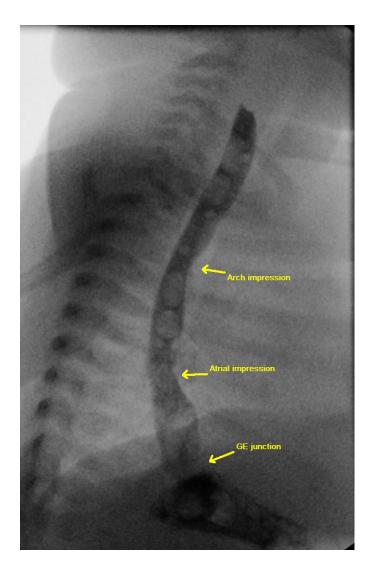
#### **Caveats**

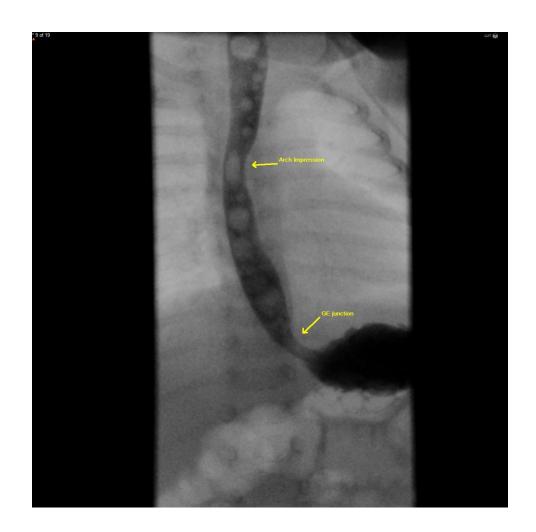
- This document is still a work in progress
- If you have nice cases to add, please contact Dr Naheedy
- Each attending has different preferences on how fluoroscopic procedures should be done. These are just meant as a general guideline.
- It is recommended to do at least one of each procedure with an attending before performing on your own.
- If you have questions, please do not hesitate to ask your attending or our experienced techs

## Esophagram

- Barium preferred (unless post-operative patient)
- Single contrast almost always adequate
  - Double contrast technique may be useful in cooperative teens with appropriate history (e.g. concern for ulcer, mucosal abnormality)
- Fluoro store images (last image hold) are preferred, unless an abnormality is noted
- Need at least AP and Lateral

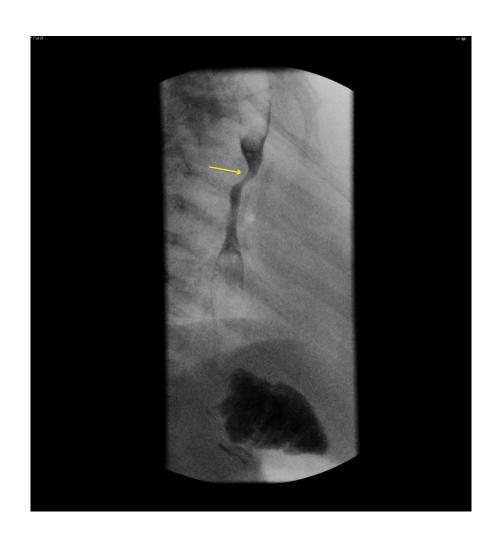
# Normal Esophagram





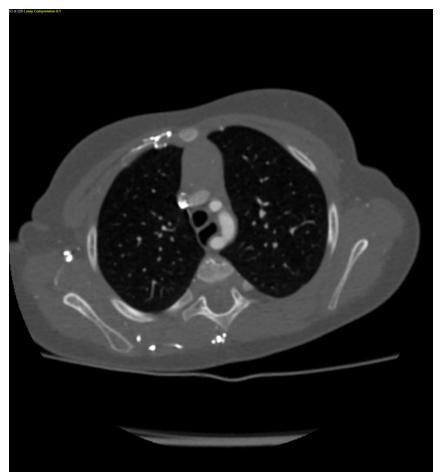
# Abnormal Esophagram

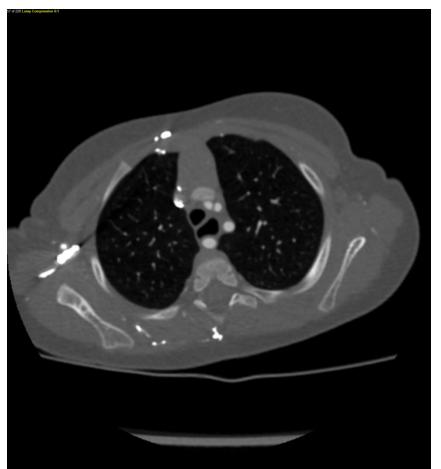






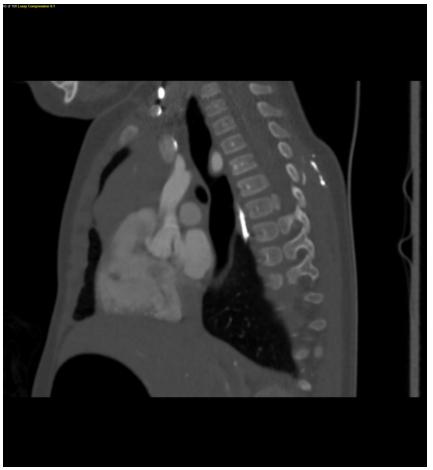






## Aberrant R SCA





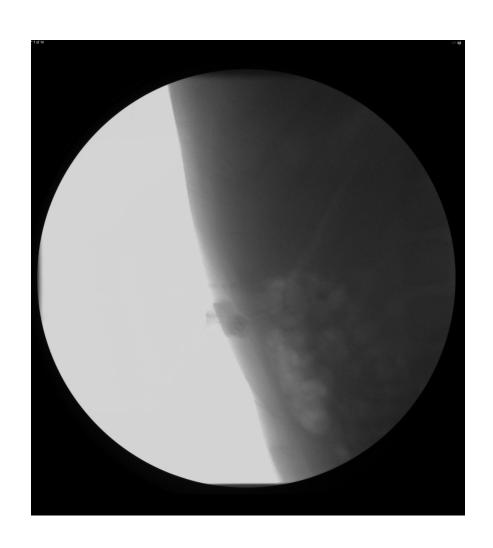
#### G-tube check

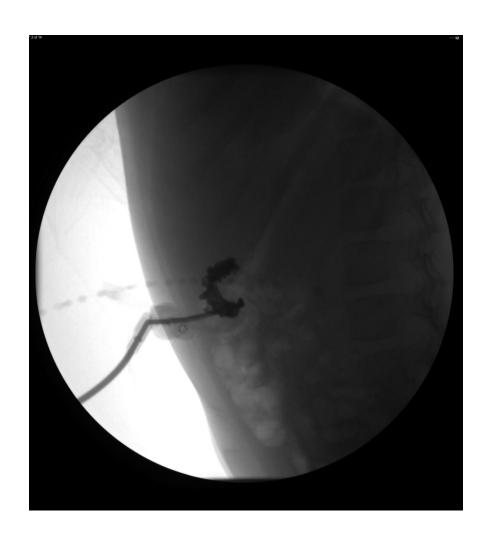
 Always water soluble contrast, since exam is often ordered for G-tube malfunction or recent replacement.

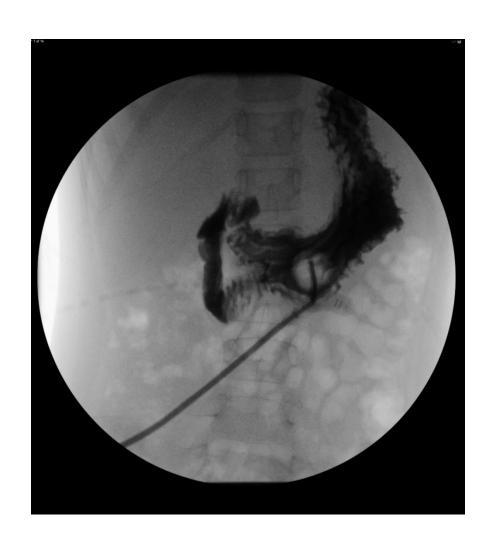
 Please check with attending first if planning to use Barium for this exam

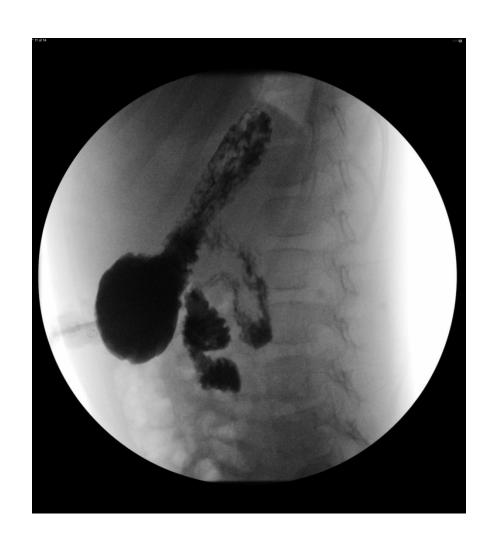
Start lateral (tangential) to G-tube entry site

## Normal G-tube check



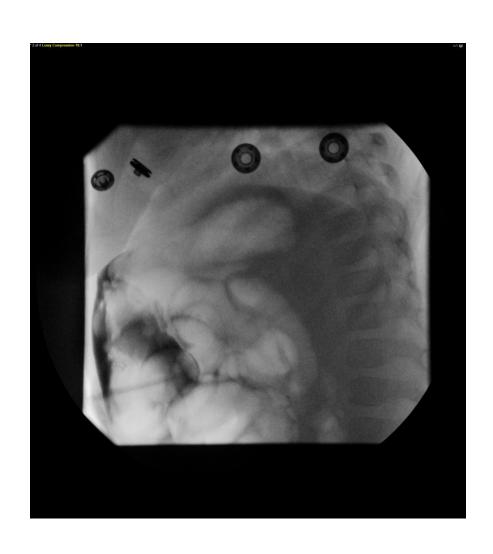


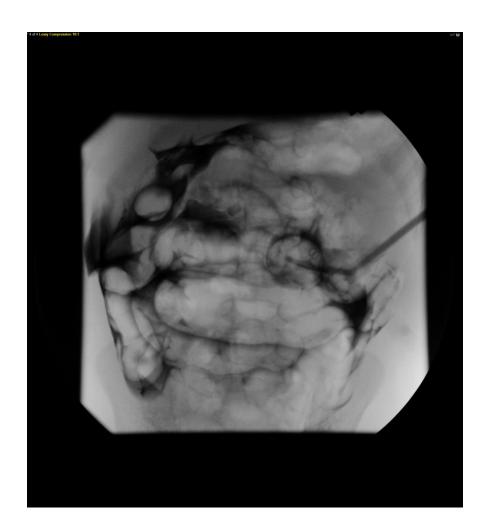


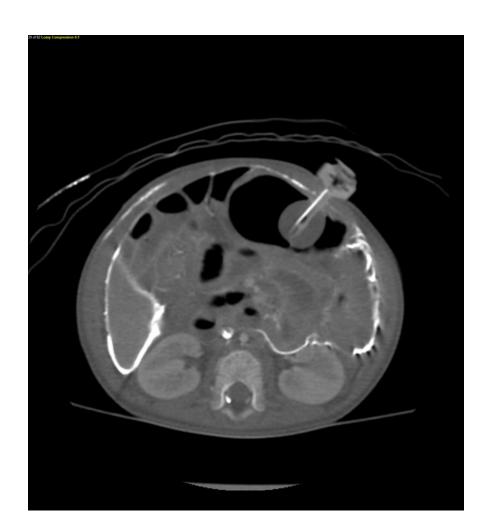




## Example of malpositioned G-tube

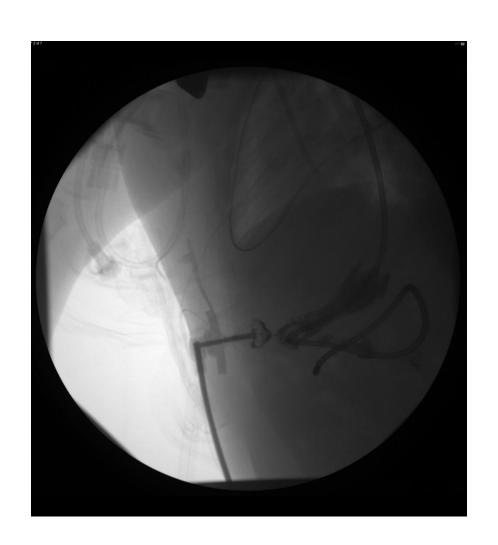






## Another malpositioned tube

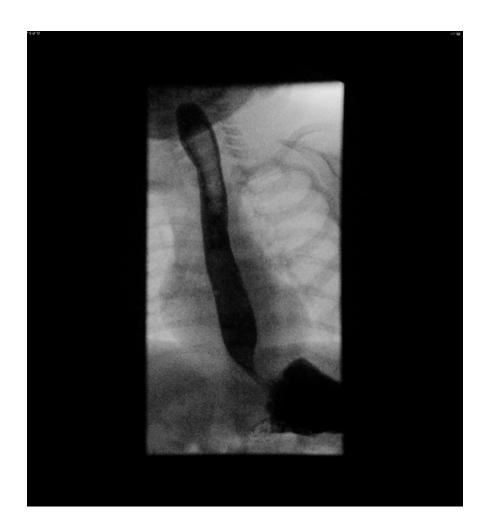






# Normal Upper GI







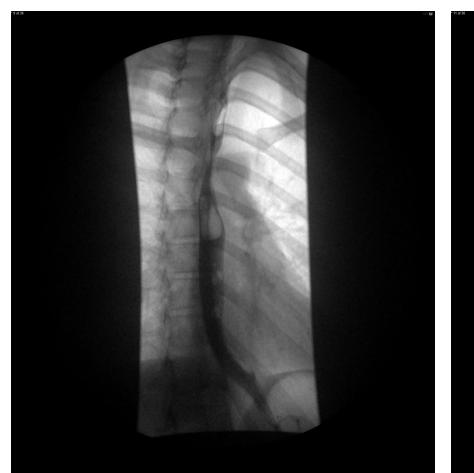
## Upper GI

- Esophagram + Upper intestinal anatomy (through the ligament of Trietz)
- Keys
  - Show normal esophagus and gastric anatomy
  - Show the 2<sup>nd</sup> and 3<sup>rd</sup> portions of the duodenum to be retroperitoneal
    - Lateral views during opacification of C-sweep are crucial
  - Show the ligament in the correct anatomic position
    - Lateral to the left pedicle at same level of duodenal bulb

# Normal Upper GI









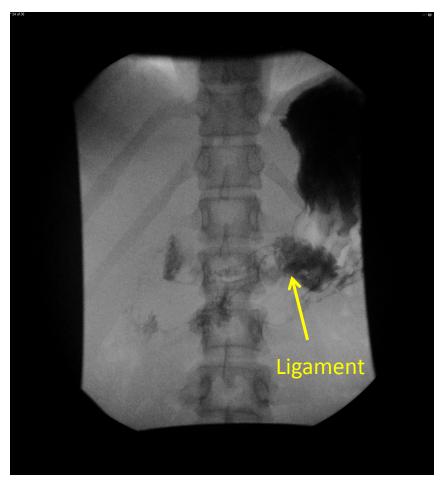








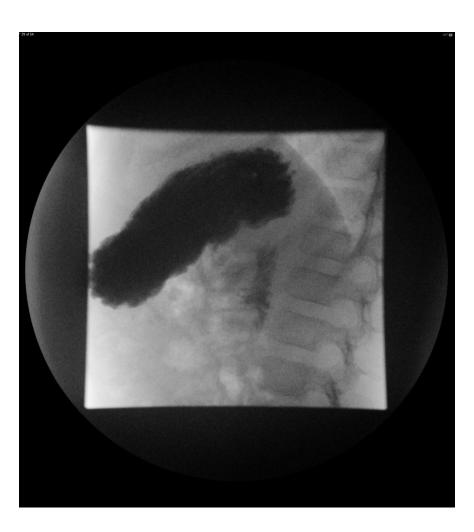


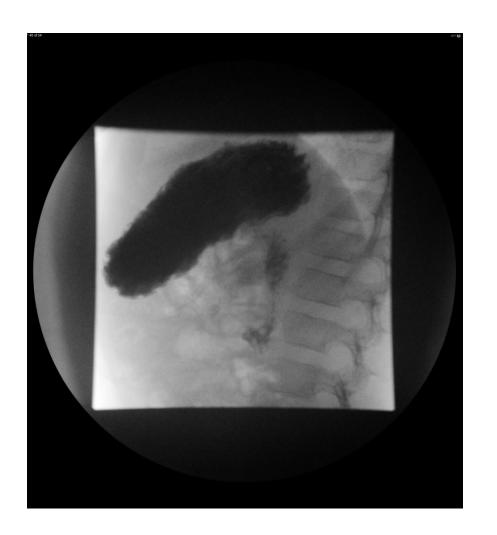


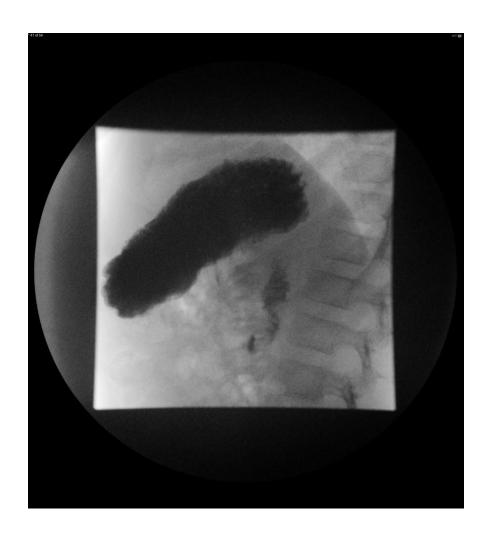


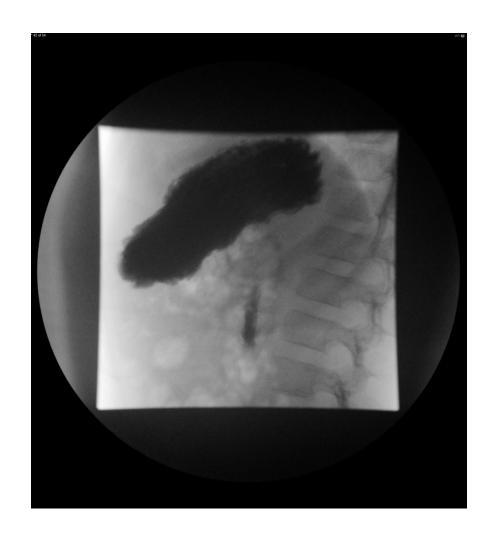
### **Another Normal Upper GI**

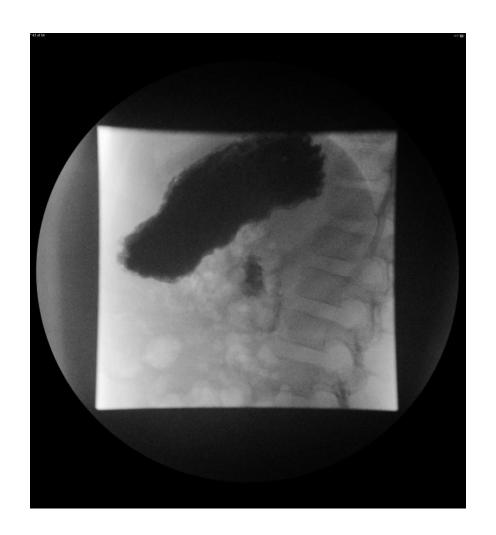
(with attention to the duodenal C-sweep)

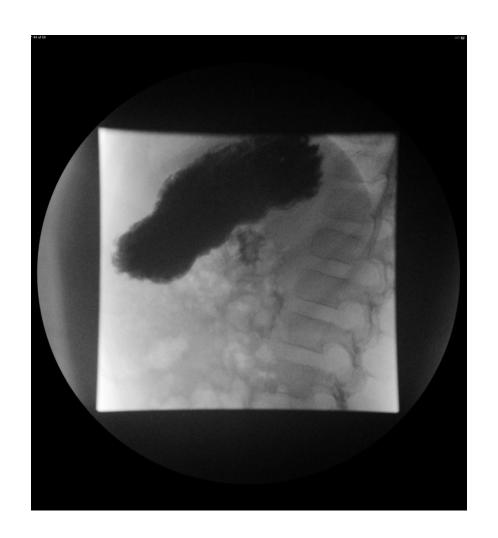


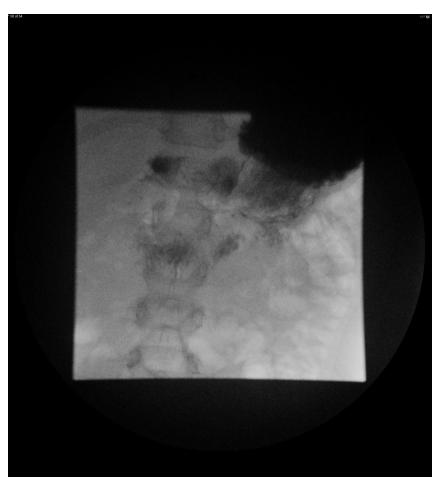


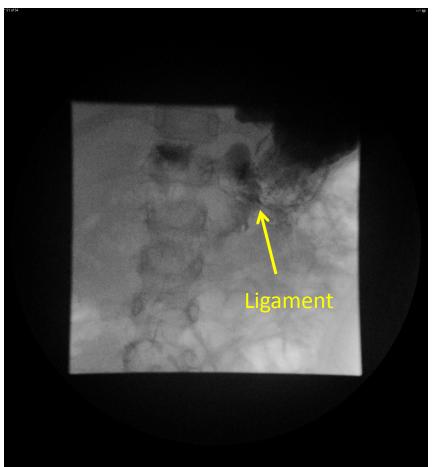






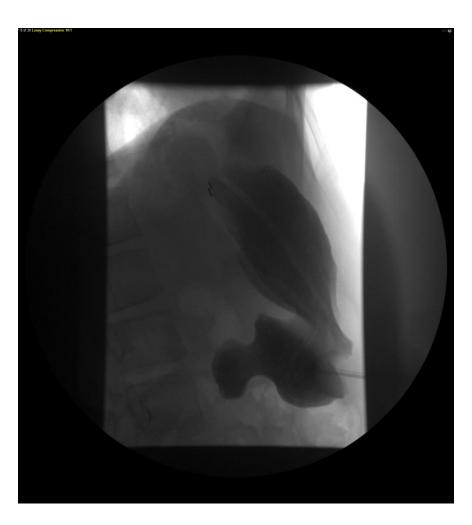


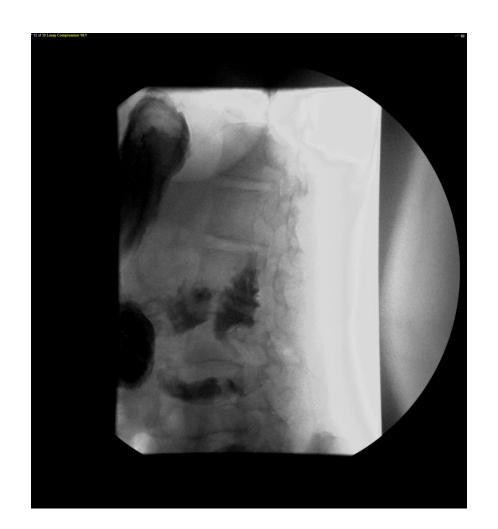




### Abnormal Upper GI

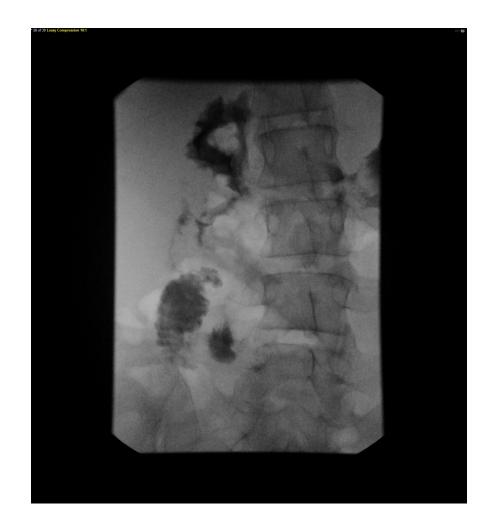
(through G-tube)

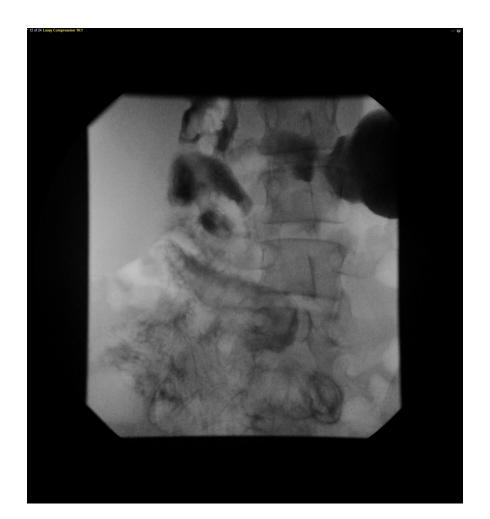










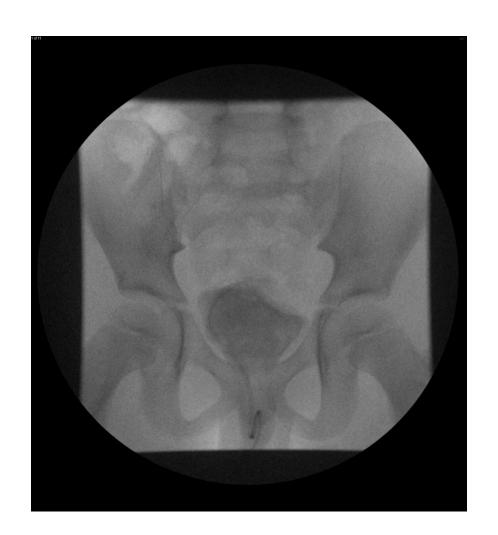


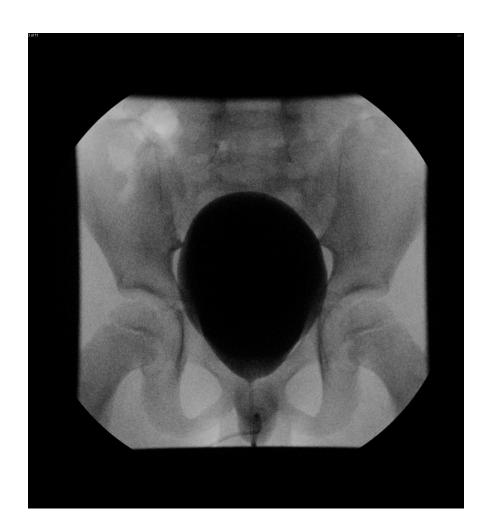
#### **VCUG**

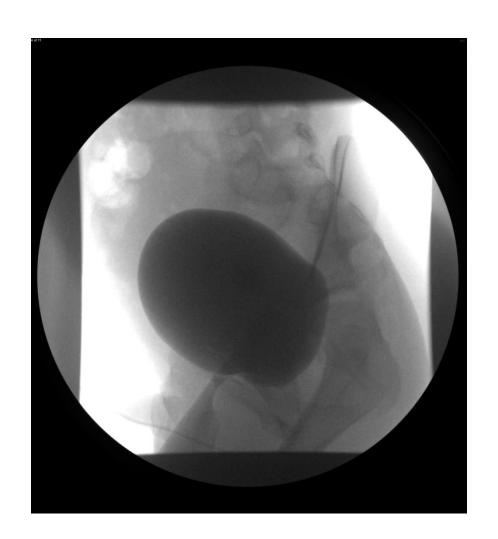
- Fluoro store (last image hold) adequate for most images, except final image of kidneys (see below)
- Key images
  - Scout (some attendings will not obtain scout images, so be sure to remove from your dictation)
  - Bladder: AP Early Fill, +/- additional view at maximal distension
  - Bladder: Bilateral Obliques (to see the UVJ area)
  - Voiding Image
    - AP in Females, Oblique in Males
    - Need at least one image of urethra without the catheter
  - Post-void bladder
  - Post-void image of renal fossa
    - This should be a real exposure
- Obviously, more images can/should be obtained if there are positive findings on the exam

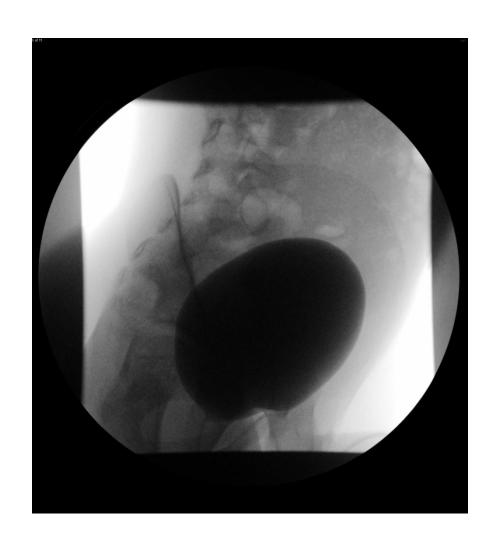
## VCUG

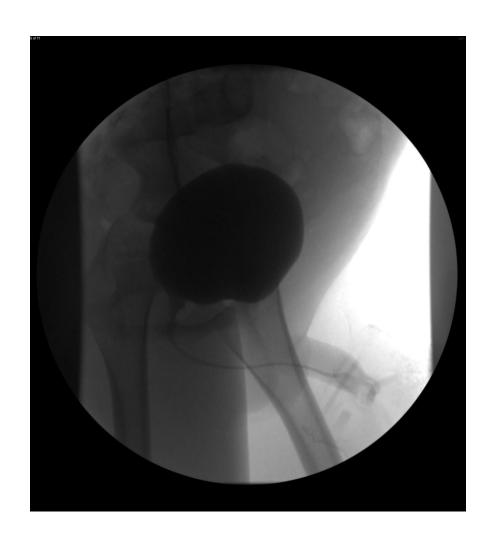












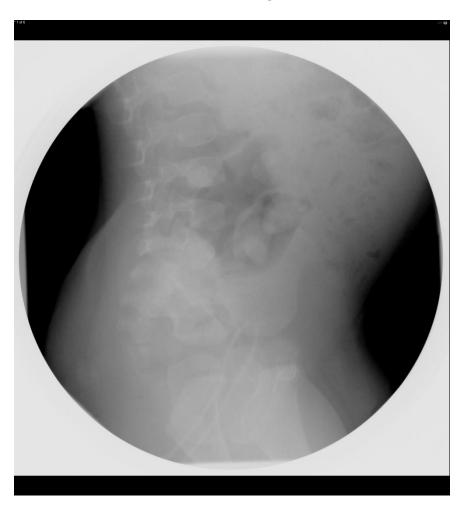




#### **Contrast Enema**

- This exam is performed for a variety of reasons and in a wide range of ages
- Thus it is critical to review the indications and history before walking into the room
  - i.e. what is the question you are trying to answer
- Always water soluble contrast (never barium per rectum in kids)
- Always have an attending present/available for contrast enemas on NICU babies.

# Normal Contrast Enema (baby)









# Normal Contrast Enema (older child)

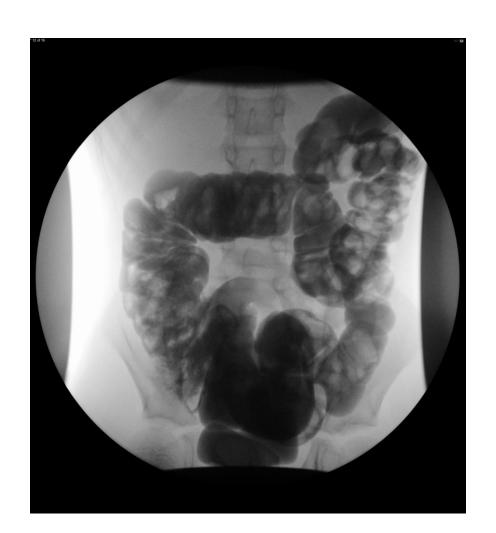












## Bilateral obliques





### **Abnormal Contrast Enema**

