LEARNING EMERGENCIES MANAGEMENT AT HITEC-IMS

HITEC INSTITUTE OF MEDICAL SCIENCES
TAXILA CANTT

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LEARNING EMERGENCIES MANAGEMENT AT HITEC - IMS


بسم الله الرحمن الرحيم

INDEX

PATHOLOGIST
2 DAYS

VACUTAINER TUBES

Color	Anticoagulant	Uses
	No anticoagulant	Serological examination in biochemistry
	**Sodium Fluoride**	Glucose estimation
	**EDTA**	Hematological examination like complete hemogram, E
	**3.2% sodium citrate**	Coagulation studies like PT, APTT
	**Heparin**	Bone marrow studies
	**Citrate**	Blood culture
	**(K2)EDTA**	Blood Bank tests. Blood typing. ABO grouping etc

Gauges – color code

Orange 14G

Ash 16G

White 17G

Green 18G

Pink 20G

Blue 22G

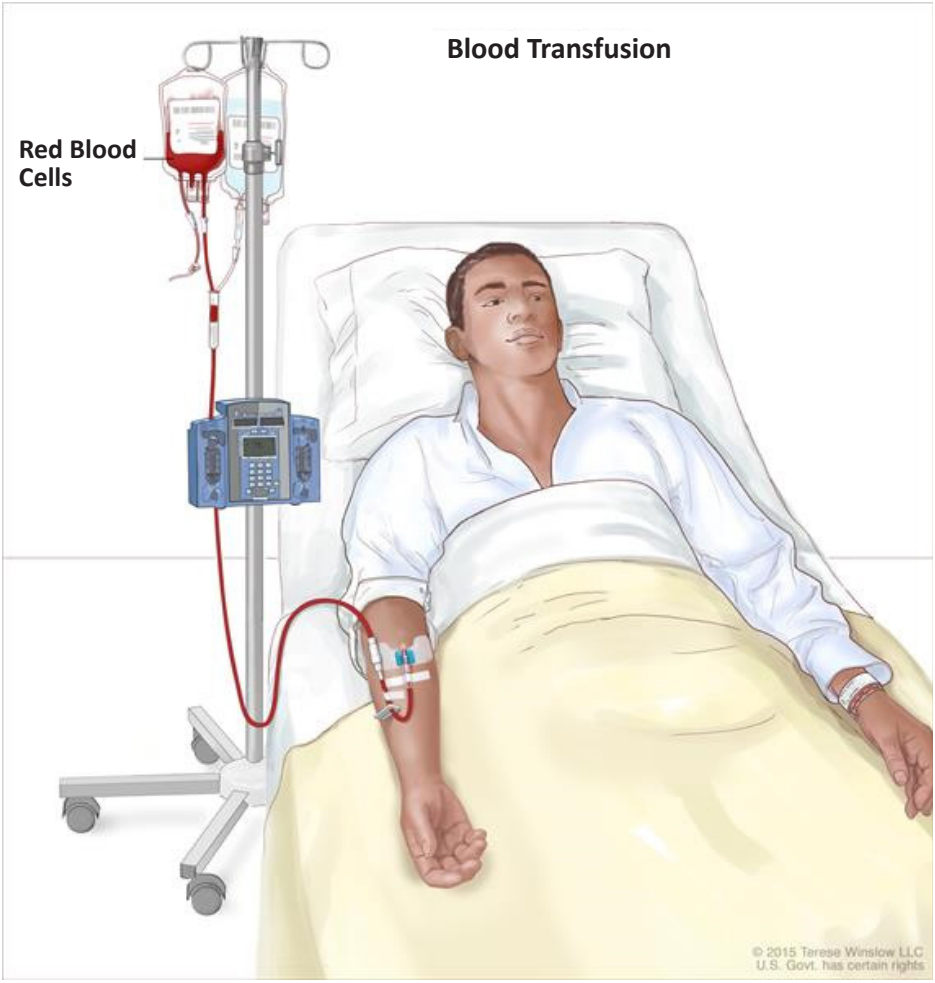
Yellow 24G

(Spinal needle – 25G-french grading)

IV CANNULAS

BLOOD AND URINE TESTS

1. CBC, ESR, and MP
2. Urine RE
3. Blood sugar
4. Urea, creatinine, electrolytes including bicarbonate, and uric acid
5. Lipid profile
6. Cardiac enzymes
7. LFTs
8. Blood grouping cross matching
9. Coagulation profile
10. FDPs
11. Blood culture
12. Arterial blood gases
13. Toxicology screen
14. Anticonvulsant levels
15. Calcium, Magnesium



Bedside transfusion of blood components:

1. Check the patient particulars on the issue form, and compare it with that on the blood bag. Ask the patient's name and tally with the blood bag label. If there is any discrepancy, do not transfuse the bag, and inquire from the blood bank.
2. Before starting blood transfusion, check the baseline pulse and blood pressure of the patient. For the first 15 minutes, transfuse at a slow rate (20 drops / min), and monitor the pulse and blood pressure. Also note any febrile reaction. If the vital signs of patient are stable, increase the rate of transfusion so that one unit of red cell concentrate is transfused within 3 to 4 hours.

3. Blood transfusion sets are calibrated to deliver 1 ml in 20 drops, and the infusion rate can be calculated from the number of drops per minute. The fastest rate at which blood can be transfused by gravity alone is 60 ml/minute.
4. Monitor the patient at half hour intervals for any transfusion reactions. The ward / ICU should have standby arrangements to manage acute hemolytic transfusion reaction. Such a reaction could be due to ABO incompatibility or transfusion of hemolyzed blood which had been stored in the freezer rather than at 2 – 6 0 C. Other immediate transfusion reactions include circulatory overload due to rapid transfusion, potassium leak out of red cells, urticaria, febrile reaction and rarely anaphylaxis.
5. Crossmatch is not required for infusion of fresh frozen plasma and platelet concentrates, for which units of same group as the patient are selected for transfusion.

INTERPRETATION OF COAGULATION PROFILE RESULTS

Test	Possible Conditions
Prolonged PT	Inherited deficiency of Factor VII, early oral anticoagulant therapy
Prolonged APTT	Inherited deficiency of Factor VIII, IX, XI, XII. Von Willebrand disease, Lupus anticoagulant
Prolonged PT and APTT	Deficiencies of Factor V, X, II. Warfarin, liver disease, Vitamin K deficiency
Prolonged PT, APTT and TT	Fibrinogen deficiency, liver disease, heparin
Prolonged PT, APTT, TT and low platelets and raised FDPs	Liver disease, Disseminated Intravascular coagulation
Prolonged Bleeding time	Platelet function defect
Prolonged BT and APTT	Von Willebrand disease

CARDIOLOGIST
1 WEEK

OXYGEN CYLINDER USER INSTRUCTIONS

1. Check water level in humidifier bottle.
2. Revolve flow adjustment regulator to select oxygen dose according to patient requirement in litre per minute, becarful to look for any leak.
3. Select oxygen delivery system according to oxygen to room air ratio as follows:
   - Nasal cannula 25% of oxygen delivery.
   - Face mask upto 40% of oxygen delivery.
   - Rebreather mask upto 60% of oxygen delivery.

CARDIAC MONITOR USER INSTRUCTIONS

Push on button.

Attach 3 chest leads to patient as follows:

1. One below right clavicle
2. One below left clavicle
3. One at left lower abdomen.

Select monitor lead II from selection cursor on monitor keyboard.

Attach pulse oximeter to left thumb with light portion just above thumb nail.

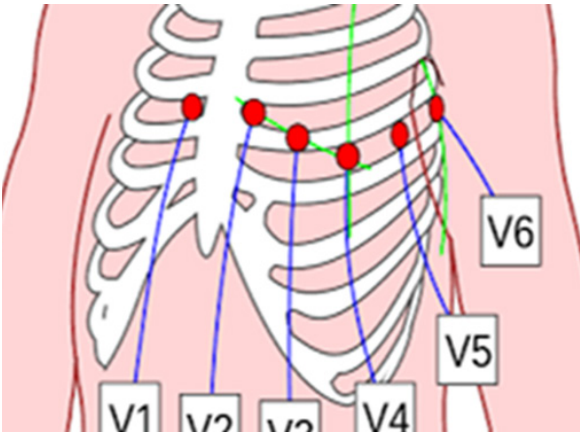
Attach BP cuff to arm and select time interval from monitor keyboard for regular BP monitoring .

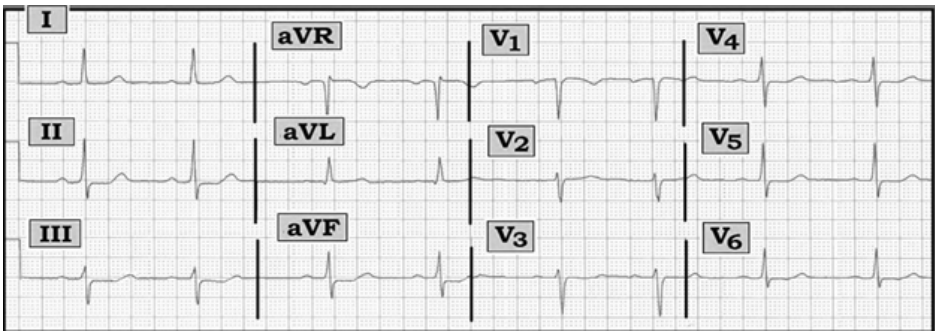

ECG
TEMP
DEMO
60
120/80
98
60
20
RESP
O2
SPO2

RECORDING AND READING ECG
Mnemonic: PIR-RAHIB

1. Are the leads correctly placed? Note: All waves are inverted in leads aVR and V1
2. Recognize Normal ECG. See image.
3. Follow the mnemonic for reading ECG: PIR-RAHIB
4. P = P wave: Normal (5 x 5 mm), P-pulmonale is tall, P-mitrale is wide
5. I = Interval P-R duration in the limb leads
6. R = Rate: Count R waves in 6 seconds (150 mm) and multiply by 10 to calculate the heart rate.
7. R = Rhythm
   Compare R-R distance of successive complexes.
   Regular or Irregular.
   (Look for AF, AV-block, BBB, and PVC)
8. A = Axis: Compare lead I and aVF to look for
   Both up: normal
   Lead aVF down: LAD
   Lead I down: RAD
9. H = Hypertrophy pattern:
   LVH: S in V1 plus R in V6 is >35 mm.
   RVH: R/S ratio is >1 in V1
10. I = Ischemic pattern
    Acute: ST elevation
    Subacute: T-wave inversion
    Chronic: q waves
11. B = Block: P-R interval and RSR' pattern
    1st degree, 2nd degree, 3rd degree block
    RBBB, LBBB, LAB, and LPB

Recognize Normal ECG

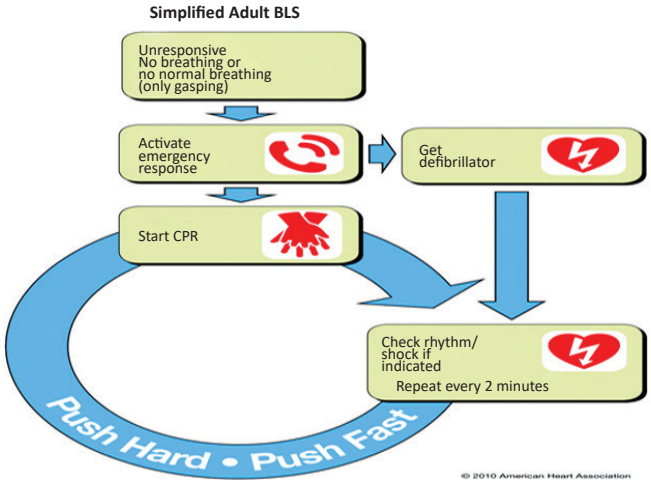

V6
V5
V1
V4

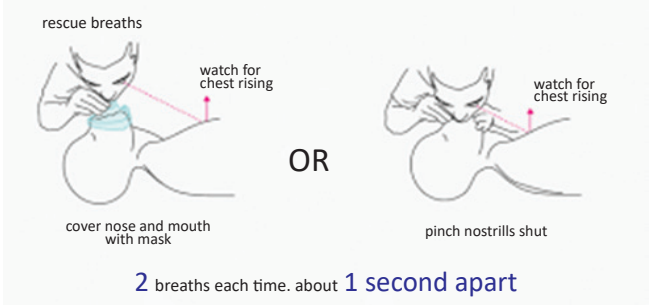

I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

CARDIAC ARREST DRs ABCD

Basic Life Support

1. Dangerous site
2. Emergency response, shout for help
3. Airway
4. Breathing, 5 rescue breaths
5. Circulation signs like pulse
6. CPR (15 chest compressions 2 ventilations
7. VF/ VT OR Asystole (check rhythm and get defibrillator)

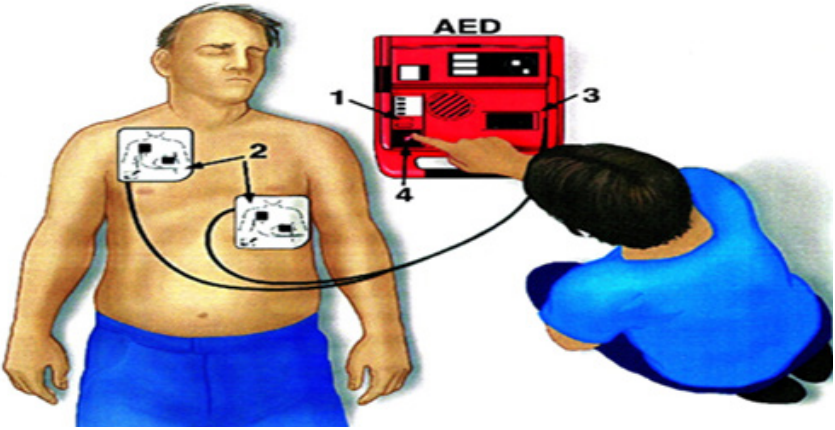

Simplified Adult BLS
Unresponsive
No breathing or
no normal breathing
(only gasping)
Activate
emergency
response
Get
defibrillator
Start CPR
Check rhythm/
shock if
indicated
Repeat every 2 minutes
Push Hard • Push Fast
© 2010 American Heart Association


rescue breaths
watch for
chest rising
OR
watch for
chest rising
cover nose and mouth
with mask
pinch nostrills shut
2 breaths each time. about 1 second apart

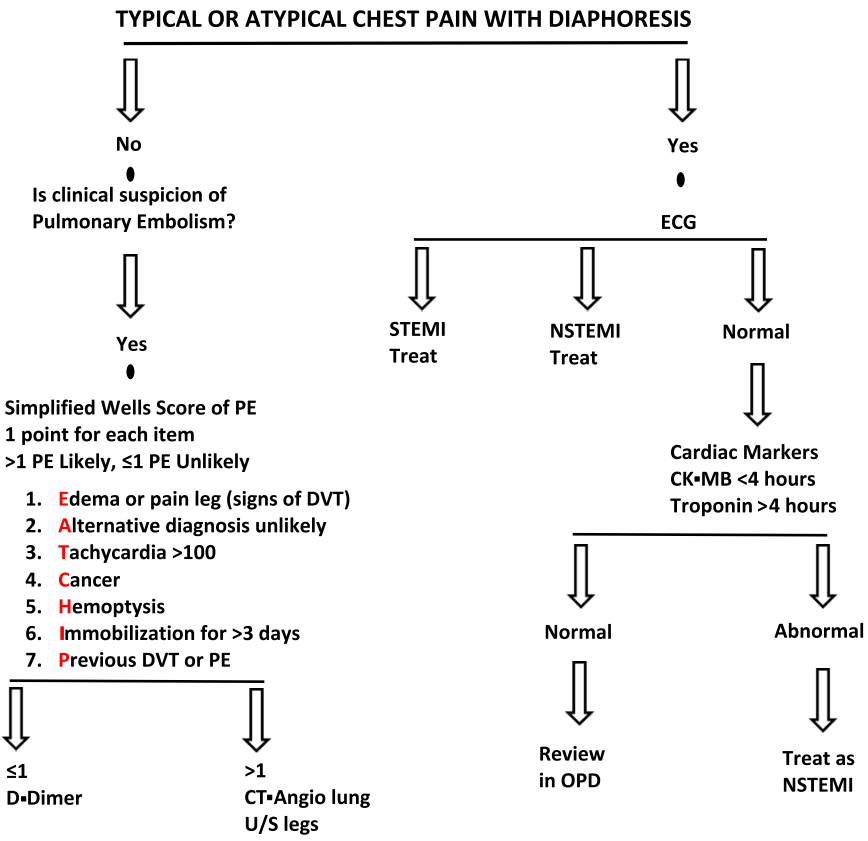
ADVANCED LIFE SUPPORT
VF / VT (SHOCKABLE)

1. DC shock 4J/Kg→up to 200J→CPR x 2min→DC
2. CPR→ Adrenaline (1 ampoule 1 mg)→DC→
3. CPR→Amiodarone (2 ampoule of 150 mg)→DC→
4. CPR→Adrenaline (1 ampoule 1 mg)→ DC
   (repeated combination)

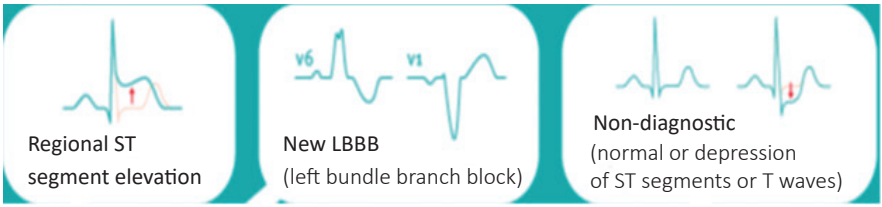
1. Activate AED.
2. Apply pads.
3. AED analyzes heart rhythm.
4. When prompted by voice command, press shock.



MANAGEMENT OF ACUTE CHEST PAIN

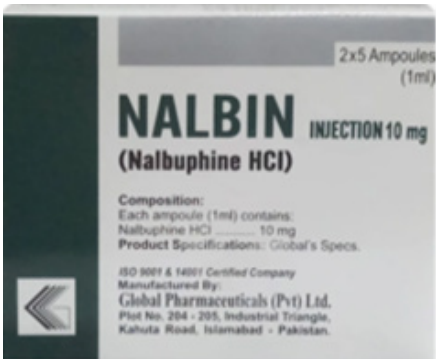



Acute
Coronary
Syndrome
PrepLadder
Medical


Regional ST
segment elevation
V6
V1
New LBBB
(left bundle branch block)
Non-diagnostic
(normal or depression
of ST segments or T waves)

ACUTE MI (STEMI)

1. 300mg Tab of Disprin to be chewed and swallowed, then 150mg OD (if not already given)
2. Tab Low plat 75 mg 4 stat, then 75mg 1 OD.
3. Inj Nalbin (Nalbuphin, narcotic analgesic) 10 mg dilute in 10 ml saline IV stat. (provided no history of asthma or COPD, keep an eye on oxygen saturation).
4. Inj Isoket 1 ampoule 10 mg in 100 ml Saline at rate 10 microdrops/min.



Isoket (isosorbide dinitrate)

- Preparation 10mg / 10mls
- Dilute 10mg (10ml) of isoket in 40ml NS
- 5ml = 1mg
- Dose 1-5mg/hr

Isoket (mg/hr)	Infusion rate (ml/hr)
1.0	5.0
1.5	5.5
2.0	10.0
2.5	12.5
3.0	15.0
3.5	17.5
4.0	20.0
4.5	22.5
5.0	25.0

….continued

- Tab Mepressor 25 mg 1 BD. (provided chest clear with no crackles / wheeze and SBP > 90.
- Inj Clexane 60 mg subcutaneous stat then 60 mg BD.
- Tab Lipirex 40 mg 1 stat then 1 HS
- Inj Motilium (domperidone) 20 mg iv stat if vomiting
- Zestril 5mg HS
- If systolic blood pressure <90 with heart failure symptoms (Inotropic Support Inj Dobutamine 250 mg 1 ampoule in 100 ml saline at 10 microdrops/min with up titration according to BP response).


Domperidone Injection
NINGBO SECOND HORMONE FACTORY


Mepresor 100
(Metoprolol tartrate)
Antihypertensive
NOVARTIS
Cardioselective beta-blocker
M. L. No. : 000010
R. No. : 007823
30 film coated tablets


Lipirex
(Atorvastatin)
10 mg
SPECTRUM MEDICAL SUPPLIES KHI
HIGHNOON


ZESTRIL
20mg
28
lisinopril dihydrate equivalent
to 20 mg anhydrous lisinopril


Enoxaparin Sodium Injection IP
Pre-Filled syringe
Low Molecular Weight Heparin
60mg/0.6ml
CLEXANE®
For subcutaneous injection
SANOFI

THROMBOLYSIS
If not a candidate for primary PCI

CONTRAINDICATIONS

1. Any prior intracranial hemorrhage
2. Known intracranial malformation or neoplasm
3. Ischemic stroke <3 months
4. Suspected aortic dissection
5. Recent surgery < 3 weeks
6. Recent head trauma <3 weeks
7. Bleeding diathesis
8. Uncontrolled hypertension > 180/110 mmHg; First control BP

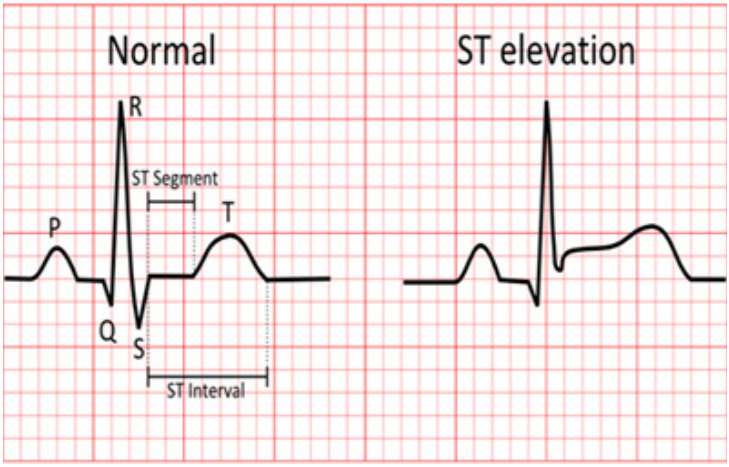
NSTEMI

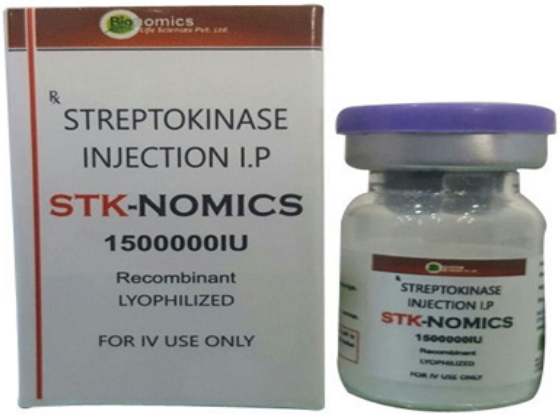
- Same as STEMI but no thrombolysis
- If remains symptomatic or TIMI (Thrombolysis in NSTEMI) Score >= 2, plan for PCI (per cutaneous intervention)

TIMI 1 SCORE FOR EACH

1. Diabetes
2. GFR <60ml
3. Old age
4. Women
5. Prior CABG
6. PCI within 6 months

The adult dose of streptokinase for AMI is 1.5 million U in 50 mL of 5% dextrose in water (D5W) given IV over 60 minutes.





PULMONARY EMBOLISM

1. Inj Clexane (Enoxaparin) 1 mg/kg, i.e., 60 mg s/c BD.
2. After 3 days, add Tab Warfarin 5 mg 1 OD (Target INR 2-3); Or Tab Xcept (Rivaroxaban) 15 mg BD.
3. Inotropic support Inj Dobutamine 250 mg 1 ampoule in 100 ml saline at 10 microdrops/min with up-titration according to BP response.
4. **STREPTOKINASE DOSE**
   a. 1.5 ml in 27 ml – 60 microdrops/min; 2.5 lac in 20 min.
   b. 1 vial (5 ml) in 100 ml – 7 microdrops/min; (15hr) 1 lac/hr.
   c. 1 vial (5 ml) in 100 ml – 7 microdrops/min; (15hr) 1 lac/hr.
5. Catheter based pulmonary thrombectomy or surgical thrombectomy.

PULMONARY EMBOLISM

The $S_1Q_3T_3$ pattern

SYMPTOMATIC BRADYCARDIA

Confusion
Hypotension
Cool Extremity
Chest Pain
Presyncope
Syncope

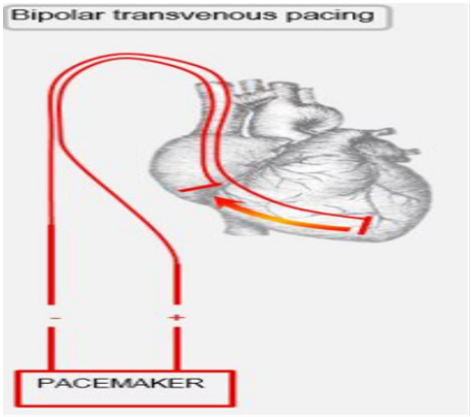
Atropine

- 1 ml injection contain 0.6 mg. One ml IV stat (up to 6 ml can be given) each injection 5 min apart.

Dopamine

- 200 mg dopamine in 50 ml NS = 200/50 = 4 mg/ml = 4000 mcg/ml
- 1 ml/hr = 66.6 mcg/min

SYMPTOMATIC BRADYCARDIA



NARROW COMPLEX TACHYCARDIA

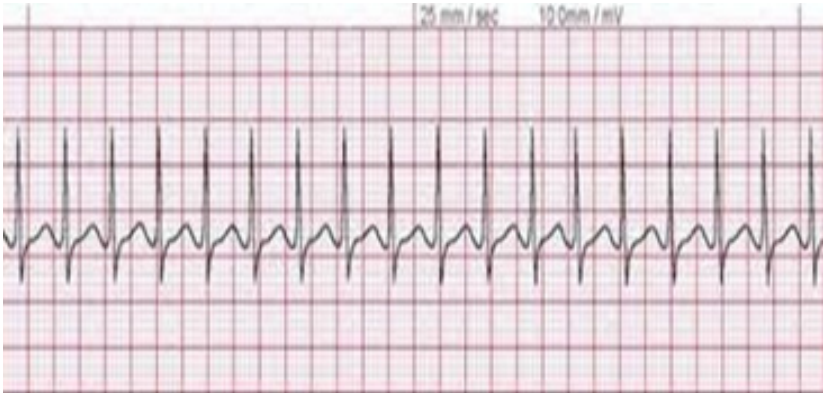
Regular

1. Cartoid sinus massage (Unilateral only)
2. Adenosine 3mg/ml (6mg stat, repeat after 5min; max up to 18mg) OR Verapamil (2.5mg/ml) 5-10mg over 2min

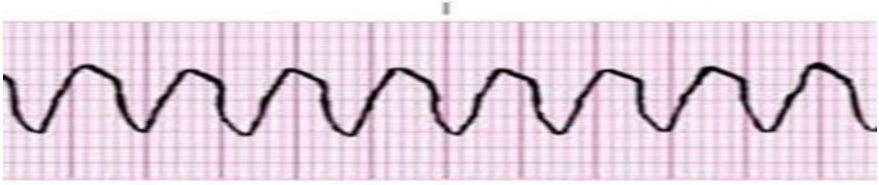
Irregular

1. UNSTABLE: Sync Cardioversion 50J
2. STABLE:
   a. Metoprolol 5mg iv stat, 50mg oral BD. (rate control)
   b. Amiodarone dose for Atrial Fibrillation (rhythm control)
      i. Bolus: 2 ampoules of 150 mg in 100 ml saline (microburret) @ 50 microdrops/minute over 2 hour.
      ii. First Infusion: 2 ampoule of 150 mg in 100ml saline (microburret) at 20 microdrps/minute (1mg/minute) for 6hrs.
      iii. Second Infusion: 2 ampoule of 150 mg in 100ml saline (microburret) at 20 microdrps/minute (1mg/minute) for 6hrs.
      iv. Third Infusion: 2 ampoule of 150 mg in 100ml saline (microburret) at 20 microdrps/minute (1mg/minute) for 6hrs.

NARROW COMPLEX TACHYCARDIA

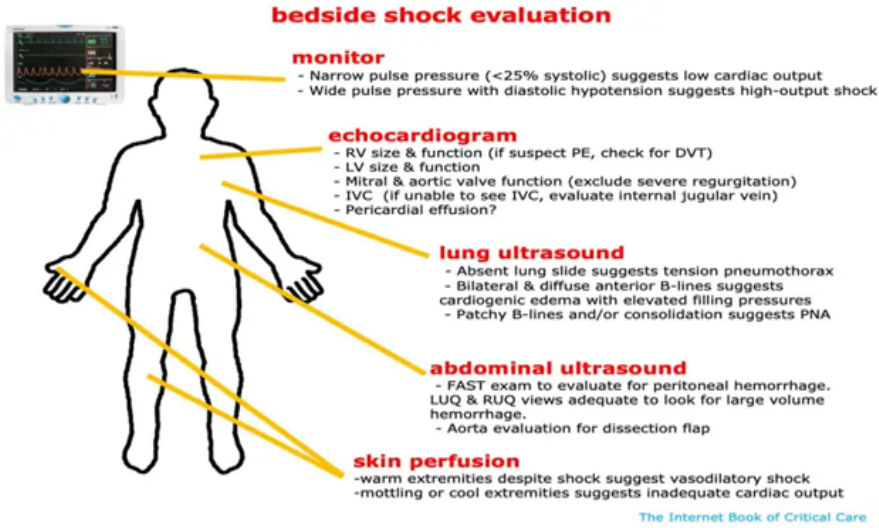


WIDE COMPLEX TACHYCARDIA (VT OR VF)



Pulseless ventricular tachycardia or ventricular fibrillation

1. Unsynchronized cardioversion(biphasic 200j).
2. If VT or VF persist continue CPR for 2min than check rhythum if still VT or VF deliver unsynchronized cardioversion, CPR for 2minutes and during CPR give inj adrenaline 1mg (IV or Intrasseous) stat; repeat after 5min.
3. If VT persist deliver 3rd shock, continue CPR for 2min, give inj amoidarone 300mg IV stat then 150mg if needed. Maintain airway with the ratio of mouth to breath 30:2, endotracheal intubation.



Hypovolemic Shock		
	COMPENSATED	DECOMPENSATED
Mental status	Anxiety	Lethargy
Skin	Pale	Pale, cold, sweaty
Breathing	<30/min	>30/min
Pulse	<120/min	>120/min
Blood pressure	>100 mm Hg	<100 mm Hg
First aid	1. Lying position 2. Stop bleeding 3. I.V. fluid	1. Lying, elevated legs 2. Stop bleeding 3. I.V. fluid (NOT oral), blood transfusion 4. Oxygen mask 5. Prevent hypothermia

HYPERTENSION

- Hypertensive urgency-Reduce BP In few hours. BP 220/125 mmHg with no threat to end organs (asymptomatic)
- Hypertensive emergency- Reduce BP within one hour. Diastolic >130 mmHg. Encephalopathy, nephropathy, CVA, Aortic dissection, pre eclampsia, Pulmonary edema, unstable angina, MI. Combination of encephalo or nephro with retinopathy used to be called malignant hypertension

FOR URGENCY

Captopril (Capoten)
12.5 – 25 mg orally

Nifedpine (Adalat) 10 mg orally, repeat after 30 min

FOR EMERGENCY

Labetolol (trandate) 20 – 40 mg IV every 10 min till 300mg

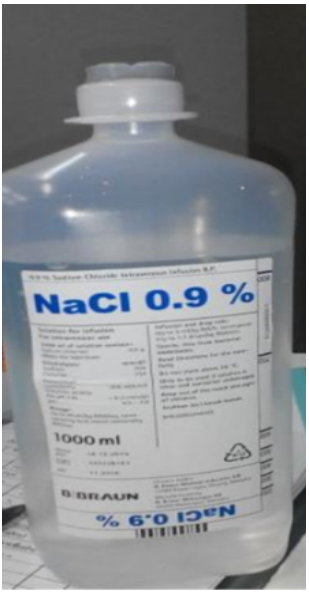
Furosemide (Lasix) 10 – 80 mg IV

Nitroglycerine
0.25 – 5 mcg/kg/min IV

INTERNIST / PEDIATRICIAN 1 WEEK

DIABETIC KETO ACIDOSIS
Dx: RBS >250mg/dl, arterial pH<7.3, soda bicarb <15 mg/dl, ketosis

- 0.9% NS 1L/hr. (strength vary with calculated Na level) till RBS <250mg/dl
- R insulin IV. 1U/kg/hr. till RBS <250mg/dl
- If K<3.3 mEq/L give 20 ml of KC1 (40 mEq / hr.)
- Inj Rocephin 1gm iv bd
- ECG monitor
- Check RBS 1 hourly and U/E 4 hourly


NaCl 0.9 %
1000 ml
B BRAUN


NDC 0002-8215-01
HI-210
10 mL
100 units per mL
Humulin R
REGULAR
Insulin human injection
U-100
Lilly


Rocephin®
Ceftriaxone
1 g i.v.
Roche


250 mL
Potassium Chloride for Injection Concentrate USP (2 mEq K+/mL)
PHARMACY BULK PACKAGE
NOT FOR DIRECT INFUSION
B BRAUN

HYPERGLYCAEMIC HYPEROSMOLAR STATE (HHS)

Also called hyperosmolar non-ketotic (HONK) coma but coma is not invariable.
In an uncontrolled T2DM, severe hyperglycaemia and dehydration without significant ketosis.
HSS characterised by

- Severe hyperglycaemia (> 30 mmol/L (600 mg/ dL))
- Hyperosmolality (serum osmolality > 320 mOsm/ kg)
- Dehydration in the absence of significant hyperketonaemia or acidosis (pH > 7.3, bicarbonate > 15 mmol/L)

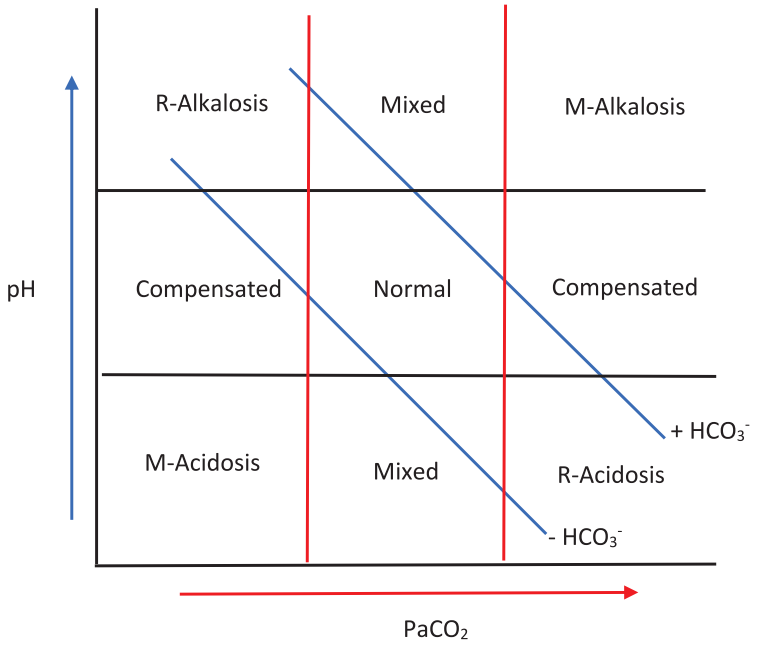
Hyperglycaemia develops over a few days to weeks, causing profound hyperglycaemia and dehydration (fluid loss of 10–22 litres in a person of 100 kg).

Precipitating factors: infection, MI, CVA, or drug therapy (e.g., corticosteroids)

Poor prognostic signs: hypothermia, hypotension (SBP < 90 mmHg), tachy or bradycardia, severe hypernatraemia (sodium > 160 mmol/L), serum osmolality > 360 mOsm/kg, and other serious comorbidities.
Treatment:

- To calculate Plasma osmolarity = 2[Na+] + [glucose] + [urea], all in mmol/L. Normal values are 280–290 mmol/L and consciousness is impaired if > 340 mmol/L. To calculate Plasma osmolality = 2[Na+] + [Glucose]/18 + [BUN]/2.8, where glucose and BUN in mg/dL.
- Give fluid replacement with 0.9% sodium chloride (IV). Use 0.45% sodium chloride only if osmolality is increasing, despite positive fluid balance. Target fall in plasma sodium is ≤ 10 mmol/L at 24 hrs.
- Aim for the positive fluid balance of 3–6 L by 12 hrs, and replacement of remaining estimated loss over the next 12 hrs.
- Initiate insulin IV infusion (0.05 U/kg body weight/hr) only when blood glucose is not falling with 0.9% sodium chloride alone OR if there is significant ketonaemia (urine ketones > 2+). Reduce blood glucose by no more than 5 mmol/L/hr.
- Treat coexisting conditions.
- Give prophylactic anticoagulation.

INTERPRETATION OF ARTERIAL BLOOD GASES

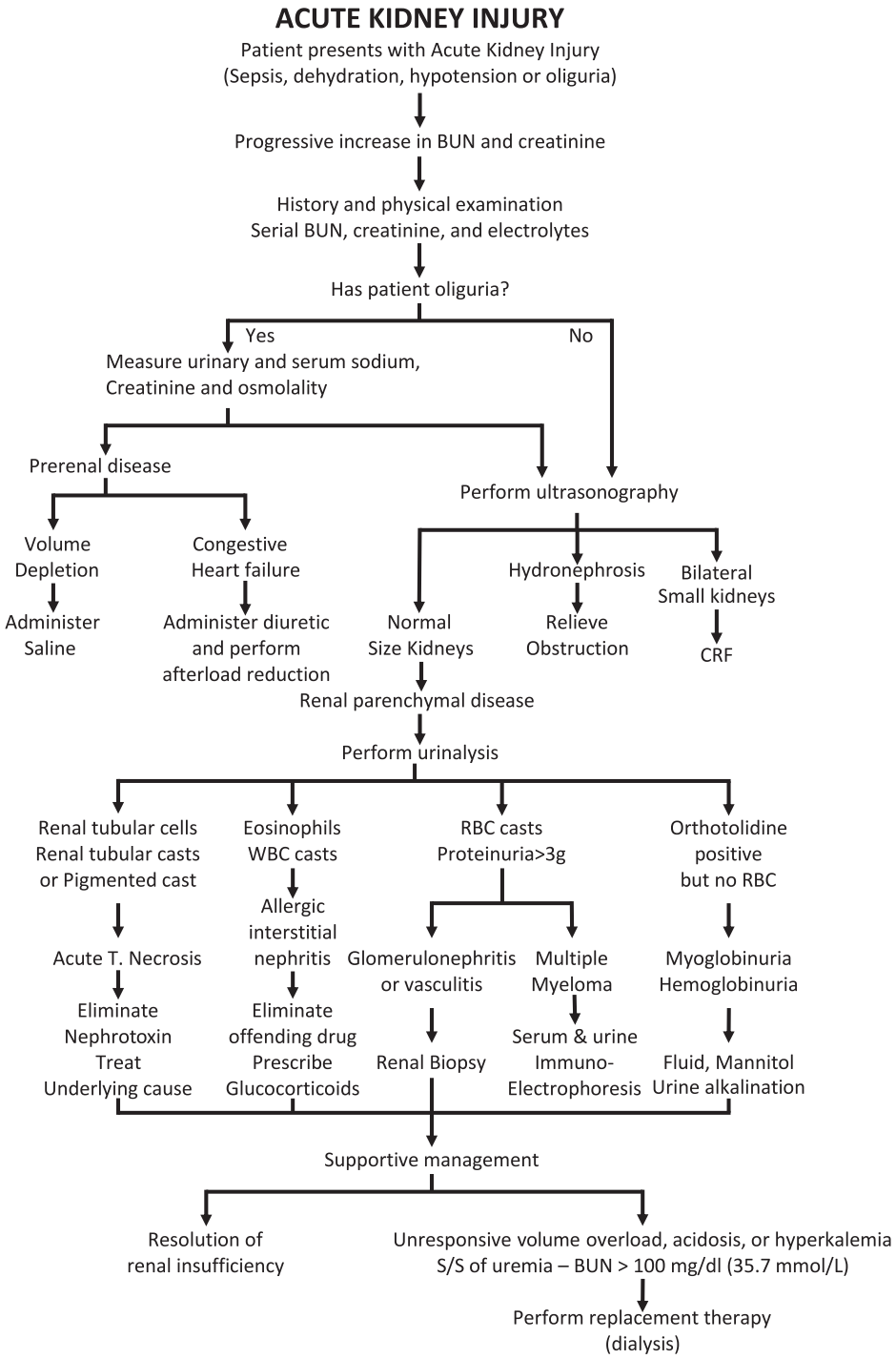


Collect the following information before applying the above graph:

1. Findings of ABGs:

pH:	7.34–7.44
PaO2:	10–13 kPa or 75–100 mmHg
PaCO2:	4.7–6.0 kPa or 35–45 mmHg
HCO3-:	22–26 mEq/L
Base excess:	−2 to +2 mmol/L
SBCe:	21 to 27 mmol/L

2. Calculate anionic gap: It is the difference between plasma cations (Na+ and K+) and anions (Cl- and HCO3-). Normal 10-18. And ≥20 is abnormal. It represents unmeasured plasma anions i.e., organic acids – phosphates, ketones, and lactate. It is used to find cause of metabolic acidosis.
3. Clinical features including breath odor, respiratory rate and O2-sat.
4. Clinical scenario of DM, alcohol or drug intake, liver failure, renal failure, respiratory failure, neuromuscular failure, or septicemia.


ACUTE KIDNEY INJURY
Patient presents with Acute Kidney Injury
(Sepsis, dehydration, hypotension or oliguria)
Progressive increase in BUN and creatinine
History and physical examination
Serial BUN, creatinine, and electrolytes
Has patient oliguria?
Yes
No
Measure urinary and serum sodium,
Creatinine and osmolality
Prerenal disease
Perform ultrasonography
Volume
Depletion
Congestive
Heart failure
Hydronephrosis
Bilateral
Small kidneys
Administer
Saline
Administer diuretic
and perform
afterload reduction
Normal
Size Kidneys
Relieve
Obstruction
CRF
Renal parenchymal disease
Perform urinalysis
Renal tubular cells
Renal tubular casts
or Pigmented cast
Eosinophils
WBC casts
RBC casts
Proteinuria>3g
Orthotolidine
positive
but no RBC
Allergic
interstitial
nephritis
Acute T. Necrosis
Glomerulonephritis
or vasculitis
Multiple
Myeloma
Myoglobinuria
Hemoglobinuria
Eliminate
Nephrotoxin
Treat
Underlying cause
Eliminate
offending drug
Prescribe
Glucocorticoids
Renal Biopsy
Serum & urine
Immuno-
Electrophoresis
Fluid, Mannitol
Urine alkalination
Supportive management
Resolution of
renal insufficiency
Unresponsive volume overload, acidosis, or hyperkalemia
S/S of uremia – BUN > 100 mg/dl (35.7 mmol/L)
Perform replacement therapy
(dialysis)

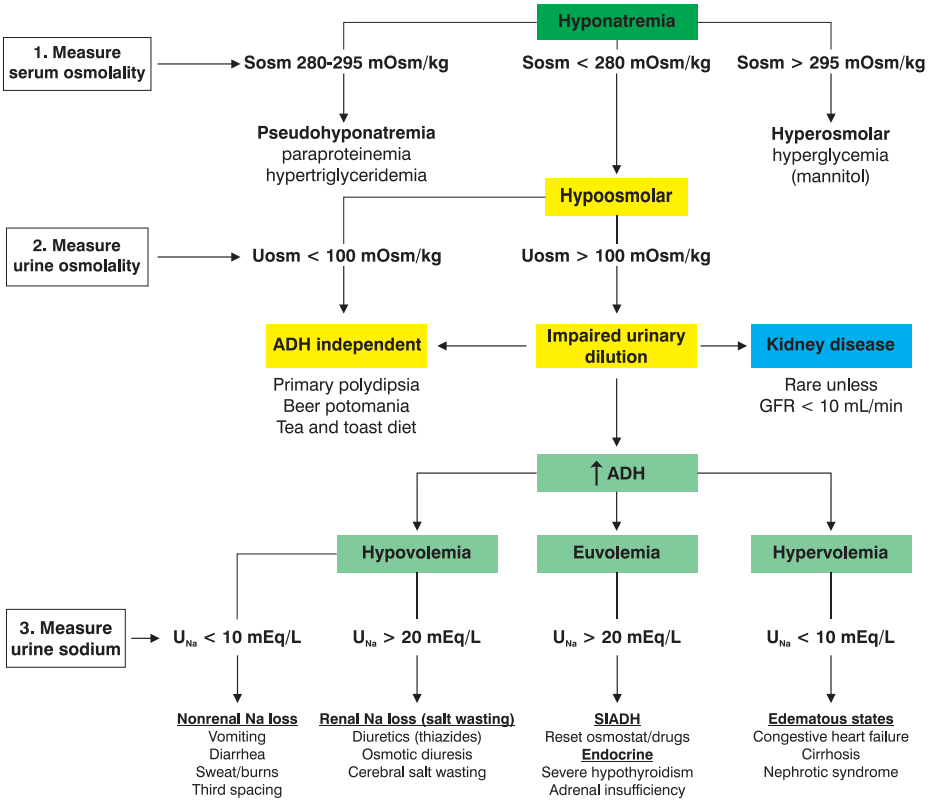


Figure 1. A diagnostic algorithm for the causes of hyponatremia using serum osmolality, urine osmolality, and urine sodium. ADH, antidiuretic hormone; GFR, glomerular filtration rate; SIADH, syndrome of inappropriate antidiuretic hormone.

$$\text{Osm} = 2(\text{Na}^{+}\text{mEq/L}) + \frac{\text{Glucose mg/dL}}{18} + \frac{\text{BUN mg/dL}}{2.8}$$

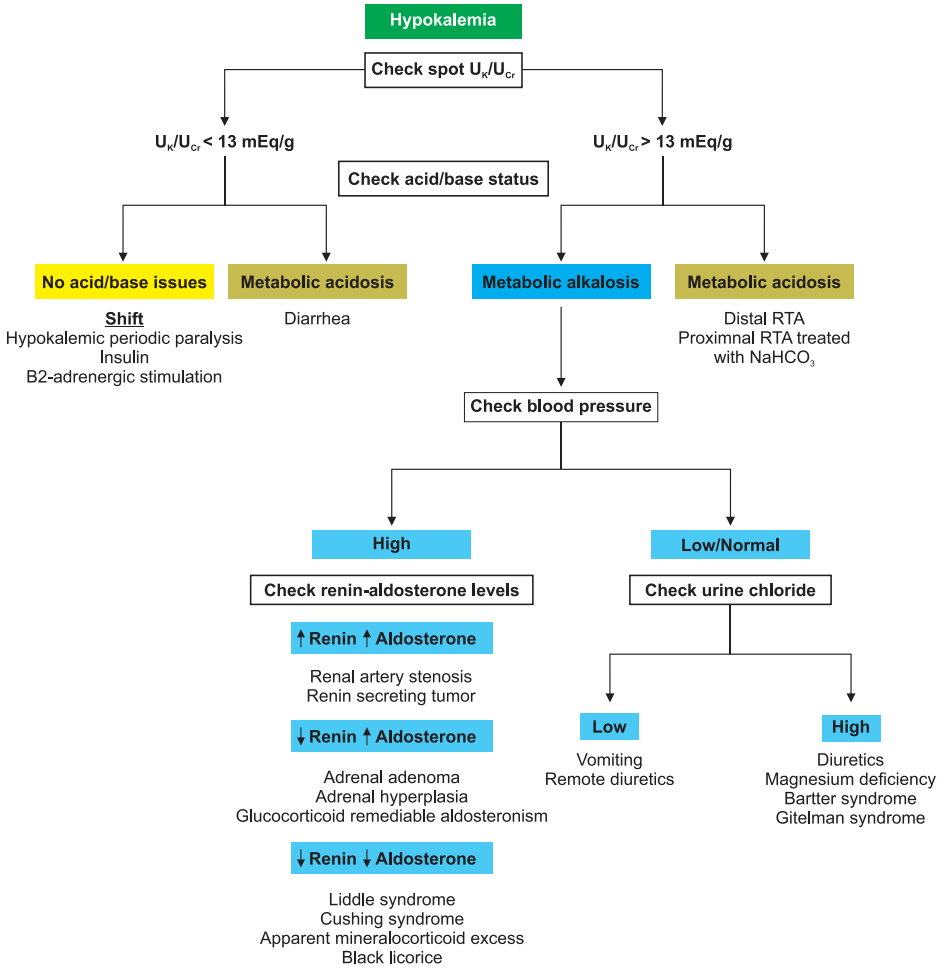
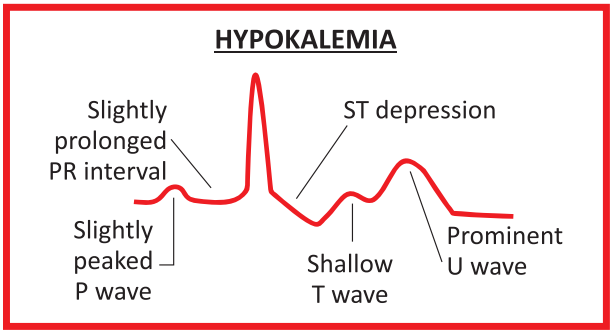
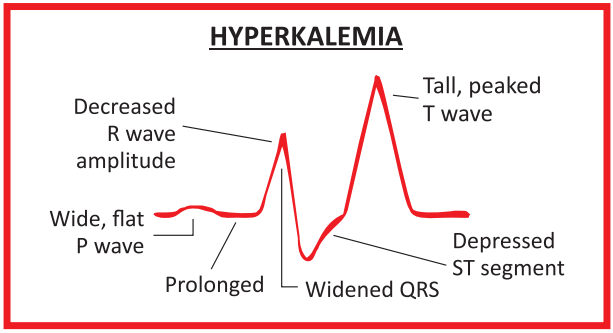


Figure 2. Differentiating renal from nonrenal causes of hypokalemia using a spot urine potassium and a spot urine creatinine.



Emergent Therapy of Hyperkalemia
(To protect heart and shift K+ inside the cells)

1. Stabilize cardiac membrane: Calcium gluconate 10% 5–30 mL slow IV.
2. If Metabolic acidosis, sodium bicarbonate IV 50–100 mEq (50 ml contains 50 mEq). Note: in ARF dialysis is more effective.
3. Drive K+ into the cells with Regular insulin IV 5–10 units, plus 50 ml of 50% glucose (25 g).
4. Drive K+ into the cells with Nebulized salbutamol, 10–20 mg in 4 mL normal saline, inhaled over 10 minutes.



STATUS ASTHMATICUS
1 neb 1 Inj

Step 1

- Assess (RR, work of breathing, O2 sat, HR, PEFR alertness, color)
- Monitor ECG, cardiac enzymes, Urine RE, electrolytes
- Maintain O2 sat >95%
- Ventolin neb .15 mg/kg 3 doses 20 min apart, then same dose hourly
- Inj Solucortef 4-8 mg/kg IV stat, then same dose over 6 hrs

Step 2

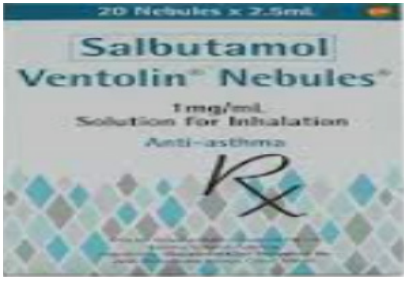
- Ipratropium bromide (Atem) neb ½ amp in 2.5 ml N saline stat, then same dose 8hrly
- Steroid (Clenil) neb stat and then 12hrly over 20 min
- Adrenaline 0.01mg/kg (1:1000) s/c or IM (max .5mg)
- MgSo4 20-75 mg/ kg IV or IM

Step 3

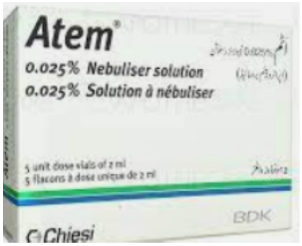
- Non Invasive positive pressure ventilation (if RR > 30/min, PH less than 7.3, PaCo2 rising)

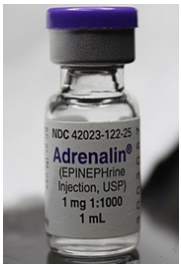
STATUS ASTHMATICUS
2 neb 2 Inj

Step 1



Step 2





Step 3

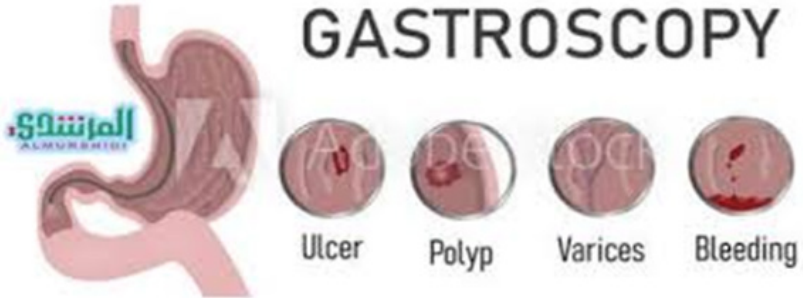
COPD ACUTE EXACERBATION
1 neb 1 Inj, 1 neb 1 inj

- Check ABGS, chest X- ray, ECG, Sputum for C/S

1. Give low oxygen 2 L/min (maintain saturation > 90%)
2. Treatment same as under Asthma.
3. Give IV Rocephin 1gm BD

ACUTE UPPER GIT BLEED

1. 0.9% saline infusion till blood is available
2. Give Omeprazole (Risek) 80mg Iv stat and then 8mg/hr for 72 hours
3. For Variceal bleeding give TERLIP (Terlipressin) (2mg I/v 6hrly)
4. Arrange and transfuse FFPs and send the patient for urgent endoscopy



ACUTE LIVER FAILURE

Presentation Types:

a) Acute in healthy persons. b) Acute-on-chronic.

c) Fulminant due to massive damage: hyperacute = with 7d of jaundice, acute = 1w to 4w, subacute = 5w to 6m.

Signs:

Jaundice, encephalopathy, fetor hepaticus, asterixis/flap, constructional apraxia (copy shape), signs of CLD – spider nevi, gynecomastia, caput medusae, splenomegaly, ascites, myopathy, and edema.

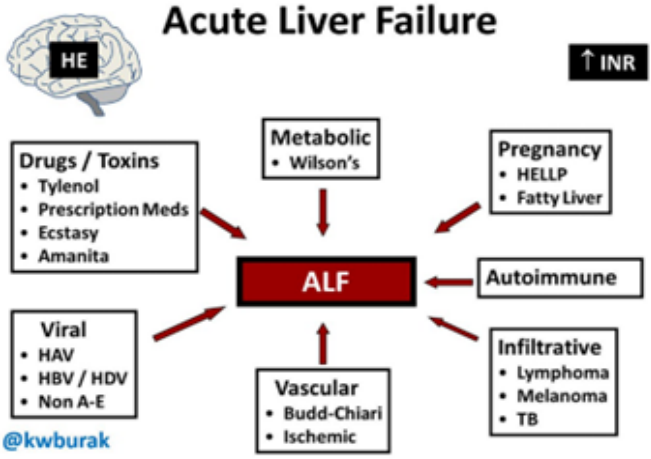
Grading of encephalopathy:

I. Altered behavior, reversal of sleep pattern, constructional apraxia
II. Drowsiness, slurred speech, liver flap
III. Delirium, Liver flap
IV. Coma

Investigations: CBC, UCE, RBS, LFT, PT/INR, Hepatitis profile, and paracetamol level. Ferritin, ceruloplasmin, ultrasound abdomen, and an ascitic tap.

Treatment:

- Propped up 20o, intubation if needed, NG tube, and Urine catheter.
- Monitor RR, O2-Sat, On-air/O2, Pulse, SBP, Temp, and consciousness.
- IV 10% glucose infusion 1L/12h.
- IV Omeprazole 40 mg/d.
- IV Ceftriaxone 2g/24h after the test dose.
- Thiamine and folate supplement.
- Avoid sedatives.
- For agitation, Inj. Serenace 5 mg ½ ampoule plus Inj. Phenergan 25 mg ½ ampoule IV.
- For seizures, Inj. Levetiracetam (Lerace) 500 mg IV infusion 12 hourly.



ORGANOPHOSPHATE POISONING

- S/S: Increased salivation, lacrimation, sweating, diarrhea, wheezing, constricted pupils, increased bronchial secretions, skeletal muscle weakness
- Tt: Wear gloves, remove soiled clothes, wash the skin

1. Give atropine 2mg I/V every 10 min till full atropinization(skin dry, pupil dilated, pulse more than 70/min
2. Give pralidoxime 30mglkg(about 2G in 60 kg man I/v over 20min)then 8mg/kg/hr.(max 12g)

SNAKE BITE
Note time since envenomation, confirm fang marks

Management:

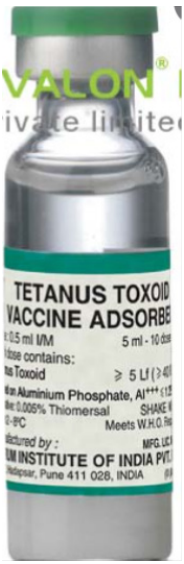
- Monitor vitals, Establish IV lines with 2 large bore I/V cannula(18G or 20 G). Send base line investigations along with coagulation profile like PT/APTT, BT / CT , CK/LDH, RFTs)

Severity:

- Signs of neurotoxicity (ptosis, Ophthalmoplegia Muscle paralysis, Respiratory failure, Bulbar paralysis
- Signs of haemotoxicity (Prolong PT/APTT, Prolong clotting time, Active bleeding, CK/LDH, RFTs

Drugs

1. Tetanus .5ml IM
2. Anti snake venom accordingly (mild: none Moderate: 4–6 vials, Severe: 6 vials). Dilute reconstituted vials in 250 ml of normal saline
3. In case of reaction: Stop infusion temporarily, give IV Avil, IV Solucortef 200mg and adrenaline if required



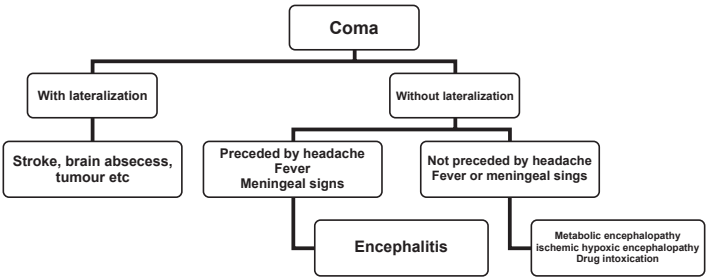
FEVER

Temp < 40 C – Symptomatic Tt
Removal of heat by cold sponges, ice bags, ice water enema, ice baths
Aspirin or acetaminophen, 325 – 650 mg every 4 hour
If hemodynamic instability, or neutrophils less than 500/mcL, or asplenic or immunosuppressed (on corticosteroids etc), or HIV infected– start oral fluoroquinolone plus amoxicillin/clavulanate (or clindamycin, if penicillin allergic), For fever during neutropenia - cefepime, piperacillin/tazobactam, imipenem, meropenem, or doripenem.
If a fungal infection is suspected fluconazole is an equally effective but less toxic alternative to amphotericin B.

NEUROLOGIST
2 DAYS

COMA

Algorithm of coma diagnosis



Metabolic Coma Etiologies

- ☐ Respiratory
  - ○ Hypoxia
  - ○ Hypercarbia
- ☐ Electrolyte
  - ○ Hypoglycemia
  - ○ Hyponatremia
  - ○ Hypercalcemia
- ☐ Hepatic encephalopathy
- ☐ Severe renal failure
- ☐ Septicemia
- ☐ Toxins, drugs

COMA

Management and Evaluation of the Comatose Patient

Practice

- ☐ During ABC's and secondary survey:
  - ■ Have someone start IV and obtain labs
    - ☐ ABG's
    - ☐ Electrolytes, Liver FT's, ammonia, coagulation studies
    - ☐ Toxin screens
    - ☐ Dextrostick
  - ■ As soon as IV in and labs drawn, give
    - ☐ Glucose (D25, 2 - 4 cc per kilogram)
    - ☐ Consider thiamin

Initial Management

Protect airway - Support vitals

If evidence of trauma, immobilize spine, get static-spine

IV, Pulse ox, frequent vitals and neuro.checks

Intubate if GCS < 10 or if any question of ability to protect airway

If Narcotic OD suspected, give
Naloxone 1 - 2 amps
repeat in 15 minutes

If benzodiazepine overdose suspected,
Flumazenil .2 mg
repeat q 1 minute up to 1.0 mg, may produce seizures.

If ETOH withdrawal (72-96 hrs post ETOH)
(confusion, hallucinations, tremor, tachycardia, HTN)
Thiamine 100 mg/IM
Librium 25-100 mg q6hrs

For ETOH seizures
(12-24 hours post withdrawal)
Give thiamine 100mg
Stat finger stick for dextrose
Lorazepam 2 mg IV 1 6-8 hours

COMA

Suspected bacterial meningitis or SAH

For SAH, STAT CT of brain

90% yield for SAH
Notify neurosurgery stat if suspected

If bacterial meningitis suspected, do not delay for CT-Start empiric therapy

Ceftriaxone 2 grams q12 hours IV
Vancomycin 750-1000 mg q 12 hours IV
Ampicillin 2 grams q 4 hours IV age > 65 or
if immunocompromised

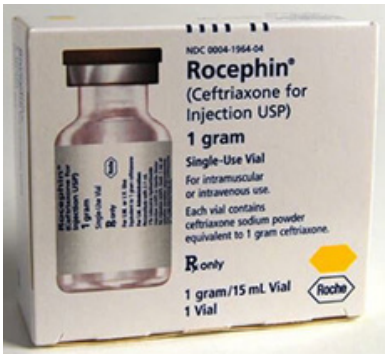
LP: L3-L4 interspace

Obtain opening pressure
Cell count tubes 1 and 4
Tubes 2 and 3, Gram stain, Cocci, AFB, india ink,
Protein and glucose

HEADACHE PYOGENIC MENINGITIS

Headache
Fever
Photophobia
Neck Stifness

1. Inj. Rocephin (Cefriaxone) 2 gm, IV infusion stat + Vancomycin + ampicillin
2. Inj. Decadron 12 mg IV stat



SINUSITIS
Unilateral Frontal Headache And Tenderness

1. Tab. Augment 1gm BD for 7 days
2. Tab. Telfast (Fexofenadine) 60 mg BD for 7 days
3. Synflex (Naproxen) 550 mg BD

TEMPORAL ARTERITIS
Age > 60 years, Temporal Headache

Tab. Deltacortil 5 mg (6 tablets BD)
Reducing two tablets after every two days till 1 tablet BD to continue

PRIMARY HEADACHE AND NEURALGIA

General Treatment of Headache

1. Inj. Voren (Diclofenac sodium) 75 mg IM in buttock stat. /
2. Cap. Nexum (Esomeprazole) 20 mg one BD
3. Tab. Synflex (Naproxen) 550 mg one BD
4. Inj. Gravinate (Dimenhydrinate) 50 mg IV stat

Migraine H, Cluster H, and Tension H

1. Tab. Topmate (Topiramate) 50 mg BD,
2. Tab. Reline (Sertraline) 50 mg HS

Trigeminal Neuralgia:

1. Inj. Kinz (Nalbuphin) 10 mg slow IV stat.
2. Then Tab. Tegral (Carbamazepine) 200 mg BD

HEADACHE

General Treatment of Headache

Migraine H, Cluster H, and Tension H

Trigeminal Neuralgia:

STATUS EPILEPTICUS

Step 1 (0-5min):

- ABCD, Vitals, O2, IV line
- Dx & Tt hypoglycemia, thiamine deficiency, in toxication and hypocalcemia

Step 2 (5-15min):

- Valium .2-.5mg/kg/min (max 5-10mg) may re peat 5-40min later
- Midazolam .3mg/kg (max 5mg)

STATUS EPILEPTICUS

Step 1

Step 2

Status Epilepticus

Step 3 (15-25min):
Phenytoin. Load 10-15 mg/kg or 15-20 mg/kg at 25-50 mg/min, THEN; Maintenance: 100 mg IV/ PO q6-8hr PRN; Administer IV slowly;

Step 4 (25-40min):

- Injec Lerace (Levetiracetam) 1000 mg (20 mg/Kg) infusion or Valproate 20mg/kg at 5mg/kg/min

Step 5 (After 60 min):

- Propofol Infusion and Ventilate

Step 3

Step 4

Step 5

CVA / STROKE (FAST)

F: Face droop, A: Arm/leg drift/weakness, S: Speech slurred/ aphasia, T: Time to act (Ischemic stroke is reversible with tPA within 4.5 hours)

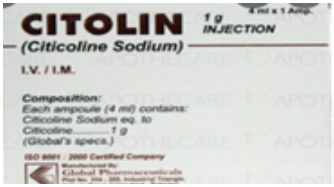
Check GCS, ABC, vitals, carotid bruit, cardiac murmur and ECG for AF, Baseline investigations plus CT scan brain, NG tube, Foleys catheter

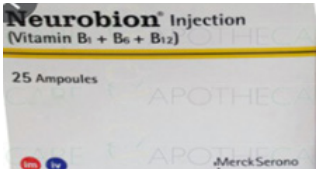
1. Disprin tab
2. If RBS <70mg/dl give 4 ampoules of 25% dextrose
3. IV Neurobion
4. SBP <200mmHg- don't lower (if IHD then bring to 180 . If hemorrhagic bring down to140)
5. Inj Lasix 40mg IV, tab captopril 25mg (no S/L),). Labetalol injection IV 50 mg over a period of 1 minute. Repeat every 5 minutes to achieve the target BP but maximum total dose is 200 mg.
6. Inj. Rocephin (Cefriaxone) 2 gm IV 24 hourly after test dose.
7. Inj. Citolin (Citicholine) 1g IV infusion 24 hourly.

CVA


DISPRIN
SOLUBLE ASPIRIN

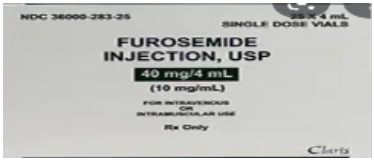

25%


CITOLIN
1 g
INJECTION
(Citicoline Sodium)
I.V. / I.M.
Composition:
Each ampoule (4 ml) contains:
Citicoline Sodium eq. to
Citicoline ..... 1 g
(Global's specs.)


Neurobion Injection
(Vitamin B1 + B6 + B12)
25 Ampoules
Merck Serono


Rocephin®
(Ceftriaxone)
1g i.v.
PK02
1 vial with 1g active ingredient
+1 ampoule with 10 ml solvent
Martin Dow


CAPOTEN®
CAPTOPRIL

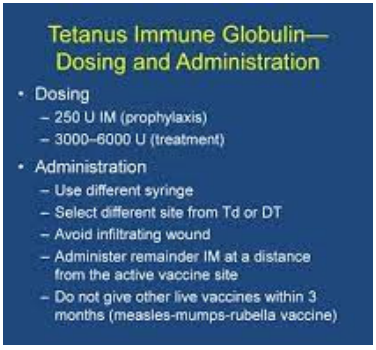

NDC 36000-283-25
SINGLE DOSE VIALS
FUROSEMIDE
INJECTION, USP
40 mg/4 mL
(10 mg/mL)
Rx Only

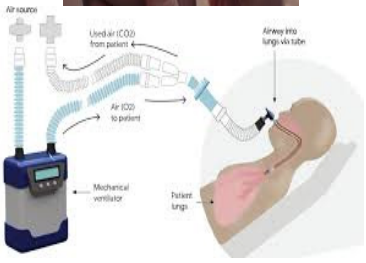

Labetalol
HCl Injection, USP
100 mg/20 mL
(5 mg/mL)
FOR INTRAVENOUS INJECTION ONLY

TETANUS

- Penicillin and metronidazole (infusion 500mg tds)
- Tetanus immunoglobulin (150 units/kg at multiple sites)
- Muscle relaxant- 5-20 mg tds up-to 480 mg orally OR .05 to .2mg/kg/h IV infusion OR Phenobarb 1mg/kg/hr IV or IM
- Tetanus vaccine
- Cleansing of wound
- ventilation

NOT FUNNY: A DANGEROUS AND SARDONIC SMILE IN TETANUS
TETANUS: REMEMBER TO VACCINATE – THE LANCET





DERMATOLOGIST
1 DAY

ALLERGIC REACTIONS
(can be biphasic so observe for 6 hours)

1. Citirizine (Rigix). 20 drops =1ml (children 5-20 drops according to age) OR Chlorphenaramine (Avil) 250mcg/kg IV
2. Prednisolone 1mg/kg OR IV hydrocortisone 25mg to 250 mg as per age
3. High flow O2
4. Adrenaline .01ml/kg (1:1000) repeat at 5-10 minutes interval. Nebulize 5ml if stridor
5. Salbutamol and MgSo4 IV if wheeze
6. 9% NS if in shock
7. Check tryptase level if repeated severe attacks


Avil® Injection
(Pheniramine Maleate)
Antihistaminic and Antiallergic
50 x 2ml Ampoules
SANOFI


Solu-Cortef®
(hydrocortisone sodium succinate for injection, USP)
100 mg*
For IM or IV use
Preservative-Free
Rx only


30 Film Coated Tablets
AGP
Rigix® 10mg
(Cetirizine Hydrochloride)
Four Seasons One Solution


Pfizer
Deltacortril®
(Prednisolone)
Enteric Coated
5 mg
100 Tablets
Caution:
To be sold on the prescription of a registered medical practitioner only.

DRUG REACTION

- **History: Onset of rash within 72 hours of taking the drug**
- **Clinical examination: Maculopapular erythematous rash over whole body. Oral mucosa may be involved**
- **Treatment:**

1. Diluted topical steroids in paraffin.
2. Inj Avil 25mg IM
3. Inj Solucortef 100mg IV
4. Omeprazole 20mg bid

DRUG REACTION

STEVEN JOHNSON SYNDROME SJS (always drug induced)

- Fever, erythematous blotchy macules and plaques with a necrotic center (Target like lesions).
- Oral mucosa shows extensive ulceration with black necrotic material over lips. The eyes may be congested.
- Withdrawal of offending drug. Tab Prednisolone 0.5-1.0 mg /kg . Oral Hygiene Emollients for lips. Vaseline gauze for skin . Steroidal eye ointments

TOXIC EPIDERMAL NECROSIS
(advance form of SJS) = superficial burns

Eyes are sticky, congested with ulceration of conjunctiva and cornea.
IV immunoglobulin and supportive management

ERYTHRODERMA

- Pre-existing dermatosis à erythema and ***scaling involving*** > 90% of body surface area leads to complication:
  - heat loss
  - hemodynamic disturbance
  - hypothermia
  - high-output CCF.
- Tt: Bed rest, Bland Emollients and attention to fluid & temperature balance. Systemic steroids for selected patients.

CHICKEN POX (VERICELLA) /HERPES ZOSTER

1. Tab Naproxen sodium (Synflex) 550 mg BD x 7 days ,
2. Capsidol cream LA x TDS,
3. Tab Acyclovir, 800mg Orally 5 times a day for 7 days. Acyclovir syrup (200 mg/ 5 ml) 20 mg / kg QID in (mild to moderate cases), Acyclovir infusion 10 mg/ kg diluted in 50 ml saline given over 30 minutes 8 hourly x 7 days (For Severe cases).

PSYCHIATRIST
1 DAY

MANAGEMENT OF ACUTE DYSTONIC REACTION

- Psychotropic medication / metoclopramide)
- Involuntary, painful muscle spasm, eye rolling, torticollis, inability to swallow).
- ***Tt: Inj. Promethazine (Phenergan) 50mg I/M x stat à Tab. Procyclidine (kemadrin) 5mg 8 hourly***

MANAGEMENT OF VIOLENT PATIENT

- Approach with a guard, from bedside, avoid eye contact with patient, have non-threatening attitude, talk about general topics, Acknowledge his anger, Remove any object of harm from the patient, ***Inj. Promethazine (Phenergan) 25 mg IM stat & after 4 to 6 hours. & Inj. Haloperidol (serenace) 5mg***

MANAGEMENT OF PANIC ATTACK

- Deep breathing. ***Inj. diazepam 10mg intravenous slowly at 2.5mg/min*** while observing respiratory rate. If apnea occurs, ventilate through airway and umbo bag. If hyperventilating make the patient breathe in polythene bag

MANAGEMENT OF SUICIDAL RISK

- Admit, active watch in ward/isolation room, attendant in the room. Medicine under your supervision. Remove potentially harmful substances

DYSTONIC

VIOLENT

PANIC

SUICIDAL

SURGEON
1 WEEK

HEAD INJURY

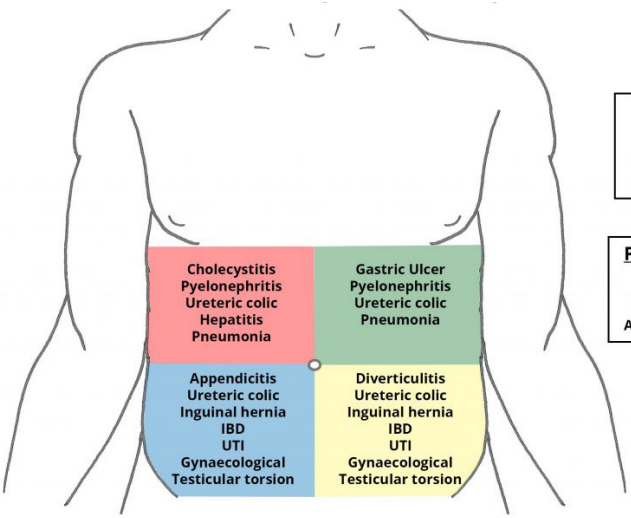
- GCS and ABC.
- Supportive collar to cervical spine, Splints to any limb bone fracture
- Wide bore IV line. Blood sample for baseline investigations along with blood grouping cross matching. Arrange relevant X-rays for suspected fractures, CT scans for Head, chest and abdomen as appropriate

1. .9% normal saline
2. Inj Voren 75 mg IM in buttock for pain.
3. Tetanus immunization.
4. Inj Rocephin 1 Gm iv stat.
5. Inj Decadron 4mg after consulting neurosurgeon
6. Wound cleaning. Bandage if bleeding.

ACUTE ABDOMEN

- Assess for possible cause through Hx & S/S
- Check vitals and maintain them
- Wide bore IV cannula to draw blood for baseline investigations plus pancreatic enzymes if pancreatitis suspected. Arrange for erect abdominal X ray for gas under diaphragm / fluid levels, X Ray KUB. Urgent U/S abdomen and pelvis. ECG

1. .9% saline infusion
2. Inj Voren 75 mg IM in buttock.
3. Inj Risek 40mg IV
4. Inj Rocephin 1 Gm IV bd
5. Pass Foleys catheter if urinary retention



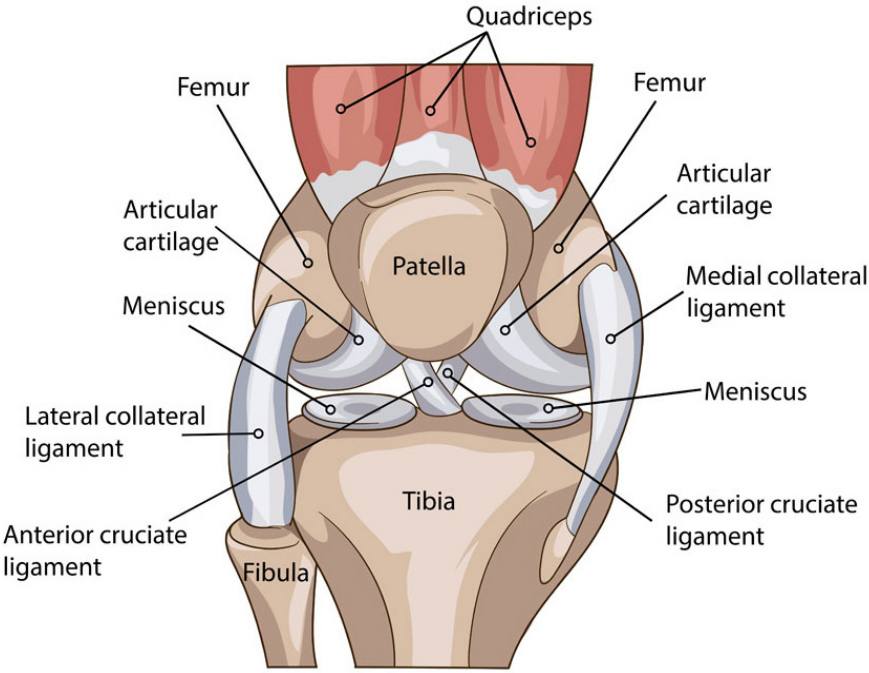
PAIN KNEE JOINT

Hx of trauma

1. Stop Bleeding
2. Apply Dressing
3. Apply Back Slab
4. Inj Voren 75 mg IM stat
5. Inj Rocephin 1Gm. IV BD
6. Inj TT
7. If swelling (aspirate blood / fluid send for C/S under aseptic conditions
8. X ray / MRI of joint

No Hx of trauma

1. Inj Voren
2. Rheumatology screening



PANCREATITIS

Symptoms: Sudden or gradual onset epigastric pain radiating to back and vomiting.

Signs: Tachycardia, shock, fever, jaundice, ileus, rigid and tender abdomen, bruising in periumbilical (Cullen's sign) or flanks (Grey Turner's sign)

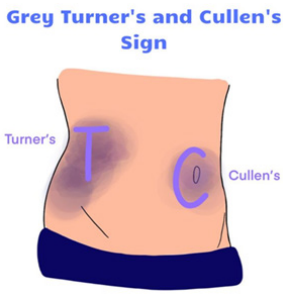
Tests: Serum amylase (>1000 u or 3-fold upper limit), lipase more sensitive and specific, CBC, CRP, RBS, UCE, Calcium, Albumin, ABGs, Abdominal XR (no psoas shadow, sentinel loop of jejunum ileus), Erect Chest XR (to exclude perforation), Ultrasound (to rule out gallstone), CT abdomen is standard choice.

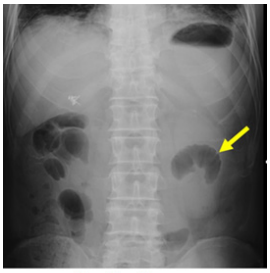
Severity Assessment (PANCREAS): PaO2 <8kPa or 60 mmHg, Age >55y, Neutrophilia WBC >15000/cmm, Calcium <2 mmole/L or <mg/dl, Renal function Urea >16 mmole/L or 96 mg/dl, Enzymes LDH >600iu/L and AST >200 iu/L, Albumin <32 g/L, Sugar 10 mmole/L or 180 mg/dl. Three or more factors detected positive within 48 h of onset suggest severe pancreatitis.

Management:

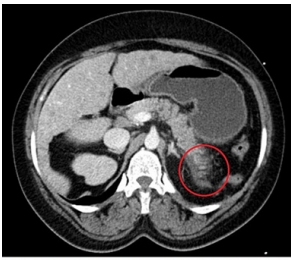
1. NPO, NGT, and Urine catheter.
2. Analgesia: pethidine 75-100 mg/4h IM.
3. Start, IV infusion of 1000 ml 0.9% normal saline 250-500 ml/h in the first 24 hours. Then according to vital signs and urine output.
4. Titrate fluid balance to maintain vital signs and urine output 30 ml/h.
5. IV infusion Imipenem (Inj Tianam) 500 my 8 hrs.
6. Hourly monitor pulse, BP, and urine output.
7. Daily monitor Amylase, CBC, CRP, RBS, UCE, Calcium, ABGs
8. If worsening: laparotomy and debridement.

Complications: Early – shock, ARDS, RF, DIC, and sepsis. Late – Abscesses, bleeding, thrombosis, fistulae, and recurrent pancreatitis.





Sentinel loop



Fat stranding surrounding the pancreatic tail (red circle) representing pancreatitis

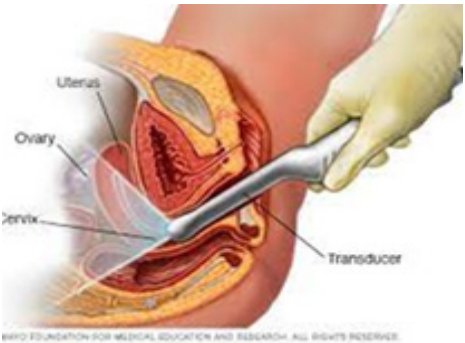
GYNECOLOGIST
1 DAY

MATERNAL COLLAPSE CAUSES

UTERINE RUPTURE - Prolonged labor, uterotonic inj., H/o previous C.S
UMBLICAL CORD PROLAPSE –
OBSRTUCTED LABOR: Prolonged labor exhaustion, dehydration. Perineum swollen due to multiple P/V examinations.
BLEEDING IN EARLY PREGNANCY (MISCARRIAGE)
PPH - 4 T as Causes

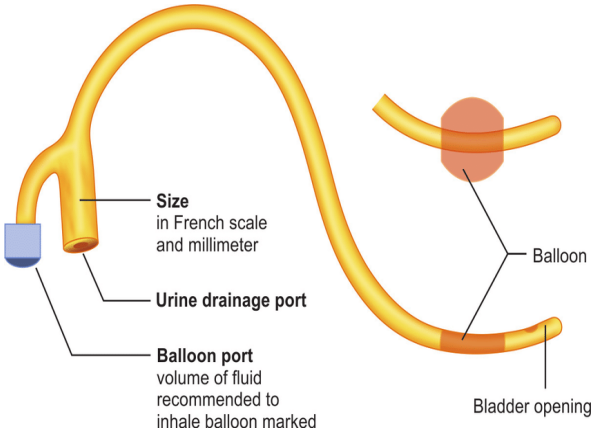
MANAGEMENT

LAB: Blood grouping , Cross matching, C/S ., Send serum beta HCG Monitor : Vitals & urinary out put 1 hourly



ABC High flow oxygen 10 -15 liters/min
Ultrasound or check fetal heart on pinard/Doppler or CTG
Obtain I/V access, Fluid resuscitation if volume depleted
Inotropic support (Inj. Dopamine) in case of septic shock. Usual dosage range: 2 to 20 mcg/kg/minute
Broad spectrum antibiotics (in septic miscarriage). Inj Rocephin 1gm iv bid and Flagel infusion
Monitor vitals every 15 min and urine output charting one hourly
Send serum beta HCG & arrange trans-vaginal ultrasound if having abdominal pain in first trimester with spotting (ectopic is suspected)

UMBLICAL CORD PROLAPSE – (If pulsations absent fetus is dead). Knee elbow/ left lateral with Trendelenburg position. Manually elevate presenting part. Gently replace cord in vagina Catheterize and fill the bladder with 5ooml of normal saline then clamp the catheter.


Size
in French scale
and millimeter
Urine drainage port
Balloon port
volume of fluid
recommended to
inhale balloon marked
Balloon
Bladder opening


Ceftriaxone
Rocephin
500 mg i.v.
Powder for i.v. injections
Aqua ad iniectabilia
5 mL


Dopamine
mcg/kg/min
Desired Dose x Quantity x Time in Minutes x Body Weight
Available dose X 1000
= mL/hour

MANAGEMENT OF PPH (4 T)

- ABC
- Position the patient flat / left lateral and keep her warm
- Pass Foley's catheter

- Rub the uterine fundus (tone)
- Oxytocin 5 IU slow I/V (repeat if necessary). Oxytocin infusion (40IU in Inf. R/L 500CC)
- Ergometrine 0.5mg slow I/V or I/M
- 800 - 1000 micrograms rectal misoprostol
- Consider Tranexamic acid 1gm I/V (thrombin defect)
- Exploration in OT (retained tissue OR Tear)

PPH


A-TOCIN INJECTION
OXYTOCIN INJECTION


ERGOMETRINE MALEATE INJECTION
METHOCIN
39 06 34
ERGOMETRINE MALEATE INJECTION, 0.2 MG, IN 1 ML, AMPOULES, 10'S
BOX


Misoprostol
Pfizer
CYTOTEC®
Misoprostol
Tableta
200 mcg

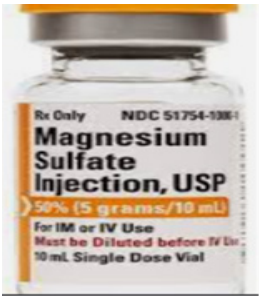

Tranexamic Acid Injection
1000 mg/10 mL
(100 mg/mL)
SOLUTION FOR INTRAVENOUS INJECTION
XGEN

ECLAMPSIA

- Call for help
- Turn patient to her side
- ABC
- Wide bore canula (CBC, LFTs,RFTs, Urine RE, Catheterize
- BP pulse record every 15 min, urinary output chart 1 hourly

- FOR FITS: Inj Mg So4 (4gm over 5-15 min IV) → 1Gm /hour for 1 day or 1 day after the last fit
- Recurrent fit with additional boluses
- FOR BP CONTROL: IV labetalol 20 mg if MAP > 125mmHg. Repeat every 10 min by 40-80 mg (max 220mg)
- Once MAP <125 maintain 40 mg/Hr double at 30 min till response or max at 160mg/hr
- If fail start Hydralazine 5mg IV repeat every 10 min (max up to 15mg).
- Once MAP < 125 start infusion 10mg/hr, doubling at 30 min interval max 40mg /hr.
- If fail, start sodium nitroprusside or nifedipine

ECLAMPSIA


Rx Only
Magnesium
Sulfate
Injection, USP
50% (5 grams/10 mL)
For IM or IV Use
10 mL Single Dose Vial


Labetalol
HCl Injection, USP
100 mg/20 mL
(5 mg/mL)
FOR INTRAVENOUS
INJECTION ONLY


NDC 0641-6231-25
Rx only
hydrALAZINE
Hydrochloride Injection, USP
20 mg/mL
For Intramuscular or
Intravenous Use
Preservative-Free
Warning: Discard Unused Portion
25 x 1 mL Single Dose Vials


Sodium
Nitroprusside
Injection
50 mg/2 mL
(25 mg/mL)
or Intravenous Infusion Only
Must be diluted
Potent drug: Monitor blood
pressure before and during
administration.
mL Single Dose Vial
LATE RUN

ENT SPECIALIST
1 DAY

ENT EMERGENCIES

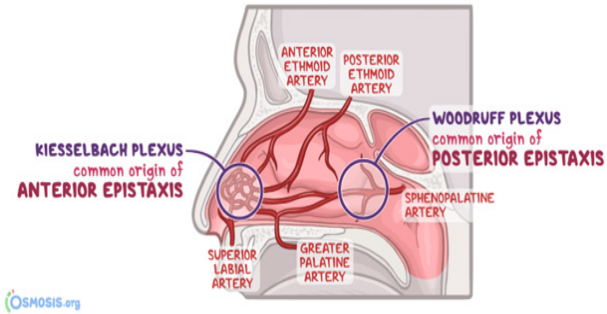
Foreign bodies

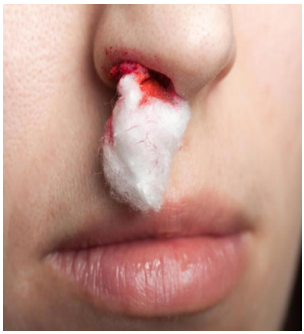
- Living foreign body in the ear can be managed in emergency by drowning it in spirit.

Epistaxis

- Pinch the nose for 5 minutes, do anterior nasal packing, start Tab Augmentin 1Gm bd and tab Caflam once a day.
- If bleeding persist maintain ABC & vitals. Pass I V line and start Ringers lactate solution till blood is available. Manage blood pressure.
- Pass folly's catheter into nose and inflate it on the side of epistaxis.

LIVING FOREIGN BODY OF EAR





LIVING FOREIGN BODY OF EAR

OPHTHALMOLOGIST
1 DAY

EYE EMERGENCIES
Orbital x ray, US, CT scan, MRI may be required

- **<u>Chemical injury: / Blunt trauma / Penetrating Injury</u>**
- <u>Remove particulate by cotton swab</u>
- Irrigate with N saline / ringers lactate for 15 min
- Topical anesthesia proparacaine 8 alcaine
- Acid neutralizes by Sodium bicarbonate and alkali by boric acid
- Ciprofloxacin 250mg bid, steroid drops 7 days, atropine 2 drops tds
- Vit. C500mg od, Voren Inj or tab

ACUTE CONGESTIVE GLAUCOMA

Symptoms:

Pain along trigeminal nerve, halos around light, VA decrease, Nausea, Vomiting, Redness, watering, photophobia.

Signs:

Ciliary congestion, Pupil is vertically semi-dilated due to ischemia of sphincter.

Treatment:

1. Keep patient in supine position on bright light,
2. Acetazolamide 500mg IV (0.50ml), 250mg (0.25ml) 6hr orally, OR Mannitol
3. Voren 50 mg IM SOS,
4. Antiemetic
5. Pilocarpine when IOP is 40mmHg,
6. Beta blocker bid (timolol 0.25%) , Alpha-2-agonist 2 times a day brimonidine,
7. 0.5%, Carbonic anhydrase inhibitor dorzolamide tid
8. 2%, Topical steroids to reduce inflammation dexamethasone

MANAGEMENT OF CENTRAL RETINAL ARTERY OCCLUSION

Sudden painless loss of mono ocular vision, Tt:

1. Acetazolamide 500g IV and 250 mg QID for 24 hours OR Mannitol 20 percent IV 1.5-2g/kg over 45-60 min),
2. Ocular massage for dislodging of clot over the globe over closed eye for 15 to 20 min, S/L isosorbide nitrate,
3. 95% O2,
4. Methylprednisolone IV 1g

MANAGEMENT OF CORNEAL ULCER

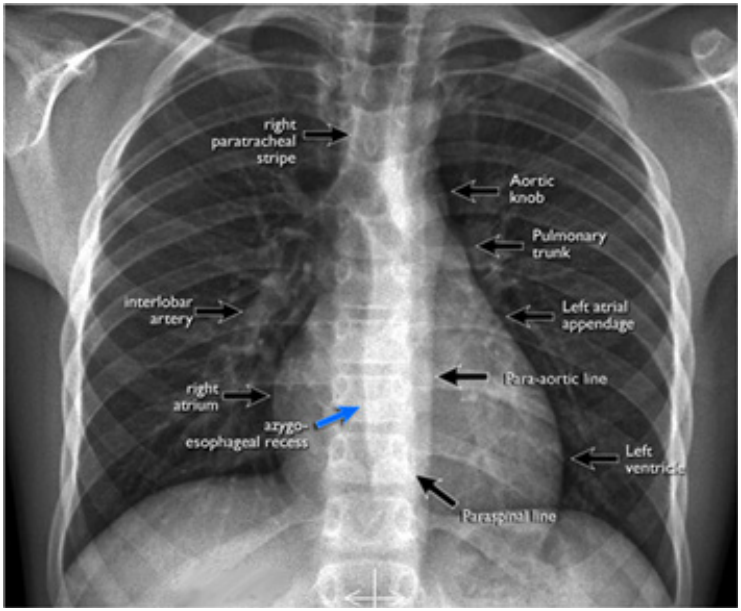
Symptoms: Pain, Blur vision, Redness, Halos, Photophobia, lacrimation.

Signs: Vision is reduced, Lids will be edematous, Conjunctival congestion, Purulent Discharge, Cornea show ulcer, and surrounding area will be hazy , Hypopyon.

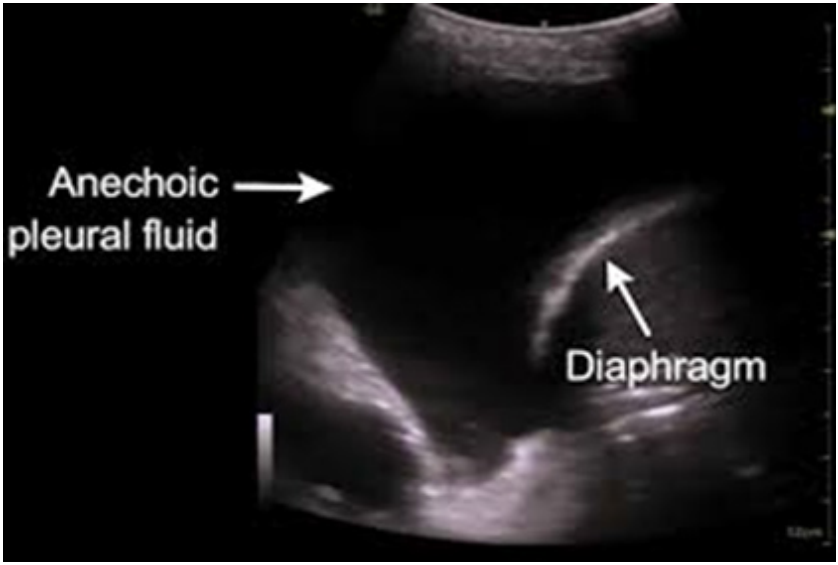
Tt:

1. Ciprofloxacin 1.5 % 4 times a day,
2. Ointment polyfax at bedtime
3. Systemic antibiotic if ulcer is near limbus or perforated,
4. Atropine drop 1%,
5. Voren 50mg IM,
6. Timolol 0.25 to 0.5 %,
7. Diamox 2%),
8. Pressure bandage for mechanical support.
9. Steroids are never used.
10. Pads are not used in pyogenic ulcers

RADIOLOGIST
1 WEEK

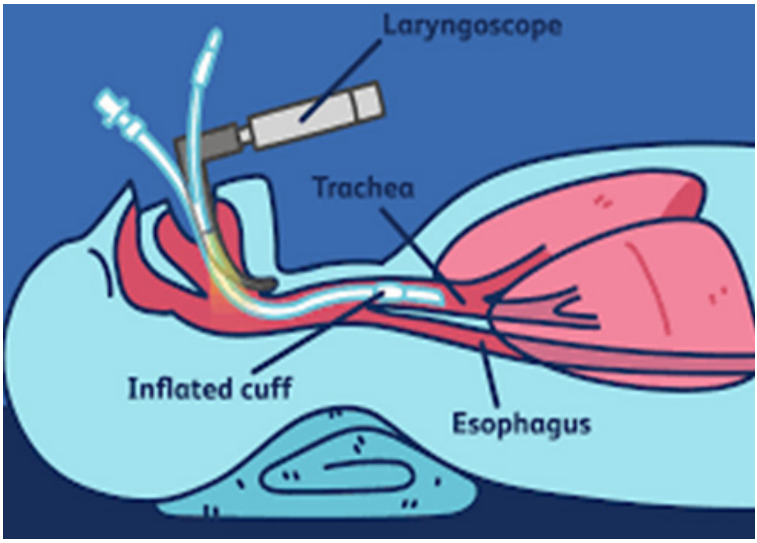

right paratracheal stripe
Aortic knob
Pulmonary trunk
interlobar artery
Left atrial appendage
Para-aortic line
right atrium
azygo-esophageal recess
Left ventricle
Paraspinal line


Subcostal view
Sternum
Effusion
Effusion
RV
RA
LV
LA
Pericardial effusion
Thoracic wall


Anechoic
pleural fluid
Diaphragm


Front
Right (Patient)
Left
Liver
IVC
Ao
Back
13

ANAESTHETIST
1 WEEK

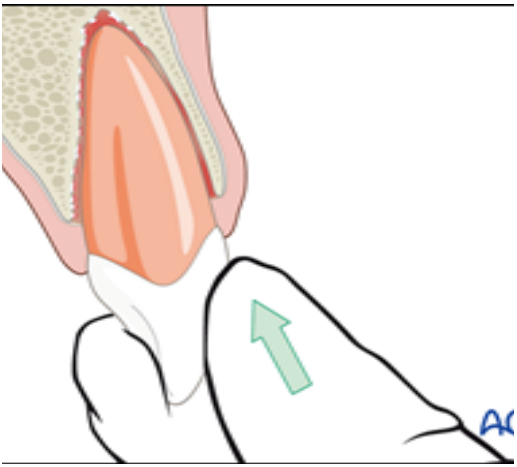

Laryngoscope
Trachea
Inflated cuff
Esophagus


Ventilator Settings
A Complete Overview

DENTAL EMERGENCIES 1 DAY

DENTO- ALVEOLAR INJURIES / AVULSED TEETH

- Rule out any other significant injuries (History & Clinical Examination)
- Clean the area with saline, remove any gross debris
- Replant the avulsed tooth as early as possible.
  - Always hold the avulsed tooth from its crown,
  - If any gross debris present on avulsed tooth, wash is under running saline, don't rub the root portion
  - Gently place the tooth within socket, and align it digitally as shown in figure
- A silk suture can be used to splint the avulsed tooth with adjacent sound teeth
- Manage for prevention of tetanus and wound infection.
- Refer the patient to Oral & Maxillofacial Surgeon



LUDWING ANGINA

Diagnosis:

- Most likely source is odontogenic infection
- Patient presents with expanding swelling bilaterally in submandibular/sublingual space
- Tongue and floor of mouth are raised
- Patient is usually febrile, dehydrated and has a toxic appearance
- The patient will ultimately have trouble in breathing

Treatment:

- Treat as an Emergency, timely diagnosis and intervention is life saving
- Air way is the main concern
- Establish IV line, start IV fluids and broad-spectrum antibiotics
- Immediate Incision and drainage:
- Admit patient. May need intubation / surgical airway and ICU facilities.
- Consult Oral & Maxillofacial surgeon for definitive management.
  - May require multiple incisions at sites as shown in figure.
  - Using a curved artery forceps, drain the abscess and place surgical drains
  - Take puss for c/s

Figure: 1

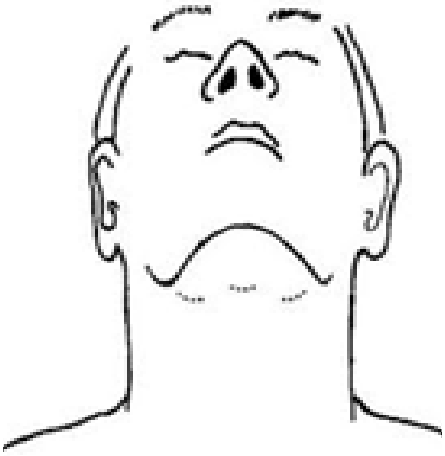
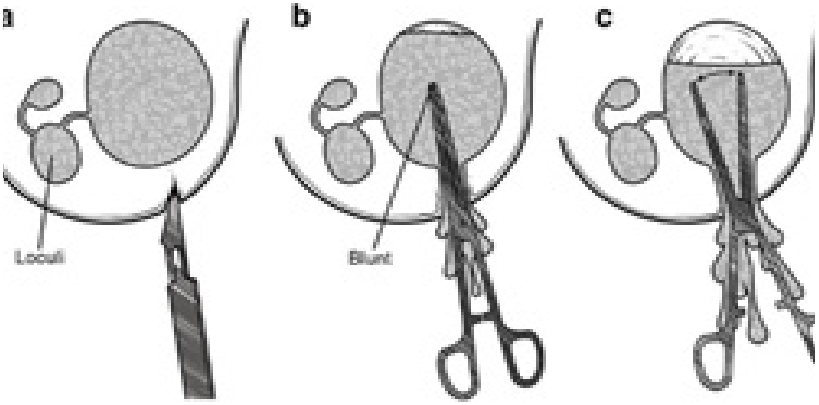


Fig 1: Red mark shows incisions

Figure: 2



TEMPOROMANDIBULAR JOINT DISLOCATION

- Reassure patient
- Keep patient in sitting position. The operator stands behind patient
- Bimanually place thumbs on mandible molar area and fingers at lower border of mandible
- Manipulate the mandible downward, then rotate backward
- Once Joint is reduced, the patient can occlude his / her teeth
- Apply crab bandage as shown in picture
- Advise soft diet and jaw rest (don't open mouth wide, don't talk much)
- Advise Oral Analgesic
- Refer to Oral & Maxillofacial surgeon for definitive management of recurrent cases.

DENTAL PAIN

- With careful history and intraoral examination, diagnose the affected tooth.
- Most of time, affected tooth is grossly carious and tender when percussed (back of tissue forceps can be used for percussion of the tooth)
- With 3 cc syringe, inject 2 ml of (1:100000) epinephrine up to 5 mm deep into buccal vestibule of culprit tooth, bevel pointing toward apex of tooth
- Advise patient warm saline rinses
- Administer oral / parenteral analgesia (e.g., Diclofenac Sod/ Pot).
- Refer to dentist.