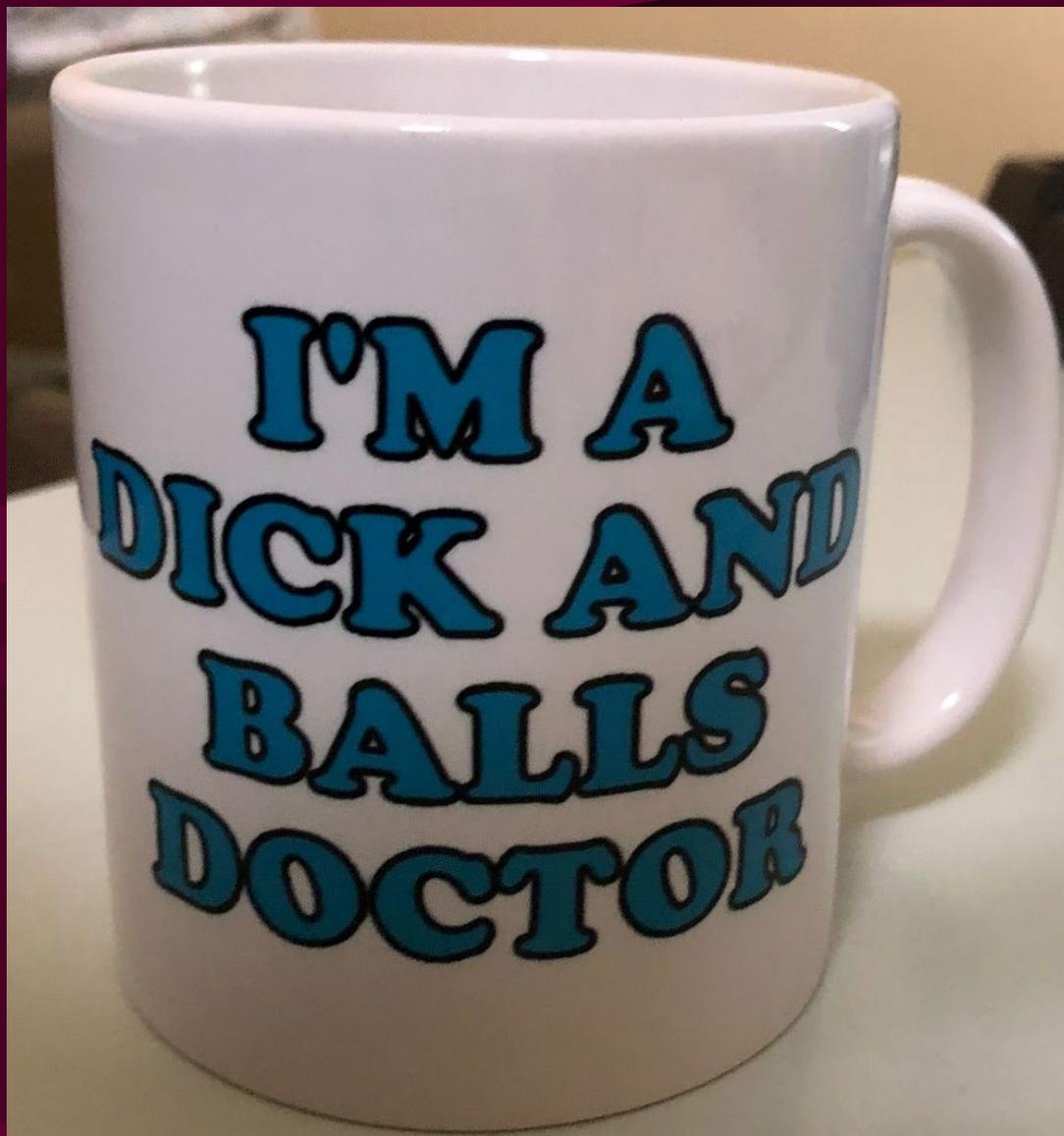


Common Paediatric Surgical Conditions

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Normal Penis

- Foreskin normally adherent to head of penis
- Normally not retractable until 5 – 6yrs



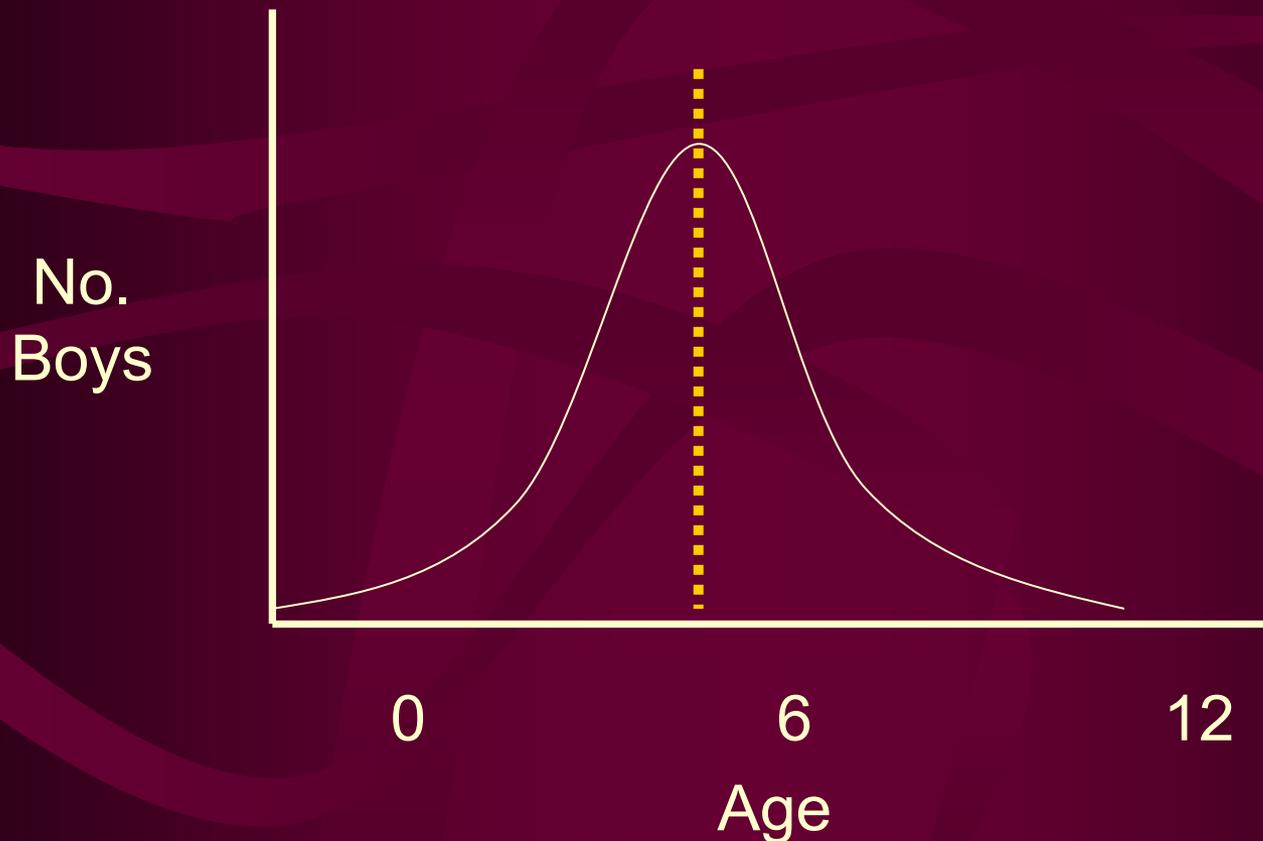
Normal Penis

- Foreskin separates by dead skin cells (smegma) building up between layers



Normal Penises

- Foreskin usually separates by 5-6 years of age



Prepuce

- Protects glans
- Secretes anti-inflammatory substance
- Maintains sensitivity
- Heightens sexual enjoyment (♀ & ♂)

Narrow foreskin (Phimosis)

- Ballooning
- Discomfort
- Frequency
- Wetting
- Infections



Mx - 3 – 4 weeks of topical steroid ointment
QID (Betamethasone) 95% success!



Narrow foreskin (Phimosis)

- Ballooning
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Mx - 3 – 4 weeks of topical steroid ointment
QID (Betamethasone) 95% success!

Beware!



- Megaprepuce
 - Infection risk
- ➔ Needs surgery



Normal penile care

- Retract as allowed – don't force!
- Normal washing
- Encourage self hygiene (pre-school age)
- Infections usually self-limiting
- Don't worry!



Normal penile care

- Teach to replace foreskin when it retracts



Avoid paraphimosis!



Penile size

- Variable
- Most concerns related to skin attachment
- "Buried penis" common
- Growth < 5yrs
- Erection frequency variable

N.B. Seek opinion

Avoid obesity



Why Circumcise?

1900's.....

- Prevents epilepsy, schizophrenia & dementia
- Cures asthma, gout, rheumatic fever
- Stops bed-wetting
- Discourages masturbation
- Decreases sexual enjoyment

.....

Why Circumcise?

“Look like Dad”

- Not completely possible
- Not a problem if can discuss penises
- Kids don't expect to be identical to parent
- Relates to Dad's concern about son's foreskin education

Why Circumcise?

? ↓ risk of Urinary Tract Infection (UTI)

- UTI uncommon ♂ & easily treatable
- Remove 1000 foreskins to prevent 1 UTI
- UTI's indicate underlying abnormality
 - Treatment often needed
 - Early detection beneficial
- ↑ Risk after neonatal circ

Why Circumcise?

? ↓ risk of Sexually Transmitted Disease

- Non-circumcised men more sexually active
- HIV transmitted quickly regardless of state of prepuce
- Circumcision doesn't prevent HIV

Why Circumcise?

? ↓ risk of Penile Cancer

- Rare condition elderly
- Related to poor hygiene / infection HPV
- Can be treated if occurs
- NOT prevented by circumcision

Circumcision

- Limited medical indications
 - Severe phimosis (BXO)
 - ? Underlying renal tract abnormality
 - ? Religious / social
- Contraindications
 - Hypospadias
 - Severe nappy rash
 - Neonatal period



Circumcision

- Complications
 - Bleeding
 - Infection / UTI
 - Meatal ulceration / stenosis
 - Anaesthetic (LA overdose)
 - Inadequate procedure (too much / little)
 - Altered pain threshold
 - Penile Amputation

N.B Greater in neonatal period



Circumcision

- Recommendations
 - **Non**-neonatal, ideally > 6/12
 - General anaesthetic
 - Parents fully informed of risk

NB. \$\$\$ – not allowed to be done in public hospital for choice!

Hypospadias

- Common 1/400 +ve FHx
- Varying appearance & severity
- Features- Square hooded prepuce
 - Prox positioned urethral meatus
 - Chordee
 - Glanular pits / groove



Hypospadias

- Penile function - Voiding
 - Sexual organ

Mx

- **No** circumcision (until definitive repair)
- Early referral
- Surgery - 6 - 12/12 (single / multiple)

Ambiguous Genitalia

- Sx - Enlarged clitoris
 - Bifid scrotum
 - Hypospadias & UDT
 - Scrotalised labia
- Mx- Don't designate gender
 - Urgent Ix
 - Decide sex of rearing
 - Surgery as appropriate

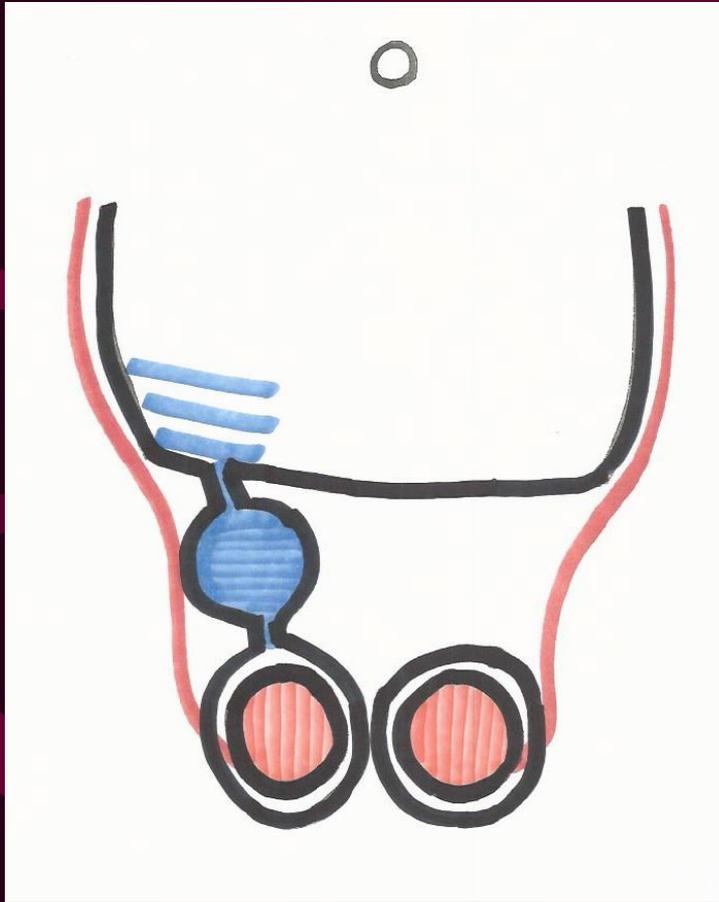
NEVER
NORMAL!



Testicular Descent

- Urogenital ridge
- Descent to internal ring 20/40 (MIS)
- Descent to scrotum by 36/40
 - Gubernaculum
 - Genitofemoral nerve
 - CGRP

Processus Vaginalis



Enlargement of Hydrocoele



Inguinal Hernias

- Common M:F 4:1
- Rel to descent of gonads / incomplete closure PPV
- Associated UDT
- Risk of strangulation \uparrow as age \downarrow
 - Damage bowel, testes, ovaries

Inguinal Hernias

- Dx - Intermittent groin swelling
N.B. Believe parents !

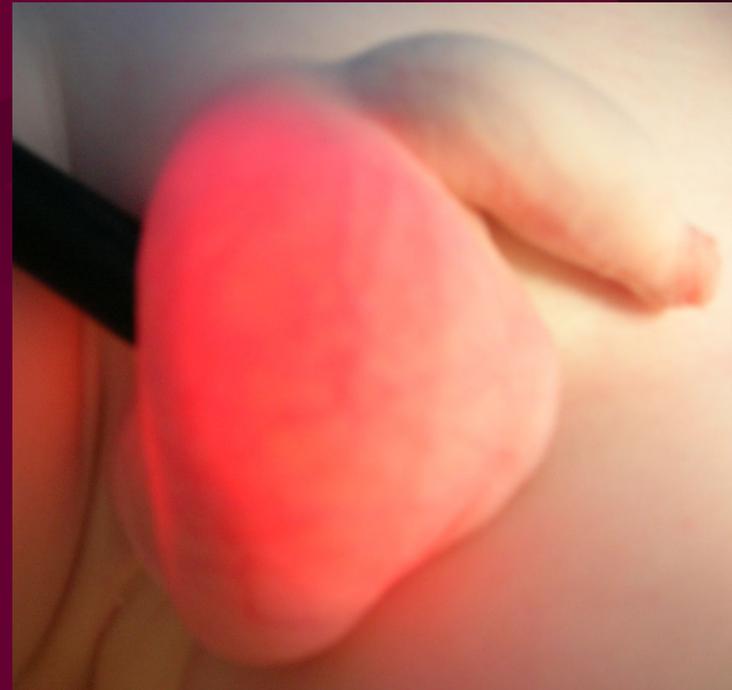


- Mx - Early repair w/i few days
- Bilat boys to 18/12, girls all ages
 - Assoc. orchidopexy if necessary

Hydroceles

- Common, non-closure Processus Vaginalis
- Bluish, size $\uparrow\downarrow$ (URTI, immunisation)
- Asymptomatic

Mx – Repair 18/12



Encysted Hydrocele

- Less common, same aetiol
- Bluish, size $\uparrow\downarrow$ (URTI, immunisation)
- Localised swelling

Mx – Repair 18/12

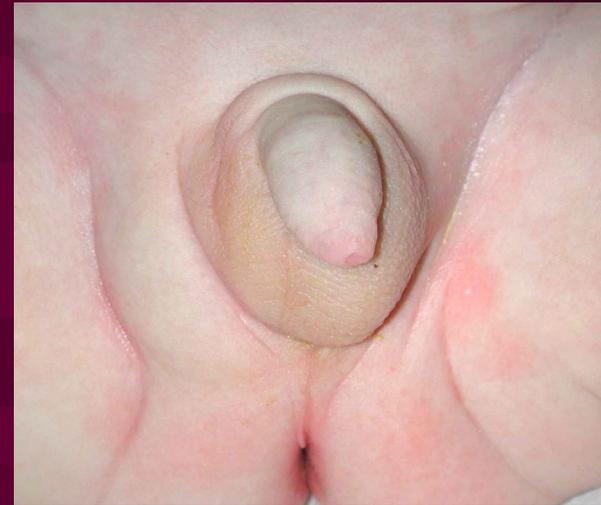


Testicular Examination

- Warm room, relaxed child
- Gently milk testis down from inguinal canal
- Testes should reach scrotum & remain > 2 – 3 sec

Undescended Testes

- Common 1/150
- Testes down by 35/40
- Scrotal size irrelevant
- Affects function / fertility
- Risk of malignancy



Mx - Early referral
- Repair at 6 - 12/12 (unless clinical hernia)

N.B. Exclude retractile testes

Do NOT reassure will come down later!!

Retractile Testes

- Common – normal variant
- “Disappear” 2 – 7 yrs (6/12 to puberty)
- Occasionally seen in scrotum

Mx No US

Paed Surg RV if concerned

Review annually until puberty

1/30 need surgery later if “ascend”

Scrotal Pain

- Emergency!!
- Testicular torsion occurs all ages
- Other causes more likely

Mx - Seek opinion ASAP

➔ Requires surgery!
NO role for US!



Torsion appendix testis



Idiopathic scrotal oedema



Labial Adhesions

- Common, acquired healthy chubby girls
- No underlying pathology
- May cause UTI
- Self-limiting (7-9 yrs)

Mx - Separation

Oestrogen cream

Manual pressure



Imperforate hymen



Antenatal hydronephrosis

- Commonly picked up on US
- ? Transient obstruction during foetal development
- If $> 1\text{cm}$ at 32 weeks need Ix
- ? Bilateral ? Male
- ?VUR / Obstruction



Urinary Tract Infections

- Not common normal children
 - ➔ underlying cause common
- Younger children less specific Sx
 - vomiting, lethargy, afebrile
- Need investigation

N.B. Underlying anatomical abnormality
may need treatment

Umbilical Hernias

- Common
- Size irrelevant
- Rare problems / symptoms
- Size of underlying defect
≈ chance of closure

Mx - Reassure parents &
repair age 3 - 4 years



Epigastric Hernias

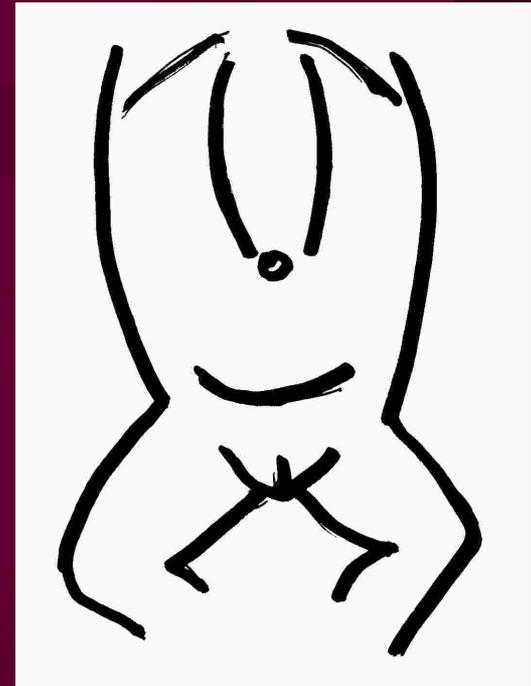
- Midline, 1 – 2cm, fatty lump
- Between xiphi & umbi
- Discomfort after eating / symptoms
- Not harmful
 - only contain extra-peritoneal fat

Mx – Elective repair

Rectal Diastasis / Divarication

- Common, “bulge” epigastrium
- Wide tendon separating recti muscles
- Not an abnormality

Mx - No treatment needed



Discharging Umbilicus

- Sepsis / Omphalitis - Antibiotics
- Granuloma - AgNO₃
- Ectopic mucosa - AgNO₃ / excision
- V-I duct - Laparotomy
- Persistent Urachus - Excision



Tongue Tie

- Common, FHx
- Feeding difficulty
 - breast / bottle
- Dental / oral hygiene
- Tongue mobility
- No speech probs
- Assoc maxillary frenulum



Tongue tie

- Contentious issues
 - ? Causes any issues
 - ? Posterior tongue tie
 - ? Maxillary frenulum & feeding
 - ? Laser



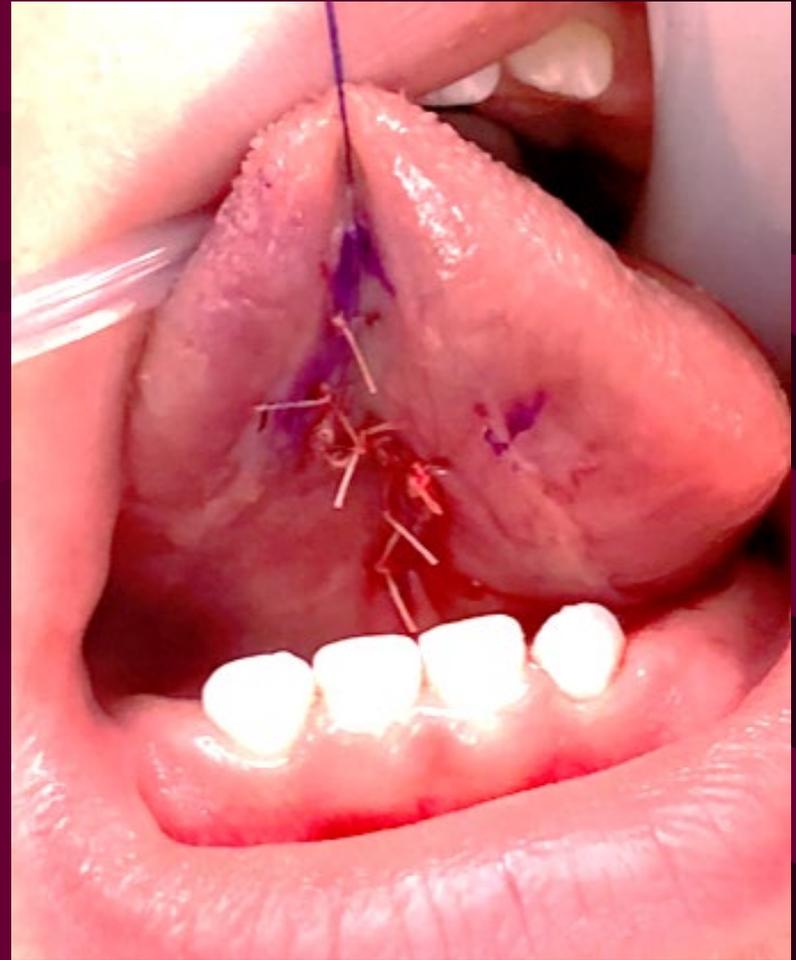
Tongue Tie

- Management
 - Depends on thickness
 - Early division in rooms ($< 6/52$)
or under GA $> 6/12$
 - Early division – enable breast-feeding
 - Late (Z-plasty / frenuloplasty)
 - improved mobility
 - used for thicker tongue ties / short tongues
 - impracticable in neonatal period

Excision Maxillary Frenulum



Z-plasty short Tongue



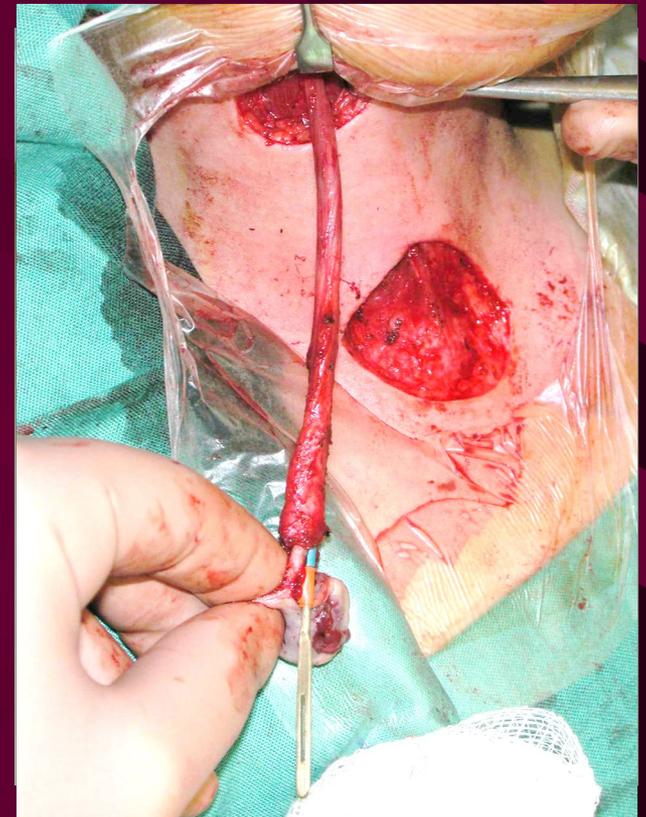
External Angular Dermoid Cyst

- Embryological
- Can be mobile or fixed
 - α depth
- Yellowish
- Mx – elective excision



Branchial fistulae / remnants

- Common
- Embryological branchial arches
 - cartilage /sinus
- If tract need excision
- Risk infection



Pre-auricular sinuses

- Common, Asians
- Often bilateral
- Most asymptomatic
- If discharge need excision



Vomiting

- Green – Beware malrotation!!
- Projectile ? pyloric stenosis
- FTT - ?GOR / ?EOM
- Haematemesis
- Dehydration

Malrotation

- Sudden bile-stained vomiting = green!
- 1st weeks of life commonest
- Risk of volvulus & short gut
- Ix - Urgent Barium meal & follow-thru

Mx - Urgent surgery (Ladd's Procedure)

Pyloric Stenosis

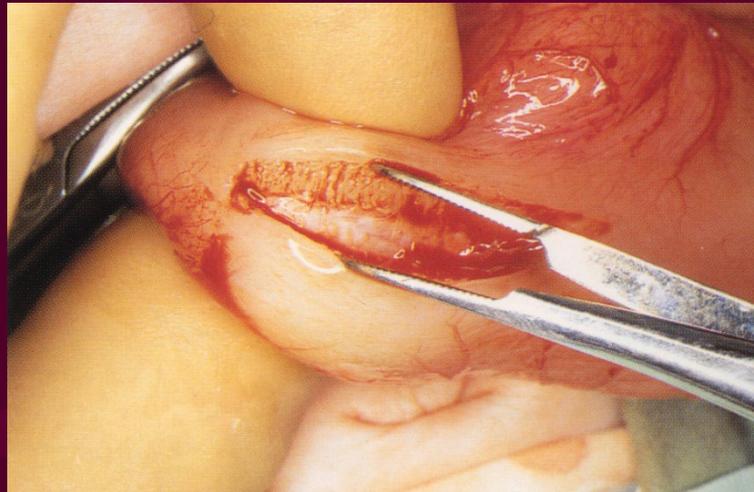
- 1/400, M > F, 20% FHx, 4/52
- Vomiting, projectile, non-bilious, coffee-grounds 2° gastritis
- Hungry → lethargic, dehydrated
- ↓K, ↓Cl, metabolic alkalosis

Pyloric Stenosis

- Visible peristalsis, palpable tumour
- Ix - USG if doubt

Rx - Correct dehydration U/E/C & acidosis

Ramstedt pyloromyotomy



Perianal Abscess / Fistula

- Boys, birth – 12/12
- Infection in remnants perianal scent glands
- Develop fistulous tract
- Not septic!
- No antibiotics
- Mx fistulotomy or recur



Birth Marks

- Haemangiomas
- Vascular Malformations
- Naevus Flammeus
- Port Wine Stain
- Naevi
 - Junctional / Compound
 - Spitz Naevi
 - Giant Bathing Trunk
 - Blue (Mongolian Spot)
 - Sebaceous



Birth Marks

Haemangiomas

- Appear after birth
- Rapid growth 6–12/12
- Spont resolution 5 – 7
- Rare symptoms
- Rx Special areas

Vascular Malformn

- Present at birth
- Grow with child
- No spont resolution
- Pain / overgrowth
- Rx Special areas

Moles/ Naevi

- Most never a problem
- All change with age / maturity
- If present at birth > 1cm
 - small risk of nasty change late childhood
 - consider excision



Neonatal Breast Abscess

- Secondary to hormonal stimulation & mastitis

Mx - Antibiotics
- Careful Surgery



Extra-axial polydactyly

- Familial
- 1-4 digits
- Narrow 'stalk'
 - Excision under LA



Common Paediatric Surgical Conditions



Common Paediatric Surgical Conditions

- Many parents require educated reassurance
- Prevent many unnecessary Ix
- Early detection & Mx vital for certain conditions



Always happy to give advice!

Thank you

