Foreign Bodies
Fun Ways to Get Them Off or Out

You Got WHAT Stuck WHERE??

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Complications:
Incr’ed Risk if
>24 hours

Thoracic Inlet

Aortic Arch

GE Sphincter
20% of patients are asymptomatic

qu'est-ce-que c'est ?

5/9/2013
Disc Batteries

Mechanisms of Injury

- Pressure Necrosis
- Current between cathode & anode
- Leakage
  - KOH or NaOH
  - liquefaction necrosis

Esophageal Damage from Disc Batteries

- Time to Burn
  - 4 hours
- Time to Perforation
  - 6 hours

What are people doing?...

- Hearing aid battery vs. medication
- “Testing”
- “3rd Hand”
- 1989 Ghost Blaster toys
  - 53 in 8 weeks

How Big is too Big?

- Battery ≥ 15 mm
- Child < 6 years

Which Batteries require removal?

- Esophagus:
  - **100% immediately**
- Distal to Esophagus:
  - Patients w/ significant symptoms:
    - Abdominal pain with tenderness
    - Melena
    - Hematochezia
When to repeat x-rays?

- **Battery In Stomach:**
  - Larger than a dime
  - Child < 6 years
  - X-ray q 2-3 days

- **Battery past Pylorus**
  - Repeat film every 1 - 2 weeks

**National Button Battery Ingestion Hotline**

202-625-3333

**Lead**

If it’s in the stomach…go get it!

**GI Foreign Bodies (non-esophageal)**

- **Whole Bowel Irrigation**
  - Polyethylene Glycol
  - Colyte or GoLYTELY
  - 500 cc / hour (children)
  - 1-2 liter / hour (adults)
Clitoral and penile hair tourniquets?

Hair Tourniquet Removal

Ticks
Rings and things
Tar

Tar is sterile.
Skin is not!
Occlusive barrier
  → Bacterial proliferation.

Tar Removal

- Neosporin
- Tween 80
- Poloxamer 188
  - Cream better than ointment

Management

- Cooling
- Tar removal ??

Roads
275 to 300° F

Tar / Asphalt

- Tar is sterile.
- Skin is not!
- Occlusive barrier

5/9/2013
A 15 year old girl presents with intractable coughing.

On exam:
- Lungs: CTA
- Heart: RRR no murmurs
- HEENT: hair in the left ear canal

Do you care?

Unusual Side Effects of Aural Foreign Bodies

- Persistent cough
- Hiccups

First Described in 1832

- 7 yo with cough x 7 years

Chronic cough and ear wax

The Lancet Vol 360, Aug, 2002

The Hair and The Ant

- Annals Emergency Med

- New England Journal of Med
  March 1988, 318(11): 711
Hiccup Reflex Arc

Branches:
- Auricular Meningeal
- Laryngeal
- Thoracic
- Abdominal

Meningitis Mass Alcohol

CNS

Vagus Nerve

Phrenic Nerve

Cervical Mediastinal Diaphragmatic

Irrigation

Irrigation Equipment

- 20cc Syringe
- 14 or 16g Angiocatheter


Water Pick???

Nope

Pressure generated by 20cc syringe and cannulas

- 14 gauge: 8 kPa 60 mmHg
- 16 gauge: 7 kPa 50 mmHg
- 18 gauge: 4 kPa 30 mmHg

Median Pressure to rupture the TM: 60 kPa


Elephant EAR Washer System

Auricular Irrigation

- Not if:
  - TM is perforated
  - Battery
- Not for:
  - Hygroscopic objects
  - vegetables, beans, etc.

Cyanoacrylates to Remove Ear FB’s

“A novel approach to the removal of Superglue from the ear.”


Warm 3% hydrogen peroxide
**Bugs in the Ear**

**Survival Times (in seconds)**

- **Ethanol**
- **Isopropyl Alcohol**
- **4% Lido**
- **1% Lido + epi**
- **Vinegar**
- **Oil**
- **H2O**

**Antonelli, 2001 Laryngoscope**

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*A parent's kiss*: evaluating an unusual method for removing nasal foreign bodies in children.

- Botma M - *J Laryngol Otol* - 01-Aug-2000; 114(8): 598-600

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"Kiss" it out!

- Neo-Synephrine (+ / - )
- Mouth open widely
- Occlude unaffected nostril
- Parent delivers a breath with a tight seal.

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Light Source
Nasal Foreign Bodies
Direct Removal

- Neo-Synephrine +/-
- Topical anesthetic +/-
- Papoose ++++++++++++++
- Trendelenburg

1. Insert Past Foreign Body
2. Depress Syringe to Inflate Balloon
Magnets

- May work for:
  - Iron
  - Nickel
  - Cobalt

- Won’t work for:
  - Gold
  - Silver

Magnets
- Auricular
- Nasal
- Wounds
Magill Forceps

Uh, oh....

Glue Eye Management

- Mineral oil compresses overnight