

# MMed and DCH Lectures

## Common Paediatric Problems

August 9, 2021

Prof Trevor Duke

# Vale Dr Guapo Kiagi

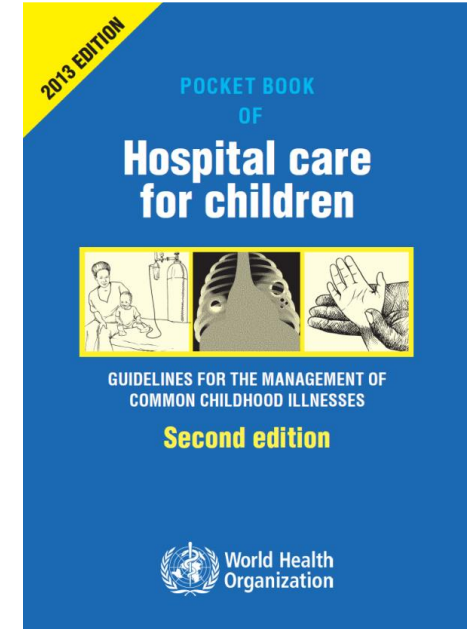


# 8-year-old boy with abdominal pain, vomiting and headache

- 2 weeks of abdominal pain, frequent vomiting, and headache
- Attended hospital twice, ruled out appendicitis, “probably gastro”

# Stages of Management of every Sick Child

- Triage
- Emergency treatment
- History and examination
- Laboratory investigations, if required
- Main diagnosis and other diagnoses
- Treatment
- Supportive care
- Monitoring
- Discharge planning
- Follow-up



# Triage

Take a brief history of the presenting problem

Take temperature and weigh the child

- A. Listen for stridor or obstructed breathing
- B. Look for cyanosis and for signs of respiratory distress (chest indrawing, tracheal tug), check SpO<sub>2</sub>
- C. Feel the skin temperature of the hands and feet, feel the pulse for volume, check capillary refill time
- D. Assess for lethargy and level of interaction.**

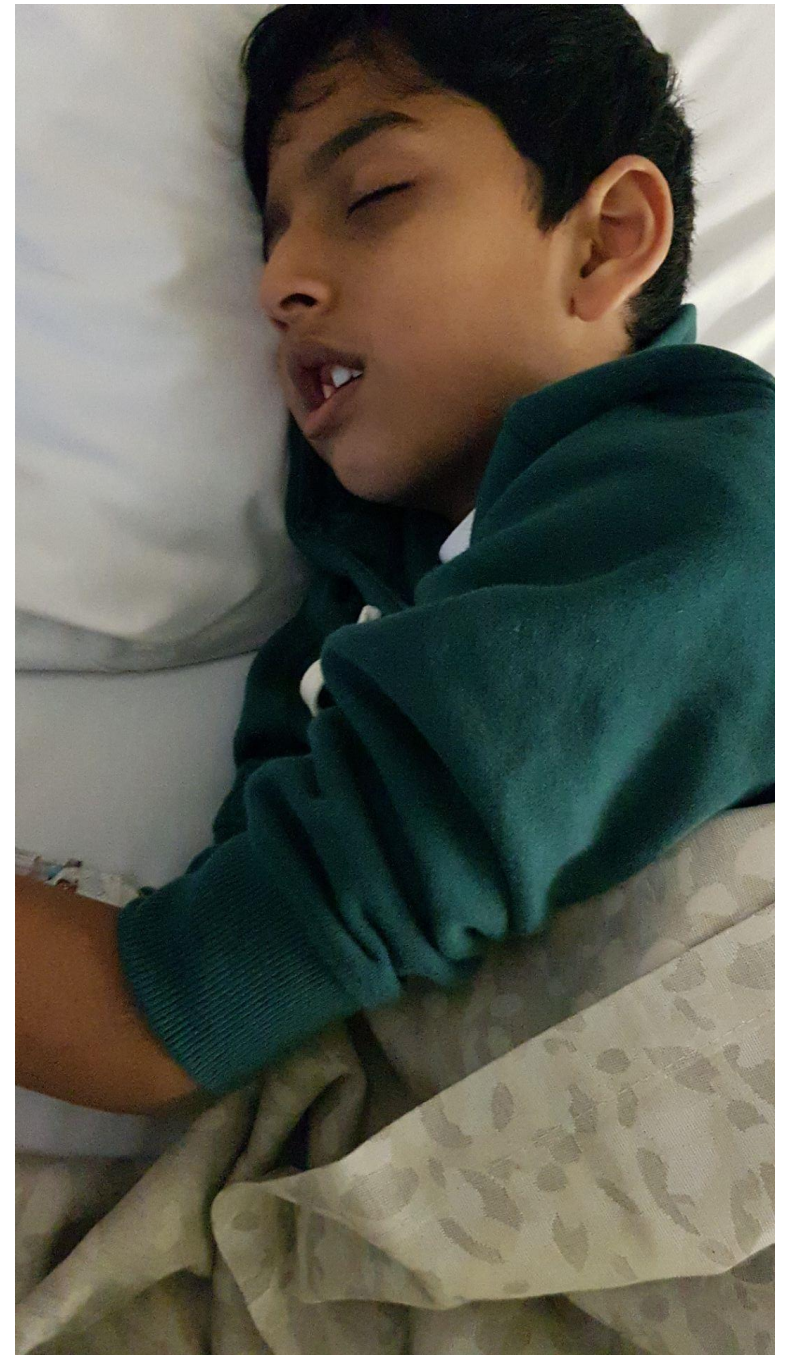
# At triage

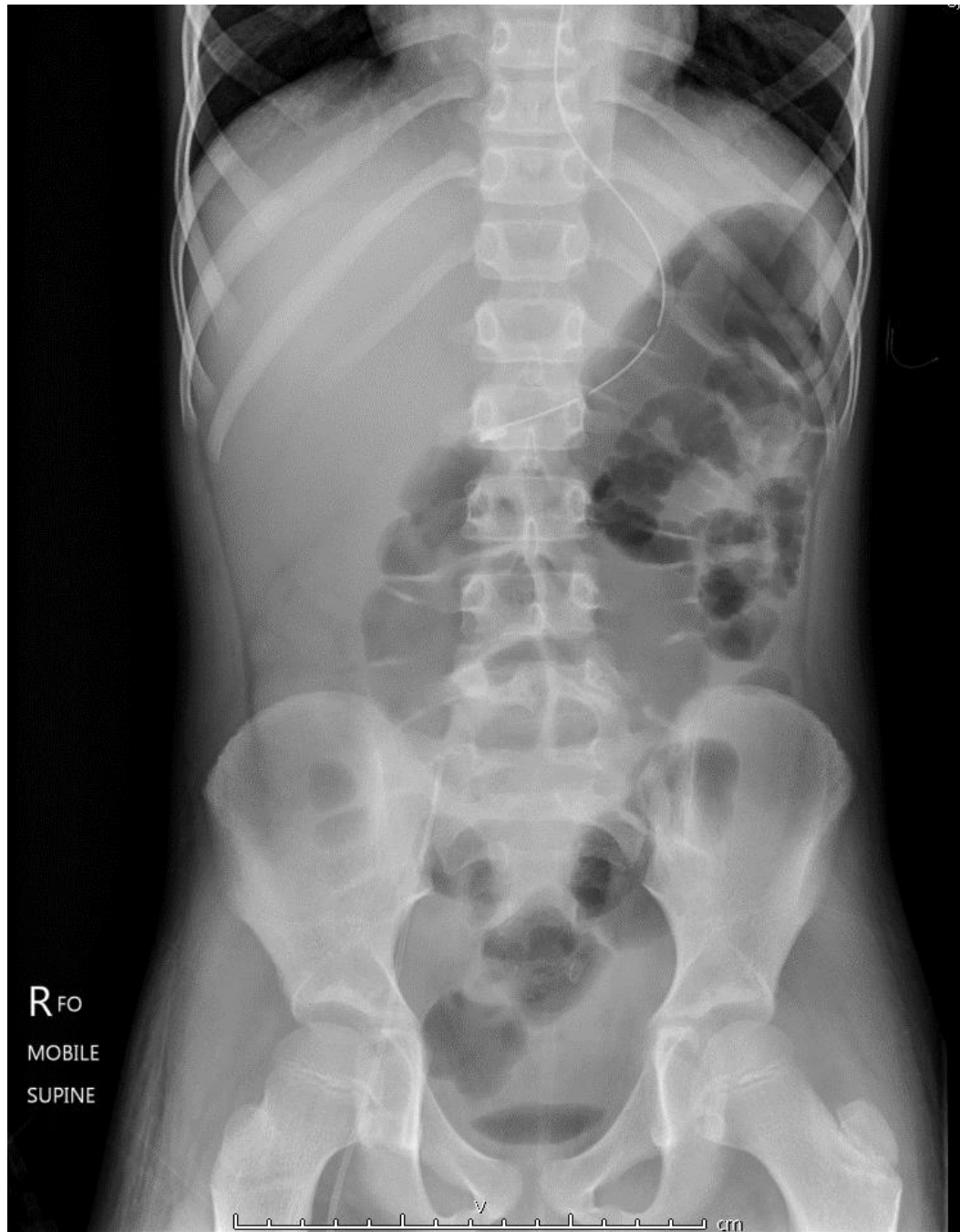
D

- Lethargic, sleepy but rousable, generally weak
- Able to comprehend questions but unable to talk
- Weakness of right arm compared to the left
- Normal power of *other* limbs when woken
- Seemed in pain, no neck stiffness
- The light bothers his eyes

On further complete examination

- Abdomen distended, moderately tender, minimal bowel sounds





# Laboratory investigations

- Full blood examination
  - Hb 10.6
  - MCV 71, RDW 18.3
  - WCC 15.8
  - Neutrophils 13.4
  - Lymphocytes 2.1
  - Platelets 680,000
- Na<sup>+</sup> 152, K<sup>+</sup> 4.6, Urea 14, creatinine 80
- CSF
  - WCC 650, 410 polymorphs
  - Protein 2 g/L (n=0.2-0.6 g/L)
  - Glucose



Padinjarattu, Devan  
1468693  
29/5/2013  
8 YEAR  
M

A

Royal Children's Hospital  
CT Brain With IV Contrast  
Head axial 0.75mm J37s 2 (Dup)  
30/7/2021 1:59:25 AM  
2021A0056255-1

---  
LOC: -128.30  
THK: 0.75  
HFS

R

L

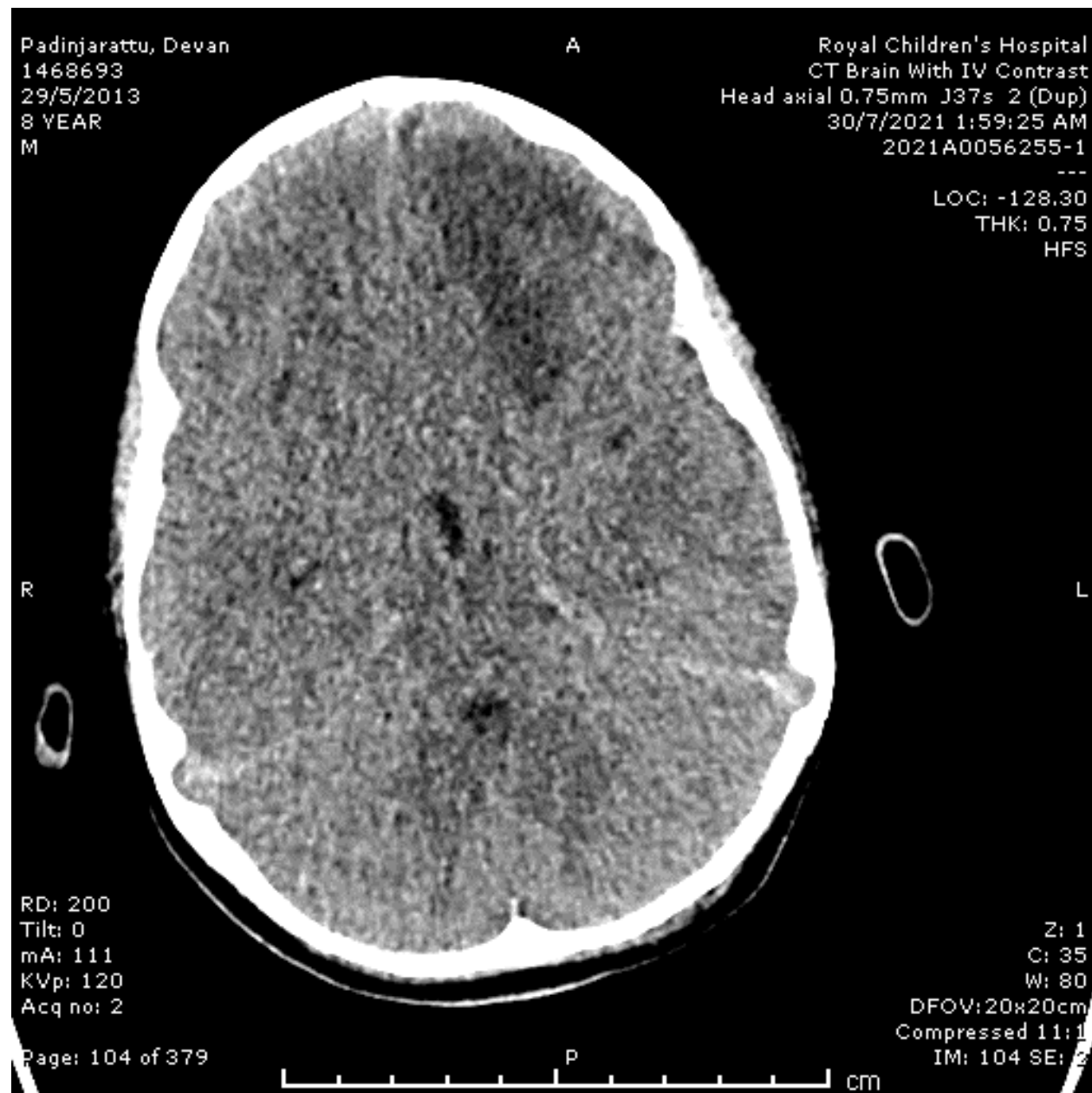
RD: 200  
Tilt: 0  
mA: 111  
KVp: 120  
Acq no: 2

Z: 1  
C: 35  
W: 80  
DFOV: 20x20cm  
Compressed 11:1  
IM: 104 SE: 2

Page: 104 of 379

P

cm

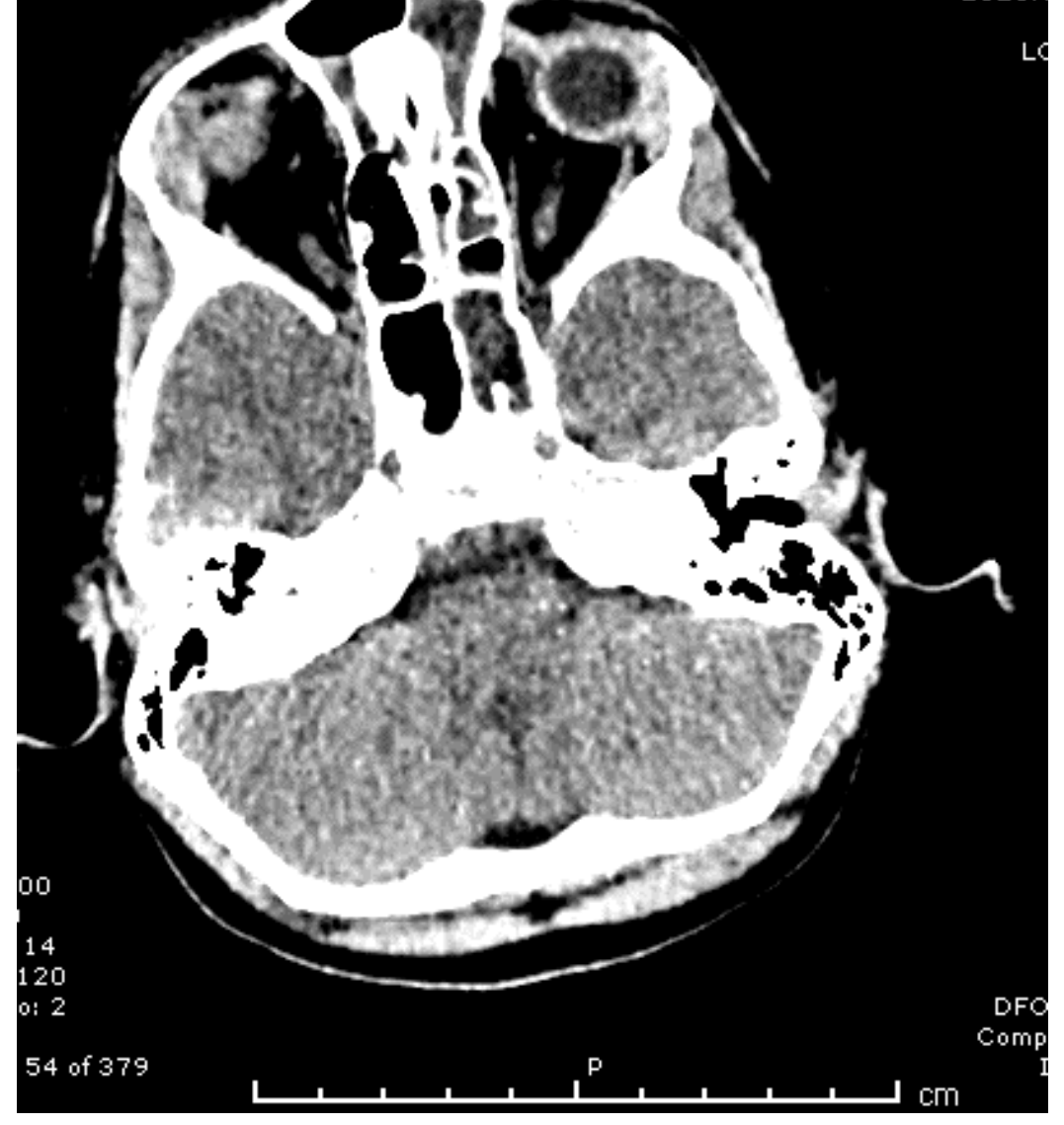


1468693  
29/5/2013  
8 YEAR  
M

CT Brain W  
Head axial 0.75mm  
30/7/2021  
202



1468693  
2013  
AR  
CT Brain With  
Head axial 0.75mm J  
30/7/2021  
2021A



1468693  
29/5/2013  
8 YEAR  
M

CT Brain W  
Head axial 0.75mm  
30/7/2021

Maxillary sinus

Maxillary sinus

R

RD: 200  
Tilt: 0  
mA: 111  
KVp: 120  
Acq no: 2

1468693  
2013  
AR

CT Brain With  
Head axial 0.75mm J  
30/7/2021  
2021A

Frontal sinus

Ethmoid sinus

00  
14  
120  
oi: 2

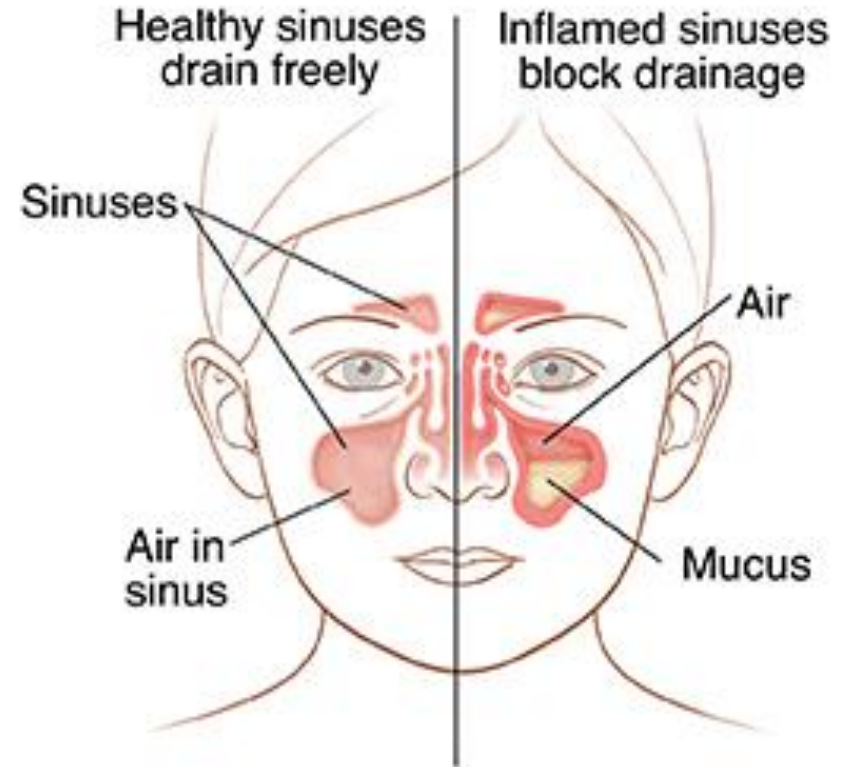
54 of 379

DFC  
Comp  
I



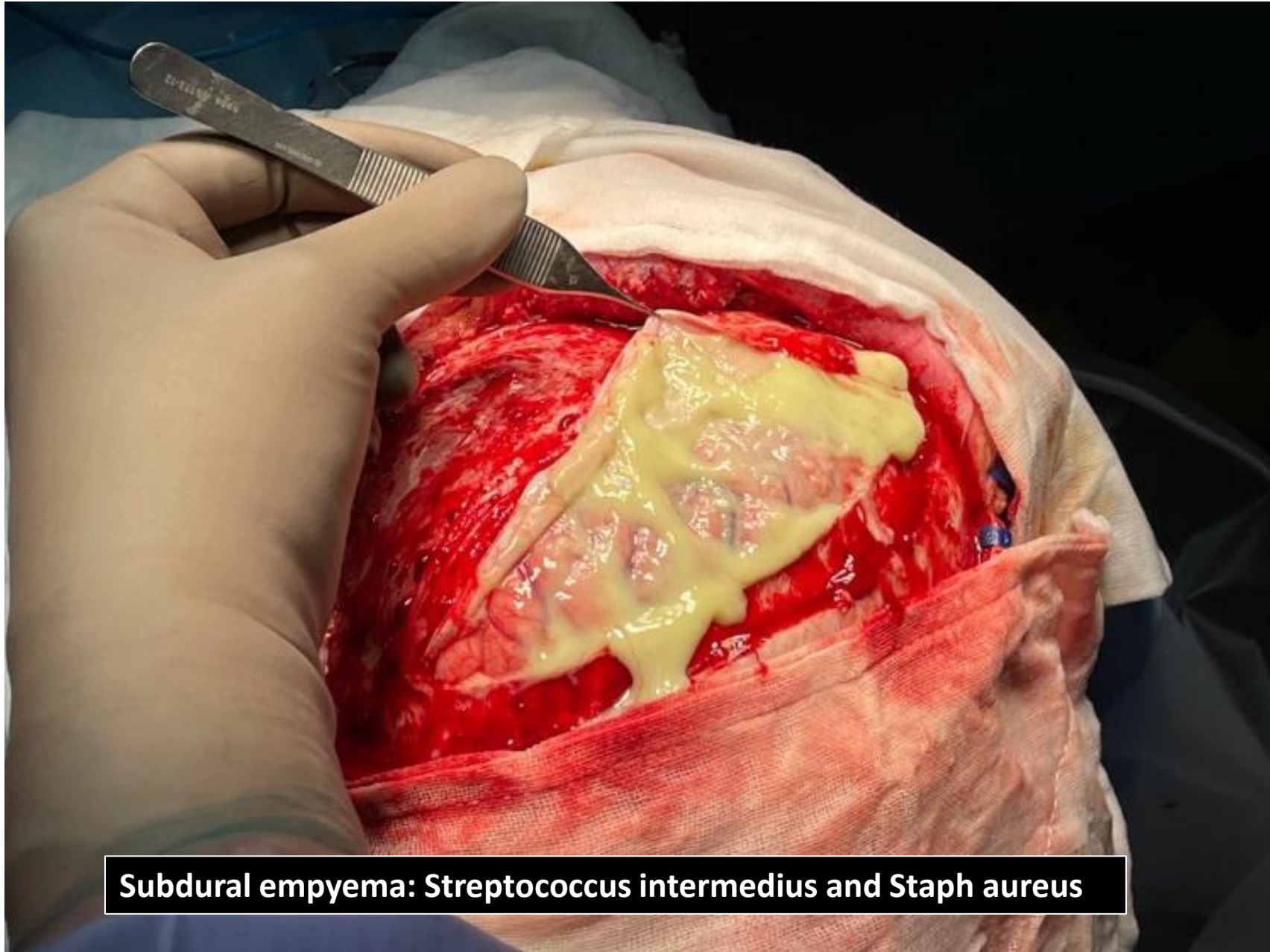
# Nasal sinuses

- Ethmoid sinus, around the bridge of the nose. Present at birth and grows.
- Maxillary sinus: around the cheeks. Present at birth and grows.
- Frontal sinus: the forehead, develops around age 7.
- Sphenoid sinus, deep behind the nose. This sinus does not develop until the teenage years.



# Meningitis and sinusitis, cerebral empyema, stroke

- Multi-pathogen
  - Streptococcus intermedius
  - Staph aureus
  - Anaerobes
- Treatment
  - Ceftriaxone, flucloxacillin, metronidazole
  - Source control – washout of sinuses, drainage of empyema



**Subdural empyema: Streptococcus intermedius and Staph aureus**

# Progress

- Recovering well
- Stroke resolving
- Smiling, and eating well
- 4 weeks of antibiotics
- Anticonvulsants - phenytoin


# 2-year-old boy with recurrent hospital admissions

- 4 hospital admissions in 6 months with pneumonia / viral bronchiolitis

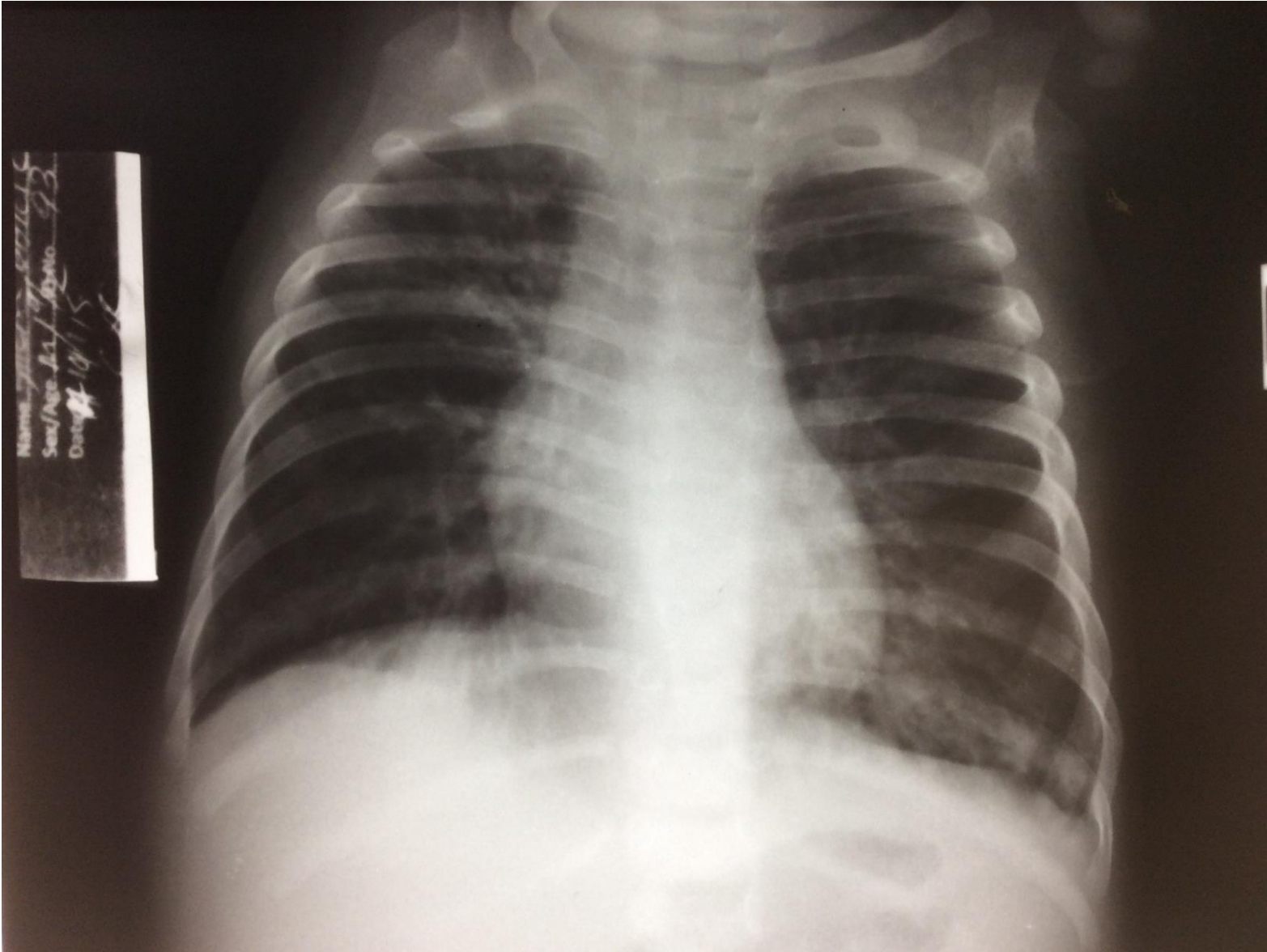




# Assessment of the child with chronic respiratory symptoms

- History
  - Cough every day (chronic) or intermittently (recurrent)
  - Wet or dry
  - Fevers
  - Nasal discharge
- Examination
  - Signs of chronic respiratory distress – chest wall deformity
  - Observe the expiratory phase
  - Wheeze or crackles or bronchial breathing \* 
  - Growth
  - Other signs of chronic illness / immune deficiency

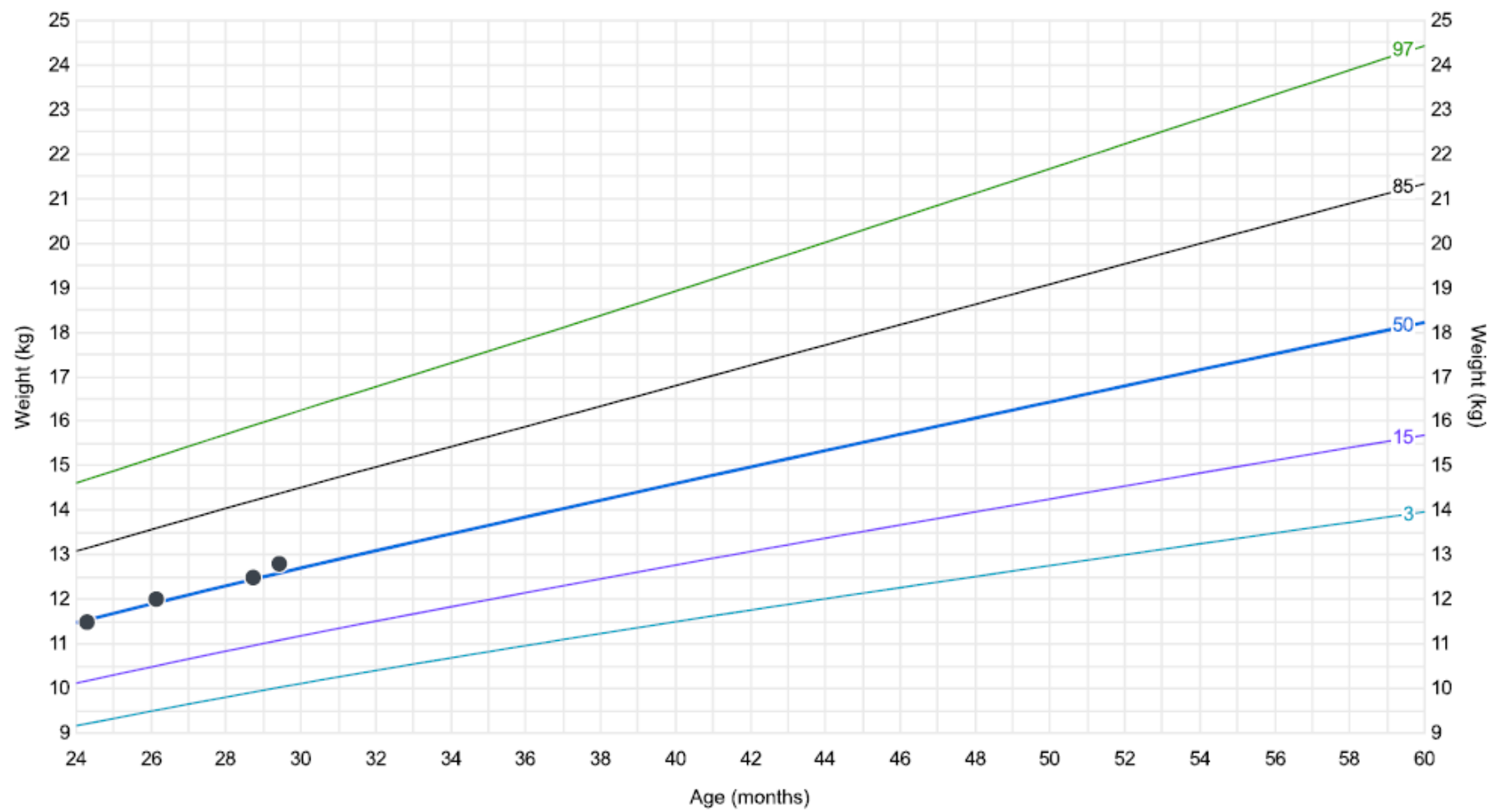




Adequate inspiration  
8-9<sup>th</sup> posterior rib visible  
6<sup>th</sup> anterior rib visible  
(Count posterior ribs in  
younger children)

Hyperinflation  
> 9 posterior ribs

Poor inspiration  
< 8 posterior ribs



# FBC

Haemoglobin: 72

MCV: 71 (L)

RDW: 18.6 (H)

Platelets: 268

White Cell Count: 7.1

Neutrophils: 5.95

Lymphocytes: 0.88 (L)

Monocytes: 0.52

Eos: 1.3 (H)

# Differential diagnosis

- Recurrent viral respiratory infections
- Immune deficiency
- Asthma
- Chronic wet cough / chronic bronchitis
- Tuberculosis
- Anaemia

# Asthma / chronic lung disease

- Salbutamol by MDI and spacer
- Prednisolone 1mg/kg daily x 5 days
- Fluticasone (preventer, inhaled steroid) BD
- Standard treatment antibiotics, then 4 weeks of low dose erythromycin
- Iron supplements



# Lessons from this week

- Vomiting without diarrhoea is not “gastro”
- Vomiting and headache = CNS pathology
- Different type of meningitis – direct spread from sinusitis = polymicrobial
- Sinuses and children
  - Age they develop
  - Sinusitis – viral / allergic / purulent bacterial
  - Source control essential in bacterial infection
- Differential diagnosis of chronic lung disease
  - Multifactorial, often many factors we can modify
  - Asthma treatment – MDI and preventer therapy (inhaled corticosteroids)