



- +44 0208 9800 039
- +44 0794 0433 068

- [Reports Manager](#)
- [PLAB1-PLAB2 NOTES](#)
- [Administration](#)
- [Sign Out](#)

Resource view

Resource name	Paediatrics plab 1 notes
Resource description	notes
Resource content	<p><u>SAMSONPLAB ACADEMY</u></p> <p><u>Bow Business Centre</u> <u>Bow Road 153-159</u> <u>E3 2SE, London</u> <u>Telephone: +44(0)2089800039</u> <u>Mobile: +447940433068</u> <u>Email: info@samsonplab.co.uk</u></p>

PAEDIATRIC LECTURE NOTES 2014

PRESENTING COMPLAINTS:

1. BRUISES/PURPURA/PETECHIAE

Causes:

1. Non Accidental Injury (NAI)
2. Leukaemia
3. Lymphoma
4. Haemophilia
5. Idiopathic Thrombocytopenic Purpura (ITP)
6. Henoch-Schönlein purpura (HSP)
7. Haemolytic Uraemic Syndrome (HUS)/
8. Meningococcal Septicaemia

NON ACCIDENTAL INJURY (NAI) - This is the same as child abuse.

Features of non accidental injury are as follows:

1. Late presentation - The child is usually brought to hospital late for example 2-3 days after the fall.
2. Bruises of different ages / shape: which suggest that injuries were sustained at different times.
3. Old stories, lacking congruence with injuries – e.g. child fell from sofa and break shaft of femur
4. Accompanying adult may not be the parent. This could be step father or boy friend or girl friend or foster parents. This group of parents are more likely to abuse as he/she is not their biological parent.
5. Unplanned pregnancy
6. Differential diagnosis is osteogenesis imperfecta which is a congenital abnormality with unexplained fracture. In this case there is usually no history of trauma. Also child may have blue sclera.

7. Young parents usually teenager parents

CATEGORIES OF CHILD ABUSE

Four categories of child abuse are generally recognized - a child may suffer more than one type at a time:

- **Physical abuse:** involves physical harm such as hitting, shaking, burning, poisoning or causing suffocation
- **Emotional abuse:** persistent emotional ill-treatment or neglect causing adverse effects on the child's emotional development. For example: making the child feel worthless; unrealistic expectations; preventing normal social activity; serious bullying; seeing the ill-treatment of another person; making a child often frightened; exploitation or corruption.
- **Sexual abuse:** forcing or enticing a child into sexual activity (this includes both penetrative and non-penetrative acts). It also includes 'non-contact' activities – e.g. involvement in pornography; the child looking at sexual activities or pornographic material; or encouraging inappropriate sexual behaviour in a child.

Usually children who suffer from child abuse are girls. Signs include blood stained under pants and change of behavior of a child.

In this case a child may need to be examined under general anaesthesia.

Neglect: the persistent failure to meet a child's basic physical or psychological needs, in a way likely to impair the child's health or development seriously. For example: not providing food or shelter; inadequate protection from danger; not enabling adequate medical care; emotional neglect.

Management:

1. **Check FBC to rule out ITP**
2. **Skeletal survey to rule out other pre-existing fracture if child has presented with a fracture.**
3. **Admit child under paediatrician**
4. **Give analgesia**
5. **Refer to orthopaedics if there is fracture.**
6. **Involve consultant or seniors, check child's name on protection registrar involve the social services**

LEUKEMIA: Common leukemia is acute leukemia in children.

In Acute myeloid leukemia you will find splenomegaly, anaemia and bruises.

In acute lymphoid leukemia there is lymphadenopathy, anaemia and bruises.

LYMPHOMA: lymphadenopathy, night sweats, weight loss, lethargy, fever, splenomegaly, hepatomegaly

HAEMOPHILIA: Usually a male child, in early in life, bleeding in to joints and muscles (haematoma) bleeding may be after trauma or surgery. APTT and PT are prolonged. In GMC you have to use their values as the normal values as they may be slightly different to those in OCHM.

ITP (IDIOPATHIC THROMBOCYTOPENIC PURPURA): causes bruising/ purpura /petechial after upper respiratory tract infection. There is usually bleeding from nose, gum etc.

No lymphadenopathy, hepatosplenomegaly, or pancytopenia. Platelets are low

The patients is well, meaning that not ill, no fever.

HSP (HENOCH SCHOLNLEIN PURPURA): Purpura (purple spots/nodules not dispensance) over buttocks, extensor surfaces, arthralgia, abdominal pain, renal involvement.

No history of trauma

Patient is well

Platelet count normal

It is vasculitis

Non-blanching purpura

Immunoglobulin A (Ig A)

MENINGOCOCCAL SEPTICAEMIA = patient is ill, fever purpura, drowsy, photophobia, vomiting (platelets) Any Rash suggest meningococcal septicaemia

HAEMOLYTIC URAEMIC SYNDROME Microangiopathic haemolytic anaemia, purpura, renal failure and endothelial damage to glomerular capillaries

Typical age = 3 months to 3 years

Investigations:

FBC = Fragmented red blood cells, oliguria, patient ill platelet low

CHILDHOOD INFECTIONS

1. VARICELLA

Morphology of rash: Clear vesicles on erythematous base (5-12mm) evolves into pustules that burst and crust

Distribution: Lesions occur in crops, starts on the trunk and spreads peripherally, mucosal involvement is common

Incubation period 10-21 days

Associated features: Pyrexia

Complications: Bacterial infection (commonly staphylococcus), encephalitis, pneumonia, reactivates as herpes zoster later in life when patient is ill or immunocompromised

Treatment:

If >1 month + <12 years + immunocompetent: No treatment

If <1 month OR immunocompromised: IV Aciclovir

If >12 years old + immunocompetent: Oral aciclovir

Preventing Spread:

- A person with chickenpox is infectious from 2 days before the rash first appears until all the spots have crusted over.
- Children should not be allowed to go back to school until all the rash has crusted.

1. MEASLES (also known as 3rd Day Disease)

Morphology of rash: Maculopapular rash, which appears on the 3rd day of illness

Distribution: Starts on the head and neck, and spreads peripherally

Incubation period: 10-14 days

Associated features: coryza, conjunctivitis, cough, lymphadenopathy, koplik spots in mouth

Complications: Otitis media, pneumonia, meningitis, encephalitis

Treatment: Symptomatic unless with complications.

1. RUBELLA (GERMAN MEASLES)

Morphology of rash: Pink macular rash

Distribution: Starts from trunk

Associated features: Lymphadenopathy, especially sub-occipital lymphadenopathy

Complications: Arthritis in adults, encephalitis

Treatment: Generally symptomatic

1. PARVOVIRUS (Slapped cheek, erythema infectiosum, 5th disease)

Morphology of rash: Facial erythema in children, macular or macular papular rash

Distribution: Facial rash in children (slapped cheek appearance)

Associated features: Lymphadenopathy, arthralgia

Complications: Arthritis in adults, foetal loss in pregnancy (hydrops, anaemia in patients with haemoglobinopathies)

Treatment: Symptomatic

5. MUMPS:

This is a viral infection spread by saliva and respiratory droplets

Typical features:

- Fever with pain and swelling in one or both parotid glands. Aseptic meningitis may occur
- Orchitis develops in 10-15% post-pubertal males.
Pain relief: analgesia or steroids.

NB. Orchitis is uncommon before puberty. CONSIDER TESTICULAR TORSION.

Incubation period: 14-18 days

Treatment: Symptomatic

STRIDOR IN A CHILD

STRIDOR – is a musical sound produced during inspiration.

Causes:

1. Foreign body
2. Croup
3. Anaphylaxis
4. Epiglottitis
5. Diphtheria
6. Anaphylaxis

I. CROUP = This is defined as an acute clinical syndrome with inspiratory distress = acute viral laryngotracheobronchitis

Causative organism = parainfluenza 1,2,3

Age group = 5 months to 6 years

Clinical features = barking cough, harsh stridor, hoarseness, fever, coryza symptoms often start at night.

Treatment: at home = Steroids: Dexamethasone oral or budesonide if symptoms not settled then nebulized adrenaline with oxygen.

II. FOREIGN BODY = previously well child was playing with a toys/coins – "Choking child". This is usually in children who have been left unsupervised.

Treatment:

1. **Infant < 1 year left unsupervised. Back blows with chest thrusts. Use 2 fingers i.e index and middle fingers.**
2. **In young children: above 1 year child should be on the lap. Back blows with chest thrust (compression) with a child on the lap.**
3. **In older children or adults = helmlich manoeuvre (just like in adult)**
4. **If the manoeuvre has failed then laryngoscopy**
5. **If a child is choked and is coughing = encourage coughing**

III. EPIGLOTTITIS

Cause: Haemophilus influenza

Symptoms: acute onset of illness with fever, lethargy, inspiratory stridor, no cough drooling of saliva

Investigation = clinical diagnosis (cherry red swollen epiglottis)

Management:

1. **Call anaesthetist to intubate the child, do not examine the throat**
2. **Medical = I.V cefotaxime or ceftriaxone**

IV. ANAPHYLAXIS = is potentially life threatening, immunologically mediated syndrome in which laryngeal oedema can develop over minutes.

Symptoms: Itching flushing, stridor, wheeze, facial swelling, shock

Management of Anaphylaxis

1. **First remove allergen**
2. **Give IM Adrenaline if there are indications**
3. **Intubate if there is complete airway obstruction**
4. **Chlorpheniramine (Anti-histamine) must always be given to prevent delayed onset of allergic reaction.**
 - **Rash secondary to allergy is called urticarial and if this is the only symptom then adrenaline is not indicated. Use only antihistamine orally.**
 - **If there is a big localised swelling then use local antihistamine cream especially after bee sting.**

Indications of Adrenaline in Anaphylaxis

1. **Hoarseness of voice**
2. **Wheeze**
3. **Shortness of breath**
4. **Shock**
5. **Stridor**
6. **Swelling of the tongue and cheek**
7. **Facial swelling**

ADRENALINE DOSE:**Always use 1:1000 concentration and administer intramuscular (IM)**

1. Age > 12 give 0.5ml
2. Age 6 years-12 years give 0.3ml
3. Age <6 years give 0.15ml

V. DIPHTHERIA = In children who have not been immunized against the disease **cause** **carnebacterium diphtheria**

It usually starts with tonsillitis + false membrane over fauces.

Symptoms:

- polyneusitis (cranial nerves)
- myocarditis
- bradycardia
- dysphagia
- brassy cough

Investigation: Swab culture below the membrane**Management:**

1. **Diphtheria antitoxin**
2. **Plus erythromycin**

Lower Respiratory Tract Infections

1. **Acute bronchiolitis** = lung inflammation in infants i.e. < 1 year.

- Coryza proceed cough
- Low fever
- Wheeze
- Difficulty in feeding
- Apnoea/ shortness of breath
- Intercostal recession + cyanosis
- Hyperinflated lungs on CXR

Cause: typically respiratory syncytial virus (RSV)**Investigation** = Nose + throat swab

CXR shows hyperinflated lungs.

Treatment:

- I. **Oxygen**
- II. **Nebulized salbutamol**
- III. **Dexamethasone**

1. **Pneumonia** = sign increase in temperature, poor feeding, cyanosis, cough, sputum

Investigation: Chest X- Ray. Consolidation = infection, cavitation = T.B (upper lobe) or staph

Treatment: Erythromycin – if allergic to amoxicillin ± co – amoxiclav, which is used in severe infection

3. **Whooping cough** = Bordetella pertussis

Signs = apnoea, bouts of coughing ending with vomiting

- Fever always < 38.4
- No wheeze

Investigation: PCR, culture unsatisfactory**Treatment: Erythromycin, Salbutamol nebulised + steroid if acute shortness of breath****Prevention:** Vaccination

FAILURE TO THRIVE

1. **Cystic fibrosis** – autosomal recessive diseases. It is a chloride channel defect. Meaning that the chance for parents to transfer to their children is 1:4 or simply 25%

Symptoms:

1. Recurrent chest infection is due to the thick mucus, which is difficult to clear. As a result it causes blockage and leads to recurrent infection.
2. Rectal prolapse
3. Pancreatic insufficiency
 - Endocrine
 - Exocrine
 - Steatorrhoea
 - Decrease in weight
1. Meconium ileus
2. Failure to thrive due to the recurrent chest infections

Investigation: Sweat test: Chloride < 40 mmol/L normal
>60 – diagnostic.

Complications: Common complication is bronchiectasis which is dilatation of the bronchi due to recurrent chest infection. Usually develops by the age of 20 years.

Management:

1. **Symptomatic management**
2. **Physiotherapy**
3. **Antibiotics if there is chest infection**

Asthma

Chronic allergic reaction characterised by reversible airway, obstruction, wheeze, cough and dyspnoea.

Triggers: pollen, dust, feather, fur, exercise, infection.

Prophylaxis

1. Avoid triggers
2. Use sodium cromoglycate in exercise induced asthma or pre-exercise bronchodilator (salbutamol)

Management:

1. **Stable patient:** Goes to GP or outpatient department (salbutamol)
2. **Unstable patient:** Patients come to A&E and have severe symptoms

A. Stable patient

Step 1: Occasional short acting B₂ agonist inhaler e.g salbutamol as required. If needed > 2/week or (night symptoms) or if getting exacerbation move to next step.

Step 2: Add regular Inhaled Steroid: Therefore at this stage child will be taking salbutamol as required and inhaled steroid e.g. beclomethasone 400 µg. If not effective then increase up to 800 µg.

Step 3: Check diagnosis, check technique (use the spacer with a mask). Add 1 dose montelukast (leukotriene antagonist) in the evening. If 2-5 years add leukotriene antagonist (e.g. montelukast), formoterol. If <2 years refer to the paediatrician.

If child > 5 years add Long acting – agonist e.g. salmeterol. At this stage if not getting any benefit from long acting beta-agonist then discontinue it. But if it has added some benefit then continue it.

Step 4: Increased inhaled steroid up to maximum dose (e.g. Beclomethasone 800 µg – 1000 µg). If child develops oral candida reduce the dose.

At this stage also consider leukotriene antagonist if not already used or modified long acting beta agonist or aminophylline

Step 5: Add prednisolone – oral

A. Unstable patient = Acute exacerbation of asthma.

Patients with acute problems usually go the accident and emergency department

- a. **Mild to moderate asthma (able to talk, Pulse < 125, PEFR > 35% of the predicted value. Oxygen > 92%.**

Treatment:

1. Oxygen
2. Nebulised salbutamol or terbutaline
3. Prednisolone.

- a. **Severe asthma (can not speak in complete sentences in one breathor child too breathless to speak, PEFR 35%-50%, Oxygen saturation < 92%)**

Treatment:

1. Oxygen - high flow 15L/min or 100%
2. Neb salbutamol ± IV salbutamol
3. Oral Prednisolone or IV hydrocortisone
4. IV MgSO.
5. Aminophylline

- a. **Life threatening asthma:** (Silent chest, cyanosis, hypotension, bradycardia, agitation, reduced consciousness, saturations < 92%)

1. Oxygen - high flow 15L/min or 100% oxygen
2. Nebulised salbutamol ± IV salbutamol
3. Oral prednisolone or IV hydrocortisone
4. IV MgSO.
5. Aminophylline

N.B: Intravenous Salbutamol can be used if patient is not able to nebulise for e.g. if someone is vomiting.

Congenital Heart Disease**A. Cyanotic**

- **Tetralogy of Fallot**
- Right ventricular hypertrophy
- Pulmonary stenosis
- Ventricular Septal Defect (VSD)
- Overriding aorta
- Chest X-Ray shows booth shaped heart
- Transposition of the great arteries, Chest X-Ray shows egg shaped heart

B. Non Cyanotic

1. VSD = loud pan systolic murmur (harsh)
2. Atrial Septal Defect (ASD) = systolic murmur in the upper left sternal edge
3. Patent ductus arteriosus (PDA) = systolic continuous machinery murmur on the pulmonary area
4. Coarctation of aorta = unpalpable or weak femoral pulses
5. Aortic Stenosis = crescendo-decrescendo systolic ejection murmur

Convulsing child**Causes**

1. Epilepsy
2. Febrile convulsion (Fits caused by high temperature)
3. Brain tumours

Management:

1. **The most appropriate treatment is IV Lorazepam.**
2. **If the patient is not responding, give another dose of IV Lorazepam.**
3. **If the patient is still having seizures, load with phenytoin**
4. **If the patient is still convulsing, give phenobarbital**
5. **If the seizure is still ongoing, put patient under general anaesthesia and intubate.**

NB. If no IV access, give per rectal diazepam

Vomiting in infancy

1. **Meningitis** = rash, photophobia, fever, drowsy headache
2. **Pyloric stenosis** = projectile vomiting
 - No bile in vomiting (Investigation: Ultrasound Scan)
 - No diarrhoea
 - Dehydrated and hungry child [6 week old baby] – olive shaped mass in epigastrium
1. **GERD** = vomiting usually occurs after feeding, it is usually reduced when the child sits up
2. **Overfeeding** = also after feeding and child is described as greedy baby
3. **UTI** = fever, vomiting, failure to thrive

N.B. In both GERD & overfeeding, vomiting occurs after feeding.

1. **Gastroenteritis**: Commonest cause of diarrhoea and vomiting is Rotavirus infection
 - a. Viral
 - b. Bacterial: Fever, bloody diarrhoea, abdominal pain, vomiting

Investigations: = U&E to check for dehydration

Management: Rehydration with Oral Rehydration Salts (ORS) 60 mmol/L of Sodium

Childhood jaundice

Differential Diagnosis

1. Physiological: 24hours - 14 days
2. Breast milk jaundice
3. Haemolytic, sepsis
4. Urinary Tract Infection
5. Hypothyroidism
6. Biliary atresia
7. Galactosemia
8. Hepatitis A
9. α- antitrypsin
10. Prematurity
11. Rhesus incompatibility
12. ABO incompatibility
13. Bruising

Physiological jaundice

- Jaundice in the neonatal period is very common and is usually due to a physiological immaturity. It is self-limiting as the liver matures over the first week. Nearly all preterm infants become jaundiced in the first few days of life, due to the immature hepatocytes.
- Low liver enzyme activity
- Breakdown of fetal haemoglobin

Breast milk jaundice

- This is persistent jaundice in an otherwise well, breast-fed infant. This is due to the inhibition of liver conjugation enzymes. Split bilirubin should be measured (conjugated & unconjugated) to exclude conjugated hyperbilirubinaemia. Normally manifests itself by day 4-7.
- Well baby who is breast-fed.
- Jaundice develops in second week.

Hypothyroidism

- May be associated with pituitary disease

Biliary atresia

- Present 4-6 weeks after birth
- Present in obstructive jaundice
- A conjugated hyperbilirubinaemia develops over a period of weeks. Stools become clay coloured i.e pale stools and dark urine
- Persistent jaundice with rising conjugated fraction
- Pale, chalky stools
- Requires urgent referral for assessment, diagnostic isotope scan and surgical correction.

Prematurity – Pre-term born babies

- Immature liver enzymes

Rhesus incompatibility

- **Usually develops on the first day of life**
- If mother is Rh negative and baby Rh positive, the maternal IgG can cause haemolysis
- Sensitization occurs in earlier pregnancies
- If severe can cause hydrops in utero
- Coombs' test positive, high unconjugated bilirubin

ABO incompatibility – Autoimmune – Coombs' positive

- Usually milder than rhesus

Bruising

- Skin or scalp bruising from traumatic delivery is broken down into bilirubin

Key points

- Mild jaundice is extremely common in newborn infants, especially preterm ones.
- Jaundice within the first 24 hours or lasting beyond 2 weeks needs investigation.
- Phototherapy and occasionally exchange transfusion are used to treat significant jaundice.
- Biliary atresia causes an obstructive persistent jaundice with pale stools. Early treatment is essential.
- Conjugated hyperbilirubinaemia is always abnormal. Exclude biliary atresia.

N.B.

- < 24 hours = pathological
- > 24 hours = usually physiological

Investigations – Serum bilirubin

Routine Paediatric Immunisations

- **2 months - 5 in 1 (DTaP/IPV/Hib), PCV, Rotavirus (by mouth)**
- **3 months - 5 in 1 (DTaP/IPV/Hib), MenC, Rotavirus**
- **4 months - 5 in 1 (DTaP/IPV/Hib), PCV**
- **12 - 13 months - Hib/MenC, PCV, MMR**
- **2 and 3 years - Flu nasal spray**
- **Pre school (3 years 4 months) - DTaP/IPV, MMR**
- **Girls 12-13 years - HPV**
- **Around 14 years - Td/iPV, MenC**

Key:

- **DTaP** - Diphtheria, Tetanus, acellular Pertussis (in thigh)
- **IPV** - Inactivated Polio Virus
- **Hib** - Haemophilus influenza type b
- **PCV** - Pneumococcal Conjugate Vaccine (in thigh)
- **Men C** - Meningococcal group C
- **MMR** - Measles, Mumps, Rubella (upper arm/thigh)
- **HPV** - Human Papillomavirus (upper arm)
- **Td** - Tetanus, diphtheria (upper arm)

Developmental Milestones

Click on link to view

[View](#)

Resource start date

2014-08-14 10:03

Resource end date

2024-08-14 10:03

[Back](#)



Copyright © 2013 SamsonPLAB:All Rights Reserved Web Design Company Flick Media Ltd