

INTRO TO PAEDS

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WHAT TO EXPECT

- Chill rotation
- Similar conditions as third year: HOPC and Rx slightly different
- Good to have experience in dealing with children



PAEDS ROTATION STRUCTURE

- 1 week introductory lectures
- 4 weeks MMC and 4 weeks at another site/MMC

- 4 week MMC structure
 - 1 week paed ED
 - 5 shifts of 4 hours
 - Orientation on the Monday of ED week at 9am
 - 1 week clinics
 - 5 clinics a week
 - 2 weeks wards

LOGBOOK

- History
 - Easily completed on ED
- Examination
 - Can be completed on ED or clinics depending on doctor
- Admissions
 - Completed on wards
- Discharge summaries
 - Completed on wards
- OCE's
 - Formative examinations
 - 1 neonate, 1 infant/child
 - Can be completed on CBT tutes or whenever a doctor supervises an examination

ASSIGNMENTS

- WORTH VERY LITTLE
- Written case report
 - 1000 words
 - Due at end of 4 week MMC rotation
- Oral case presentation
 - 10 minutes
 - Marked by Dr Rupert Hinds
- Contemporary issues presentation
 - Assigned a topic 2 weeks before it's due
 - Presented in small group tutorials
 - 5 minutes
 - 500 word limit hand out



PAEDIATRIC HISTORY TAKING

- HOPC
- System Review
- Feeding
- Growth
- Past Hx
 - Developmental history
 - Immunisations
- Medications
- Family history and social history



PAEDIATRIC HISTORY TAKING

• System Review

• Infectious

- Febrile?
- Colour of child: pallor? Grey?
- Rashes?
- Sick contacts?

• Cardiovascular

- Cyanosis?
- Exercise tolerance (feeding as an infant)

• Respiratory

- Cough?
- Audible sounds: Wheeze? Stridor?
- Intercostal recession?
- Use of accessory muscles?

• Gastrointestinal

- Diarrhoea? Constipation?
- Vomiting? – bile?
- Abdominal pain?
- Dirty nappies?

• ENT

- Ear discharge?
- Noisy breathing?

• Genitourinary

- Wet nappies?
- Toilet trained?
- Dysuria?

• Neuromuscular

- Seizure activity?
- Gait changes?
- Weakness?
- Changes in senses?
- Headaches?



PAEDIATRIC HISTORY TAKING

- **Feeding**

- Breast milk/formula or solids
 - Breastfeed until 1 year
 - Solids introduced generally at 6 months
- Recent changes?

- **Growth**

- Initial height, weight, head circumference
- Chart progression
- Green book
- Relative to parent's height



PAEDIATRIC HISTORY TAKING

- **Past Hx**

- Chronic conditions
- Birth history: more important in neonates, younger children
 - Antenatal, labour, postnatal complications
 - Full term? Prematurity?
 - Newborn screening?
 - Method of delivery: vaginal or caesarean?
- Developmental history
 - Ask for any concerns?
 - Milestones
 - Academically if in school
- Immunisations - up to date?

Summary

Developmental milestones by median age

Age	Gross motor	Vision and fine motor	Hearing, speech and language	Social, emotional and behavioural
Newborn	Flexed posture	Fixes and follows face	Stills to voice Startles to loud noise	Smiles – by 6 weeks
7 months	Sits without support	Transfers objects from hand to hand	Turns to voice Polysyllabic babble	Finger feeds Fears strangers
1 year	Stands independently	Pincer grip (10 months) Points	1–2 words Understands name	Drinks from cup Waves
15–18 months	Walks independently	Immature grip of pencil Random scribble	6–10 words Points to four body parts	Feeds self with spoon Beginning to help with dressing
2½ years	Runs and jumps	Draws	3–4 word sentences Understands two joined commands	Parallel play Clean and dry



PAEDIATRIC HISTORY TAKING

- Medications
- Family history and social history
- As per usual



PAEDIATRIC HISTORY TAKING

- **HEADSS SCREEN – Adolescent screen for psychosocial risk**

- **Home**

- Who do you live with
- Where do you live
- Recent moves? How many?
- Relationships
- Safety
- Violence

- **Education/employment**

- Studying
- Where
- Attendance
- Year
- Performance

- Friendships/relationships
- Supports
- Recent transfers/moves
- Bullying
- Disciplinary actions
- Future plans
- Work details
- Enjoyment

- **Eating**

- Weight (heaviest, lightest, recent changes)
- Dieting
- Exercise
- Menstrual history



PAEDIATRIC HISTORY TAKING

- **HEADSS SCREEN - Adolescents**

- **Activities**

- Inside school (sport, clubs)
- Outside school (clubs, parties)
- Enjoyment
- TV/Computer/social media

- **Drugs and alcohol**

- Friends, family, patient
 - Smoking
 - Alcohol
 - Illicit drug use
- Pattern of use, amount, opinions, finances? Negative consequences?

- **Sexuality**

- Close relationships
- Sexual experiences
- Number of partners (total and the last 3 months)
- Gender of sexual partners
- Uncomfortable situations/sexual abuse
- Risk of pregnancy
- Previous pregnancies
- Contraception
- Condoms and STIs



PAEDIATRIC HISTORY TAKING

- **HEADSS SCREEN - Adolescents**

- **Suicide, depression, self-harm**

- Presence and frequency
- Feeling down or sad
- Current feelings (scale of 1 to 10)
- Actions when feeling down
- Supports when feeling down
- Self-harm (thoughts and actions)
- Suicide risk
 - Thoughts
 - Attempts
 - Plans
 - Means

- Hopes for future

- **Safety from injury/violence**

- Safety gear for sports
- Seatbelts
- Riding with intoxicated driver/friends
- Violence at school or in neighbourhood
- Weapons or other criminal behaviours



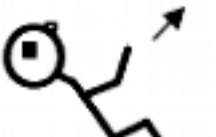


NEONATAL EXAMINATION

- Head to toe examination
- Opportunistic
 - Cardiac examination
 - Respiratory examination
 - Abdominal examination
 - Feel femoral pulses
 - Pupillary reflex and red reflex



NEONATAL EXAMINATION

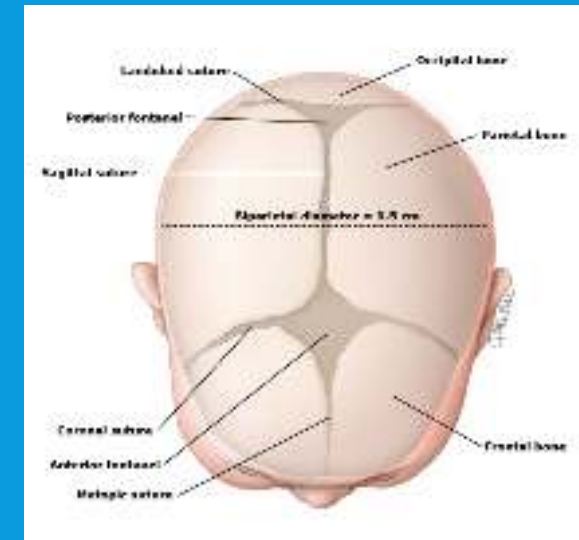
- General appearance
 - Colour: inspect for pallor, cyanosis or jaundice
 - Skin: inspect for texture, turgor, rashes, tags etc, note variations e.g. naevi, bruising, birthmarks
- Activity/tone
 - Observe alertness, posture, muscle tone
 - Check head lag by lifting them up by the arms

HEAD LAG	Head drops and stays back	Tries to lift head but it drops back	Able to lift head slightly	Lifts head in line with body	Head in front of body
Pull infant toward sitting posture by traction on both wrists and support head slightly. Also note arm flexion.					



NEONATAL EXAMINATION

- Head
 - Circumference: occiput to supraorbital ridges – average measurement taken after 3 measurements
 - Suture lines
 - Fontanelles: anterior and posterior
- Ears
 - Low set ears
 - Could indicate congenital abnormalities
- Eyes





NEONATAL EXAMINATION

- Nose
 - Check for nasal patency
- Mouth and palate
 - Cleft lip and/or palate
 - High arched palate
 - Rooting reflex and sucking reflex
- Neck
 - Inspect for clavicles for fractures
 - Palpate neck to identify lumps, swelling or webbing



NEONATAL EXAMINATION

- Chest
 - Assess symmetry, shape, rib retraction
 - Inspect nipples
- Abdomen
 - Umbilical cord stump for 3 vessels
 - Hernias
- Arms and hands
 - Count fingers
 - Grasp reflex
 - Palmar creases



NEONATAL EXAMINATION

- Genitalia: determine sex of baby
 - Male
 - Scrotum: checking for hydrocele or inguinal hernias
 - Urethral meatus location
 - Descension of testes
 - Female
 - External genitalia
 - Female mucoid discharge
- Bladder
 - Confirm output after 24 hours

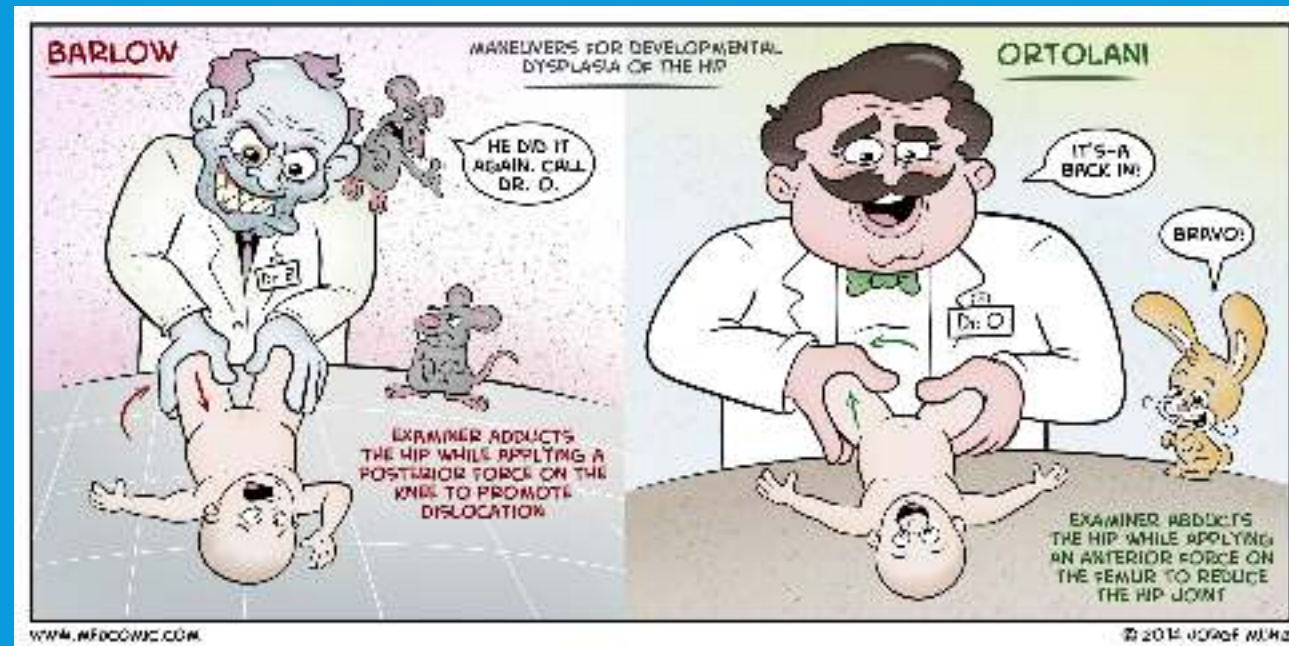
NEONATAL EXAMINATION

- Feet
 - Count toes
- Spine
 - Spina bifida: midline tufts of hair, midline moles
- Anus
 - Normal/patent
 - Meconium passed, confirm output over 24 hours



NEONATAL EXAMINATION

- Hips
 - Compare leg length and symmetry of creases over the front and back of thighs
 - Barlow's manoeuvre
 - Ortolani's manoeuvre





NEONATAL EXAMINATION

- Reflexes
 - Babinski
 - Stepping/walking
 - **Moro**







NEONATAL JAUNDICE

	UNCONJUGATED	CONJUGATED (>15umol/L)
<24 hours Always pathological	<p>Sepsis</p> <p>Haemolysis</p> <ul style="list-style-type: none"> • Extrinsic <ul style="list-style-type: none"> • ABO, Rh incompatibility • Intrinsic <ul style="list-style-type: none"> • Membrane: spherocytosis • Enzyme: G6PD deficiency 	<p>CF</p> <p>Infection (TORCH: Toxoplasmosis, Other (Syphilis, varicella-zoster, parvovirus B19), Rubella, Cytomegalovirus, Herpes)</p> <p>Neonatal hepatitis</p> <ul style="list-style-type: none"> • Idiopathic • Alpha-1 AT • Vertical hepatitis <p>Metabolic</p> <ul style="list-style-type: none"> • Galactosaemia • Fructose intolerance etc
24hr – 2 weeks	<p>Sepsis</p> <p>Physiological jaundice (1/3 term)</p> <p>Haemolysis</p> <ul style="list-style-type: none"> • Bruising • Haemoglobinopathies • Polycythaemia <p>Breast milk jaundice</p> <p>Breast feeding jaundice</p>	<p>Bile duct obstruction</p> <ul style="list-style-type: none"> • Biliary atresia (Alagille’s syndrome) • Choledochal cysts (extrabiliary, obstruct duct) <p>TPN complication</p>
>2 weeks Prolonged	<p>Sepsis</p> <p>Physiological jaundice</p> <p>Breast milk jaundice (10% breast fed)</p> <p>Haemolysis (particularly enzyme problems, esp G6PD)</p> <p>Hypothyroidism</p>	

NEONATAL JAUNDICE

- **Physiological jaundice**

- Appears at 24 hours, peaks on ~day 3 and resolves ~day 7

- Mechanisms

- Low activity of the enzyme which converts unconjugated bilirubin to conjugated to be excreted
- Shorter life span of fetal RBC ~80-90 days
- Low conversion of bilirubin to urobilinogen by intestinal flora, therefore high absorption of bilirubin back into circulation

- Diagnosis of exclusion

- No further Ix or Tx required if a well baby who is jaundiced follows the predicted course, but Ix is important in those that are sick or pattern is

NEONATAL JAUNDICE

- **Conjugated causes**
- Biliary atresia
 - Obliteration of extrahepatic biliary system resulting in obstruction to bile flow
 - Alagille syndrome – autosomal dominant (biliary atresia, butterfly vertebrae and TOF)
- Diagnosis
 - Fasting abdominal USS (contracted/absent gallbladder)
 - Radioactive isotope scan showing liver uptake but no excretion
 - Liver biopsy
- Treatment

NEONATAL JAUNDICE

- **Conjugated causes**
- **Choledochal cyst**
 - Cystic dilatations of the extrahepatic biliary system
 - About 25% present in infancy with cholestasis
 - In older age groups, may present with abdominal pain, palpable mass and jaundice or cholangitis
 - Diagnosis: USS or hepatobiliary scintigraphy scan
 - Treatment: surgical excision of cyst with Roux-en-Y anastomosis
- Neonatal hepatitis: congenital infection/TORCH, alpha-1 antitrypsin deficiency
- Metabolic causes: Galactosemia, fructose intolerance, CF

NEONATAL JAUNDICE

• Investigations

• Bloods

- FBE
- LFTs
- CRP
- Serum bilirubin (SBR)
 - Differentiate between unconjugated and conjugated (conjugated fraction >20%)
- Septic screen
- Blood group
- Direct Coomb's test
- G6PD
- (TFTs)
- (Hepatitis serology)

NEONATAL JAUNDICE

• Treatment

- Treat the cause
- Mild – moderate: Phototherapy
 - Breaks down the bilirubin into a water soluble state to be excreted in the urine and faeces (<340 micromol bilirubin)
 - UVB light
- Severe (bilirubin >340 μmol/L): Exchange transfusion
 - Replace baby's blood with “new” blood

NEONATAL JAUNDICE

- **Complications**

- Kernicterus:

- Unconjugated bilirubin (lipid soluble) crosses blood brain barrier – yellow staining of brain and associated neuronal death on histology
- Cerebellum, basal ganglia and cranial nerve nuclei tend to be most affected

- Bilirubin encephalopathy

- Lethargy -> poor feeding -> temp instability -> hypotonia – opisthotonus -> seizures
- Cerebral palsy and deafness



MUPPITS

THANK YOU