

# **BUZZWORDS**

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# **INTEGRATED MODULE**



Bone pain, hearing loss, ↑ alkaline phosphatase - Paget's

Bone pain, normal alkaline phosphatase, COLD spot

↑ alkaline phosphatase, xanthelasma, osteomalacia - PBC

Isolated unconjugated bilirubinemia, only with stress

Isolated conjugated bilirubinemia, Black liver

Osteomyelitis from a foot wound puncture

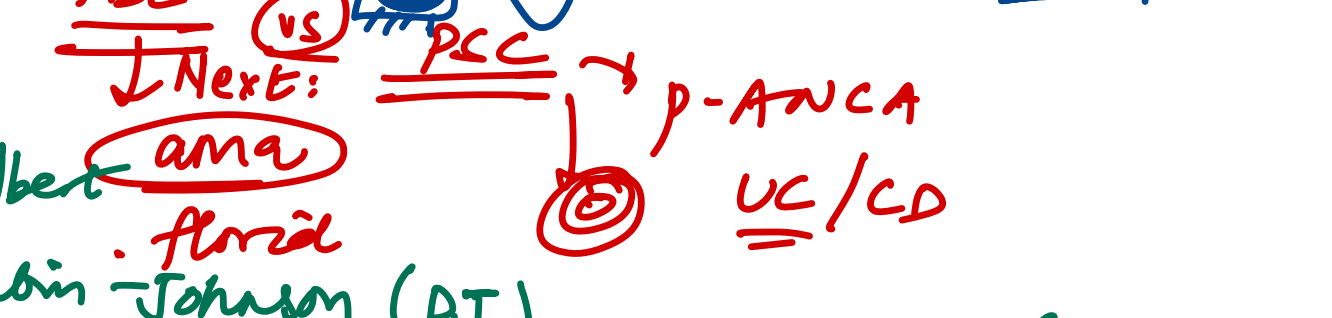
Osteomyelitis in a sickle cell patient

Aplastic crises in sickle cell anemia

Sickle cell trait, renal mass

Renal mass, Hypertension + Palpitations

Pneumothorax, renal mass, follicular lesions



ALP (circled)

epi M

Gilbert

ama (circled)

florid

Johnson (AJ)

Pseudomonas (circled)

Salmonella

Parvovirus

(PRCA)

Medullary RCC

Thymoma (circled)

VHL 3p

MG (circled)

Good's

Surfer's ear - exostosis

Ca<sup>2+</sup> - LEMS (circled)

Small cell (circled)

L-myc (circled)

clear cell RCC (Pheo), HB

TBL (circled)

AML (circled)

B-H-D

Chromophyll

Hale's

C-myc (circled)

Parvitt

↓ Gamma globulin

n-myc - NB

- Cerebriform stomach, Foveolar hyperplasia Menetrier's - TGF ↓
- Hepatitis, AST > ALT, <300 Alcoholic GGT ↑ ALT >> AST - viral hep ~ Thousands
- Severe abdominal pain out of proportion to the exam Mekertic ischemia
- Previously healthy 6-month-old girl has ↓ head growth, hand wringing and ↓ social interaction Imeg imeg (AFib)

Pancreatic hyperplasia  
↓  
Gastritis (ZES)

AST (SGOT)  
asp  
↓  
oxalocalcol

Pancytopenia Café-au-lait spots, absent radii and thumbs

Fanconi anemia Rett Sx

- Café-au-lait spots, precocious puberty FD
- Café-au-lait spots, dermal tumors NF 1

McCune Albright

VACTERL  
Klippel Trapani  
T-AR

• XLD  
• MECP 2  
• DOC - Trophoblastic

RAVI IP Blaschko

Pancytopenia, pancreatic insufficiency

Schwachman-Diamond

Thrombocytopenia  
abs radius

Alport CNHL

LS  
coll IV

• Patient fails to lactate after delivery with marked blood loss

empty sella (ischemic necrosis) Sheehan's

• Galactorrhea, amenorrhea, bitemporal hemianopia

☉ + Catecholamine (PRLoma) ☉ GnRH

• Sudden headache, Shock, hypopituitarism pit apoplexy  
bleed em adenoma

Diamond-Blackfan Langer inclusion

• Ant Lenticular post  
GN Lenses

• Heel pad thickness increased, ↑ IGF-1

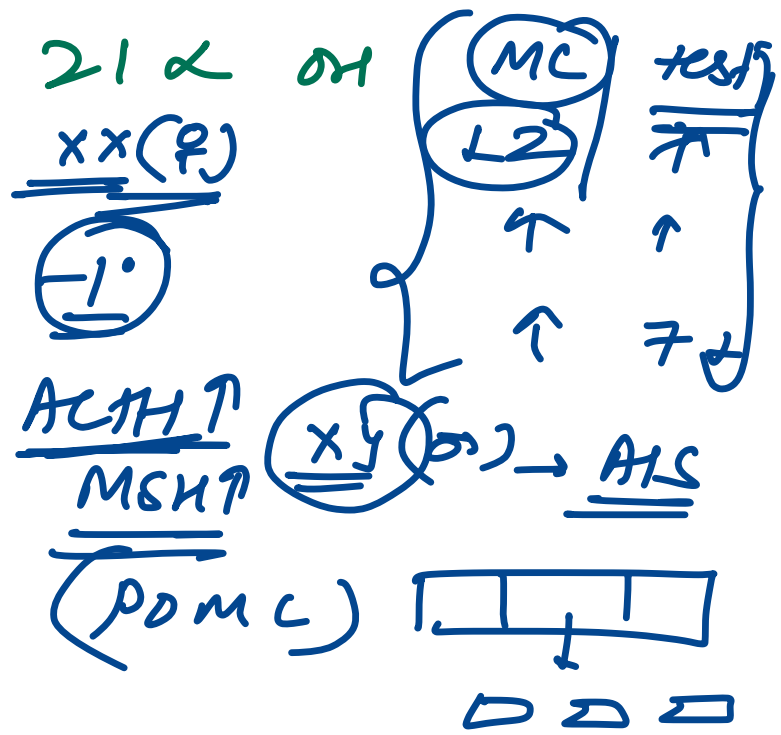
DGTI

Acromegaly

GTA  
x3 x4 x5

- Hyponatremia and hyperkalemia, ↑ Serum 17-hydroxyprogesterone **CAH - 21 α OH**
- Hyponatremia and hyperkalemia, new skin pigmentation **Addison / ad**
- Severe hypoglycemia, normal C-peptide **exog insulin**
- Absent breath sounds, dullness to percussion, shock, flat neck veins **Hemothorax**
- Absent breath sounds, tracheal deviation, shock, distended neck veins **Ptx**
- Normal AG metabolic acidosis, Amphotericin B, nephrolithiasis **obstructive shock**
- Normal AG metabolic acidosis, rickets **Fanconi Sx**
- Gout, self-mutilation, and choreoathetosis **Lesch Nyhan - HGPRT def**
- Rhomboid-shaped, positively birefringent crystal **Pseudogout → CPPD**
- Arthritis, conjunctivitis, and urethritis **Reiter Sx**
- 23 yr old Female with migratory arthritis and skin rash exacerbated by skin exposure **SLE**

**MC ↓**  
**MC ↓**



**Nelson**  
**adrenectomy**

**Conn Sx**  
**adrenal adenoma**  
**↑↑ me**

**needle**  
**-ve bnf**  
**neg**  
**collapses**  
**AEE**

**Fat embolism**

**Long bone fracture, respiratory distress, petechiae, confusion**

•  $\downarrow$  Ca<sup>2+</sup>,  $\uparrow$  K<sup>+</sup>,  $\uparrow$  phosphate,  $\uparrow$  uric acid,  $\uparrow$  Mg

Tumor lysis &

Refeeding &  
K Mg PO<sub>4</sub> ↓

• Hypertension, bradycardia, and abnormal respirations

Cushing triad ( $\uparrow$  ICP)

• Hypotension and bradycardia Neurogenin

• Blue sclera, multiple fractures, dental problems, conductive hearing loss

obsclerosis - Van der Hoeve &  
OI (coll I)

+ callus

• Elastic skin, hypermobility of joints, bleeding tendency

EDS (coll V)

• Arachnodactyly, lens dislocation (upward and temporal), aortic dissection

vase ↓ } Balleroid / NAI  
Coll III

• Arachnodactyly, lens dislocation (downward)

Homocystinuria

↳ Marfan's (coll III)  
↳ FBN1

• Calf pseudohypertrophy, Gower sign

DMD / BMD

6 / 9 / 12

• Microcephaly + cleft lip/palate, polydactyly, cutis aplasia

Palmar &

(H) → Methionine  
I<sup>x</sup>  
Cysteine

• Microcephaly + rocker-bottom feet, clenched hands

Edward Sp

Carbimazole / Methimazole

low F  
agranulo

• Microcephaly + single palmar crease

Down Sp

1st T xx

PTU

• Microcephaly + high-pitched cry

Cri du chat del<sup>n</sup> 5p

Fever, vomiting, diarrhoea, desquamating rash following use of nasal pack or tampon **TSS**

SuperAs  
Step / Steps

Colon cancer associated with infective endocarditis S. bovis / S. gallolyticus

"bull's neck" appearance Diphtheria → **DT** EF 2 Albert T ✓  
I ✓

 Hemorrhage

Adrenal insufficiency, fever Waterhouse Friedreich's M ✓ MS

Red "currant jelly" sputum Klebsiella <sup>SM</sup> alcohol  bulging tissue

Red currant jelly stool → Painful → Meckel's → Intussusception - Rotavirus, - loc: Tc 99 pertechnate

Large rash with bull's-eye appearance, hiker E. migrans Lyme D HSP lead pt Bar enema

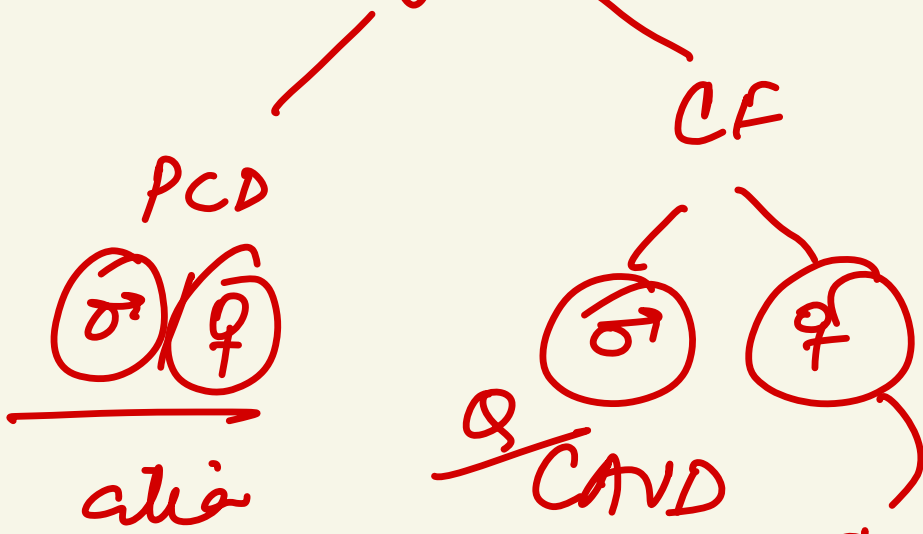
AKI in a patient with BUN/creatinine > 20:1, FeNa < 1% Prerenal E. multiforme - Myoplemie / Co. E. marginatus

Reduced C4 and C1 esterase inhibitor levels HAE drug CI: ACE Carf Danazol DOC

Situs inversus, chronic ear infections, sinusitis, bronchiectasis, infertility Kartagener S. = PCD

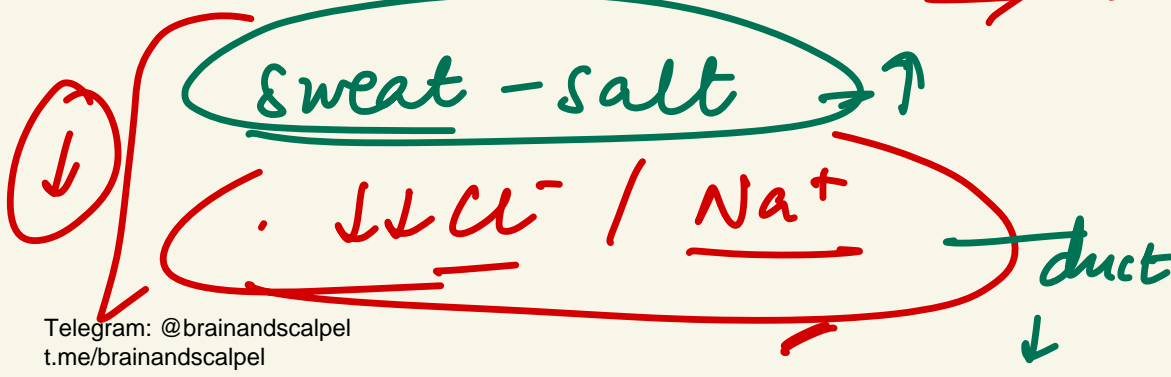
Chronic ear infections, sinusitis, bronchiectasis, infertility CF CFTR - chr 7 class 2 Phe AF SDS

# Infectibility



Thick  
Cervical  
muscles

transport  
CFTR  
conc



Musty body odor, hypopigmented skin, eczema **PKU**

Bluish-black connective tissue **ochronosis**

Interosseous membrane ossification **fluorosis**

Hypoglycemia, hepatomegaly, cardiomyopathy **Pompe D - dglucosidase / acid maltase**

Chronic exercise intolerance **McArdle - muscle glycogen (P)**

Hepatosplenomegaly, pancytopenia, avascular necrosis of femoral head **Gaucher**

Achilles tendon xanthoma **type 2 ↑ lipop**

Patient undergoing seated craniotomy, sudden decline in ETco2

Confusion, ophthalmoplegia, ataxia - **Wernicke (BI)**

Frozen hemithorax **asbestosis - mesothelioma**

Fibrotic upper lobe masses **silicosis / RWP**

Albumino-cytological dissociation

↓ (N)

Phe ~~xxx~~ **tyrosine**

→ **nebris**  
→ **dopamine**

**alkaptonuria** → iv disc Ca<sup>2+</sup>

**SN-pale**

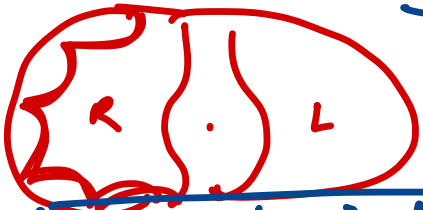
**Kalmar xanthomas**  
L Apo (E) + (3)

Air embolisms →

Next: **Durant** (+ CX)

→ D Lt LE decub + redematy

**Miller Fisher**



ophthalmop  
ataxia

**areflexia**  
GQ 16 09/

MS - oligoclonal bands



• CLD with ascitic fluid  $>250$  cells/mm<sup>3</sup> — SBP — E. coli      DOC: Ceftriaxone

• SAAG  $>1.1$  — Portal hypertension

• Steep x and y descent — C. Pericarditis

(PAY TAX)

• Steep x descent, blunt y descent — Tamponade

• Connective tissue disease + keratoconjunctivitis sicca (me) — RA — Scleritis

• Longitudinal ulcer: typhoid → uveitis ✓ ✓ JIA



• Transverse ulcer: TB

• Flask shaped ulcer: amebic


• Serpiginous ulcer: CD / CMV apthous

HSV — volcano — punched out U

• High-output heart failure, alcoholism or malnutrition

Beriberi — wet

• Burning feet syndrome

 BE  
PJS

cytopenia: PV / ET

 arbovirus      STX II / LKB1

# Immunodef

• Male child, recurrent infections, no mature B cells Briton agammag - >6 mos

• Anaphylaxis following blood transfusion IgA def - mc → Giardia 

• Recurrent cold abscesses, eczema, high serum IgE, eosinophils Job's ↑ IgE

• Recurrent infections and granulomas with catalase positive organisms CGD (NADPH oxidase)

• Late separation (>30 days) of umbilical cord, no pus, recurrent skin and mucosal bacterial infections

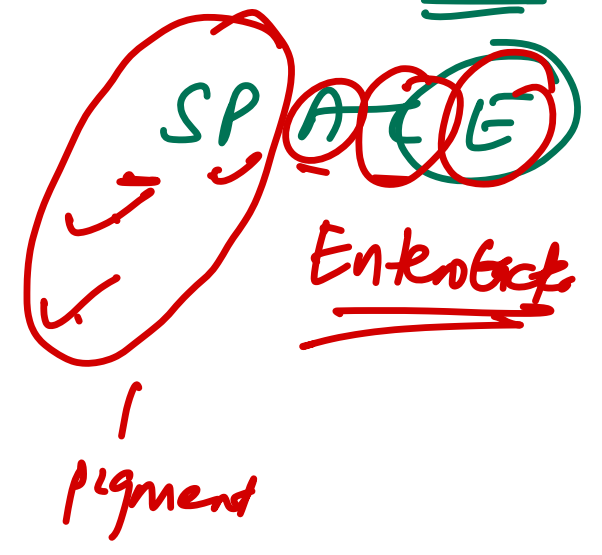
• Ataxia ATM LAD 1 ✓✓ DHR - IOC

• Albinism, neurological dysfunction Chediak Higashi neutrophilia

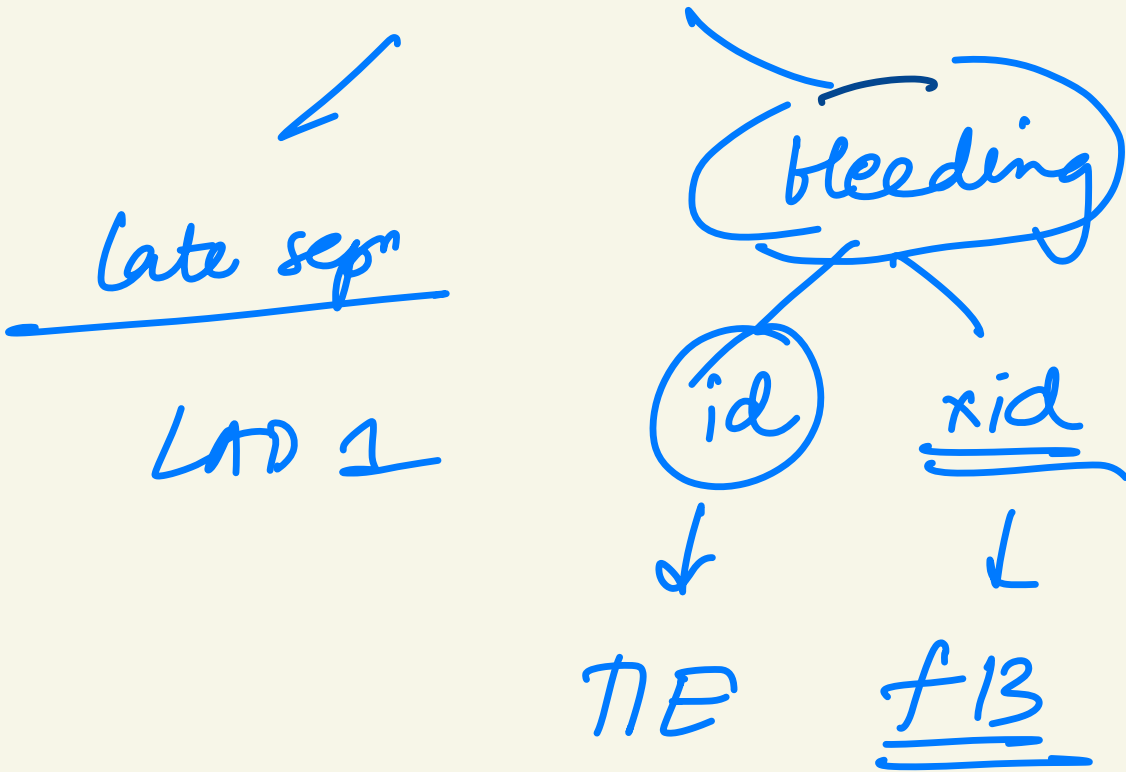
• Hypocalcaemia DiGeorge 22q Lyst LAD 2

• Recurrent Neisseria infection Ph pouch 3rd 4th Bombay

• Easy bleeding, eczema IgE terminal Complement (MAC) def Th1 Tymus 1st PTH



Umbilical  
cord



Wis "cute"

Type	Onset age	Findings	Treatment
<u>Chemical</u>	<24 hr	Mild conjunctival irritation/ injection & tearing after <u>silver nitrate</u> ophthalmic prophylaxis	Eye lubricant
<u>Gonococcal</u>	2-5 days	Marked eyelid swelling; profuse purulent discharge; corneal edema/ulceration	Intravenous or intramuscular <u>ceftriaxone</u> or <u>cefotaxime</u>
<u>Chlamydia</u>	5-14 days	Eyelid swelling; chemosis; watery, bloody, or mucopurulent eye discharge	Oral <u>erythromycin</u>

Differential diagnosis of myopathy			
Disorder	Clinical features	ESR	CK
steroid-induced	<ul style="list-style-type: none"> <li>Progressive proximal muscle weakness &amp; atrophy without pain or tenderness</li> <li>Lower-extremity muscles are more involved</li> </ul>	Normal	Normal
PMR	<ul style="list-style-type: none"> <li>Muscle pain &amp; stiffness in the shoulder &amp; pelvic girdle</li> <li>Tenderness with decreased range of motion at shoulder, neck &amp; hip</li> <li>Responds rapidly to glucocorticoids</li> </ul>	↑	Normal
Inflam myopathy	<ul style="list-style-type: none"> <li>Muscle pain, tenderness &amp; proximal muscle weakness</li> <li>Skin rash &amp; inflammatory arthritis may be present</li> </ul>	↑	↑
Statin	<ul style="list-style-type: none"> <li>Prominent muscle pain/tenderness with or without weakness</li> <li>Rare rhabdomyolysis</li> </ul>	Normal	↑
Hypothyroid	<ul style="list-style-type: none"> <li>Muscle pain, cramps &amp; weakness involving the proximal muscles</li> <li>Delayed tendon reflexes &amp; myoedema</li> <li>Occasional rhabdomyolysis</li> </ul>	Normal	↑



polymyalgia rheumatica

CoQ

## Secondary causes of hypertension

Condition	Clinical clues/features
<u>Renal parench D - GN/PN</u>	<ul style="list-style-type: none"> <li>Elevated serum creatinine</li> <li>Abnormal urinalysis (<u>proteinuria</u>, <u>red blood cell casts</u>)</li> </ul>
<u>RAS</u>	<ul style="list-style-type: none"> <li>Severe hypertension (<math>\geq 180</math> mm Hg systolic &amp;/or 120 mm Hg diastolic) after age 55</li> <li>Possible recurrent flash pulmonary edema or resistant heart failure</li> <li>Unexplained rise in serum creatinine</li> <li>Abdominal bruit</li> </ul>
<u>Conn Sx</u>	<ul style="list-style-type: none"> <li>Easily provoked hypokalemia <math>\downarrow K</math></li> <li>Slight hypernatremia <math>\uparrow Na^+</math></li> <li><u>Hypertension</u> with adrenal incidentaloma <math>\uparrow H_2O</math></li> </ul>
<u>Pheo</u>	<ul style="list-style-type: none"> <li>Paroxysmal elevated blood pressure with tachycardia</li> <li>Pounding <u>headaches</u>, palpitations, diaphoresis</li> <li>Hypertension with an <u>adrenal incidentaloma</u></li> </ul>
<u>Cushing</u>	<ul style="list-style-type: none"> <li><u>Central obesity</u>, facial plethora</li> <li>Proximal <u>muscle weakness</u>, abdominal striae <math>\uparrow Glc</math></li> <li>Ecchymosis, amenorrhea/erectile dysfunction</li> <li>Hypertension with adrenal incidentaloma</li> </ul>
<u>Hypothyroid</u>	<ul style="list-style-type: none"> <li>Fatigue, dry skin, cold intolerance</li> <li>Constipation, <u>weight gain</u>, <u>bradycardia</u></li> </ul>
<u>Hyper PTH</u>	<ul style="list-style-type: none"> <li><u>Hypercalcemia</u> (polyuria, polydipsia)</li> <li>Kidney stones</li> <li>Neuropsychiatric presentations (confusion, depression, psychosis)</li> </ul>
<u>CoA</u>	<ul style="list-style-type: none"> <li>Differential hypertension with <u>brachial-femoral pulse delay</u></li> </ul>

ADPKD FMD

←

Renin (N)

Disease	Features of primary lesion	Initial lesion painful?
Chancroid <i>H. ducreyi</i>	<ul style="list-style-type: none"> <li>Multiple &amp; deep ulcers</li> <li>Base may have gray to yellow exudate</li> <li>Organisms often clump in long parallel strands ("school of fish")</li> </ul>	Yes
HSV-2	<ul style="list-style-type: none"> <li>Multiple, small, grouped ulcers</li> <li>Shallow with erythematous base</li> <li>Multinucleated giant cells &amp; intranuclear inclusions (Cowdry type A)</li> </ul>	Yes
GI / Donovanosis <i>K. donovani</i>	<ul style="list-style-type: none"> <li>Extensive &amp; progressive ulcerative lesions without lymphadenopathy</li> <li>Base may have granulation-like tissue</li> <li>Deeply staining gram-negative intracytoplasmic cysts (Donovan bodies)</li> </ul>	No
Syphilis Chancres	<ul style="list-style-type: none"> <li>Single, indurated, well-circumscribed ulcer</li> <li>Clean base</li> <li>Thin, delicate, corkscrew-shaped organisms on darkfield microscopy</li> </ul>	No
Chlamydia LGV (L2 ser.)	<ul style="list-style-type: none"> <li>Small &amp; shallow ulcers</li> <li>Large, painful, coalesced inguinal lymph nodes ("buboes")</li> <li>Intracytoplasmic chlamydial inclusion bodies in epithelial cells &amp; leukocytes</li> </ul>	No

Kit 1 ✓✓✓

Kit 2 ✓ Secunda

+ flucon

Kit 3

penicillin  
+ azithro

white

blue (4)

doxy

(5) red

-acyclovir

(6) yellow

-PID

DCM

BAD

(7)

Black

# Laboratory characteristics of coagulopathies



	PT	aPTT	<u>Platelet count</u>	Bleeding time
Hemophilia A / B / C 8 9 11	Normal	↑	Normal	Normal
VWD	Normal	Normal or ↑ f8	Normal	↑
DIC	↑	↑	↓	↑
Plt dysfn	Normal	Normal	<u>Normal</u>	↑
Heparin II / X ↓	Normal	↑	Normal (except in heparin-induced thrombocytopenia)	Normal
Warfarin vit K def	↑	↑ (weak effect) 2, 9, 10	Normal	Normal
<u>ITP</u>	Normal	Normal	↓	↑



20

BS / GT / cryppt / uremia

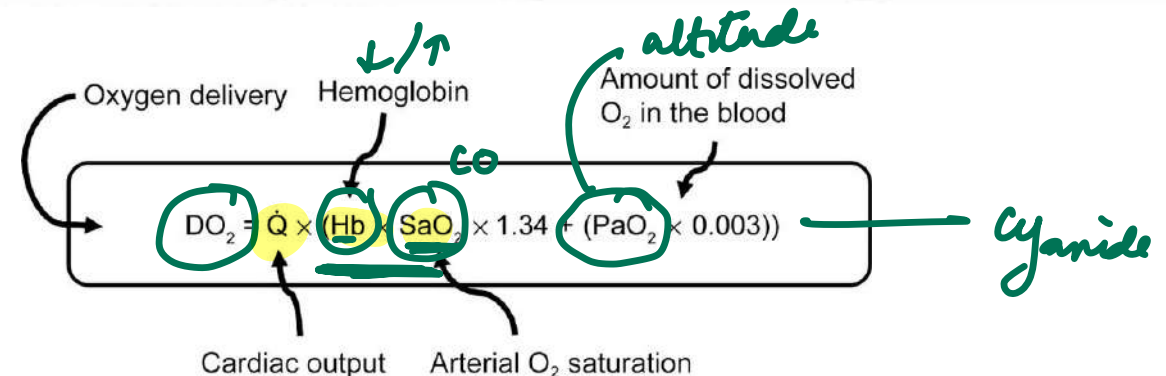
$F_iO_2 \downarrow$

	PaO <sub>2</sub>	SaO <sub>2</sub>	Oxygen content
<u>CO</u>	Normal	Decreased*	↓
Cyanide	Normal	Normal	Normal
<u>anemia</u>	Normal	Normal	↓
polycythemia	Normal	Normal	↑
Altitude	↓	↓	↓

↓ / downward

← 2 SD x ↑ anemia

ETC-IV x → Cyanic  
NISToxic



## Bacterial causes of diarrhea

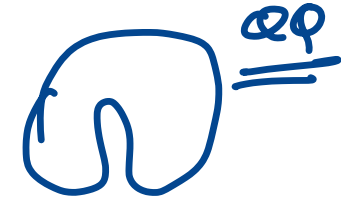
Organism	Features
<i>B. cereus</i>	<ul style="list-style-type: none"> <li>Diarrhea, abdominal cramping</li> <li>Ingestion of preformed toxin in starchy foods such as <u>rice</u></li> </ul>
<i>S. aureus</i>	<ul style="list-style-type: none"> <li><u>Vomiting</u>, abdominal pain</li> <li>Diarrhea not typical but may occur</li> <li>Caused by preformed toxin with <u>rapid onset</u> of symptoms</li> </ul>
<i>C. difficile</i>	<ul style="list-style-type: none"> <li>Abdominal pain, watery diarrhea, possible fever</li> <li>Bloody stools unusual</li> <li>Associated with <u>antibiotic</u> exposure</li> </ul>
<i>Campylobacter</i>	<ul style="list-style-type: none"> <li>Brief illness with watery diarrhea, <u>cramps</u> &amp; <u>fever</u></li> <li>Associated with <u>undercooked</u> or <u>unrefrigerated</u> food</li> </ul>
<i>Salmonella</i>	<ul style="list-style-type: none"> <li>Watery diarrhea, fever, abdominal pain &amp; vomiting</li> <li>Associated with undercooked foods, especially <u>poultry &amp; eggs</u></li> <li>Antibiotic treatment needed only for severe disease or immunocompromised patients</li> </ul>
<i>V. parahemolyticus</i>	<ul style="list-style-type: none"> <li>Vomiting, diarrhea &amp; abdominal pain</li> <li>Associated with raw or undercooked <u>shellfish</u></li> <li>May cause <u>invasive</u>, life-threatening disease in immunocompromised patients or those with liver disease</li> </ul>
<u>EHEC</u>	<ul style="list-style-type: none"> <li>Watery diarrhea, may be <u>bloody</u> if associated with enterohemorrhagic (Shiga-toxin producing) strain</li> <li>Associated with undercooked beef or foods contaminated with bovine feces</li> </ul>
<i>Shigella</i>	<ul style="list-style-type: none"> <li><u>Bloody</u> diarrhea with fever &amp; often bacteremia</li> <li>Associated with contaminated food or water, especially during travel outside the United States</li> </ul>
<i>E. coli</i>	<ul style="list-style-type: none"> <li>Abdominal pain, <u>bloody</u> diarrhea</li> <li>Highest incidence in children &amp; young adults</li> <li>Associated with raw or undercooked meats</li> </ul>

✓ **ACUTE**  
 <6HRS  
 CHINESE FOOD: *B. cereus*  
 DAIRY: *Staph* → vomiting → diarrhea

>6HRS  
 Travelers: ETEC  
 Rice water: *Vibrio cholera*  
 SHELLFISH: *V. parahemolyticus*  
 Camping/persistent/malabsorption: *Giardia*  
 Acute RIF pain: *Yersinia*  
 Antibiotics ++ *C. difficile*

BLOODY:  
 -Poultry and eggs - *Salmonella*  
 -Severe dehydration, febrile seizures: *Shigella*  
 -GBS, Reiter syndrome: *Campylobacter*  
 -Uremia / Anemia: HUS  
EHEC

Differential diagnosis of stridor in infants & children	
Diagnosis	Distinguishing features
croup	<ul style="list-style-type: none"> <li>• Most common from age 6 months to 6 years</li> <li>• Associated with "barky" cough, fever, rhinorrhea &amp; congestion</li> </ul>
• Laryngomalacia	<ul style="list-style-type: none"> <li>• Stridor most severe at age 4-8 months</li> <li>• Persistent stridor that worsens in supine position &amp; improves in prone position</li> </ul>
• FB	<ul style="list-style-type: none"> <li>• Stridor caused by laryngotracheal foreign bodies has acute onset</li> <li>• Associated with moderate-to-severe respiratory distress</li> </ul>
vascular ring	<ul style="list-style-type: none"> <li>• Presents before age 1 year</li> <li>• Persistent stridor that improves with neck extension</li> <li>• Associated with cardiac abnormalities (50%)</li> </ul>



Tremor	Clinical features
<p><i>Essential</i></p>	<ul style="list-style-type: none"> <li>• Bilateral <u>action tremor</u> of the hands, usually without leg involvement</li> <li>• <u>Possible isolated head tremor</u> without dystonia</li> <li>• Usually no other neurologic signs</li> <li>• <u>Relieved with alcohol</u> in many cases</li> </ul>
<p><u>PD</u></p>	<ul style="list-style-type: none"> <li>• <u>Resting tremor</u> (4-6 Hz) that decreases with <u>voluntary movement</u></li> <li>• Usually involves <u>legs &amp; hands</u></li> <li>• Facial involvement less common</li> </ul>
<p><i>Intention</i></p>	<ul style="list-style-type: none"> <li>• Usually associated with <u>ataxia</u>, <u>dysmetria</u>, or <u>gait disorder</u></li> <li>• Tremor increases steadily as the hand reaches its target</li> </ul>
<p><u>Physiological</u></p>	<ul style="list-style-type: none"> <li>• Low amplitude (10-12 Hz) <u>not visible</u> under <u>normal conditions</u></li> <li>• Acute onset with increased <u>sympathetic activity</u> (eg, drugs, hyperthyroidism, <u>anxiety</u>, <u>caffeine</u>)</li> <li>• Usually worse with <u>movement</u> &amp; can involve the <u>face &amp; extremities</u></li> </ul>

✓✓ DOC → Propranolol

✓✓

✓ Cerebellar

## Classification of spontaneous abortion ✓

Type	Clinical presentation	Cervix	Ultrasound findings
<p><u>Complete</u> <u>Missed</u></p>	<ul style="list-style-type: none"> <li>Variable presentation from no symptoms to <u>light vaginal bleeding</u></li> <li>Pregnancy symptoms may decrease</li> </ul>	Closed	Nonviable fetus
<u>Inevitable</u>	<ul style="list-style-type: none"> <li>Vaginal bleeding, uterine cramps</li> <li>Possible intrauterine fetus with heartbeat</li> </ul>	Open	Fetus with possible heartbeat
<u>Incomplete</u>	<ul style="list-style-type: none"> <li>Vaginal bleeding with passage of large clots or tissue</li> <li>Uterine cramps</li> <li>Products of conception often visualized in dilated cervical os</li> </ul>	Open	Products of conception often in cervix
<u>Threatened</u>	<ul style="list-style-type: none"> <li>Variable amount of vaginal bleeding</li> <li>Pregnancy can proceed to viable birth</li> </ul>	Closed	Viable pregnancy
<u>Septic</u>	<ul style="list-style-type: none"> <li>Fever, malaise, signs of sepsis</li> <li>Foul-smelling vaginal discharge, cervical motion &amp; uterine tenderness</li> <li>Rarely occurs after spontaneous abortion</li> <li>Usually with induced abortions, can be life-threatening</li> </ul>	Usually open	Usually retained products of conception

FCA (-)

FCA (+)

Acute drug intoxication		
Drug	Class	Clinical features
<u>PCP</u>	<u>Hallucinogen</u>	<ul style="list-style-type: none"> <li>• Violent behavior ✓</li> <li>• Dissociation</li> <li>• Hallucinations</li> <li>• Amnesia</li> <li>• <b>Nystagmus</b> (horizontal or vertical) ✓</li> <li>• Ataxia</li> </ul>
<u>LSD</u>	<u>Hallucinogen</u>	<ul style="list-style-type: none"> <li>• <b>Visual hallucinations</b></li> <li>• Euphoria</li> <li>• Dysphoric/panic</li> <li>• Tachycardia/hypertension</li> </ul>
<u>Cocaine</u>	<u>Stimulant</u>	<ul style="list-style-type: none"> <li>• Euphoria</li> <li>• Agitation - septal</li> <li>• <b>Chest pain</b></li> <li>• <b>Seizures</b></li> <li>• Tachycardia/hypertension</li> <li>• Mydriasis</li> </ul>
<u>MDMA</u>	<u>Stimulant</u>	<ul style="list-style-type: none"> <li>• Violent behavior, psychosis ✓</li> <li>• Diaphoresis</li> <li>• Tachycardia/hypertension</li> <li>• <b>Choreiform movements</b></li> <li>• <b>Tooth decay</b></li> </ul>
<u>Cannabis</u>	Psychoactive	<ul style="list-style-type: none"> <li>• <b>Increased appetite</b> ✓</li> <li>• Euphoria</li> <li>• Dysphoria/panic</li> <li>• <b>Impaired time perception</b></li> <li>• Dry mouth</li> <li>• <b>Conjunctival injection</b></li> </ul>
<u>Heroin</u>	<u>Opioid</u>	<ul style="list-style-type: none"> <li>• Euphoria</li> <li>• <b>Depressed mental status</b></li> <li>• <b>Miosis</b> ○○</li> <li>• <b>Respiratory depression</b></li> <li>• Constipation</li> </ul>

- Hash oil

# ALCOHOLS

Toxicity	Clinical features	Laboratory results
<u>Ethanol</u>	Slurred speech, unsteady gait, altered mentation	High osmolar gap, increased anion gap metabolic acidosis due to ketosis
Methanol	Visual blurring, central scotomata, afferent pupillary defect, altered mentation	High osmolar gap, increased anion gap metabolic acidosis
Ethylene glycol	Flank pain, hematuria, oliguria, cranial nerve palsies, tetany	High osmolar gap, increased anion gap metabolic acidosis, calcium oxalate crystals in urine
10 Propyl alcohol	CNS depression, disconjugate gaze, absent ciliary reflex	High osmolar gap but no increased anion gap and no metabolic acidosis

HAGMA No

# Effect of arterial oxygenation & ventilation in various environments

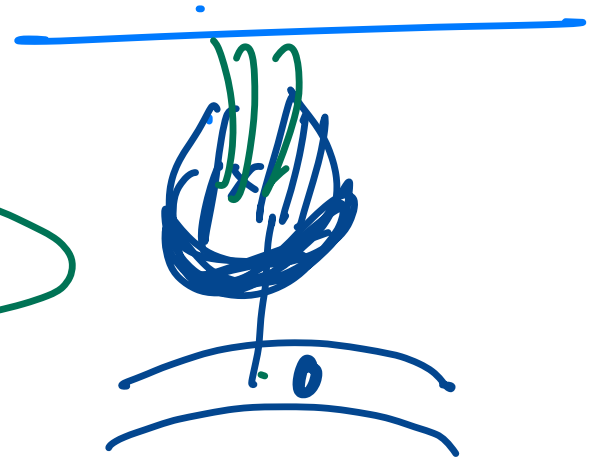
	Example	A-a gradient	P <sub>a</sub> CO <sub>2</sub>	Corrects with supplemental O <sub>2</sub> ?
↓ F <sub>O</sub> <sub>2</sub>	High altitude	Normal	Normal	Yes
Hypoxemia	CNS depression	Normal	↑	Yes
Diff Ltd	Interstitial lung disease	↑	Normal	Yes
Shunt	Intracardiac shunt, extensive ARDS	↑	Normal	No
Obstructive lung disease, atelectasis, pulmonary edema & pneumonia		↑	Normal or ↑	Yes

V=0  
pneumonia  
collapse

V ↓↓  
V/Q

mismatch

Q=0 — PE — dead space — Yes



Liver disorders unique to pregnancy		
Disorder	Presentation	Laboratory abnormalities
<u>ICP</u>	<ul style="list-style-type: none"> <li>Intense pruritus</li> </ul>	<ul style="list-style-type: none"> <li>Elevated bile acids</li> <li>Elevated levels of liver aminotransferases</li> <li>Diagnosis of exclusion</li> </ul>
<u>HELLP</u>	<ul style="list-style-type: none"> <li>Preeclampsia</li> <li>Right upper-quadrant pain</li> <li>Nausea/vomiting</li> </ul>	<ul style="list-style-type: none"> <li>Hemolysis</li> <li>Moderately elevated liver aminotransferases</li> <li>Thrombocytopenia</li> </ul>
<u>AFLP</u>	<ul style="list-style-type: none"> <li>Malaise</li> <li>Right upper-quadrant pain</li> <li>Nausea/vomiting</li> <li>Sequelae of liver failure</li> </ul>	<ul style="list-style-type: none"> <li>Hypoglycemia</li> <li>Mildly elevated liver aminotransferases</li> <li>Elevated bilirubin</li> <li>Possible disseminated intravascular coagulopathy</li> </ul>

10L  
37wks

10L immediate

asap TOP

Differential diagnosis of flaccid paralysis			
Diagnosis	Spre / infant Botulism	Foodborne botulism	GBS
Pathogenesis	Ingestion of <i>Clostridium botulinum</i> spores from environmental dust	Ingestion of preformed <i>C. botulinum</i> toxin	Autoimmune peripheral nerve demyelination
Presentation	Descending flaccid paralysis	Descending flaccid paralysis	Ascending flaccid paralysis
Treatment	Human-derived botulism immune globulin	Equine-derived botulism antitoxin	Pooled human immune globulin

polio  
 ↳ asymmetric  
 flaccid

AHC

ALS - spastic + flaccid

Acute abdominal/pelvic pain in women

Diagnosis	Clinical presentation	Ultrasound findings
<u>Mittelschmerz</u>	<ul style="list-style-type: none"> <li>Recurrent mild &amp; unilateral midcycle pain prior to ovulation</li> <li>Pain lasts a few hours to couple of days</li> </ul>	Not indicated
<u>Ectopic</u>	<ul style="list-style-type: none"> <li>Amenorrhea, abdominal/pelvic pain &amp; vaginal bleeding</li> <li>Positive hCG</li> </ul>	No intrauterine pregnancy
<u>Torsion</u>	<ul style="list-style-type: none"> <li>Sudden onset severe unilateral lower abdominal pain, nausea &amp; vomiting</li> <li>Unilateral, tender adnexal mass on examination</li> </ul>	Enlarged ovary with decreased blood flow
<u>Cyst rupture</u>	Sudden-onset severe unilateral lower abdominal pain immediately following strenuous or sexual activity	Free fluid near ovarian cyst
<u>PID</u>	<ul style="list-style-type: none"> <li>Fever/chills, vaginal discharge, lower abdominal pain, &amp; cervical motion tenderness</li> </ul>	+/- Tuboovarian abscess

## Common causes of vertigo

<i>-Meniere's</i>	<ul style="list-style-type: none"><li>• Recurrent episodes</li><li>• <u>Unilateral hearing loss &amp; tinnitus</u> <u><u>TVS</u></u></li><li>• Feeling of fullness in the ear</li></ul>
<i>BPPV</i>	<ul style="list-style-type: none"><li>• Brief episodes triggered by <u>head movement</u></li><li>• <u>Dix-Hallpike</u> maneuver causes nystagmus</li></ul>
<i>Acute Labyrinthitis</i>	<ul style="list-style-type: none"><li>• Acute, <u>single episode</u> that can last days</li><li>• Often follows <u>viral syndrome</u></li><li>• Abnormal head thrust test</li></ul>
<i>Migraine</i>	<ul style="list-style-type: none"><li>• <u>Vertigo associated with headache</u> or other <u>migrainous phenomenon</u> (eg, visual aura)</li><li>• Symptoms resolve completely between episodes</li></ul>
<i>Cerebellum</i>	<ul style="list-style-type: none"><li>• <u>Sudden-onset, persistent vertigo</u></li><li>• <u>Usually other neurologic symptoms</u></li></ul>

## Disorders of sexual development



AIS

Mullerian  
agenesis

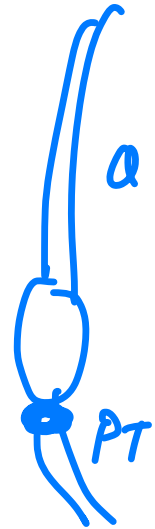
Transv  
vag septum

Tumer 5p

Cause	Breast development	Reproductive organs	Axillary & pubic hair	Karyotype
X-linked mutation of androgen receptor	Yes	Absent uterus & upper vagina; cryptorchid testes	Minimal to absent	46,XY
Hypoplastic or absent müllerian ductal system	Yes	Absent or rudimentary uterus & upper vagina; <u>normal ovaries</u>	Normal	46,XX
Malformation of urogenital sinus & Müllerian ducts	Yes	Normal uterus; <u>abnormal vagina</u> ; normal ovaries	Normal	46,XX
Complete/partial absence of 1 X chromosome	Variable (depending on ovarian function)	Normal uterus & vagina; streak ovaries	Normal	45,X

## Differential diagnosis of anterior knee pain in the young patient

Diagnosis	Patellofemoral &	Patellar tendinitis	Osgood- Schlatter
Typical patient	Young female athletes	Primarily athletes ("jumper's knee")	<ul style="list-style-type: none"> <li>• Preadolescent/ <u>adolescent</u> athletes</li> <li>• Recent growth spurt</li> </ul>
Clinical features	<ul style="list-style-type: none"> <li>• Subacute to chronic pain ↑ with squatting, running, prolonged sitting, using stairs</li> <li>• Patellofemoral compression test</li> </ul>	<ul style="list-style-type: none"> <li>• Episodic pain &amp; tenderness at <u>inferior</u> patella</li> </ul>	<ul style="list-style-type: none"> <li>• ↑ Pain with sports, relieved by rest</li> <li>• Tenderness &amp; swelling at <u>tibial</u> tubercle</li> </ul>



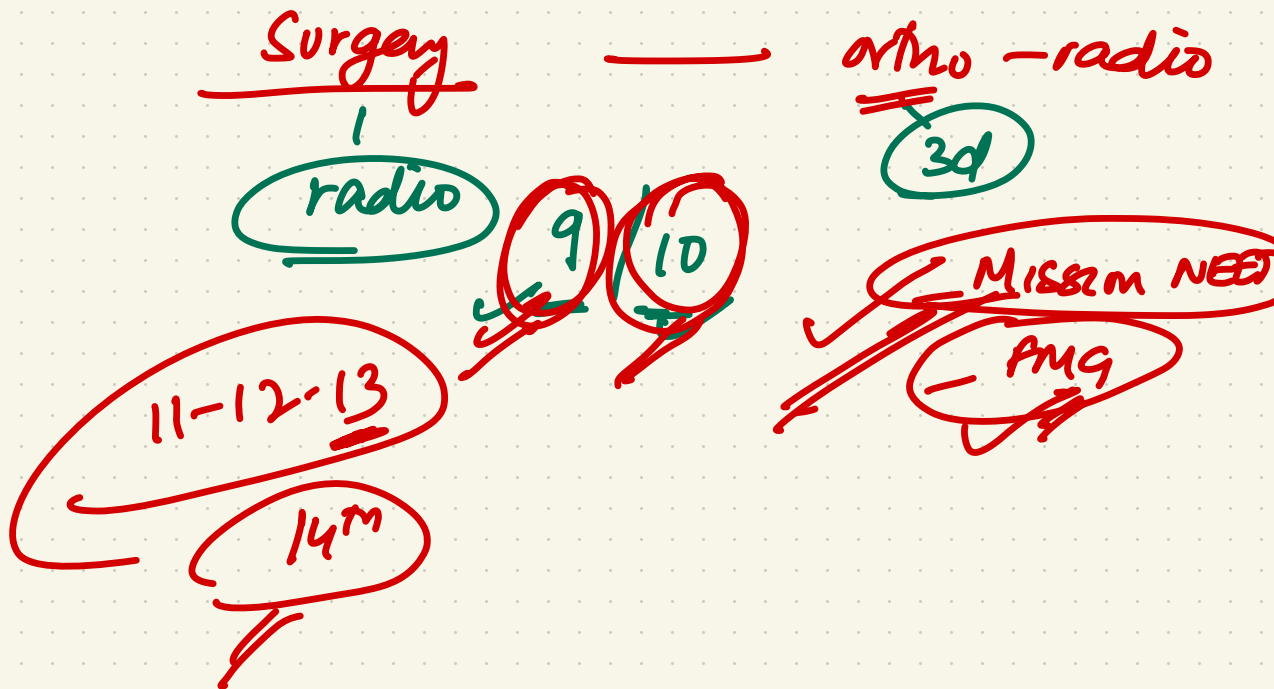
## Overview of running injuries of the foot & ankle



Injury	Clinical features
Stress #	<ul style="list-style-type: none"> <li>• Insidious onset</li> <li>• Focal pain in navicular or metatarsals</li> <li>• <b>Risk factors:</b> abrupt increase in intensity of training, poor running <u>mechanics</u>, female with eating <u>disorder</u></li> </ul>
Plantar fasciitis	<ul style="list-style-type: none"> <li>• Plantar surface of the heel</li> <li>• <b>Worse when initiating running or first steps of the day</b></li> </ul>
Achilles tear	<ul style="list-style-type: none"> <li>• Burning pain or stiffness <u>2-6 cm</u> above the <u>posterior calcaneus</u></li> </ul>
Morton <u>neuroma</u>	<ul style="list-style-type: none"> <li>• Numbness or pain between the <u>3rd &amp; 4th toes</u></li> <li>• Clicking sensation when palpating space between <u>3rd &amp; 4th toes</u> while squeezing the metatarsal joints</li> </ul>
Tibial/tarsal tunnel &	<ul style="list-style-type: none"> <li>• Compression of the <u>tibial nerve</u> at the ankle</li> <li>• Burning, numbness &amp; aching of the distal plantar surface of the foot/toes</li> </ul>

Mulder's sign

post talar N





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