

Medical



Rocket City Emergency
MEDICAL CONFERENCE

**Decade 6:
“Moan and Groan”**

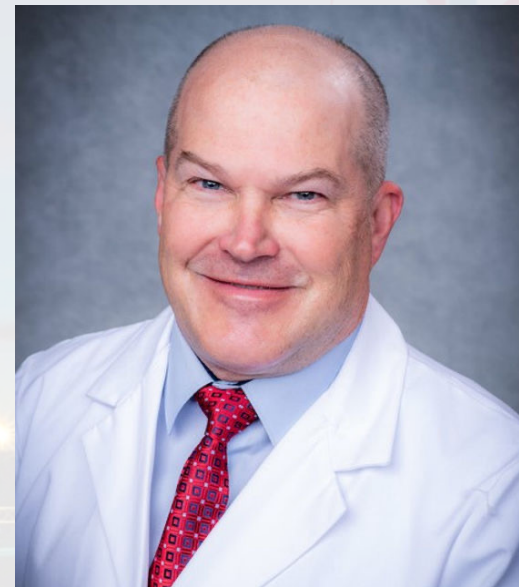
**Patrick McDougal, M.D.
Paul Kivela, M.D**



Decade 6: “Moan and Groan”



Patrick McDougal, M.D.



Paul Kivela, M.D.





EMS Dispatch

**ALS ambulance is dispatched E-3 to
“65-year-old vomiting and
confused”**



On Scene

RR	HR	BP	SpO ₂
16	129	100/52	88%

Obtunded 65yo male

Lying in bed, eyes closed

Does not follow command

Moans and groans to painful stimuli



On Scene

RR	HR	BP	SpO ₂
16	129	100/52	88%

Bilateral rhonchi

Rapid, irregular pulse

Skin is hot to touch

Vomit in airway



On Scene

RR	HR	BP	SpO ₂	Temp
16	128	86/60	93%	38.3C

No rash

Bilateral LE edema

Abdominal tenderness

FSBG

280mg%



On Scene

Per his son: Really tired over the last few days

Only complaint has been a bad backache

Did not get out of bed yesterday

Independent and lives by himself at baseline



On Scene

**PMHx: HTN, CHF, CKD, AFib, DMII,
Remote Hx of head and neck cancer s/p
radiation now in remission.**

**Medications: Amlodipine, metoprolol,
lasix, Eliquis, basal-bolus insulin**



What we know about the patient

- Typically a “walky-talky”
- Now unresponsive with vomitus in the airway
- Hypoxic and tachycardic
- Clearly “sick” with fever
- Likely infected but cause unclear and unimportant right now.



How to address the findings

- **Create a "quick-list" of issues and determine priority**
 - **Altered Mental Status**
 - **Hypoxic**
 - **Tachycardia/Hypotensive**
 - **Febrile**
 - **Concerning airway**



Engage your team for rapid care

- Supplemental Oxygen
- IV fluid for hypotension
- Full monitoring
- Arrange for additional hands



Need to "fix" the airway

- Airway management is a "force continuum" with the ultimate goal being oxygenation of the tissues with +/- securing the airway.
- Each method for managing the airway comes with pros and cons which must be considered.
- Stop when you have achieved your determined goals.



Choose your weapon

- **This patient needs oxygenation and the airway secured so endotracheal intubation is most appropriate solution for this case.**
- **Intubation is a team sport.**
- **Collaboration and Preparation are the keys to success**



Steps to success

- **Gather your tools and team and channel your inner airline pilot**
- **Suction and preoxygenate.**
- **Incorporate adjuncts to improve first pass success (Medications, VL, Bougie, Bimanual method, etc.)**
- **Be prepared to stop to address hypoxia, hand off to another provider, or use backup airway.**
- **Honor your excellent work and the patient by appropriately securing your ET tube.**
- **Use your pulse ox and capnography to guide your ventilations.**

EMS Report

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RR	HR	BP	SpO ₂
6	150	90/45	99%



65yo M Intubated, FEBRILE,
VOMITED, AMS



EMS Report

- 65yo M BIB ambulance from home, vomited, not following commands, warm to touch
- Collateral (from family): normally independent, tired last 2 days, c/o backache, unable to get out of bed yesterday, AMS today.
- PE: Tachy, irregular, rhonchi, abd tender on initial exam
- PMH: HTN, CHF, CKD, Afib, S/P radiation for H&N cancer in remission
- Meds: amlodipine, metoprolol, Lasix, Eliquis, Long and short acting insulin
- BS 280, pulse ox 88% on RA

On arrival

- T101.2
- P 129 irr,
- BP 100/52



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Presentation & differential diagnosis

Abdominal
pain

Febrile

AMS

Tachycardia

Hypotension

Hypoxic



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Hypotension (after volume corrected)

- Adrenal/Anaphylaxis
- Bleeding
- Cardiac Failure/tamponade
- Dissection
- Embolus (PE)
- Flail Lung (pneumothorax)
- Gross Sepsis
- High/Drug OD

Abdominal Pain/Back Pain

- AAA
- Bowel Ischemia
- CAD
- appenDicitis
- Ectopic/TOA/Ovarian torsion
- Testicular Torsion
- Fx Spleen
- Fournier's

- Gastritis
- Hyperemesis (THC)
- **Infection (Sepsis)**
- Jejunal intussusception
- Kidney
- Liver
- Metabolic
- Neo
- Ovarian
- Pancreas
- Questionable (pain seeking)
- Radicular (shingles)
- Spinal
- Toxicological

Tachycardia

- Arrhythmia
- Bleeding
- CHF
- Drugs (intox/withdrawal)
- Endocrine
- Fever
- Gradient (tamponade)
- Hypovolemia/ dehydration
- Intracranial pressure
- Just pain/anxiety
- Klot (PE)
- Low oxygen
- MI
- Neuro (seizure)
- Ovarian (ectopic)
- POTS
- Question electrolytes
- Re-entrant tachyarrhythmias
- Shock
- Trauma/ Tox

AMS

Alcohol/Acidosis

Endocrine, Electrolytes, Encephalopathy

Insulin

Overdose

Uremia

Trauma

Infection

Poisoning. psychosis

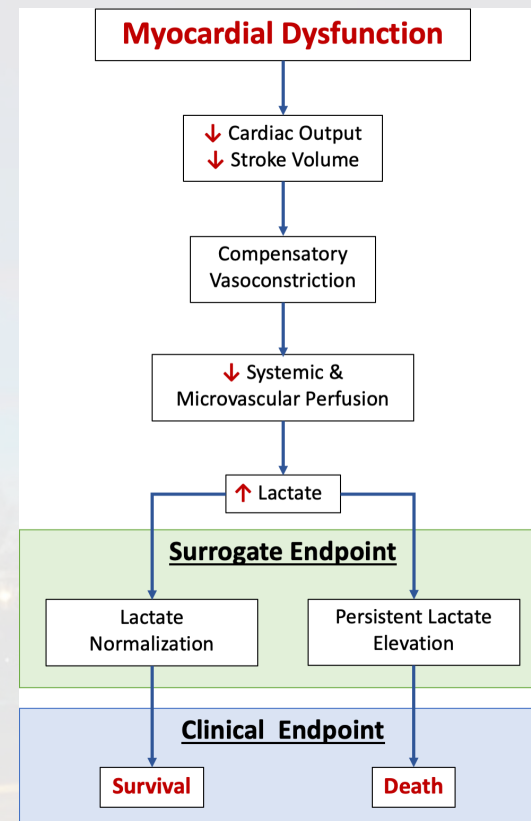
Stroke, seizure, syncope

Differential Diagnosis: Febrile

- Bacterial
 - Viral
 - Fungal
 - Parasitic
-
- HEENT (ears, throat, sinus)
 - Neck (meningismus, adenopathy)
 - Cardiac
 - Lungs (equal/lung sounds)
 - Abdomen (distended/ palpation)
 - Back/Spine (palpation)
 - Skin (rash, cellulitis, ulcer, track marks)
 - Neuro exam
 - Joints
-
- Airway (lungs, throat)
 - Belly (UTI, abscess, appy, gallbaldder)
 - Cranial (meningitis, sinus,encephalitis)
 - Derm (Cellulitis. Ulcer,
 - Endocarditis
 - Flu (viral) & Fungal
 - Drug reaction/ ingestion of drugs
 - Heat exposure
 - Immune/ Inflammation
 - Joint
 - Klot (PE)
 - Lumbar (back)
 - Mosquito (viral)

Labs

- CBC
- CMP
- UA
- Troponin
- BNP
- Lactic Acid (serial)
- Cultures
- VRP
- ABG?

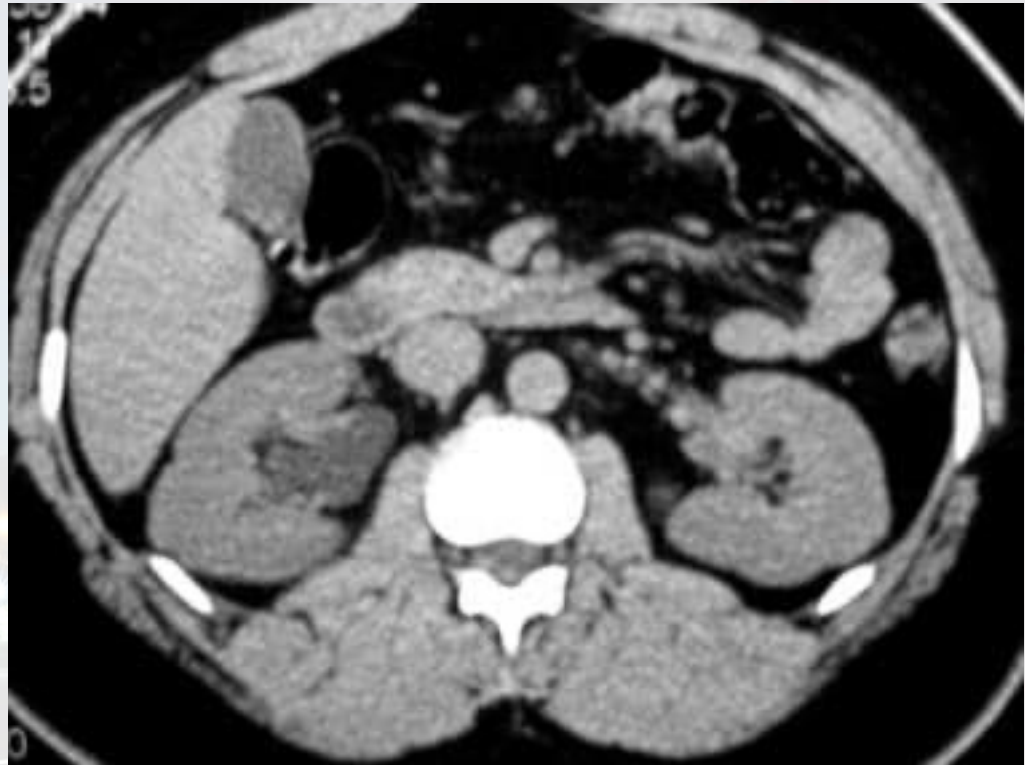


Sources of infection

- URI
 - Throat
 - Sinus
- Respiratory
 - Pneumonia
 - Empyema
- UTI
 - Catheter
- Peritonitis
 - Pancreas
 - Cholangitis
 - GU
- Prosthetic device/line
- CNS
- Soft tissue
- Septic joint
- Endocarditis

Radiological Diagnostics

- CXR
- US diagnostic vs volume, cardiac status
- CTAP vs US diagnostic



Treatment

- IV Fluids (30cc/kg)
- Antibiotics
- BP/Shock Support (MAP>65,UOP>0.5ml/kg)
 - Pressors
- Rate Control(?)
- Cover
 - Ecoli
 - Staph aureus
 - Klebisella
 - Strept pneu
 - Pseudomonas
 - Possibly fungal (if neutropenic)

Empiric Antibiotics

Vancomycin plus

- Cephalosporin (3rd or 4th gen) or
 - Ceftriaxone
 - Cefepime (antipseudomonal)
 - Caution with neuro
- Carbapenem or
 - Meropenem
 - Imipenem
- Piperacillin-tazobactam
 - Caution if AKI

- If neutropenic consider fungal

- Caspofungin 70mg IV over 1 hour

[Candida \(caspofungin\) dosing, indications, interactions, ...](#)

M

Medscape

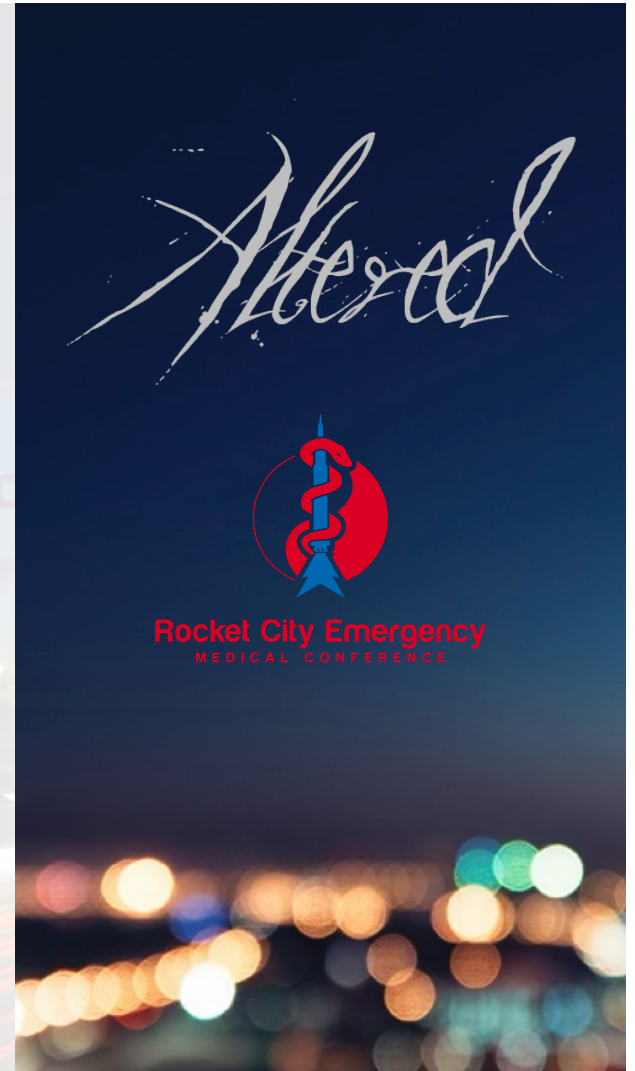
<https://reference.medscape.com/drug/candida-caspo...>

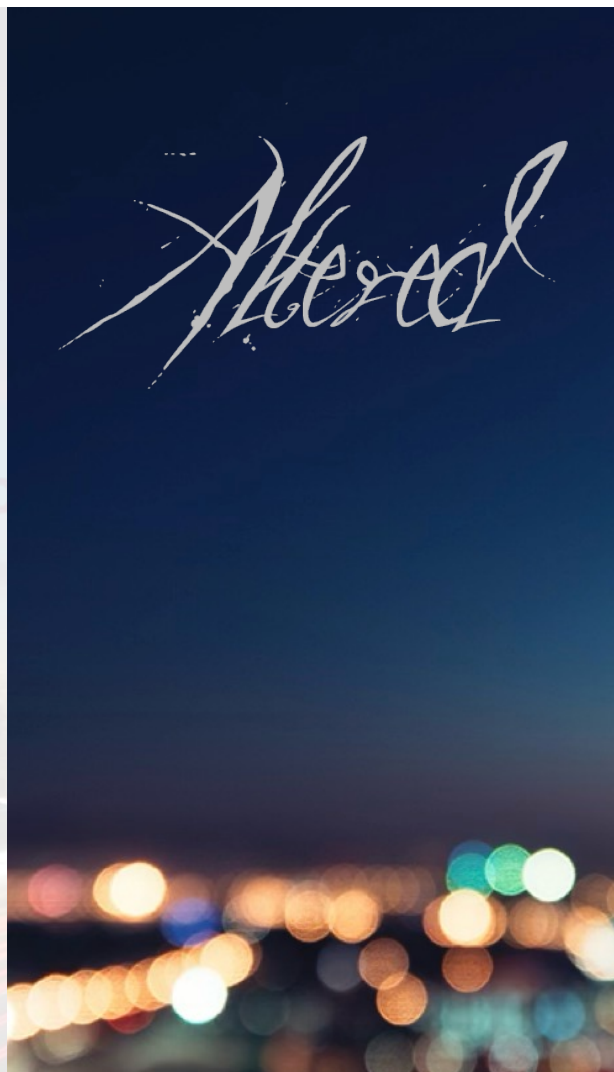
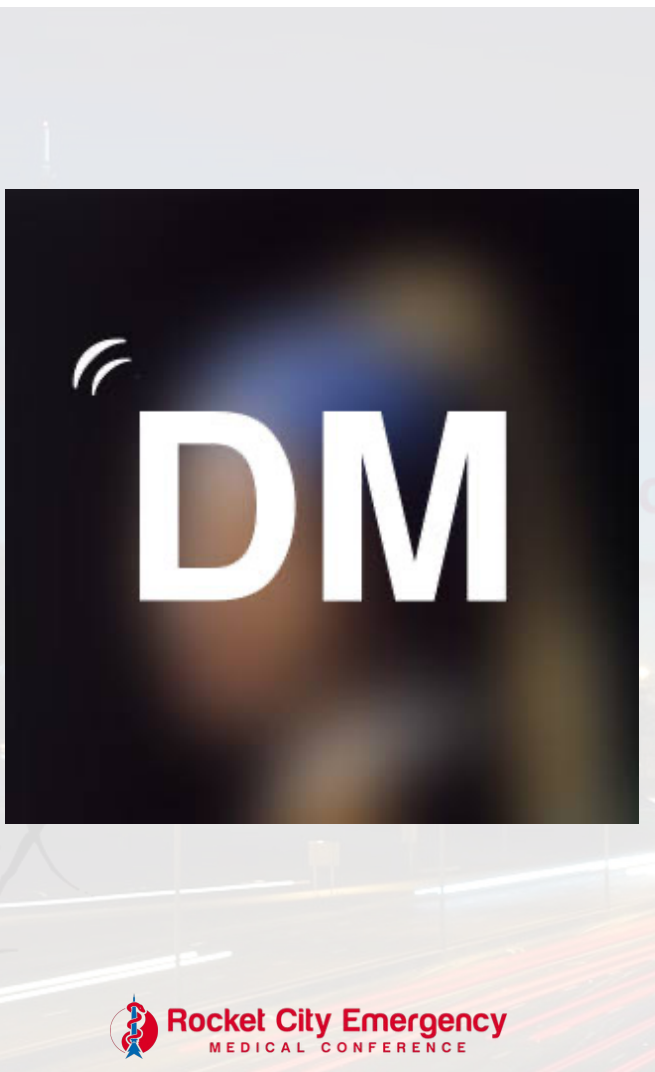
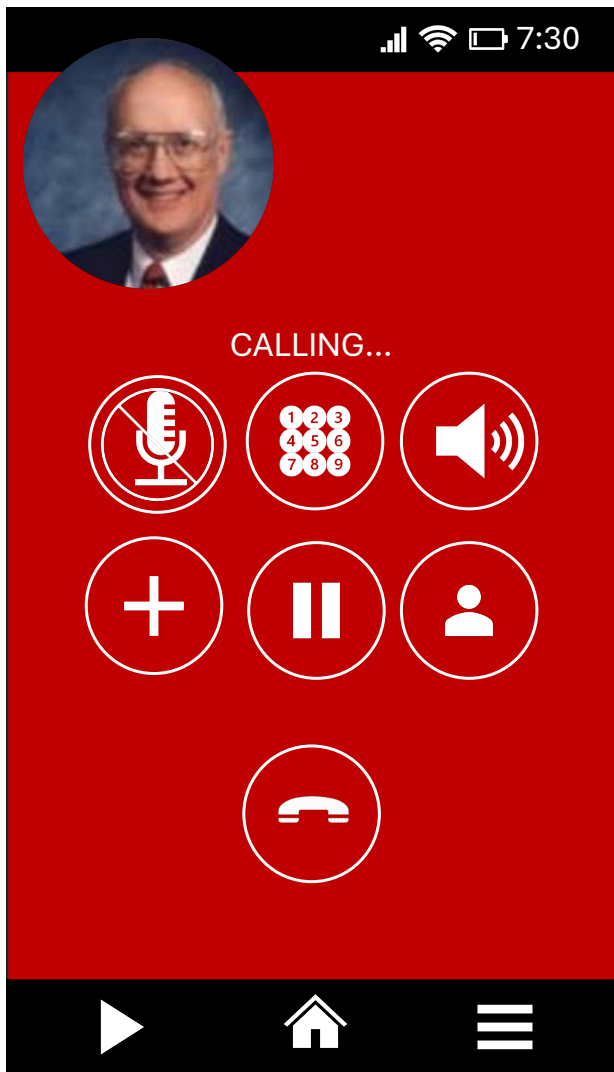
Pressors

- Norepinephrine (levophed)
 - 5-15mcg/kg/min
- Dobutamine
 - 2-5 mcg/kg/min

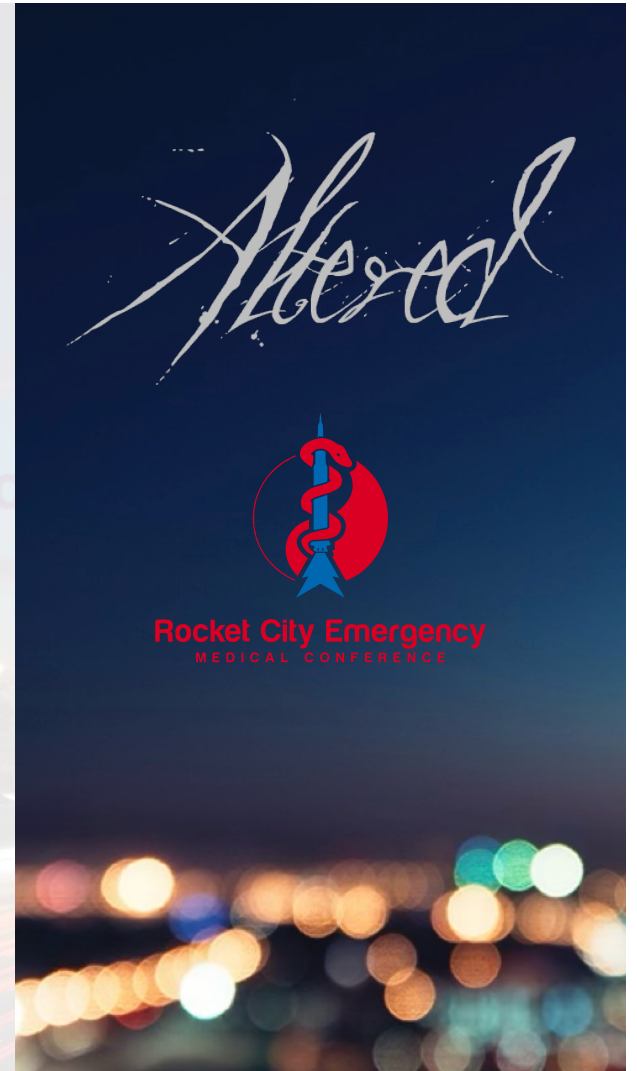
Drug	Effect on heart rate	Effect on contractility	Arterial constriction effects
Dobutamine	+	+++	- (dilates)
Dopamine	++	++	++
Epinephrine	+++	+++	++
Norepinephrine	++	++	+++
Phenylephrine	0	0	+++

Panel Discussion and Q&A





Panel Discussion and Q&A



**COMING
IN 2026!**

Thank you!



Altogether



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*A major case
of the*

BLUES

Rocket City Emergency Medicine Conference