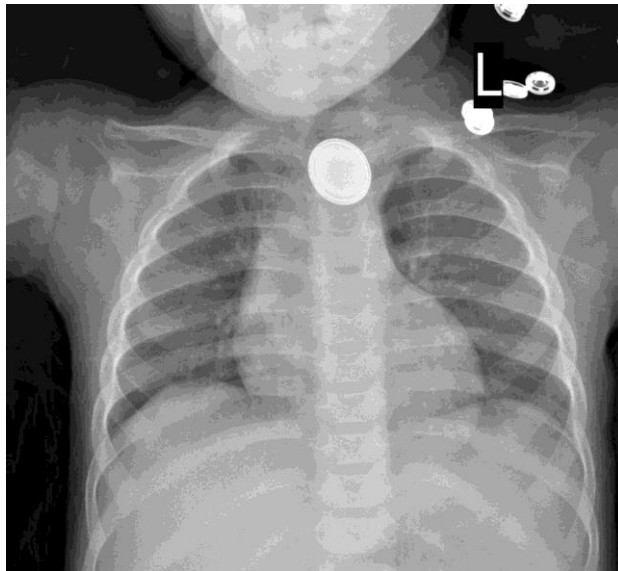




Welcome to the third issue of 'The PEN' – the Paediatric Education Newsletter. This is a monthly educational bulletin of cases, clinical questions and learning points from recent teaching.

MCQ: XR interpretation – Lucy Elliott

A 15-month-old baby was brought to ED by his mum who thinks he has swallowed something. He appears well in ED and his observations are stable. You request a CXR:



Given the likely diagnosis, what is the next best management option?

- Admit for observation
- Immediate referral to paediatric surgeons
- Inpatient referral to surgeons within the next 24 hrs
- IV antibiotics for 5 days
- Routine referral to paediatric surgeons as an outpatient

Answer: b

CXR: Large button battery (19mm diameter) lodged in oesophagus at level of T2. Trachea pushed to the right. CXR shows the 'Halo sign'. **Button/coin/disk batteries lodged in the oesophagus must be retrieved immediately**, as the mucosa can close a circuit, resulting in an electrical burn or even perforation. Older batteries contained toxic metals, such as mercury or cadmium, for which a chelating agent was given if they leaked.

Source: <https://radiopaedia.org/cases/button-battery-in-oesophagus?lang=gb>

Learning Points from this month's departmental teaching

Neonatal acute abdomen – Asma Masroor

- To take first episode of bilious vomiting seriously – it can be a symptom of mechanical bowel obstruction.
- Malrotation can cause volvulus which can cause further bowel necrosis. Volvulus is associated with a mortality rate of 28%.
- All babies with bilious vomiting, even with normal physical examination, should have an abdominal radiograph which must be evaluated by a paediatric surgeon.

Is there a place for cannabis-based products in paediatrics – Anjana Adonchiyalage

- Recent legislative changes in the UK made it possible to prescribe cannabis-based medicinal products as Schedule 2 controlled drugs by doctors on the GMC specialist register.
- There is some limited evidence for beneficial effects of cannabidiol as an adjuvant therapy in multi-drug resistant epilepsies in Dravet syndrome and Lennox-Gastaut syndrome.

Interpretation of Hearing Tests in Children – Dr Baddoo

- Newborn hearing screening picks up children who have a moderate or worse hearing loss (where speech development would be difficult). It does not exclude a mild hearing loss.
- Normal binaural (or free-field) hearing test results tell us the results of the better ear. Results do not exclude a unilateral hearing loss.
- Hearing tests at different ages

Age 0-6 months - Auditory brainstem response testing **Age 6-30 months** - Visual Reinforcement Audiometry
Age 30-42 months - Free-field performance test **Age 3.5 years +** - Pure tone audiogram

Case: Infant with a neck lump – Umberto Piaggio

A well 4m old was brought for assessment regarding a “lump” on the child’s neck. The lump had been noted shortly after birth. The child was otherwise well and thriving. There was increased anxiety in view of a recent death in the family from neuroblastoma.

On examination, the mass was 2cm in diameter found on the posterior aspect of the neck & had a bluish hue. It was raised and non-tender. There were no other lumps on examination, nor was there organomegaly or other clinical concerns.

Table 1- Differential diagnosis, investigations and management

Lump	Location	Appearance	Investigations	Treatment
Thyroglossal Duct Cyst	Midline, moves with tongue protrusion	Soft	TFT, Thyroid USS	Needle aspiration Surgical Excision
Dermoid Cyst	Midline, moves with skin	Soft	X-Ray if bone fixation suspected	EARLY Surgical Excision (It grows quickly)
Branchial Cysts	Anterior triangle, next to sternocleidomastoid (SCM)	Soft	Consider CT/MRI for surgery planning	Surgical Excision (Antibiotics if infected)
Haemangioma	Any	Red/ purplish mass	Doppler USS	Treat with propranolol if impairing vision, hearing, airway, swallowing or if causing cardiac output failure
Cervical Lymphadenopathy	Any cervical chain	Firm, small, mobile +/- tenderness	USS (FBC & CRP if infected)	Elective surgical Excision (Antibiotics if infected)
Fibromatosis Colli (Torticollis w/ benign mass)	Anterior triangle, on top of SCM	Firm	Consider USS	Physiotherapy Elective surgery
Malignancy	Any	Multiple nodes, firm, non-tender, non-mobile	USS, Biopsy, FBC and film (discuss with oncology for further tests)	Led by Oncology
Infected Branchial cleft	Anterior to SCM, on its lower third	Swollen area around previous dimple, +/- discharge	FBC, CRP	Antibiotic treatment Elective excision (ideally should have happened before infection)

In infancy, examination of the neck can be easily overlooked, and there are lumps that can lead to a lot of anxiety in both physicians and parents. In this case the USS reported a single enlarged cervical node. In view of the anxiety of the parents’, baseline bloods were performed the results of which were normal. They were discharged with outpatient follow up.

Article Links

[Fifteen-minute consultation: The infant with a neck lump.](#) Reynolds, S; Yap, D; Marikar, D et al. *Archives of disease in childhood Education and Practice Edition*; 2019;0:1-4. Doi:10.1136/edpract-2019-316827

[Clarifying misleading lumps and sinuses in the newborn; Paediatrics in review.](#) Rich B, Dolgin S; 2020;41;276 DOI:10.1542/pir.2018-0256

Button battery ingestion in children-a potentially catastrophic event of which all radiologists must be aware. The British journal of radiology; Jan 2018; vol. 91 (no. 1081); p. 20160781 [The British journal of radiology](#)

BMJ Best Practice: Foreign Body ingestion - <https://bestpractice.bmj.com/topics/en-gb/1050>

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