London GEM
Global Emergency Medicine Programme
Breaking Barriers in EM

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LGEM MRCEM Batch 2 Trainee

A 45 year old patient presented to ED with epistaxis. You have asked the patient to apply pressure but the bleeding is still there even after continious pressure for 10 minutes. What will be your next step?

A. Nasal tampoons
B. Nasal antiseptic cream
C. Refer to ENT
D. Nasal cautery

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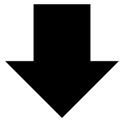
Pinch lower soft part of nose for 10 min

Look for bleeding point and do nasal cautery with silver nitrate on one side, in children instead of nasal cautery use naseptin cream which is as effective as cautery.

Insert Nasal tampoons



Most probably it is posterior bleed, refer to **ENT** but if delay in ENT assessment pass foleys cather as temporary measure.

A 10 year old child have burn injury to his right leg, what is the drug of choice in his immediate pain management?

A. IV Morphine
B. oral codeine
C. IV Ketamine
D. Intra nasal diamorphine
E. NSAID

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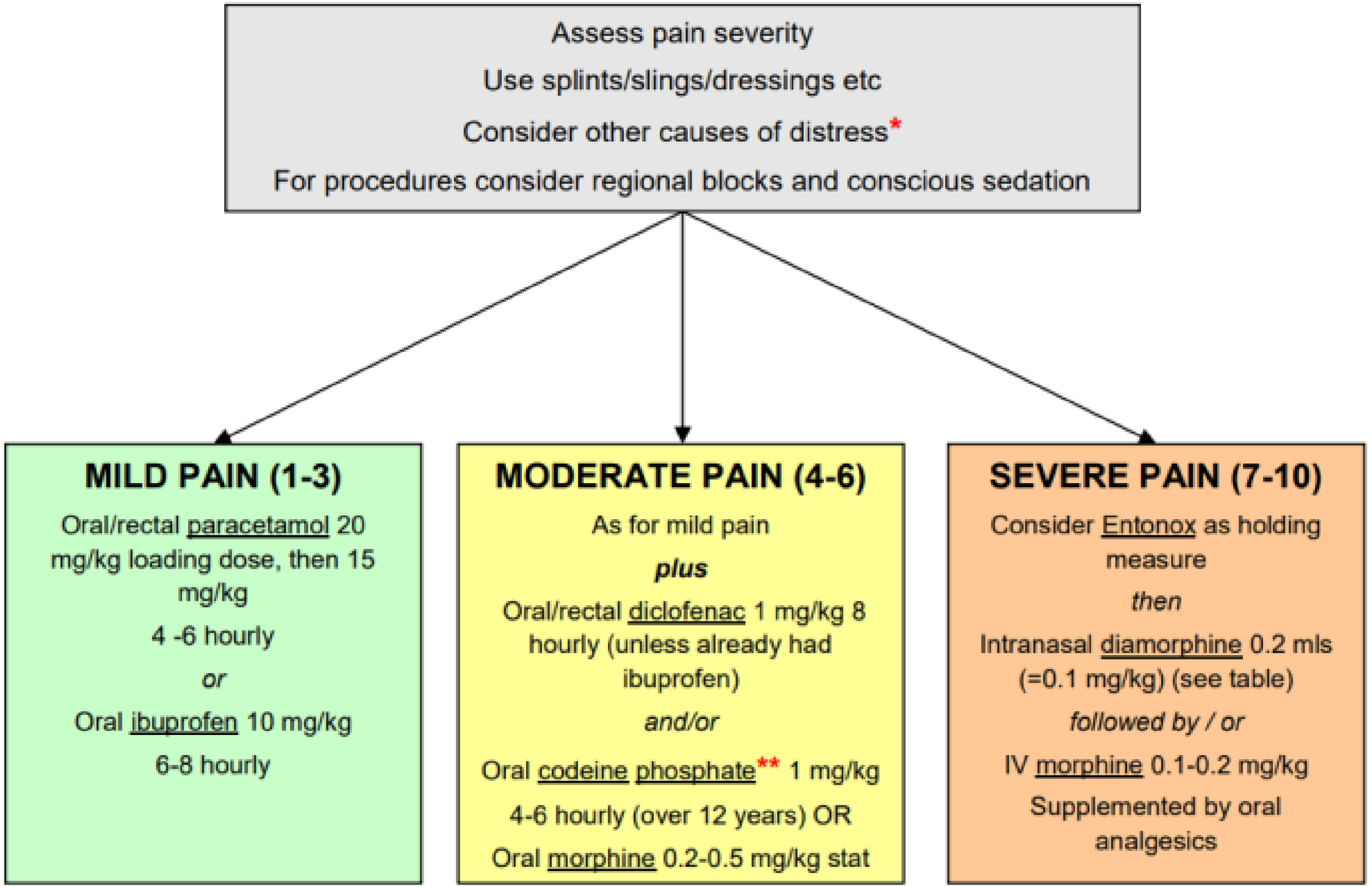
Algorithm for treatment of acute pain in children in the Emergency Department



A 55 year old male Known CKD patient presented to ED with severe Right flank pain. You are suspecting Renal colic. According to NICE guidelines what should be your management.?

A. Oral Paracetamol
B. IV opioids
C. IV Ketamine
D. IV Paracetamol
E IM NSAIDs

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According to NICE Guidelines

1st line is **NSAIDs** by any route but if it is contraindicated or not effective then **IV paracetamol** but if contraindicated or contraindicated then **IV Opoids**

Will you offer anti spasmodics in renal or ureteric colic?

A 40 year old farmer working in farm was bitten on his right foot 2 hrs back by venomous snake showing double fang marks. He is vitally stable but has severe pain and on examination he has right foot swelling extending into lower leg. What is next best step in management?

A. Give anaelgesia
B. Give antihistamine
C. Give IM adrenaline
D. Commence antivenom
E. Discharge home

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- Not all snake bites cause envenomation
- Do not interfere with bite wound, do not apply torniquet
- If anaphylaxis treat accordingly
- No prophylactic antibiotics
- Indications of Antivenom:
    - Anaphylaxis to venom
    - Signs of systemic envenoming like Abdominal pain, diarrhea, vomiting
    - Hypotension for more than 10 min
    - WBC more than 20K
    - ECG abnormalities
    - Elevated CK
    - Meabolic acidosis
    - pulonary edema
    - Spontaneous bleeding
    - Significant limb swelling(past the wrist for bites on hand or past the ankle for bites on foot within 4 hr

A 32 weeks pregnant female brought into ED with vaginal bleeding, her observations are within normal limits and she is Rh -ve. What is your most appropriate next step in management?

A. Immediate delivery
B. Anti D and Kleihauer test done
C. Anti D and no Kleihauer test
D. Commence Tranexamic acid
E refer to Obs/Gynae

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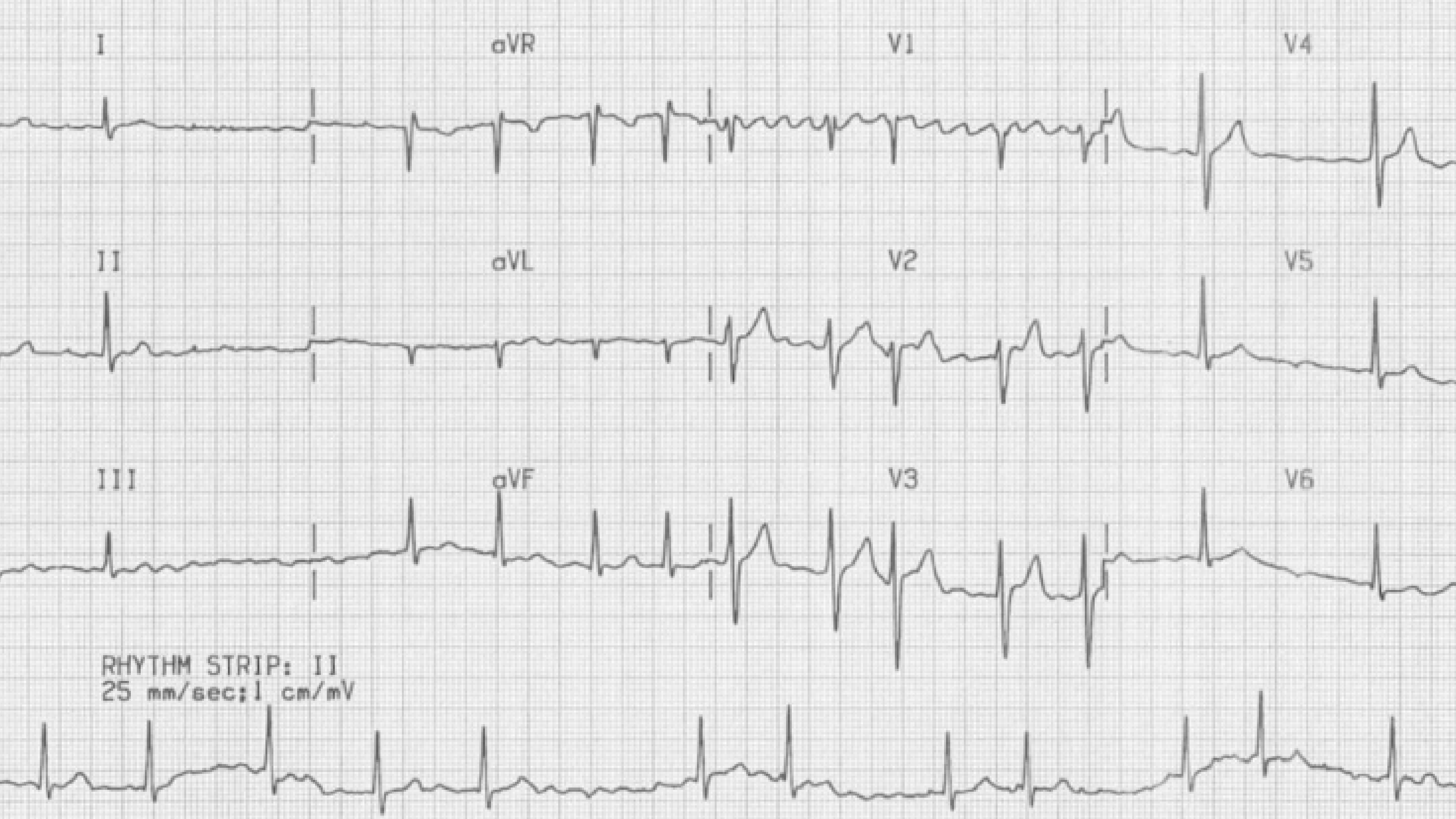
Any female pregnant patient with Rh -ve status:

Before 20 weeks give 250IU of anti D immunoglobulins within 72 hrs no need of Kleihauer test (FMH test)

After 20 weeks give 500IU of anti D immunoglobulins within 72 hrs and Kleihauer test should be done which guide about futher anti D immunoglobulins (FMH test)

45 year old Diabetic female presented to ED with 3 days history of palpitations, her ECG is given, patient is haemodynamically stable and examination is normal. how would you manage her?

A. Commence her on warfarin and beta blockers
B. Do chemical cardioversion
C. Give digoxin
D. Commence her on DOAC and beta blockers
E Do electrical cardioversion


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
RHYTHM STRIP: II
25 mm/sec; 1 cm/mV

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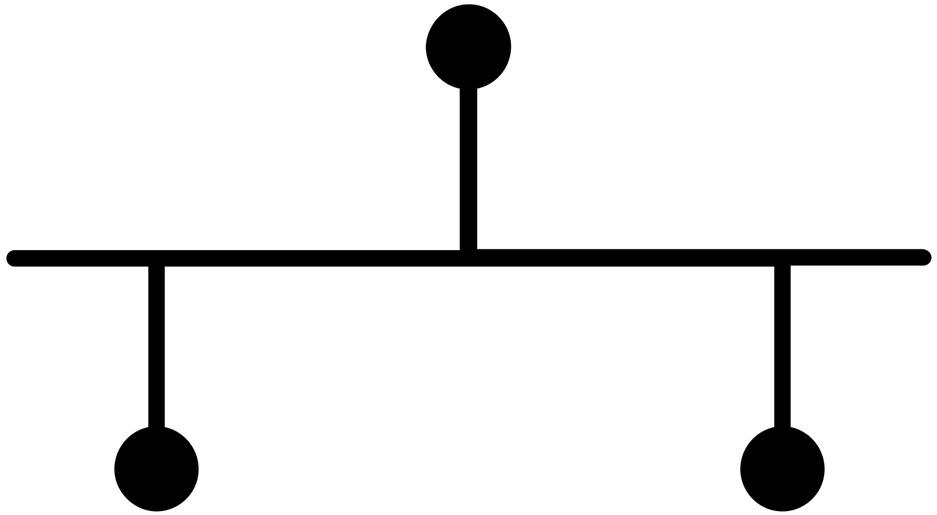
Treatment of AF

If unstable then DC cardioversion

If stable then look if presented with 48 hrs or more than 48 hrs



- if less than 48 hrs then both rate and rhthm control
- rate control with B blockers or calcium channel blocker
- rythm control either through electrical or chemcial
- chemical cardioversion is with flecainide if no underlying structural heart disease and with amiadarone if underlying structural heart disease present

If more than 48 hrs or uncertain then only rate control . cardioversion should not be attempted unless anti coagulated for 3 weeks

CHA_2DS_2-VASc Score	
CHF (heart failure)	1
Hypertension	1
Age ≥ 75	2
Diabetes	1
Stroke	2
Vascular Disease	1
Age 65-74	1
Sex Category (female)	*1*

Anticoagulate if score 2 or more and in men with score of 1 as well

Bleeding risk is calculated through ORBIT scoring

For anticoagulation DOACs are the 1st line unless contraindicated

A 35-year-old patient presents to the Emergency Department with hyperthermia, altered mental status, and generalized rigidity. Reflexes are diminished. His symptoms started gradually two days after an increase in his antipsychotic medication. What is the diagnosis?

A. Malignant Hyperthermia
B. Neuroleptic malignant syndrome
C. Meningitis
D. Psychosis
E Serotonin syndrome

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Hyperthermia, autonomic dysfunction, altered mental status will be present in both

Feature	Serotonin Syndrome (SS)	Neuroleptic Malignant Syndrome (NMS)
Cause	Excess serotonergic activity, usually from serotonergic drugs.	Dopamine blockade or withdrawal of dopaminergic drugs.
Onset	Rapid (within hours of exposure to serotonergic drugs).	Gradual (over days to weeks after starting neuroleptic drugs).
Triggering Drugs	SSRIs, SNRIs, MAOIs, TCAs, MDMA, linezolid, tramadol.	Antipsychotics (haloperidol, risperidone, etc.), antiemetics (e.g., metoclopramide).
Neuromuscular Findings	Hyperreflexia, clonus (especially inducible or spontaneous).	Lead-pipe rigidity (generalized, severe muscle rigidity).
Autonomic Findings	Hyperthermia, tachycardia, diaphoresis, diarrhea, mydriasis.	Hyperthermia, tachycardia, hypertension, diaphoresis.
Mental Status Changes	Agitation, confusion, delirium, or coma.	Stupor, confusion, delirium, or coma.
Reflexes	Increased (hyperreflexia, clonus).	Normal or decreased (rigidity predominates).
Treatment	Discontinuation of serotonergic drugs, benzodiazepines, cyproheptadine.	Discontinuation of neuroleptics, bromocriptine, dantrolene, cooling.

A 55 year old male known case of CKD with K level of 6.1 presented to ED with resipiratory distress. On intial assessment ECG done was normal. What is the next step in management ?

A. Potassium sparing diuretics
B. IV calcium chloride
C. Sodium Bicarb
D. Insulin with glucose IV infusion
E IV calcium Gluconate

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Mild 5.5 - 5.9

Treat underlying cause

Moderate 6- 6.4

Severe 6.5 or > 6.5

ECG findings

No

Yes

Calcium gluconate 10ml of 10% in 10 minutes

Insulin and glucose therapy

Sulbutamol nebulization

potassium binding resins like calcium resonium

Haemodialyisis for hyperkalemia refractory to medical management

30 year old male following a collapse. he is tachycardiac, cyanotic and Spo2 of 88% despite high flow O2 and RR of 26/min. He admits to use of recent recreational drug use.
What is the diagnosis ?

A. Pulmonary vasoconstriction from cannabis smoking
B. CNS depression and hypoventilation from Opiates.
C. Hypoxia secondary to gamma hydroxy butyrate ingestion
D. Cyanide Toxicity
E. Methmoglobinemia from amyl nitrate use

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Consider Methmoglobinemia in any patient with cyanosis and low SPo2 not improving with oxygen

METHMOGLOBINEMIA

- In methmoglobinemia there is high levels of methmoblobin than normal in blood. It can be congenital or acquired

Causes of acquired methmoblobinemia includes:

- Benzocaine, prilocaine
- Dapsone
- Nitrate drugs like nitroprusside, amyl nitrate,nitroglycerin

Clinical fetures:

- 1st central and then peripheral cyanosis
- CNS and CVS symptoms
- Cyanosis will not improved despite oxygenation

Investigations:

- decrease SPO2
- ABGs shows acidosis
- Chocolate brown colour arterial blood

- **Management:**
- O2 will not improve cyanosis nor SPO2
- Methylene blue is antidote
- if not responding to methylene blue then exchange transfusion or blood transfusion

A 13 year old boy presented to ED with altered mental status after being found in house fire. The fire department found burned couches in the house with melted plastic covering. The patient had been mildly responsive en route to ED. Observations are:
BP: 78/40
HR : 155/min
Temp: 99 F
RR : 40 min
SPo2: 94% on 15 L

He is somnolent but withdraws to pain, he has soot in his nares and carbonaceous sputum and ausultation reveals wheeze. VBGs shows serum lactate of 16.. What is the diagnosis

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B. Methmoglobinemia
C. Cyanide poisoning
D. CO poisoning
E Type 1 Respiratory failure

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CYANIDE POISONING

how it acts

- cyanide binds with cytochrome oxidas enzyme and inhibits it, therefore electron transport chain reaction is inhibited so is aerobic gylcolysis therefore cell can onnly perform anaerobic glycolyisis and produced lactic acid therefore high anion gap metabolic acidosis

Sodium nitroprusside, burning plastics also causes cyanide toxicty as some seeds (apricot, pear, apple)

- **Investigations**
- elevated serum lactate >8
- ABGs shows increase anion gap metabolic acidosis
- reduce venous to arterial paO gradient

CLINICAL FEATURES

- non specific features, of CNS and CVS
- classically **bitter almond** smell in breath along wtih
- Basal ganglia is more susceptible to damage

MANAGEMENT

- Hydroxycobalamine 1st
- sodium nitrate or amyl nitrate
- sodium thiosulphate
- Dicobalt edetate if all others not avaialabe or sever poisoning

CO POISONING

CLINICAL FEATURES

- Flu like symptoms
- Confusion, drowsiness
- tachycardia or hypotension
- headache
- other co inhabitatnt afected
- symotoms improve on leaving the room

MANAGEMENT

- high flow oxygen reduced half life to 76min only
- hyberbaric loxygen at 2-3 atm pressure redued half life to 20min

INVESTIGATIONS

- Measure COHb in blood or using special pulse oximeter not with conventional pulse oximeter.
- Normal COHb is upto 3%
- 8-10 % is normal COHb level in smokers
- 15-20% toxicity occurs
- more than 30% indicate severe toxicity
- AbGs will show acidosis

Indications for hyperbaric O2

- LOC
- Ishcemic changes on ecg
- neurologic deficits
- significant metabolic acidosis
- COHb more than 25%

A 40 year old male with 2 days Hx of right knee pain and fever. You suspect septic arthritis. what is the most common organism involved?

A. Step Pyogenes
B. E.coli
C. Staph Epidermidis
D. Staph Aureus
E. Streptococcus

Kocher criteria : Walk FEW

- Non Weight bearing
- ESR > 40
- Fever > 38.5 C
- WBC > 12K

Management is prompt surgical drainage and IV antibiotics

A 26 year old man had a road traffic accident. . After initial assessment you are suspecting massive haemothorax. what is the initial investigation of choice?

A. CXR
B. eFAST
C. CT scan
D. MRI
E. DPL

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In trauma setting eFAST scan is done which is rapid, non invasive and accurate

A 30 year old male presented to ED after burn injury to his left leg. The leg is very painful and tender and tightness on palpation and absent pulses. What do you suspect in this patient?

A. Compartment syndrome
B. Cellulitis
C. Necrotizing fascitis
D. DVT

A 30 year old male presented to ED after burn injury to his left leg. The leg is very painful and tender and tightness on palpation and absent pulses. What do you suspect in this patient?

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B. Cellulitis
C. Necrotizing fascitis
D. DVT

What is the earliest sign of Compartment syndrome?

???

Early signs:

- Pain
- Pressure
- Paresthesia

Late signs:

- Paralysis
- Pulselessness
- Pallor

Compartment pressure is measured in all compartments at multiple sites

Delta pressure = Diastolic pressure - Compartment pressure

Delta pressure of less than 30 is strong indicator for faciotomy

A young athlete had a fall during football game, now presented with pain and swelling at base of thumb. X rays is shown, how would you manage?

A. Apply Buddy strapping
B. Discharge home with anaelgesia
C. Refer to orthopedics
D. Thumb spica


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Bennett’s Fracture

- It is a fracture through base of thumb or 1st metacarpal with radial sublaxation of MC, leaving a small fragment which is still attached to trapezium.
- Most commonly occurs due to fall onto thumb.
- Deformity and sweling occurs over base of thumb and can be mistaken for scaphoid fracture.
- If undisplcaed then apply thumb spical splint or if displaced then refer to ortho for fixation

THANK YOU!