



Cerebellum
Get the balance right

BTR by Dr. Zainab Vora
Buri Tarah Ratto
2.0

Dream Big
Belief Toh Rakho



Authored By Dr. Zainab Vora

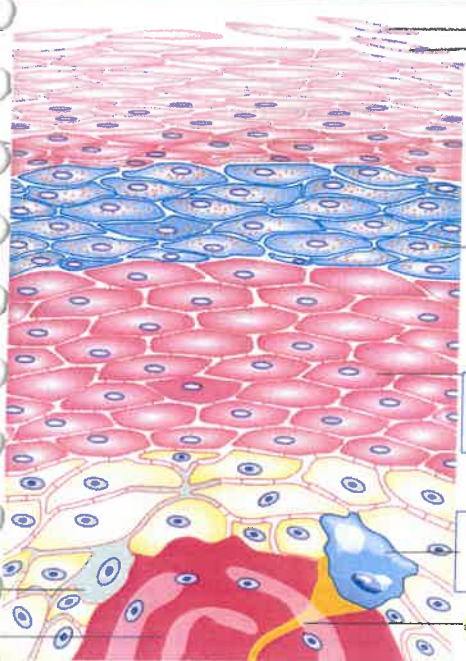
BTR 2.0 UPDATE

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DERMATOLOGY

BASICS OF SKIN



CORNEUM

LUCIDUM
Only in palms and soles
Refractile granules of Eleidin

GRANULOSUM
Odland bodies/ Fillagrin
↓ ⊕ Keratohyaline → ↓ ⊕ ICTHYOSIS
↓ ⊕ Asteatotic Eczema

SPINOSUM
Acanthocytes: DSG ⊕ → ACANTHOLYTIC CELLS
Langerhans cells
↓ APC

Melanocyte
Merkel cell → Edge - CK 20 + } · Ca Colon
Braille - CK 7 - } · Merkel cell Ca

BASALE

Parakeratosis: Psoriasis, Sq. CC, Seborrheic Dermatitis, Actinic Keratosis
↳ Nuclei Retained

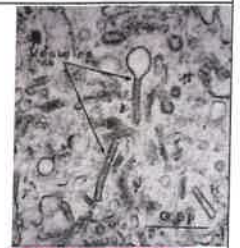
Hyperkeratosis: Psoriasis, Lichen Planus
↳ Thickened Stratum Corneum

Orthokeratosis: LICHEN PLANUS
↳ Hyperkeratosis - Parakeratosis

Munro's microabscess: PSORIASIS

Pautrier's microabscess: MYCOSES FUNGOIDES (Cutaneous T cell lymphoma)
↳ Hep C → Councilman Bodies

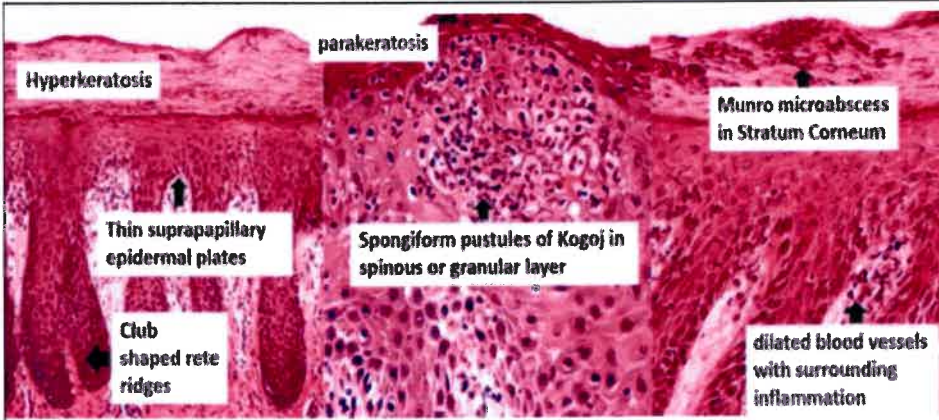
Civatte bodies: LICHEN PLANUS
↳ Basal cell Degeneration (Apoptotic)



LCH: BIRBECK GRANULES

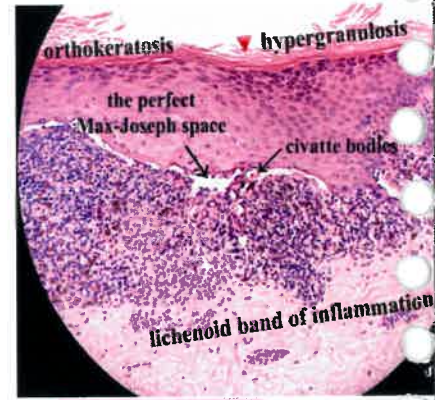
- Deposition of Langerin (CD207)
- S 100 ⊕
- CD1a ⊕

Epidermal melanin unit: 1:36
Epidermal turnover time: 56 Days
Psoriasis: 6 Days



PSORIASIS

• Agranulosis



LICHEN PLANUS

• Hypergranulosis

↓
WICKHAM'S STRIAE

ANNULAR LESIONS-PATTERN



ERYTHEMA NODOSUM

- Nodular
- Tender
- Panniculitis

Sarcoidosis
Syndrome: **LOFGREN**
Behcets
IBD → Responds to Rx



PYODERMA GANGRENOSUM

IBD
↓
No Response to Rx



ERYTHEMA MARGINATUM

Acute rheumatic fever



E. MULTIFORMAE

HSV, mycoplasma
Chloroquine



Bull's Eye Maculopathy (chloroquine)



E. MIGRANS

Lyme disease
• Ixodes tick Bite
• B. burgdorferi
• DOC : DOXYCYCLINE

PAPULO-SQUAMOUS DISORDERS



- Extensor surface**
- Silvery Scales**
- psoriatic arthritis**
 - DIP (M/C)
 - pencil in cup abnormality
- Irregular pitting**
- Oil Droplet**
- Subungual Hyperkeratosis**
- Grattage Test**
- AUSPITZ Sign**
- Berkley's membrane**
- HALO - M PGs**
- KOEBNER'S / ISOMORPHIC PHENOMENON**
 - L: LP
 - p: Psoriasis → Also shows Reverse Koebner's
 - v: Vitilligo
 - Pseudo-Koebner's - viral warts, MCV
- GUTTATE PSORIASIS**
 - Linked to an underlying infection
 - Only type that can be treated with Antibiotics
- PUSTULAR PSORIASIS**
 - Asso. with withdrawal of steroids

Psoriasis <10% : Topical Steroids
 Psoriasis >10%: Phototherapy (PUVA / NB-UVB) → Methotrexate
 Psoriatic arthritis, Erythrodermic psoriasis: (>10% BSA) Methotrexate
 Guttate psoriasis: Macrolides
 Pustular psoriasis: Acitretin (Vit. A analogue) → CATEGORY 'X' Drug → Washout: 3yrs period
 Impetigo herpetiformis/Pregnancy: Steroids



- purple, pruritic, papular
- Wickham's Striae
- Hypergranulosis

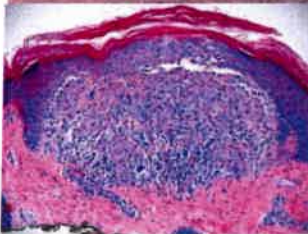
- Dorsal Pterygium formation
- PUP-TENTING

LICHEN PLANUS

- Hep. C
- Rx: TOPICAL STEROIDS



- Lacy Reticular Network
- Can't be wiped off



LICHEN NITIDUS
 - H/P: Claw Catching Ball



PITYRIASIS RUBRA PILARIS (PRP)

- Perifollicular areas
- Islands of sparing
- Palmoplantar Keratoderma → Type 2 tyrosenemia / Arsenic poisoning

Spaghetti & Meatball appearance

Christmas Tree pattern
P. ROSEA
 • HHV 6-7
 • Mx: Conservative

HERALD PATCH
 • Collarette / Cigarette paper scales

Golden yellow-Branny scales
T. VERSICOLOR
 • Malassezia globosa (m/c)
 • Hypopigmentation: AZELAIC Acid
 • Hyperpigmentation: MELANOSOMES

Hortaea werneckii
T. NIGRA

Wood's lamp: UV-A 365nm
Barium silicate + NiO filter

KOH Mount
SDA AGAR + Olive oil
Fried egg app.

SKIN INFECTIONS



IMPETIGO
 S. pyogenes > Staph



BULLOUS IMPETIGO
 • S. aureus
 → Exfoliative toxin



ERYSIPELAS
 • Well defined, raised lesions
 • Strep > Staph
 • Epidermis + Partial Dermis
MILLIAN'S EAR SIGN



CELLULITIS
 • Deeper lesion
 • Ill-defined
 • Epidermis + complete Dermis

CIRCINATE BALANITIS



KERATODERMA BLENORRHOICUM



Attacks DSG-1 ← **SSSS/ Ritter disease** : (infant) : Diffused peeling of skin
 Oral mucosa? NO
VS Reiter disease: (Campylobacter/shigella)
 Conjunctivitis, urethritis, Arthritis
 Can't see, Can't pee, Can't climb a tree



FOLLICULITIS

Mx: Amoxicillin + Clav. acid



FURUNCLE

• Diabetics



CARBUNCLE



SCLERODERMA DIABETICORUM



FOURNIER'S GANGRENE



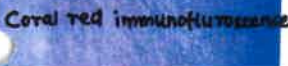
MELANEY'S GANGRENE

Polymicrobial
Testes involved? 'NO'
Drug causing? Gliflozins (SGLT-2i)



ACANTHOSIS NIGRICANS

• Velvety, Black
• Seen in:
i) Metabolic Sx
• ↑ Insulin Resistance
• PCOD
• HAIR-AN
ii) Paraneoplastic Sx
• Adeno Ca



ERYTHRASMA

• *Corynebacterium minutissimum*

Pitted keratolysis: Water Micrococcus



FOX-FORDYCE DS.

• Obstruction of Apocrine sweat glands

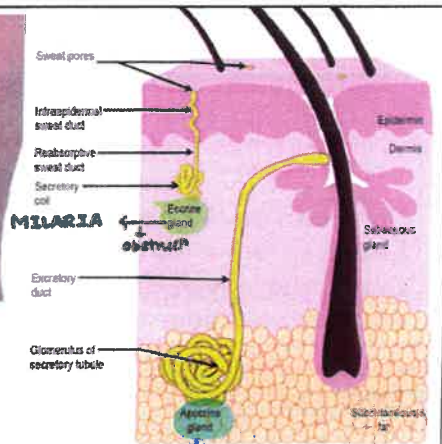


HIDRADENITIS SUPPURATA

• 2^o infection

MILARIA

• Crystalline → Rubra → profunda



MILARIA

Excretory duct

Glomerulus of secretory tubule

Apocrine gland

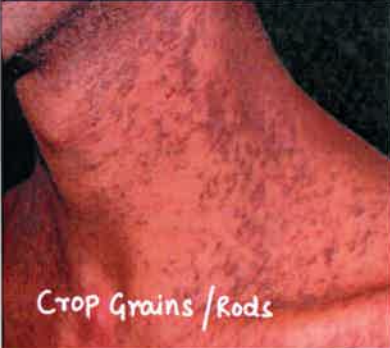
• Axilla, groin
• Odour

Ectopic sebaceous gland:

- Fordyce spots: Lips
- Montgomery tubercles: Areola
- Meibomian } Eyelids
- Zeiss
- Tyson's glands prepuce

Modified apocrine glands:

- Mammary glands
- Moll's Glands (Eyelids)
- Ceruminous Glands (EAC)




Crop Grains / Rods


Ca²⁺ ATPase channel AbN

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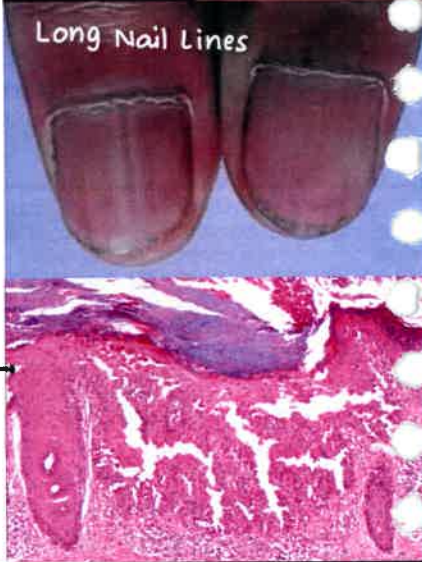
      graph TD
      A[Ca2+ ATPase channel AbN] --> B[2A2]
      A --> C[2C1]
      B --> D[BARRIER'S DISEASE]
      C --> E[HAILEY-HAILEY DISEASE]
      
```




Erythematous lesion



V-shaped Nail split



Dilapidated Brick walls



Long Nail Lines

ALOPECIA

Scarring Alopecia:

- T: Tinea capitis → Doc: Griseofulvin
- L: Lichen Planus
- D: DLE

Non-scarring Alopecia:

- Stress / pregnancy (3mon)- **TENOGEN** effluvium
- Chemotherapy- **ANAGEN** effluvium
- Accessible areas- **TRICHOTILLOMANIA**



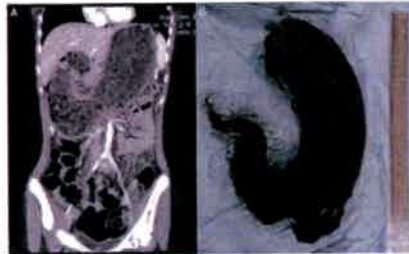
Footprints in snow:
Pseudopalade of Brocq



ALOPECIA AREATA : Type 1 DM / Hashimoto's Thyroiditis



Swarm of Bees app.



TRICHOBEOZAR

ANDROGENIC ALOPECIA

- Mx: • Minoxidil
• Finasteride



Male-pattern baldness

• **Hamilton Pattern**



Female-pattern baldness

Ludwig Pattern

- Exclamatory mark sign
- Nail: **Regular pitting**
- Going white overnight

- Alopecia **totalis** : Total or almost total loss of scalp hair
- Alopecia **universalis** : Loss of all body hair
- Ophiasis** : Alopecia along scalp margin
- Saisapho pattern** : Hair loss spares the sides & back of head



KERION
 • Tender
 • Boggy swelling
 • LNs ++
 • Trichophyton Mentagrophyte (mcc)








FAVUS
 • Scutula
 • Crusting
 • T. Schonleini

ONYCHOMYCOSIS

• Fungal infection of Nails.
 • m/c: DLSO → Distal Lateral Subungual onycho.
 • Doc: Terbenafine

Hair Perforation Test: ⊕ : T. mentagrophyte

MACROCONIDIA

<p>TRICHOPHYTON</p> <ul style="list-style-type: none"> • Hair • Skin • Nails 	<p>• Black Dot app.</p>  <p>ENDOTHRIX</p>	 <p>Pencil shaped</p>
<p>MICROSPORUM</p> <ul style="list-style-type: none"> • Skin • Hair 	<p>Gray Patch</p>  <p>ECTOTHRIX</p>	 <p>Spindle shaped</p>
<p>EPIDERMOPHYTON</p> <ul style="list-style-type: none"> • Skin • Nails 		 <p>Club/Cavate shaped</p>

⊙ T. corporis } doc: Azoles
 Cruvis

⊙ T. Incognito → Topical steroids
 ↓
 Non-classical morphology

PIGMENTATION DISORDERS



CHLOASMA / MELASMA
 (mask of pregnancy)
 • Pregnancy / ocp
 • d/t Testogen



CHIKUNGUNYA : CHIK SIGN



BECKER'S NEVUS

Epidermal : - Brown
 • Wood's lamp ++



MONGOLIAN SPOTS



NEVUS OF OTA



NEVUS OF ITO

Dermal : Bluish/Slate Gray
 (Tyndall phenomenon)

SEGMENTAL VITILIGO
- Stable

NEVUS ANEMICUS
- Vascular Disorder
- Localised vasoconstriction

PIEBALDISM
Island of sparing ✓

WHITE FORELOCK
Waxenberg's Six
White forelock
+ Heterochromia Iridis

HYPOMELANOSIS OF ITO

VITILIGO

FOCAL **SEGMENTAL** **ACRO-FACIAL** (lip-tip) **VULGARIS (m/c)** **UNIVERSALIS** (sad face)

Autoimmune destruction of Melanocytes

Poor prognosis:
- Long standing
- Bony prominences
- Leukotrichia
- Lip-tip

Rx: Topical Steroids/Tacrolimus

BLASCHKO LINES
- Embryological
- Midline

LINES OF LANGER
- Tension lines
- Incisions

INCONTINENTIA PIGMENTII
- xld
- 4 Phases
- 'NEMO' gene

ACNE

COMEDONES
open ↓ Black heads (oxidn of Sebum)
closed ↓ white heads
Rx: Topical Retinoids

PAPULES
Rx: Topical Retinoids + Topical ABs (clindamycin)

PUSTULES
Rx: TR + TA + Oral ABs + Benzoyl peroxide

NODULO CYSTIC
- Isotretinoic Acid
- Teratogenic
- Washout: 3 MONTHS
- Hepatotoxic
- Altered lipid profile
- h/c S/E: Cheilitis

1. Vesicular 2. Verrucous 3. Hyperpigmentⁿ 4. Hypopigmentⁿ

Rule out hyperandrogenism in resistant acne

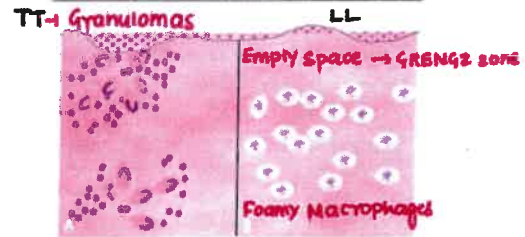
LEPROSY



RIDLEY-JOPLING CLASSIFICATION

TT	BT	BB	BL	LL
1. Number of lesions _____	_____	_____	_____	_____
2. Well-defined, elevated margins _____	_____	_____	_____	_____
3. Single thickened nerve _____	_____	_____	_____	_____
4. Sit Skin Smear (SSS) negative _____	_____	_____	_____	_____
5. Anesthetic lesions _____	_____	_____	_____	_____
6. Tuberculoid granuloma _____	_____	_____	_____	_____

1. Number of lesions _____ increase
 2. Well-defined, elevated margins _____ ill-defined
 3. Single thickened nerve _____ more nerves bilaterally
 4. Sit Skin Smear (SSS) negative _____ positive
 5. Anesthetic lesions _____ sensations present (Glove-stocking)
 6. Tuberculoid granuloma _____ foam macrophages and Grenz zone



Route of infection - Inhalation
 MC cranial nerve - 7th
 Mc Nerve for biopsy - Radial Cutaneous N. > Sural N.
 Earliest sensation lost - Cold Temp.
Fite Foraco stain.

Prophylaxis in contacts: **RIFAMPICIN 5D**

- >2yrs
- >20hrs per week >3mon
- Impact indicators: Prevalence <1/10k → NLEP: National Leprosy Erad. Programme
- Newly diagnosed cases with grade 2 disability

	PBL	MBL
Skin lesions	0 - 5	>5
Nerves	0 - 1	>1
SSS AFB	⊖	⊕
MDT duration	6 months	12 months

PB adult treatment:

Once a month: Day 1
 - 2 capsules of rifampicin (300 mg x 2)
 - 1 tablet of dapsone (100 mg)

Once a day: Days 1-28
 - 1 tablet of dapsone (100 mg)

Full course: 6 blister packs

PB child treatment (10-14 years):

Once a month: Day 1
 - 2 capsules of rifampicin (300 mg + 150 mg)
 - 1 tablet of dapsone (50 mg)

Once a day: Days 2-28
 - 1 tablet of dapsone (50 mg)

Full course: 6 blister packs

For children younger than 10, the dose must be adjusted according to body weight.

MB adult treatment:

Once a month: Day 1
 - 2 capsules of rifampicin (300 mg x 2)
 - 3 capsules of clofazimine (100mg x 3)
 - 1 tablet of dapsone (100 mg)

Once a day: Days 2-28
 - 1 capsule of clofazimine (50 mg)
 - 1 tablet of dapsone (100 mg)

Full course: 12 blister packs

MB child treatment (10-14 years):

Once a month: Day 1
 - 2 capsules of rifampicin (300 mg + 150 mg)
 - 3 capsules of clofazimine (50 mg x 3)
 - 1 tablet of dapsone (50 mg)

Once a day: Days 2-28
 - 1 capsule of clofazimine every other day (50 mg)
 - 1 tablet of dapsone (50 mg)

Full course: 12 blister packs

For children younger than 10, the dose must be adjusted according to body weight.





	Type 1	Type 2 → ENL
Hysn reaction:	Type 4	Type 3
Seen in:	BB, BT, BL	LL
Relation to treatment:	̄ in 12 months of Rx	Anytime
C/F:	pre-existing lesions become Red & Tender	New Nodular Lesions
Systemic involvement:	—	Fever, Arthralgia, Orchitis
Treatment:	DO NOT STOP MDT	
	1 st line: NSAIDs DOC! Steroids	Steroids

UNIFORM MDT		
Rifampicin	Dapsone	Clofazimine
600mg OAMS	100mg OD	300mg OAMS+ 50mg OD





TYPE 2 LEPRO RXN : ERYTHEMA NODOSUM LEPROAE

NATIONAL LEPROSY ERADICATION PROGRAM




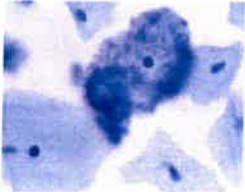


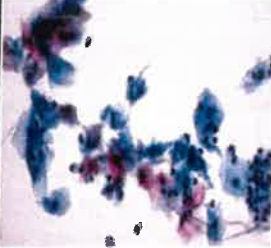
STI → Refer to GRG Sir's YT video for Easy mnemonics

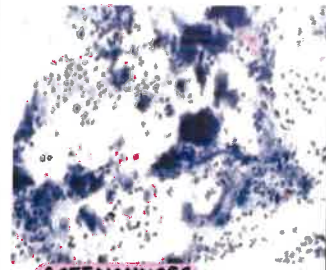
<p>Urethral Discharge</p> <ul style="list-style-type: none"> • Urethral Discharge (Pus or muco-purulent) • Pain or burning while passing urine • Increased frequency of urination • Systemic symptoms like malaise, fever <p>Tab. Azithromycin 1 gm OD Stat + Tab. Cefixime 400 mg OD Stat</p> <p>KIT 1/Grey</p>  <p>Treat all recent partners</p>	<p>Cervical Discharge</p> <ul style="list-style-type: none"> • Nature and type of discharge (quantity, color and odor) • Burning while passing urine, increased frequency • Genital complaints by sexual partners • Low backache (Take menstrual history to rule out pregnancy) <p>Tab. Azithromycin 1 gm OD Stat + Tab. Cefixime 400 mg OD Stat</p> <p>KIT 1/Grey</p>  <p>Treat partners when symptomatic</p>	<p>Painful Scrotal Swelling</p> <ul style="list-style-type: none"> • Swelling and pain in the scrotal region • Pain or burning while passing urine • Systemic symptoms like malaise, fever • History of urethral discharge <p>Tab. Azithromycin 1 gm OD Stat + Tab. Cefixime 400 mg OD Stat</p> <p>KIT 1/Grey</p>  <p>Treat all recent partners</p>	<p>Vaginal Discharge</p> <ul style="list-style-type: none"> • Nature and type of discharge (quantity, color and odor) • Burning while passing urine, increased frequency • Genital complaints by sexual partners • Low backache (Take menstrual history to rule out pregnancy) <p>Tab. Secnidazole 2 g OD Stat + Cap. Fluconazole 150 mg OD Stat</p> <p>KIT 2/Green</p>  <p>Treat partners when symptomatic</p>
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• Gonorrhoea : → **WBCs + GN Diplococci**
 • Chlamydia : → **WBCs**
IOC: NAAT

<p>Genital Ulcer-Non Herpetic</p> <ul style="list-style-type: none"> • Genital ulcer, single or multiple, painful or painless • Burning sensation in the genital area • Enlarged lymph nodes <p>Inj. Benzathine penicillin (2.4 MU) - 1 vial Tab. Azithromycin (1 gm) - Single dose</p> <p>KIT 3/White</p>  <p>Treat all sexual partners for past 3 months</p>	<p>Genital Ulcer - Herpetic</p> <ul style="list-style-type: none"> • Genital ulcer or vesicles, single or multiple, painful, recurrent • Burning sensation in the genital area <p>Tab. Acyclovir 400 mg TDS for 7 days</p> <p>KIT 5/Red</p>  <p>No partner treatment</p>	<p>Lower Abdominal Pain (LAP)</p> <ul style="list-style-type: none"> • Lower Abdominal Pain • Fever • Vaginal Discharge • Menstrual irregularities like heavy, irregular vaginal bleeding • Dysmenorrhoea, dyspareunia, dysuria, tenesmus • Lower backache • Cervical motion tenderness <p>Tab. Cefixime 400 mg OD stat + Tab. Metronidazole 400 mg BD X 14 days + Doxycycline 100 mg BD X 14 days</p> <p>Kit 6/Yellow</p>  <p>Treat male partners with Kit 1</p>	<p>Inguinal Bubo (IB)</p> <ul style="list-style-type: none"> • Swelling in inguinal region which may be painful • Preceding history of genital ulcer or discharge • Systemic symptoms like malaise, fever etc <p>Tab. Azithromycin 1 gm OD Stat + Tab. Doxycycline 100 mg BD for 21 days</p> <p>Kit 7/Black</p>  <p>Treat all sexual partners for past 3 weeks</p>
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SYPHILIS → 1', 2', Early latent → 2.5 MU SD
 → 3', Late latent → 2.5 MU x 3 doses weekly.
 Neuro syphilis } - Aqueous Penicillin
 congenital syphilis }

Diagnosis	BACTERIAL VAGINOSIS	TRICHOMONAS	CANDIDA
Examination	 <ul style="list-style-type: none"> Thin, off-white discharge with fishy odor No inflammation 	 <ul style="list-style-type: none"> Thin, yellow-green malodorous, frothy discharge Vaginal inflammation → Strawberry Cervix 	 <ul style="list-style-type: none"> Thick, "cottage cheese" discharge Vaginal inflammation
Laboratory findings	 <ul style="list-style-type: none"> pH > 4.5 Clue cells Positive whiff test (amine odor with KOH) Gardenella 	 <p>Culture: DIAMOND</p>  <ul style="list-style-type: none"> Twitching motility pH > 4.5 Motile trichomonads 	 <ul style="list-style-type: none"> Sheesh Kebab sign Normal pH (3.8 - 4.5) Pseudohyphae
Treatment	Metronidazole or clindamycin	Metronidazole; treat sexual partner	Fluconazole



ACTINOMYCES
 • IUD ⊕
 • Cotton wool app.

PHYSIOLOGICAL VAQ. DISCHARGE

- Midcycle
- NO malodour
- NO itching

AMSEL criteria
 Nugent Score

APPROACH TO GENITAL ULCERS

Painful

Painless



HSV-2

H. Ducreyly

SYPHILIS

INGUINAL BUBO

- Erythematous
- Vesicles/Erosions

- (School of Fish App.)
- v/l suppurative LN (Bubo)

- Hard, indurated
- B/L painless LNs (Shotty)

- Transient Ulcer
- Chlamydia trichomatis (LGV Serovar)
- m/c → L2 serovar

HSV → Below dia. → 2
 Above → 1



Bipolar Safety pin app.
GRANULOMA INGUINALE/ DONOVANOSIS

- Red, Beety
- LN's ⊖ (pseudo Bubo)

Frie test

IP: → 2-7 days

2-5 days

9-90 days

8-80 days

3-30 days

VESICO-BULLOUS DISORDERS

EPIDERMAL : FLACCID BULLA

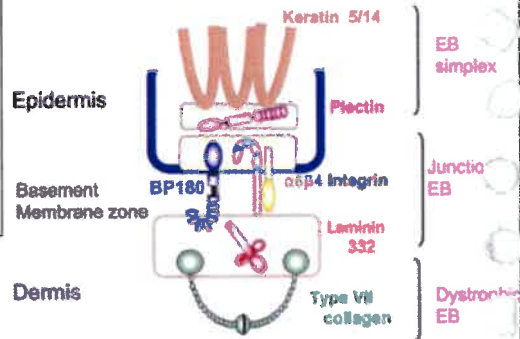
DSG-1: SUBCORNEAL SPLIT : P. foliaceus (erosions) , SSSS

DSG-3: SUPRABASAL SPLIT; ORAL ULCERS : P. vulgaris , STS-TEN

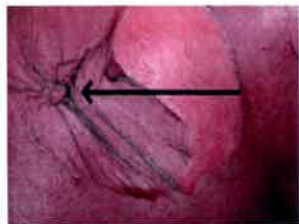
DERMAL : TENSE BULLA → Bullous pemphigoid

MECHANO-BULLOUS: Epidermolysis Bullosa (Type 7 Collagen)

Three major categories of epidermolysis bullosa (EB)



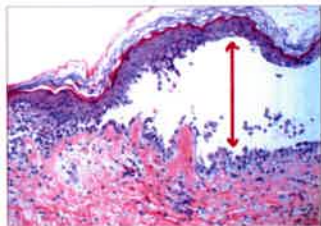
Salt split IF:
Roof- BP
Floor- EB



NIKOLSKY ⊕

- pemphigus
- SSSS

⊖ve : BP



SUPRABASAL SPLIT : P. vulgaris
- Row of Tombstone app.



Oral Ulcers

→ Direct IF :
Fish net app.



→ IgG/C₃
Dermo-epiderm.
jn.



String of pearl appearance



itchy red lesions on extensor surfaces

Picket fence app.

Ig A deposition along papillary tips

Flaccid Bullae

P. VULGARIS

Tense Bullae + Itching
(↑ eosinophils)

BULLOUS PEMPHIGOID

CHRONIC BULLOUS DISEASE OF CHILDHOOD

Rx: Dapsone

DERMATITIS HERPETIFORMIS

- Celiac Disease
Rx: Dapsone

Rx: Steroids - PULSE

DRUG-RELATED DISORDERS



FDE : FIXED DRUG ERUPTIONS

- mc: NSAIDs
- Heal & Hyperpigmentation

SJS - TEN

<10% BSA >20% BSA

Drugs:

- Carbamazepine
- Lamotrigine
- Allopurinol

Score of Toxic Epidermal Necrolysis (SCORTEN)

FLAGELLATE DERMATITIS
• Bleomycin

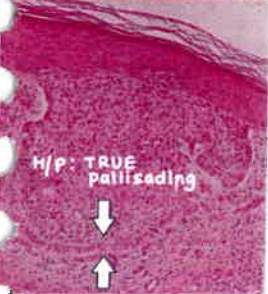
BLUEMAN Sy
• Amiodarone

LIVEO RETICULARIS
• Amantadine

Red man : Vancomycin (Histamine)
 Grey baby: Chloramphenicol
 Pseudo-jaundice: Rifabutin
 Skin / nail pigmentation (ART): Zidovudine
 Hand foot syndrome: 5-FU / Capecitabine
 Purple toe syndrome: Warfarin
 Pseudolymphoma / Purple glove syndrome : Phenytoin
 Vesicular eruptions (CNS Depressant): Barbiturates
 Icthyosis: Clofazimine

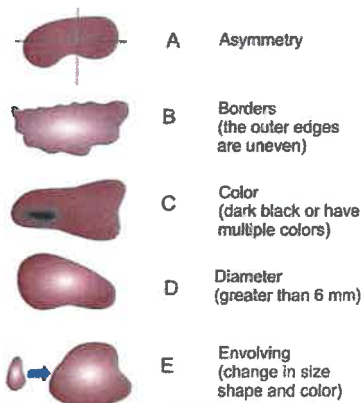
Niacin → ↑↑ PGs
 Eubicitabine
 ↓
 palm hyperpigmentn

SKIN MALIGNANCIES



BASAL CELL CA

ABCDE
Rule for the early detection of melanoma



MELANOMA

Breslow's Depth
↓
most imp. Px factor



KAPOSI SARCOMA : HHV 8 HIV/AIDS



SEBORRHEIC KERATITIS
• Sign of Leser Trelat
↓
paraneoplastic Sx
• Adeno Ca



ACTINIC KERATOSIS
• premalignant, may turn into Sq. Cell Ca



LOLLIPOP SIGN

- HHV 8
- Kaposi
- Castleman's ds
- Effusion lymphoma

Vismodegib

Sonic Hedgehog Mutation

Moh's micrographic surgery

DERMATITIS

CONTACT DERMATITIS

IRRITANT CD



Detergents

ALLERGIC CD



Read at 48 & 96 hrs

- Nickel (mc) : Artificial Jewellery
- Potassium dichromate : Cement
- PTBP : Bindi Adhesives
- PPD : Hair Dyes
- Mono-benzyl ether of Hydroquinone (MBEH) : Rubber

AIRBORNE CD



Parthenium=congress grass
Sesquiterpene lactone

Allergen

ATOPIC DERMATITIS



Lichenification



Adhesives

ATOPIC DERMATITIS

Hanifin and rajka criteria

Distribution of AD by Age

Infant (birth-2 years)



Face (cheeks), scalp, ears

Extensor extremities

Seborrheic dermatitis overlap

face
face + extensor



Childhood (2 years-puberty)

Face (cheeks)

Flexural extremities

face + flexor

Teenage-Adult

Localized flexural extremities

Hands, dorsum

flexor

- Type I HS
- Shield like cataract

- Acute: Erythema, edema, vesicles, crusting
- H/p: Spangiosis
- Subacute: Erythema, scaling
- Chronic: Lichenification

HISTAMINE RELATED DISEASES



URTICARIA

- Pruritic transient plaque
- Dermographism
- Exaggerated wheal response



CHOLINERGIC URTICARIA

- Sweating



CUTANEOUS MASTOCYTOSIS

- Darrier's Sign
- CD 117 / CKIT



HEREDITARY ANGIOEDEMA

- No wheals
- Not histamine mediated
- Bradykinin: ↑
- C4: ↓
- DOC: Danazol
- Lanadelumab
- C1-esterase ⊖ Deficiency.

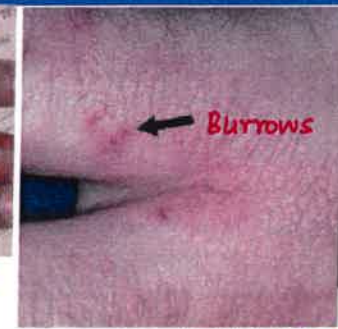
SYSTEMIC DISORDERS



DERMATOMYOCYTIS

TUBEROUS SCLEROSIS
• Subungual fibromas

MISCELLANEOUS



Central Scarring: TB

Central Clearing: Tinea

Central Crusting: Kala-Azay

Child (M/C → TB)
↓
Scrofuloderma



ROSACEA

- Teleangiectasias ++
- Triggers +



MALAR RASH

- Sparring of Naso-labial folds
- SLE



ICTHYOSIS VULGARIS

- fish net scales
- Lower limbs (m/c)

→ Scales on : x-linked Trunk ichthyosis



+ scales on trunk

LAMELLAR ICTHYOSIS

• "Colloidan Baby"



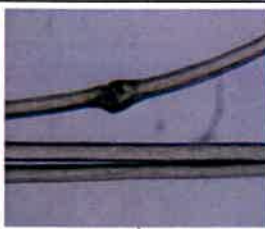
LICHEN SCLEROSIS

- Dyspareunia



DERMATITIS ARTEFACTA

- Non-dominant hand
- Accessible areas



NETHERTON Sx

Bamboo hair
Atopic dermatitis
Ichthyosis
SPINK5 gene



TRICHO THIO DYSTROPHY

Tiger tail hair
PIBIDS
(photosensitivity, ichthyosis, brittle hair, intellectual impairment, decreased fertility and short stature)



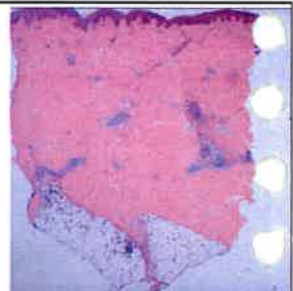
Hypopigmented Face

P. alba

- itchy
- atopy
- scales ⊕

Indeterminate Leprosy

- asso. Sensory loss



MORPHEA

- Localised Sclero-derma



- **Veraguth Sign** — Depression, inner canthal skin fold
 - **Omega sign** — Depression, creases on glabella.
 - **Hyperoid dysphonia** — Atypical depression, insomnia, overeating, likes to eat chocolate
 - **Prig pt already on li** — lowers the dose
 - **Frontal lobe** size ↓ in ADHD
 - **Somatic delusion** — Delusional parasitosis, Bromidosis, dysemporphic delusion, etc.
 - **Types of ADHD**
 - pre dominantly **inattentive**
 - pre dominantly **hyperactive/impulsive**
 - combined**
- 'fluctuating' type doesn't exist

WHO Mental Health Gap Action Plan (mhGAP) → 70-85%
 of people with mental illnesses don't get treatment.

• mhGAP covers →
 - mental illness (Depress, Bipolar, Psychoses)
 - neuro. illness (Epilepsy)
 - Subst. use (Alcohol)

Does not cover OCD

Timeline	Illnesses
<1 wk	Post partum blues (2-30)
>1 wk	Manic symptoms of Bipolar
0-2 wk	ADD/DCI/ Delayed grief
<1 m	Major depressive disorder, Anxiety disorder, post-traumatic stress disorder (PTSD)
>1 m	Schizophrenia, bipolar disorder, PTSD
1-6 m	Schizophrenia disorder
6-12 m	Schizophrenia, GAD, ADHD, illness anxiety, somatic symp., illness phobias, OCD
>1 y	Chronic grief/PTSD
>2 y	Dysthymia, cyclothymia

Psychiatry

- **5Cs of a Reliable Informant:**
 Consistency, Coherence, Chronological, Closeness to pt., Concerned genuinely about pt.
- **Schizophrenia Symp.:**
 +ve symp., -ve symp, socially inapprop. behav., motor/contation symp = stupor/posturing/ waxy flex/ negativism/ echolalia/ echopraxia/ grimacing/ stereotypy/ mannerisms/ perseverations

- **Schneiderian 1st Rank Symp.**
 - 3 Thought pheno.: Insert/withdraw/broadcast
 - 3 Made pheno.: volition/affect/impulse
 - 3 Auditory halluc.: Voices arguing, discussing/ Running commentary/Thought Echo.
 - Delusional percept"
 - Somatic passivity

Thought Disorders

Stream	Content	Possession	Form
<ul style="list-style-type: none"> • Flight of ideas Mania • Pressure of speech Mania • Thought retardation/block Depression • Circumstantiality Finally, goal is reached • Prolixity Masaledaar narration • Clang Rhyme • Perseveration Repeating Palilalia - word Last word repeated Logoclonia - Last syllable repeated 	<ul style="list-style-type: none"> Delusion 	<ul style="list-style-type: none"> Insertion • 'Someone is putting thoughts in my mind' Withdrawal • 'Someone is taking away my thoughts' Broadcast • 'Thoughts escape my mind, and others can access them' • Obsessions Ego dystonic 	<ul style="list-style-type: none"> • Derailment Not completing • Loosening of association No link • Tangentiality Finally goal not reached • Neologism Coin new word • Incoherence = word salad

DELUSIONS- firm unshakable belief, normal social & occupational function

MC delusion: persecution

Folie a deux: Shared delusion: partner of 1° delulu person also develops the delulu, Rx= separate them & Rx the 1° person.

Capgras Me to mom- WHO ARE YOU? **Fregoli** Me to stranger- i know its you, mom!

DeClerembaut syndrome Erotomania- celebrity loves you Remove the mask!

Othello syndrome- Morbid jealousy, alc.+

Cotard syndrome- Nihilistic, intestines rotting, mood congruent (severe psychotic depression)

Ganser syndrome- Dissociative ds.— prisoner— vorbereden— pseudostupidity not on purpose



General Psychiatry

Hallucinations: auditory(mc)- schizo; visual- organic ds, delirium; gustatory-temporal lobe epilepsy; tactile- cocaine magnan bugs

Hallucination: No stimulus **VS Illusion:** Misinterpretation of stimulus
Pseudo-hallucination: Inner subjective
Reflex hallucination/ Synesthesia: Stimulus of one sense— hallucination of different sense—LSD usage seen
Transference: Pt. having feeling for Dr (any feeling)
Counter-transference: Dr. Having feeling for pt. (Any feeling)

ORIENTATION
 Delirium- visual Halln., altered consciousness, altered aens, & sleep wake cycle

ATTENTION
Digit span test

Sustained attention
CONCENTRATION
Serial 7 subtraction

स स स go together

Id- pleasure
 Superego- moral
 Ego- reality

PROJECTIVE TEST



Rorschach ink blot- Describe the image

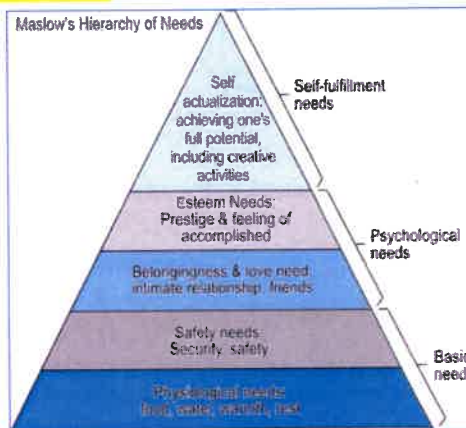
TAT test- Thematic appreciative test



Structural theory of mind by Sigmund Freud



Paraprexis-slip of tongue



Minnesota Multiphasic Personality Inventory
 Objective test

Short term memory: 30-300s
Giving clues: Priming

DEFENCE MECHANISMS

MATURE: Supression Anticipation Altruism Sublimation Humor — SAASH

- An athlete focuses on other tasks to prevent worrying about an important upcoming match (Supression- only voluntary def. mech.)
- A 40 year old anxious about getting old starts planning details of his retirement (Anticipation)
- A mafia boss makes a large donation to charity (Altruism)
- Two nervous medical student jokes about the viva that went horribly (Humor)
- A very short-tempered person takes up kick-boxing as a hobby (Sublimation) - socially unacceptable → acceptable

NARCISSISTIC : DPS

- A mother refuses to admit the death of her child and insists he will be back in the morning. Denial
- A man who wants to cheat on his wife accuses his wife of being unfaithful. Projection (Borderline personality disorder, Splitting- black & white view of life)
- A patient says that all the nurses are cold and insensitive, but the doctors are warm and friendly.

IMMATURE :

- A previously toilet-trained child begins bedwetting again following the birth of a sibling. Regression
- Throwing a book or punching on wall after a fight Acting out (Passive aggression)
- A disgruntled employee is repeatedly late to work, but won't admit it is a way to get back at the manager aggression

NEUROTIC:

- A 20-year-old does not remember going to counselling during his parents' divorce 10 years earlier *Repression*

PRIMARY DEFENCE MECHANISM *Involuntary*

- A patient just diagnosed with cancer discusses the detailed pathophysiology of the disease. *Intellectualize*
- After being reprimanded by her principal, a frustrated teacher returns home and criticizes her husband's cooking *Displacement*
- A stepmother treats a child she resents with excessive nurturing and overprotection *Reaction formation*** *किसीका गुस्सा किसी पे*
- Husband bringing gift for wife, after fighting previous day *Undoing*
- A child who is a victim of physical abuse discusses the beating without any emotions *Isolation of affect*

OCD:
D-Displacement
U-Undoing
R-Reaction formation
I-Inhibition
I-Isolation of affect

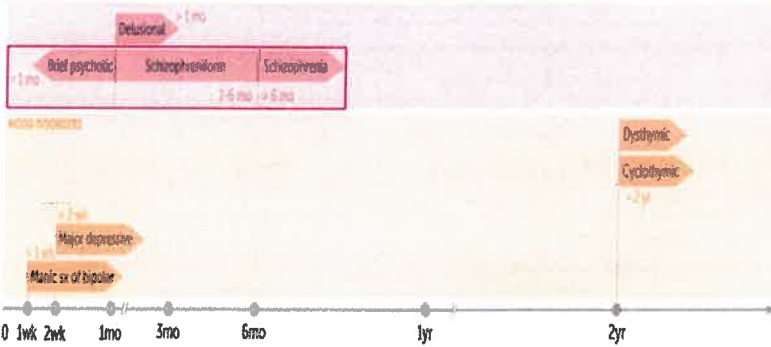
GRADES OF INSIGHT
1-Complete denial
2-Slight awareness
3-Awareness + Blame on others
4-Intellectual insight
5-True emotional insight-Future behavior

Affect	Mood
- External app.	- Pervasive
- Cross sectional	- Pt. says
- Examiner can tell looking at you	

- Judgement
- Reality testing
- Insight
- Personality

⊕ Neurotic
 ⊖ Psychotic

Psychotic disorders



SHT, NE, DA
 Depression =
 Sadness + SIGECAPS
Sleep
Interest deficit
Guilt
Energy deficit
Concentration deficit
Appetite
Psychomotor retardation
Suicidality

Mania = DIGFAST
Distractibility
Irresponsibility
Grandiosity
Flight of ideas
Activity increased
Sleep decreased
Talkativeness

Beck's cognitive triad
 Automatic negative thought

Helpless
 Worthless
 Hopeless
 Rx: CBT

Atypical depression → TCAs, MAO, SSRI ✓
Mood reactivity, Hypersomnia, Hyperphagia, Leaden paralysis

Mania + /- Depression = Bipolar I

Depression + Hypomania = Bipolar II

Schizoaffective disorder
 Concurrent mood episode, active-phase symptoms of schizophrenia + **at least 2-week lifetime history of delusions or hallucinations** in the absence of prominent mood symptoms

DSM-5 Criteria for Schizophrenia

- Two or more symptoms must be present for at least one month and at least one symptom must be either (1), (2), or (3)
 - 1. Hallucinations** *Bizarre delusions- impossible delusions*
 - 2. Delusions** (Can be either bizarre or nonbizarre) *Non bizarre delusions- possible delusions*
 - 3. Disorganized speech** (e.g., frequent derailment or incoherence)
 - 4. Grossly disorganized or catatonic behavior**
 - 5. Negative symptoms** (e.g., affective flattening, alogia or avolition).
- Continuous disturbance for 6 months (attenuated symptoms, residual symptoms)
- Social or occupational dysfunction (or both) for significant portion of the time

Schizophrenia

GOOD PROGNOSTIC FACTORS	BAD PROGNOSTIC FACTORS
Acute onset or abrupt onset	<u>Insidious onset</u>
Advanced age at onset (>35 yrs)	<u>Early onset (<20 yrs)</u>
Catatonic, paranoid subtype	<u>Simple, disorganised, hebephrenic</u>
<u>Female sex</u>	<u>Male sex</u>
Prominent <u>positive symptoms</u>	Prominent <u>negative symptoms</u>
Presence of affective symptoms	Absence of affective symptoms
Family history of <u>mood disorders</u>	Family history of <u>schizophrenia</u>

Genetics of Schizophrenia:
Advanced paternal age
DiGeorge syndrome
Downward drift hypothesis

More in lower socioeconomic strata

Hebephrenia- chaotic speech, erratic behavior, incoherent thoughts

	Post Partum Blues	Post partum depression	Post partum psychosis
--	-------------------	------------------------	-----------------------

Onset	2-3 days (resolves within 10 days)	Within 4 weeks	Variable
Symptoms	Mild depression, tearfulness, irritability	SIGE CAPS	Delusions, hallucinations, thought disorganization
Treatment	Reassurance & monitoring	Antidepressants, psychotherapy	Antipsychotics, antidepressants Do not leave mother alone with infant

Anxiety disorders

ANXIETY DISORDERS



DSM-5 Criteria for **Panic Disorder** 1 month

Recurrent unexpected panic attacks
 At least one of the attacks has been followed by at least 1 month of one or more of the following:

- Persistent concern about having additional panic attacks - *Impending doom*
- Worry about the implications of the attack or its consequences
- A significant change in behavior related to the attacks
- Presence or absence of agoraphobia - *any place from where escape may be difficult*

The panic attacks are not due to the direct physiologic effects of a substance (e.g., medication or drug of abuse) or a general medical condition (e.g., hyperthyroidism) *↳ Rule-out*

DSM-5 Criteria for **OCD** -2 weeks

Obsessions are: *Ego dystonic (pt. does not identify with these thoughts)*
 1. Recurrent and persistent thoughts, urges, images that are experienced as intrusive and unwanted, and that in most individuals cause marked anxiety or distress

Compulsions are:

- Repetitive behaviours or mental acts that the individual feels driven to perform in response to an obsession
- The obsessions and compulsions are time consuming or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning

DSM-5 Criteria for **Generalized Anxiety Disorder** 6 months

- Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance)
 - The anxiety and worry are associated with 3 or more of the following symptoms:
 - Restlessness or feeling keyed up or on edge
 - Being easily fatigued
 - Difficulty concentrating or mind going blank
 - Irritability
 - Muscle tension
 - Sleep disturbance
- free floating anxiety*

DSM-5 Criteria **Phobia** 6 months

- Marked and out of proportion fear within an environmental or situational context to the presence or anticipation of a specific object or situation.
- The avoidance, anxious anticipation or distress in the feared situation(s) interferes significantly with the child's normal routine, academic functioning, or social relationships.
- The symptoms must have duration of at least 6 months

Complex PTSD:
 - EMOTIONAL DISTURBANCE
 - INTERPERSONAL ISSUES
 - NEGATIVE SELF CONCEPT

PTSD

- Sense of threat
- Avoidance
- Re-experiencing

MC obsession: *contamination*
 MC compulsion: *checking*
 Association of OCD, anorexia: *depression*
 TOC for phobia: *Systemic desensitization*
 TOC for OCD: *Exposure → Response prevention*
 TOC for PTSD: *CBT*
 EMDR: *Eye movement desensitization & Reprocessing*

Personality disorders

Cluster A: PaSS- high chance of psychotic disorders

- Paranoid**- pervasive distrust, suspicious
- Schizoid**- voluntary social withdrawal, happy to be alone
- Schizotypal**- odd, magical thinking

MACDONALD TRIAD

- Animal cruelty
- Fire setting
- Bed wetting

Cluster B: BAN Him- high chance of substance abuse

- Boderline**- unstable mood, relationships, impulsivity, suicidal, females
- Antisocial**- criminality, hostility, impulsivity, >18yr
- Narcissistic**- grandiosity, entitlement, requires excessive admiration
- Histrionic**- pick me!

Cluster C: CObAD (कबाड़)-

- Obsessive compulsive**- perfectionism, micromanagement, egosyntonic (vs OCD)
- Avoidant**- hypersensitive to criticism/ rejection, socially timid, alone (doesn't like it)
- Dependant**- clingy, excessive need for support, low self confidence

Other disorders

La belle indifference- A person who suddenly loses the ability to walk due to no medical reason (a conversion disorder symptom) may seem strangely indifferent or unconcerned about the inability to walk, despite its significant impact on daily life.

Catalepsy in catatonia

MC eating disorder: BINGE - EATING

Re: CBT + Nutritional rehab	N.R. Anorexia- antipsychotics Bulimia- SSRIs	Anorexia	Bulimia
BMI		< 18.5	Ⓜ / ↑
Distorted body image		⊕	⊖
Amenorrhea, Osteoporosis, ↑PRL, Refeeding synd.		⊕	⊖
Parotitis, Tooth decay Hypo Cl, K Metabolic alkalosis Russel sign - <i>Callus on knuckles</i>		⊖	⊕

→ Eat - vomit

Reduced REM latency NARCOLEPSY
Hypnagogic/ pomic hallucinations, Cataplexy
Hypocretin / orexin ↓↓
DOC: Modafinil

Sudden loss of motor tone

Hypersomnia, Hyperphagia, Hypersexuality KLEIN LEVIN

Leg movement during sleep PERIODIC LIMB MVT SYNDROME
DOC: BZD

→ Partner complaint

Restlessness during sleep, relieved on moving
DOC: Gabapentin > Ropinirole RESTLESS LEG SYNDROME

→ rule out IDA

UNINTENTIONAL

ILLNESS ANXIETY DISORDER (Hypochondriacs)	SOMATIC SYMPTOM DISORDER	FUNCTIONAL NEUROLOGICAL CONVERSION DISORDER
<ul style="list-style-type: none"> • Preoccupation of having DIAGNOSIS of serious illness • No/ mild symptoms • Consistently negative Ix • >6 months 	<ul style="list-style-type: none"> • Excessive preoccupation with 1 or more symptoms • Stressor + • > 6months <p><i>MC = Pain</i></p>	<ul style="list-style-type: none"> • Unexplainable neurological disorder • Stressor + • La Belle Indifference • Pseudo- seizure / paralysis <p><i>• Atasia abasia gait</i> <i>• HOOVER SIGN +</i></p>

INTENTIONAL

	Secondary gain	Stressor
<i>malingering</i>	+	-
<i>factitious disorder (Munchausen)</i>	-	-

assume a sick role

AUTISM SPECTRUM DISORDER
 ✓ Social interaction impaired
 ✓ Repetitive behaviors *- cognitive decline*
 +/- Language delay

Regression in girl >6mon: Rett Syndrome
 Gene: **XLD (MECP2)** (+ microcephaly)
 Drug: Trofinetide *no role of cannabinoids*
 Regression in any gender >2yrs: **Heller's Synd.**

Erectile dysfunction
 MCC: Psychogenic MC organic: DM
 Nocturnal intumescence + \rightarrow Psychogenic ED
 Mx: PDE5 \ominus (Sildenafil, Tadalafil) \rightarrow s/e $\left\{ \begin{array}{l} \text{ci \& nitrates} \\ \text{Heart burn, GERD} \\ \text{Cyanopsia (PDE6\&O)} \end{array} \right.$

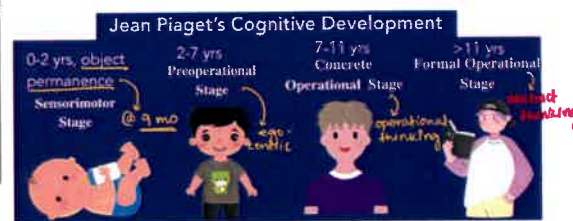
Premature ejaculation
 Mx: **SSRI / Squeeze technique / Stop-start technique**

Gender Dysphoria

Preference for dress and play activities of opposite gender
 Discomfort with anatomical organs of own sex
 "trapped in another sex's body"

ADHD - Attention deficit
6 X 2=12
 onset < 12 y/o
 > 6mo symp. 2 settings
 s/e: growth disturbance, tics
 (DDI)
 • Stimulants (methylphenidate, amphetamines)
 • Non-stimulants: atomoxetine, alpha-2 agonist \hookrightarrow Clonidine
 • Behavioral therapy

OCD-RELATED DISORDERS
 Hoarding disorder - Exposure & Response prevention **FAIL**
 Body dysmorphic D
 Olfactory reference D
 Body focused repetitive behavior D:
 - Trichotillomania
 - Excoriation Disease



CAGE: Alcohol Abuse Cut down Annoyed Guilty Eye opener drink
SCOFF: Eating disorder
PANSS: Schizophrenia
Confusion assessment method (CAM): Delirium
SPIKES: Breaking bad news
HEADSS: Adolescent Health.
Transtheoretical model of change: PC GRAMR
 Precontemplation \rightarrow Contemplation \rightarrow Preparation \rightarrow Action \rightarrow Maintenance \rightarrow Relapse
(Gear up!)

MCC of suicide overall: Depression (15-20%) > Schizophrenia (10%)
 MC mode: Hanging
 5-HIAA CSF: \downarrow
PARASUICIDE: Suicide attempts
COPYCAT SUICIDE: suicide news \rightarrow Triggers someone.

Stress: Test of resource \rightarrow forces a reaction/response
Burnout: Detachment / Ineffectiveness/ Exhaustion
Chronic Grief: >6months(ICD) or >1yr(DSM)
Delayed grief: >2 weeks

Suicide Risks

Sex (male)
 Age
 Depression
Previous attempt (highest risk factor)
 Ethanol or drug use
 Rational thinking loss (psychosis)
 Sickness (medical illness)
 Organized plan
 No spouse or other social support
 Stated future intent

INSOMNIA MX:
 BZD - Clonazepam \rightarrow Alprazolam
 (Zolpidem, Zaleplon, Zopiclone) \rightarrow shortest acting α_1 -GABA
 Melatonin, Ramelteon \hookrightarrow longest acting
 (Suvorexant, Daridorexant) orexin \ominus

Paradoxical suicide = \uparrow r/o suicide after antidepressant Axs started.
 \hookrightarrow Black box warning

Antipsychotics




- Max EPS : Haloperidol
→ ≥ 2 Antipsychotics
- Min EPS, DOC for refractory psychoses: Clozapine
- Max metabolic s/e, Sialorrhea, Seizure, Myocarditis, **Agranulocytosis**: Clozapine
Wet pillow
- QT prolongation: ziprasidone, quetiapine, thioridazine
- Retinal pigmentation: Thioridazine
- Vortex keratopathy, Cholestatic jaundice: Chlorpromazine
- Cataract: Quetiapine (4)
- PD induced psychosis DOC: Pimvaserine
- Longest acting: Penfloridone
- Technique for depot injections: Z technique
- Catatonia DOC: Lorazepam
- Catatonia TOC/ Depression + suicide / stupor : ECT- indirect (anesthetise first)
Anesthetic agent of choice: Methohexital
- D2 partial agonist: Aripiprazole

STOP CLOZAPINE IF:
 WBC <3000, ANC <1500
 Once / week: 6mon
 Once/2 weeks: 6mon
 Once/ month: >1yr



Catatonia
 - stupor= akinetic mutism (Most severe form)
 - Cataplexy
 - Waxy flexibility

EPS: Adapt :Be Beta Be Vela

Antipsychotic extrapyramidal effects		
Extrapyramidal symptoms		Treatment
<p><u>Acute dystonia</u> ~hrs 'when you inject compound v into your veins'</p> 	<ul style="list-style-type: none"> • Sudden, sustained contraction • Torticollis, trismus, oculogyric crisis 	<ul style="list-style-type: none"> • Benzotropine or diphenhydramine <i>Anticholinergics</i>
<p><u>Akathisia</u> ~wks</p>	<ul style="list-style-type: none"> • Subjective restlessness, inability to sit still 	<ul style="list-style-type: none"> • Beta blocker (propranolol) or benzodiazepine (lorazepam)
<p><u>Parkinsonism</u> ~months</p>	<ul style="list-style-type: none"> • Gradual-onset tremor, rigidity, bradykinesia 	<ul style="list-style-type: none"> • Benzotropine or amantadine <i>Anticholinergics</i>
<p><u>Tardive dyskinesia</u> ~years</p>	<ul style="list-style-type: none"> • Dyskinesia of the mouth, face, trunk, extremities • Rabbit syndrome <p>D2 block for years has made the receptors hypersensitive to dopamine</p>	<ul style="list-style-type: none"> • Valbenazine (VMAT\ominus) <i>Anticholinergics are contraindicated.</i> <p>* VMAT\ominus also in chorea</p>

Antidepressants

SSRIs are chosen on the basis of better safety profile

- Mc side effect of SSRI: Acute- GI symp; Chronic- sexual symp.
- SIADH, vivid dreams, dry mouth, sweating, SSRI
Anticholinergic Cholinergic → flu-like s/e upon stopping SNRI.
- DOC for severe depression, S/e: Hypertension, Discontinuation syndrome SNRIs
- Min sexual s/e: Mirtazepine
- Min weight gain, sedation, can cause seizures in bulimic, Anti-smoking: Bupropion
NE, DA reuptake inhibitor, NDRI
- Priapism: Trazodone (TRAZOBONE)
- Respiratory depression, hyperpyrexia, prolonged QT, convulsions, cardiotoxicity
QRS > 100ms TCA Toxicity (antichol., alpha
⊖, CVS/CNS Na channel ⊖)
- DOC: NaHCO₃ Hemodialysis: No use
- Drugs with anti-suicide ability: Lithium, Clozapine, Esketamine (ketamine analog, acute benefit)
- Antidepressant of choice in pregnancy: Sertraline
- Approved for Postpartum depression: Brexanolone (iv infusion x 60hr)
- Black box warning for anti-depressants: Paradoxical suicide, must be monitored
- Novel antidepressant: Agonist at 5HT_{1a}, antagonist at 5HT₃: Vortioxetine
- ~~C~~onus, diarrhea, altered mental status on antidepressants: Serotonin syndrome
 → * Linczotide, Tramadol

Mood stabilisers

DOC in acute mania/BPD- Li + Atypical Antipsychotics

DOC in prophylaxis of BPD- Li > 4 cycle/yr. of

DOC in rapid cyclers- Valproate [Mania-Depression]
 = Rapid Cyclers

R/F: Female, Hypothyroid, Substance abuse, BPD 2

DOC in pregnancy- Atypical antipsychotics

Levels:

Prophylaxis- 0.5-0.8 mEq/L

Acute Mania- 0.8-1.2 mEq/L

Toxicity- >1.5 mEq/L

Dialysis- >4 mEq/L OR sympt.+ at any conc.

T1/2: 24hrs

On Day-5 of starting Li, 12hrs after

Measurement: last dose

Steady state of any drug achieved after 3-4 t(1/2)s

Adverse Effects of Lithium:

L(i) Low thyroid, Leukocytosis

T

H Heart (Ebstein's anomaly), Hyperparathyroidism

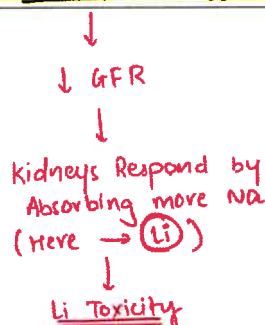
I Insipidus Diabetes (nephro.) Rx- Amiloride

U Unwanted movement (tremors)

M Unwanted mass (obesity)

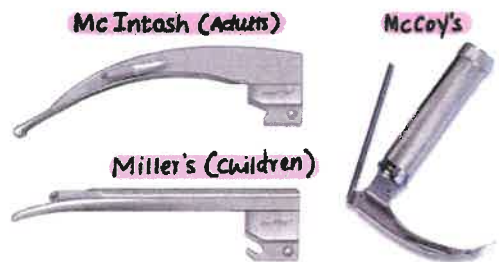
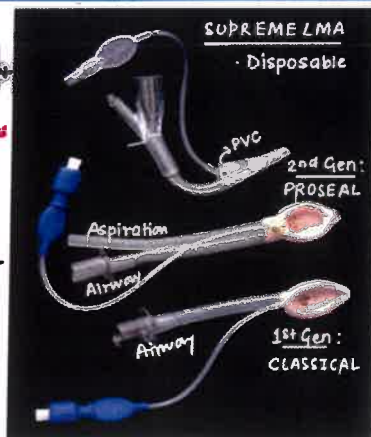
R/F: Volume loss/ AKI, ACE inhibitors, thiazide diuretics, NSAIDs
 Nausea, vomiting, slurred speech, hyperreflexia, seizures, ataxia

clf →



Anesthesia

INSTRUMENTS



SUPRAGLOTTIC AIRWAY DEVICES

SIZE OF LMA
 Child: 3
 Female: 4
 Male: 5



HAND: Left
INSERT: Right angle of mouth of the patient
PRESSURE: Forwards & Upwards
MC injury: Upper Central Incisors

ET Tube
Optimal posⁿ: 2-5 cm from Carina

RAE Tubes

STYLET **BOUGIE**

• Helps to shape the ET tube such that the device can be put more easily

Low-pressure, high-volume cuff
(To prevent Aspiration) • TIC to confirm the posⁿ of ET tube • ETCO₂ (capnography)

Male: 8-9
Female: 7-8
Child: 2-4 → Uncuffed is preferred → cuffed may lead to Tracheomalacia / Sub-glottic stenosis

Sniffing posⁿ

Obese: Ramp posⁿ / HELP
Head Elevated Laryngoscopy Posⁿ

Double Lumen ET Tube
• For Single lung ventilation

SELICK'S MANOEUVERE
• Rapid sequence Intubatiⁿ
• Cricoid pressure to prevent aspiration

LARSON'S MANOEUVERE
• To prevent Laryngospasm

DIFFICULT INTUBATION

MALLAMPATI CLASSIFICATION

I → Complete Uvula Seen
II → Tip not visualized
III → Only base is visualized
IV → Uvula not visualized

CORMACK-LEHANE GRADING (Laryngoscopy)

Grade 1 Grade 2
Grade 3 Grade 4

Plan A: Facemask ventilation and tracheal intubation
Direct/ video Laryngoscopy (max 3+1 attempts)
↓ Failed intubation

Plan B: 2nd generation SAD insertion
Max-3 attempts
↓ Failed SAD insertion

Plan C: Facemask ventilation
↓ x


Plan D: Front-of-neck-access
Scalpel Cricothyrotomy

Obese
Bearded
Edentulous
Snorer
Elderly
Neck circumference >40cm


RIF for Difficult Airway

Fibreoptic intubation


Finger breadth: TMJ → 3 fingers
Thyromental distance N > 6.5cm
Sternomental distance N > 13cm



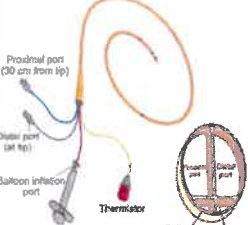
Triple Lumen : Central Catheter




Chemoport / Portacath
• Chemotherapy



Tunneled Catheter (Hickman's catheter / permacath)
• Chemotherapy
• TPN
• Dialysis




SWAN GANZ CATHETER
• Pulmonary arterial catheter
• Best to measure PCWP & Core Temp.
• Ideal site to measure Core Temp : Pulm. Artery
MJC : Distal end of esophagus




BISPECTRAL INDEX (BIS)
• Used to measure level of consciousness
• Range : 0-100
 ↓
 Coma
 → Adequate level : 40-60 of anesthesia
 ↑
 Fully awake

MC vein for central line: IJV
MC vein for TPN: SCV
Max risk of pneumothorax: SCV
Max risk of infection: Femoral Vein
Max risk of thrombosis: Femoral Vein

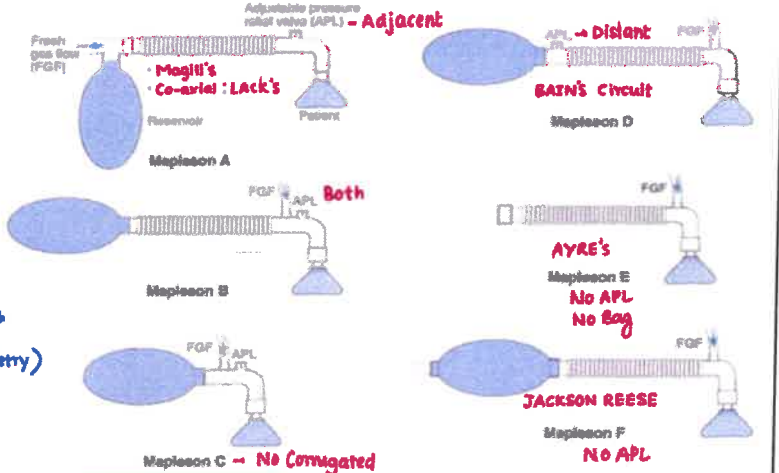
TPN
 20:30:50 → Protein : Fat : Carb.
 >1kg/day weight gain: **FLUID OVERLOAD**
 Weight gain after: **6 Days**
 Refeeding syndrome: ↓ K⁺, ↓ Mg, ↓ PO₄
 Zn, B12 deficiency
 MC metabolic complication: **Insulin Resistance**



NEUROMUSCULAR MONITOR
• To assess the efficacy of NM Blockers




PULSE OXIMETER
• Based on Beer-Lambert law
• oxy Hb : IR rays
• deoxy Hb : Red light
• Falsely Low value (5%) : Meth Hb
• Falsely High value (50%) : CoHb (Co-oximetry)



Adjustable pressure relief valve (APL) - Adjacent
 Fresh gas flow (FGF)
 • Magill's Co-axial : Lack's
 • Bain's circuit
 • Ayre's
 • Jackson Reese
 Mapleson C - No Corrugated tube

MC nerve: Ulnar N. → Adductor pollicis
2nd mc nerve: Facial N. → Orbicularis oculi
Extubation TOF: > 0.9
MC stimulus: Train of Four (TOF) → 4 stimuli @ 2Hz, 0.5 sec apart
Tetanic stimulation: 50 Hz


No drug	Nondepolarizing block	Depolarizing block	
		Phase I (Sch)	Phase II
Train-of-four	Fade	Constant but diminished	Fade
TOF-R = 1.0	TOF-R = 0.4	TOF-R = 1.0	TOF-R = 0.4



AMBU Bag - Artificial Manual Breathing Unit
Semi-closed

MC circuit in spontaneous: Mapleson A : (Magill's/Lack's)
MC circuit in controlled: Mapleson D : (Bain's)


NASAL PRONGS



Max flow rate: 5l/min
Max saturation: 40%


Liter Flow	FiO2
1 Liters	25%
2 Liters	29%
3 Liters	33%
4 Liters	37%

HUDSON'S MASK




Max flow rate: 10l/min
Max saturation: 60%

VENTURI MASK




Max flow rate: 15l/min
Max saturation: 60%

NON REBREATHING MASK (NRBM)



Max flow rate: 15l/min
Max saturation: 85-90%


HIGH FLOW NASAL CANULA



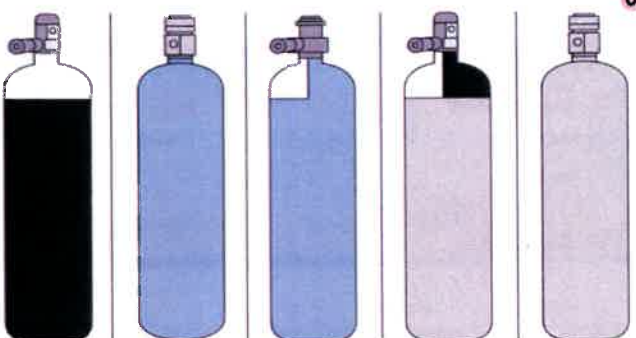
Max flow rate: 60l/min
Max saturation: 100%

Humidification, PEEP+
May delay intubation

NON-INVASIVE VENTILATION/CPAP



O₂ CYLINDERS (High pressure)



O₂
2.5

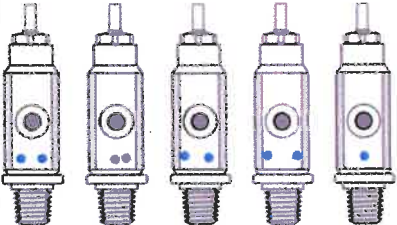
N₂O
3.5

**N₂O + O₂ (50-50%)
ENTONOX**
7

Air
1.5

CO₂
1.6/2.6

Pin Index



Oxygen (2.5) Nitrous oxide (3.5) Air (1.5) Carbon dioxide (1.6) Entonox (7)

Intermediate : DISS (Diameter Index Safety System)

