

RED FLAG SIGNS IN PAEDIATRIC ONCOLOGY

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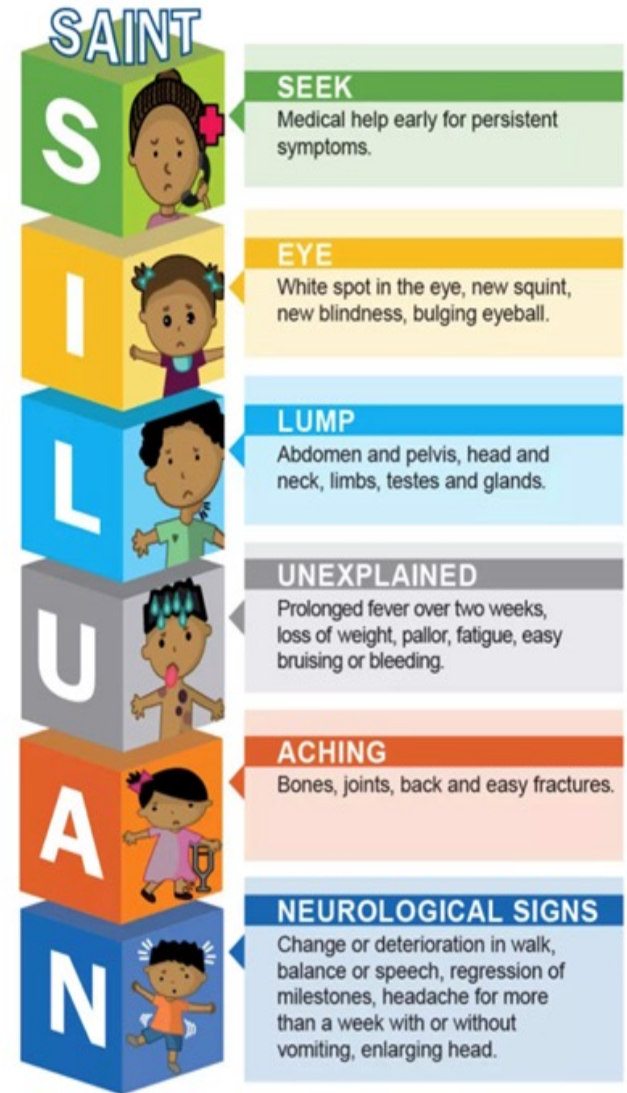
EPIDEMIOLOGY

- GLOBOCAN estimates that the incidence of Paediatric cancers (0-14years) in Africa is 99 and 73/million for boys and girls respectively
- More than 80%-90% of children with malignancies in the USA will become long term survivors, much less in South Africa and other developing countries.
- Patients in Africa present with advanced stage disease (cure rates are 20-30% lower than in developed countries).
- Advanced disease is associated with increased mortality.
- Early warning signs, although non-specific are present in 85% of childhood cancers- detection could lead to early stage diagnosis.



SILUAN'S EARLY SIGNS OF CHILDHOOD CANCER

- Developed by SACCSG (1999)
- Adopted by SIOP-PODC (2000)
- Developed to increase awareness of childhood cancer to increase diagnosis



REASONS FOR DELAYS IN DIAGNOSIS

Parent factors:

- Failure to recognize symptoms
- Delay seeking healthcare
- Seeking alternative care :
self-medication, traditional
healers and churches
- Financial constraints

Health system factors/physician factors

- Incorrect /delayed diagnosis
- Referral to the incorrect speciality
- Delayed referral to appropriate
treatment center



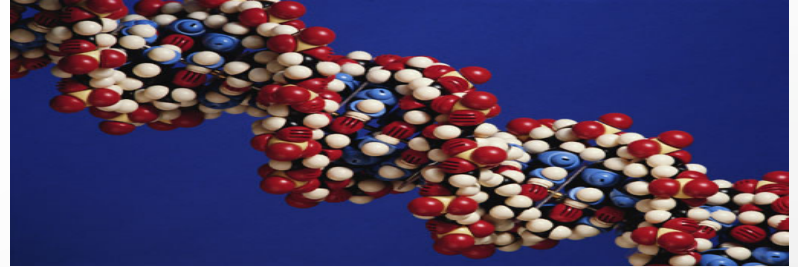
HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- 1) High index of suspicion.
- 2) Identify high risk groups
- 3) **RED** FLAGS signs and symptoms.



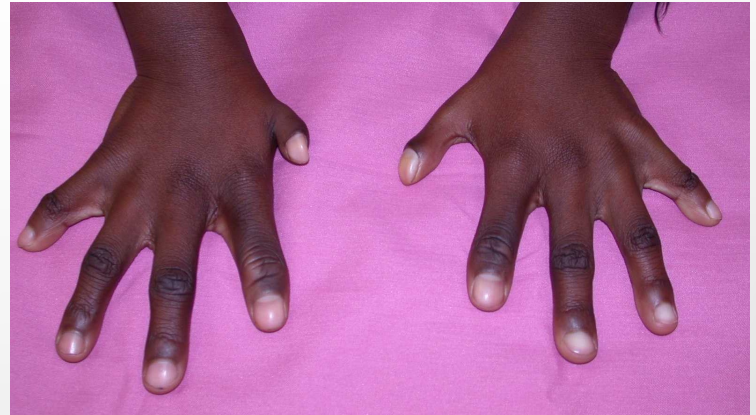
HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- High risk groups.
 - Neurofibromatosis
Get a variety of malignant and benign tumours
 - Chromosomal abnormalities
Numerical (Downs etc)
Chromosomal breaks (Fanconi anaemia and others)
 - Immunodeficiency states
 - Acquired immune deficiency
 - Severe combined immunodeficiency
 - Ataxia telangectasia





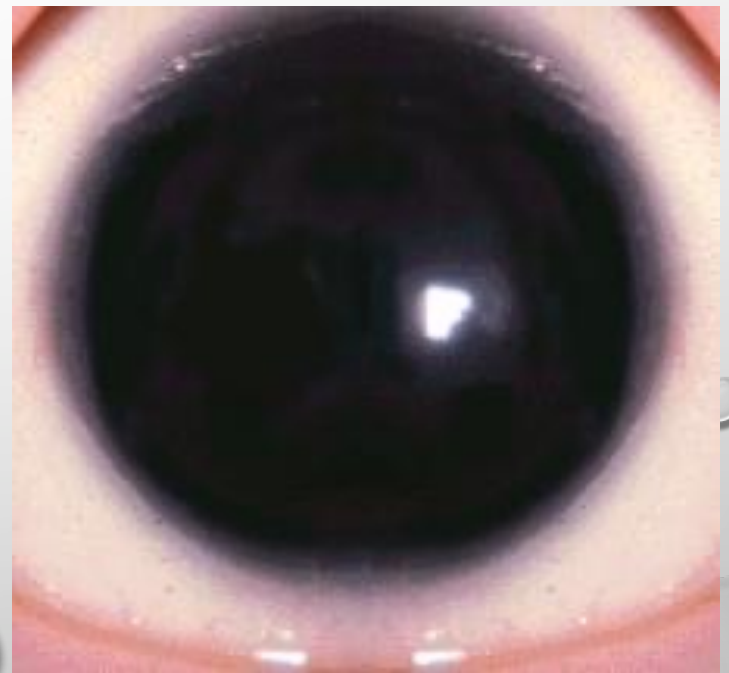
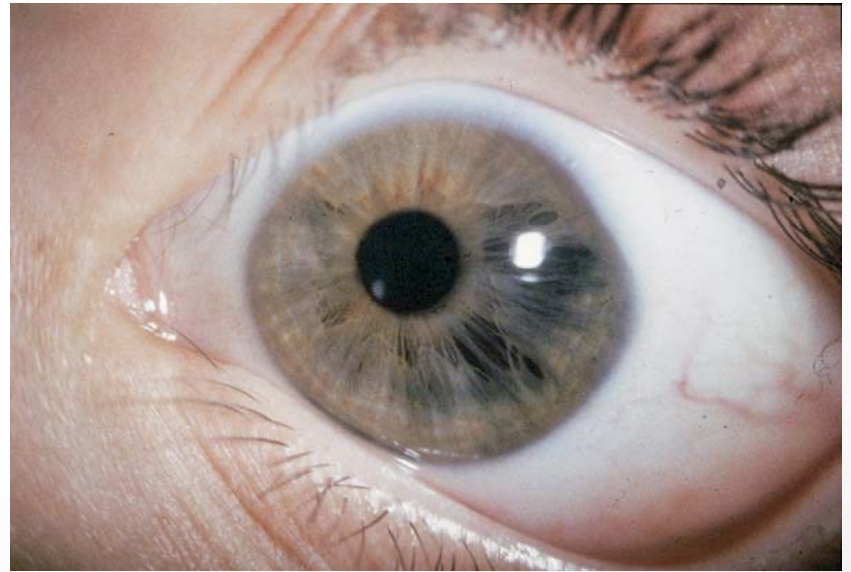




HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- High risk groups.
 - Siblings with malignancies
 - One of twins, siblings
 - Metabolic diseases
 - Any causing cirrhosis
 - Congenital malformations/syndromes
 - Beckwith Weidemann syndrome
 - Hemi-hypertrophy/aniridia





HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- High risk groups.
 - Prior malignant disease
 - Due to drugs used (AML and etoposide)
 - Due to radiotherapy (ALL and brain tumours)
 - Drugs usage
 - Maternal stilbestrol
 - Phenytoin by mother or child



HOW DO WE MAKE AN EARLY DIAGNOSIS ?



SEEK MEDICAL HELP FOR PERSISTENT SYMPTOMS

ANY...

HOW DO WE MAKE AN EARLY DIAGNOSIS ?



Eye:

- White spot in the eye
- New squint
- New blindness
- Bulging eyeball- proptosis
- Abnormal eye movements

Urgent referral is needed. Ophthalmology and oncology







HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- Lumps present in any body part
 - Abdomen and Pelvis
 - Head and neck
 - Thorax
 - Limbs
 - Testes
 - Glands



LUMPS

Head and neck region

- Neuroblastoma
- Rhabdomyosarcoma
- Carcinoma of the pharynx
- All causes of lymphadenopathy

Abdomen and Pelvis

- Leukaemia
- Lymphoma
- Nephroblastoma
- Neuroblastoma
- Germ cell tumour
- Rhabdomyosarcoma

Testicular swelling*

Limbs

Bone

- Osteosarcoma
- Ewing Sarcoma

Muscle

- Fibrosarcoma
- Rhabdomyosarcoma

HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- Lymphadenopathy: localized or widespread
 - When are glands abnormal ?
 - Persistent and unexplained glands
 - Location: glands in particular areas are always suspicious: supraclavicular, mediastinal, abdominal, femoral, epitrochlear
 - Rubbery / very hard glands
 - Axillary / cervical / inguinal glands more than 2cms that do not respond to two weeks of antibiotics

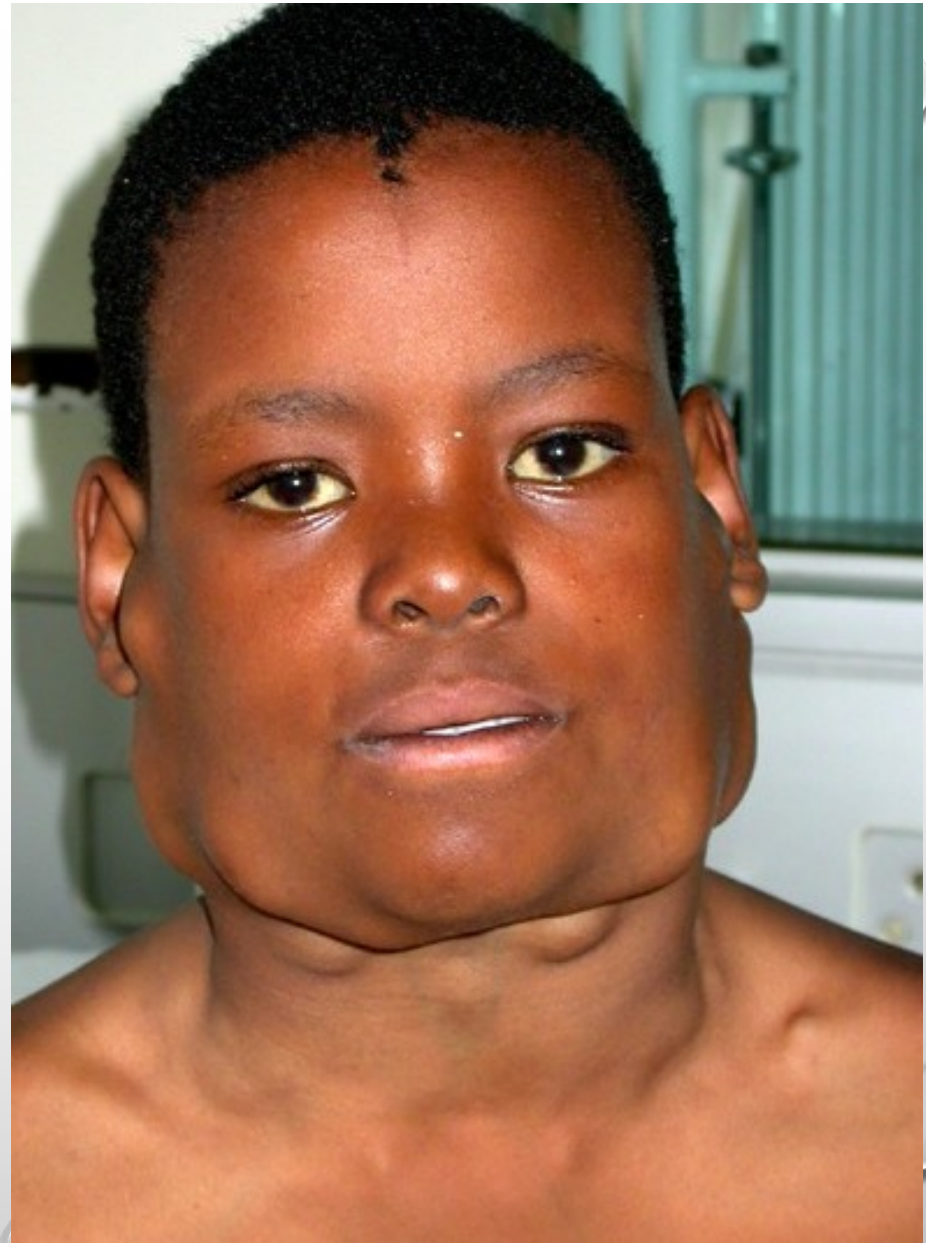
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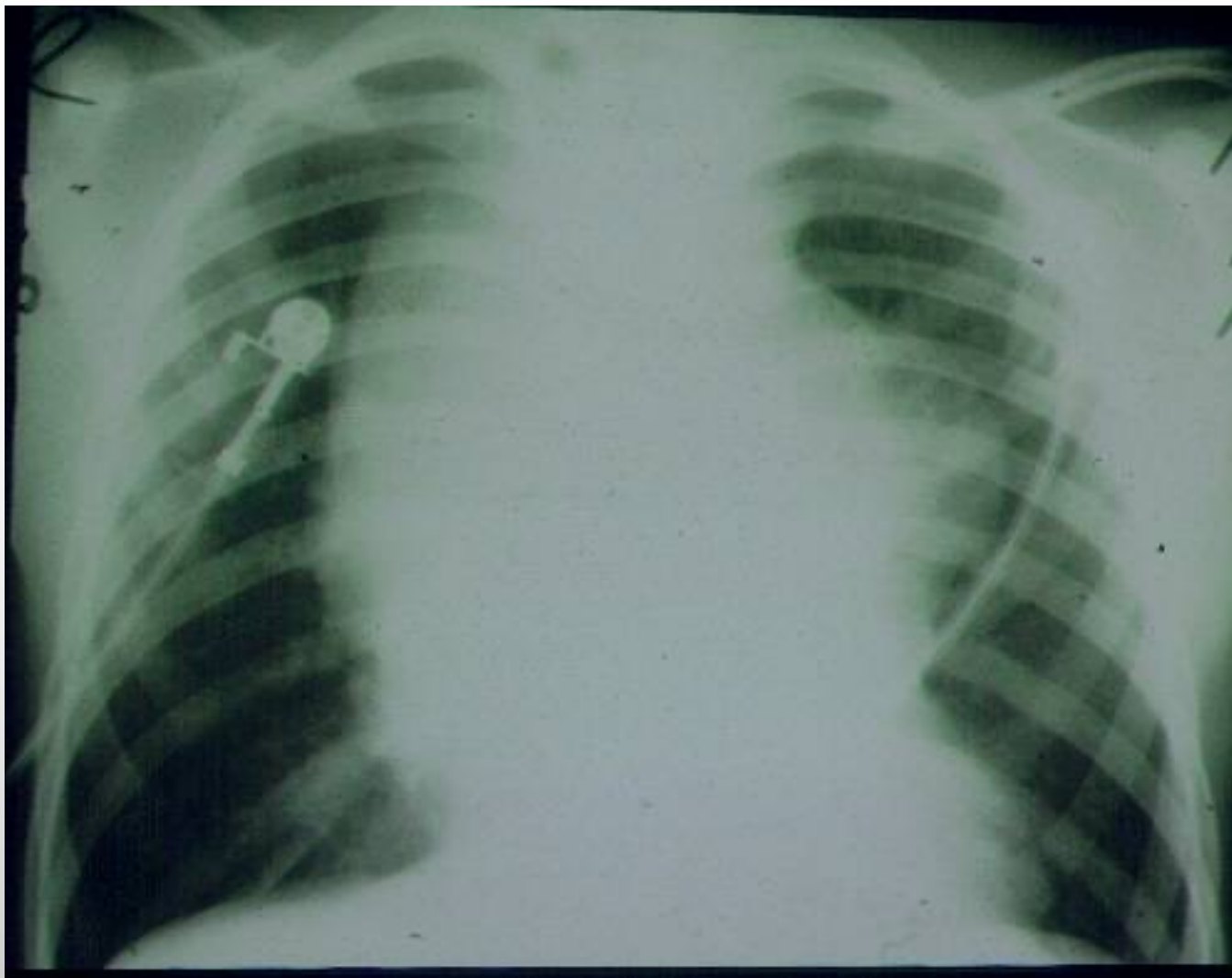
- Lymphadenopathy
 - When are glands abnormal ?
 - “Tuberculous” glands that do not shrink within 6 weeks of treatment.
 - Glands associated with signs of pallor / bleeding / hepatosplenomegaly or other masses are pathological.
 - Rather biopsy early than late, on occasions may need repeat biopsy

HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- Lymphadenopathy
 - Causes of localized lymphadenopathy
 - Multitude but malignancies include
 - Leukaemia
 - Lymphoma
 - Metastatic
 - Neuroblastoma
 - Retinoblastoma
 - Nephroblastoma
 - Rhabdomyosarcoma
 - Osteosarcoma
 - Histiocytosis and many more













HOW DO WE MAKE AN EARLY DIAGNOSIS ?



Unexplained:

- Fever more than two weeks
- Loss of weight
- Fatigue
- Easy bruising
- Bleeding/pallor



HOW DO WE MAKE AN EARLY DIAGNOSIS?

- Persistent and unexplained fever, apathy, and weight loss
 - Exclude
 - HIV
 - UTI
 - Tuberculosis
 - SLE
 - Rheumatoid arthritis
 - Then consider the possibility of a malignant process and do appropriate investigations



HOW DO WE MAKE AN EARLY DIAGNOSIS ?

- Pallor usually due to anaemia and when associated with evidence of petechiae or ecchymoses or persistent oozing from mouth or nose- have index of suspicion of underlying malignancy.
- Often indicative of bone marrow infiltration with anaemia and thrombocytopenia.
- Leukemia, lymphomas, neuroblastomas

HOW DO WE MAKE AN EARLY DIAGNOSIS ?

Aching

- Bones & Joints
- Easy fractures
- Back



Often wakes the child at night

May not be localized to one area or persistently in one area

Child may develop limp

Toddler who refuses to walk / bear weight

Backache must always be investigated

HOW DO WE MAKE AN EARLY DIAGNOSIS

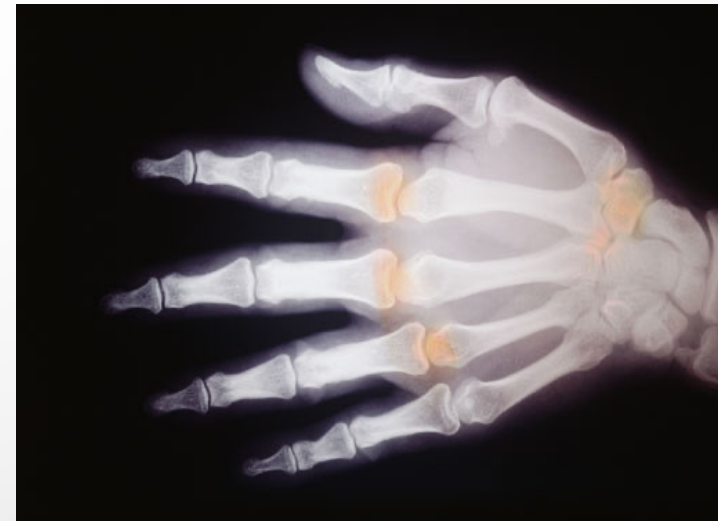
- BONE PAIN

- Infiltration

- Neuroblastoma
 - Retinoblastoma
 - Rhabdomyosarcomas

- Primary bone tumours

- Osteosarcoma
 - Ewing's sarcoma





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HOW DO WE MAKE AN EARLY DIAGNOSIS?

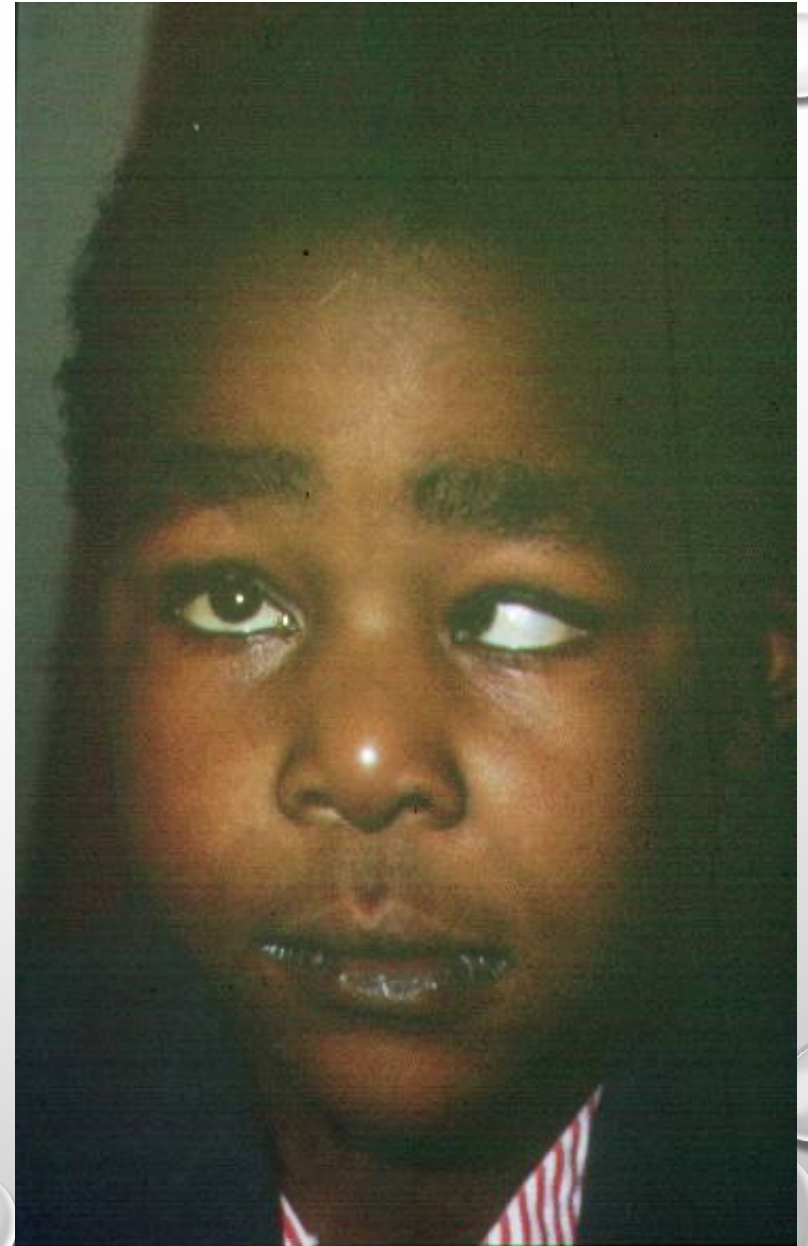
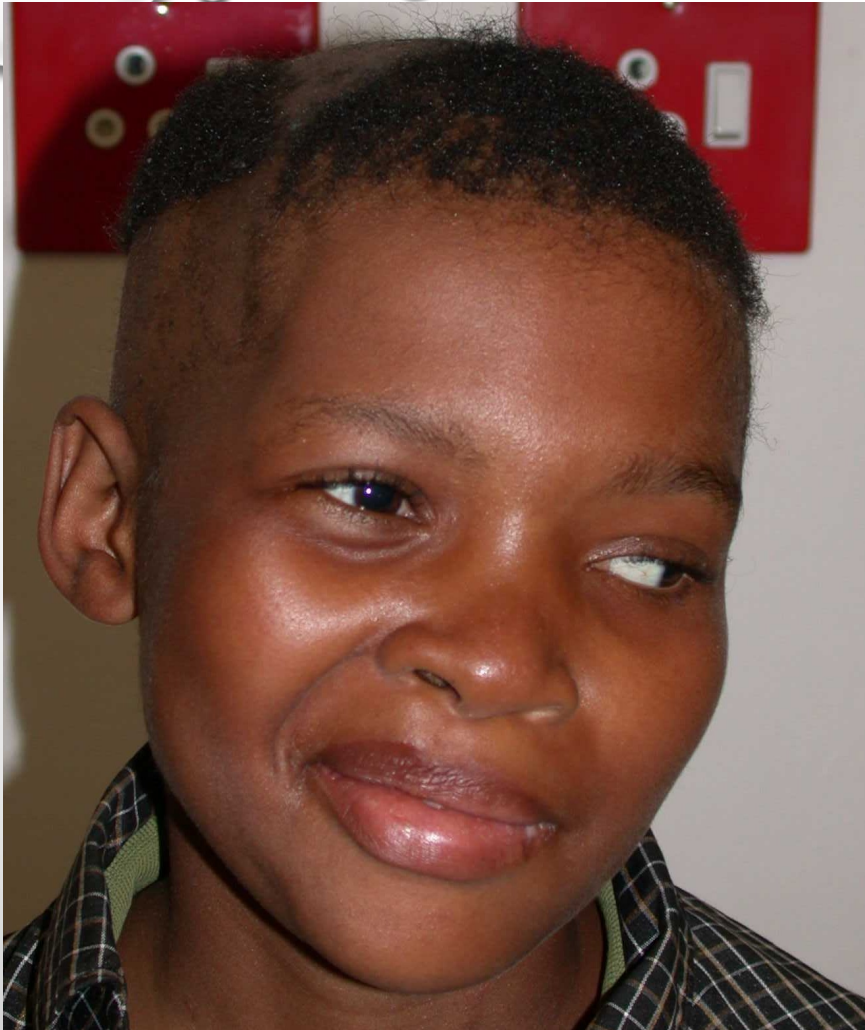
OTHER CAUSES OF BONE PAIN

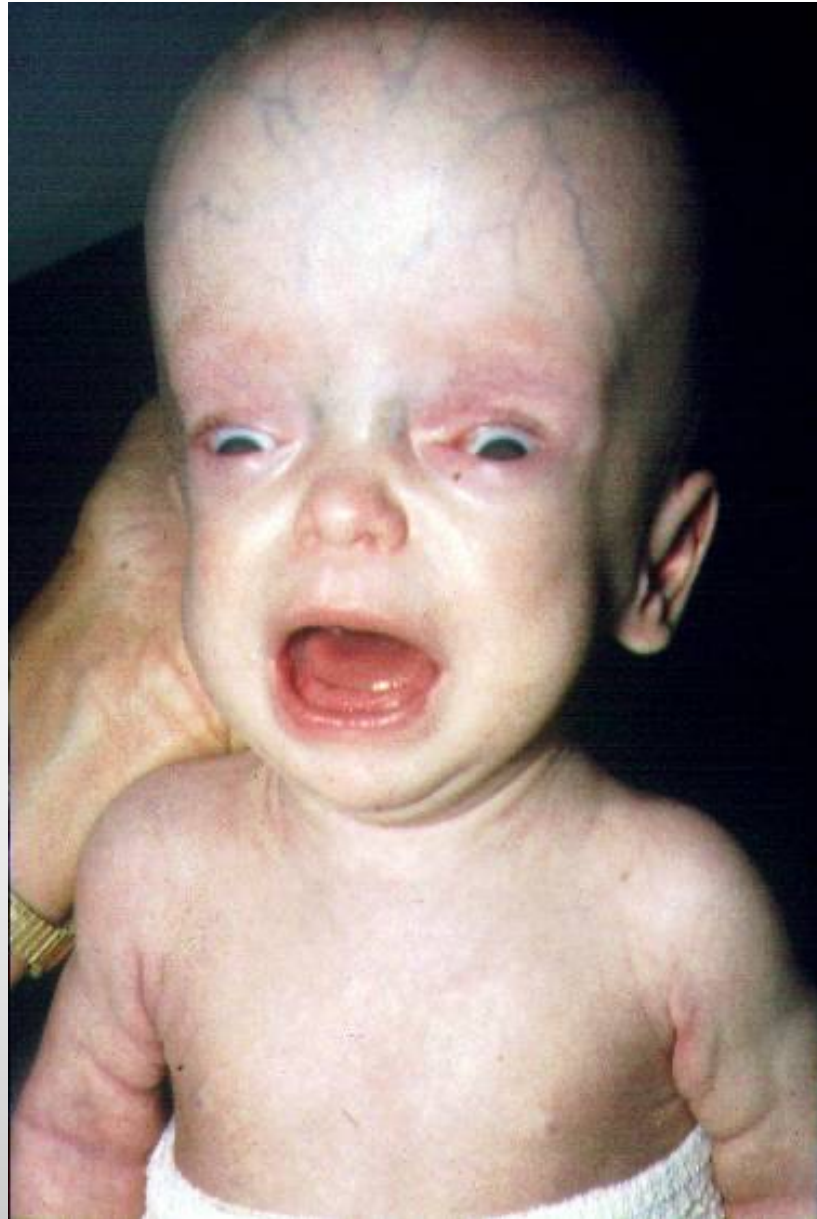
- Growing pains
- Fractures
- Referred pain
- Arthritis
- Local causes

HOW DO WE MAKE AN EARLY DIAGNOSIS?

- Unexplained neurological signs.
 - Headache persisting for more than 2 weeks
 - Early morning vomiting with / without nausea
 - Ataxia
 - Cranial nerve palsy
 - Changes in behavior/mood
 - Loss of milestones
 - Enlarging head circumference







- What do you do when you have diagnosed a malignancy or strongly suspect it?
- Who should you refer?



- **All** children or adolescents under the age of 15 (depends on hospital policy) years with a suspected malignancy

- WHERE DO YOU FIND US?

- There is a paediatric oncology unit at each teaching hospital complex
- There are a LIMITED number of paediatric oncologists in full time private practice
- Limited private practice by state employed paediatric oncologists



- WHAT SHOULD YOU DO BEFORE REFERRAL?

- Discuss with paediatric oncologist before referral
- Try to avoid referral directly to surgical disciplines
- Try to avoid doing invasive procedures , unless recommended by the receiving Dr
- Make sure the patient is stable and able to travel





Thank you

Childhood
Cancer