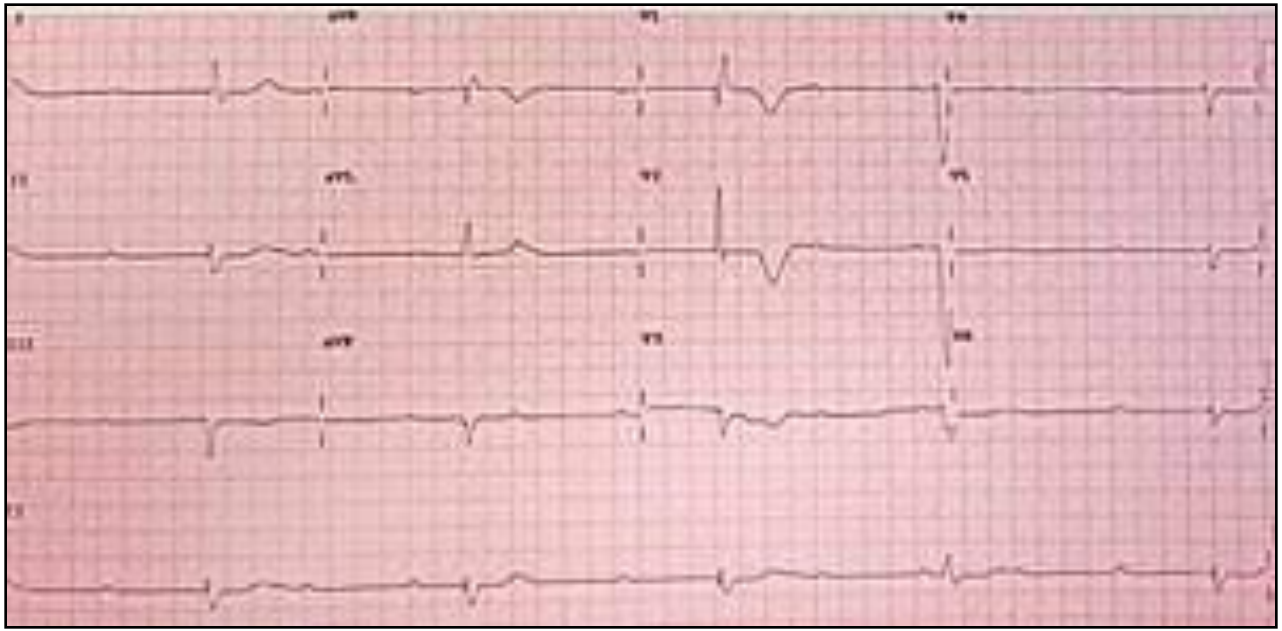
Physical

EKG

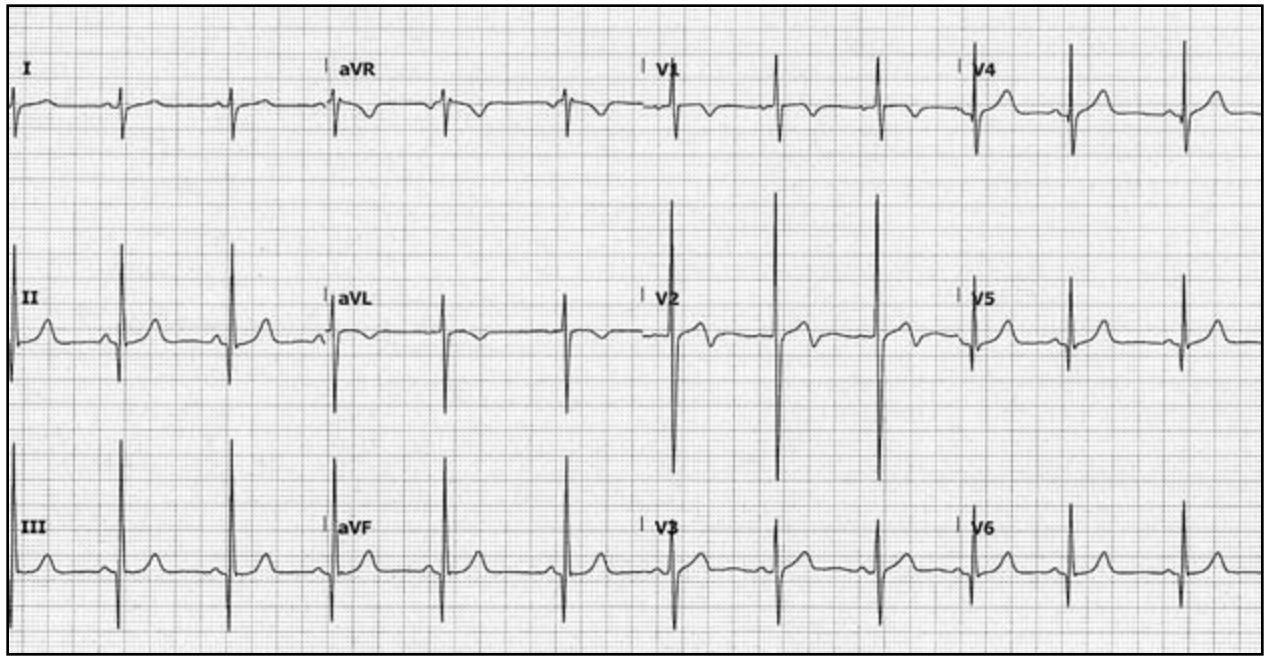
Ischemia



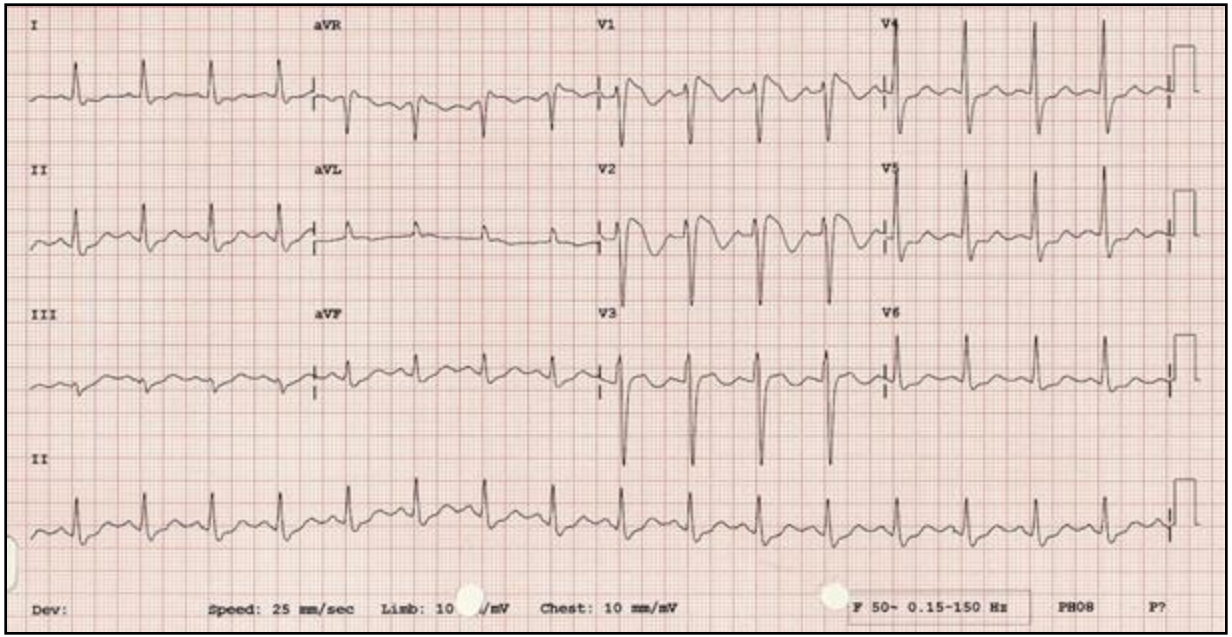
Dysrhythmias



Hypertrophic CM



Bruguda


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II
Dev:
Speed: 25 mm/sec
Limb: 10
/mV
Chest: 10 mm/mV
F 50~ 0.15-150 Hz
PH08
P?

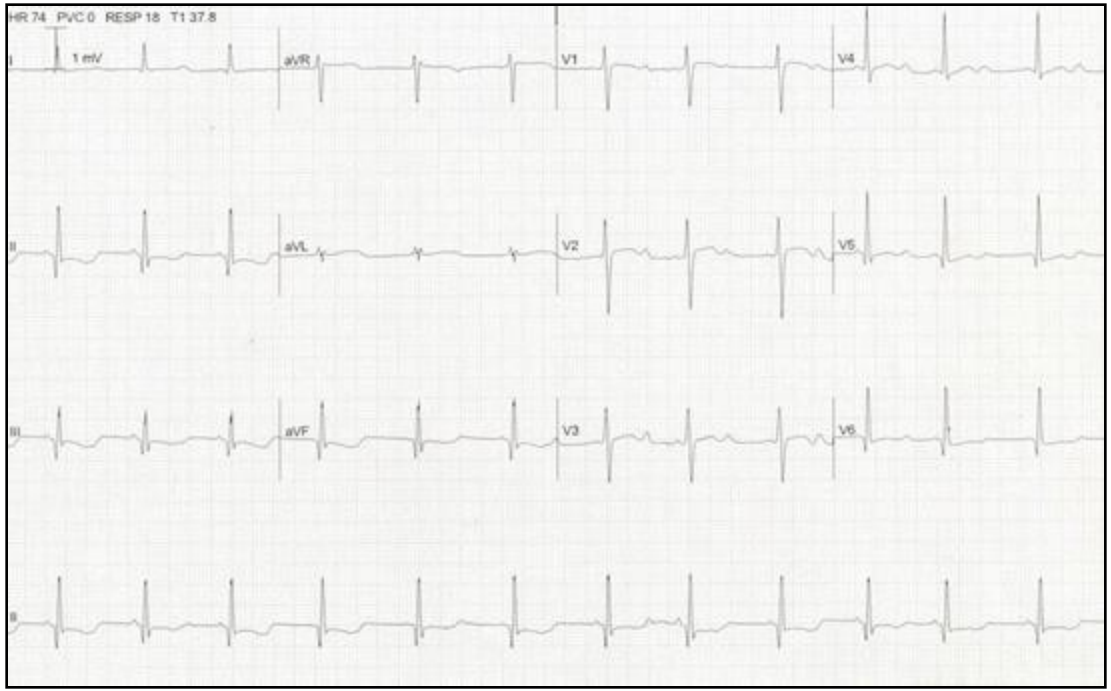
Intervals

HypoCa

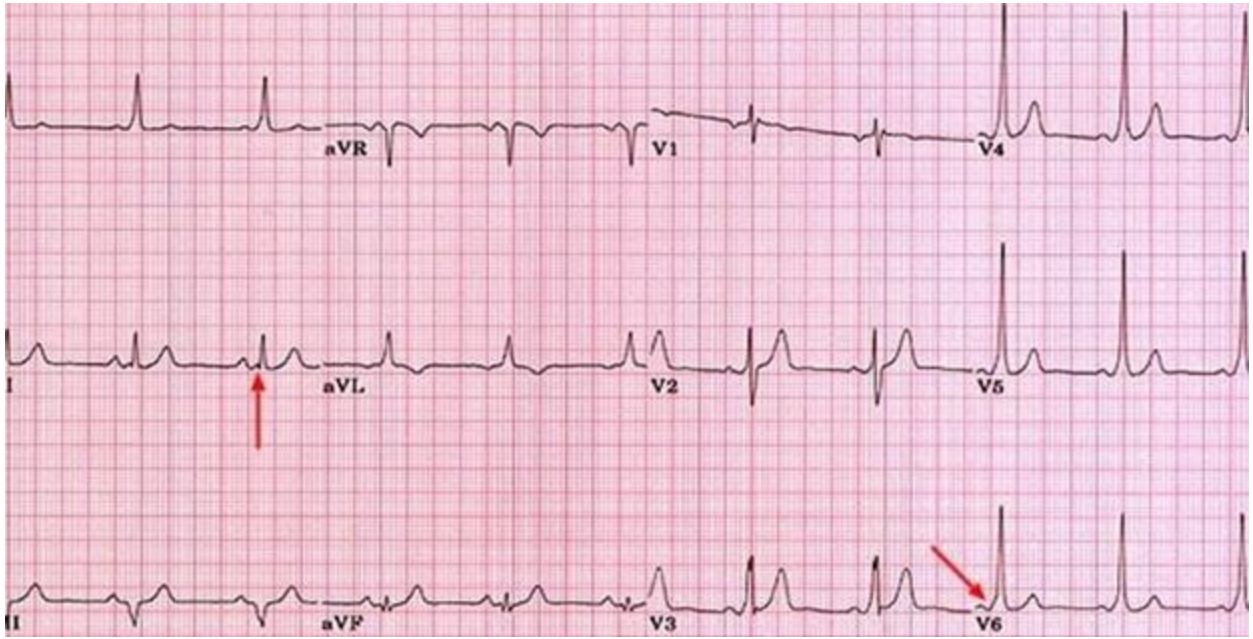
HypoK

HypoMg

Prolonged QT



Wolf Parkinson White



Any other diagnostic tests we should do?

Fingerstick?

CBC?

Electrolytes ?

CXR?

Urine HCG

Take home points

- Find your emergency box and know whats in it
- Find your AED
- Be very comfortable securing airway
- Low threshold to use Epi
- Remember to check fingerstick
- Keep nebulizer equipment and bronchodilators in the room
- Consider POCUS
- Stay calm

References

1. Aboltins CA, Hutchinson AF, Sinnappu RN, et al. **Oral versus parenteral antimicrobials for the treatment of cellulitis: a randomized non-inferiority trial**. *J Antimicrob Chemother*. 2015;70(2):581-586.

2. Cruz C, Spina L. **Are oral antibiotics as effective as a combination of intravenous and oral antibiotics for kidney infections in children?** *Ann Emerg Med*. 2016;67(1):30-31.

3. Gavin D. A randomized trial of epinephrine in out of hospital cardiac arrest, NEJM , August, 25, 2018

4. American Heart Association - Basic and Advanced Life Support

5. Barnes ML et al, Epistaxis, a contemporary evidenced based approach, Otolaryngology Clin of N. America 2012, October: 105-17

6. Steil et al. What is the role of chest compression depth during out of hospital cardiac arrest. Crticial Care Med 2012, 40: 1192-96

7. EMSworld.com: Beginner facemask ventilation techniques 2016

8. Blom et al, Improved survival after out of hospital cardiac arrest and use of AED , Circulation, volume 130, numner 20

9. Tessier JM, Necrotizing soft tissue infections: Focused review of pathophysilogy, Infectious Disease 2020, Mar 21

10. Alboltins et al, Oral vs parenteral antimicrobials for the treatment of cellulitis, a randomized trial, Journal of antimicobial tgreapy 2015

Let's keep in touch!

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