



Fluoroscopy Protocols

Upper G.I. with Air Contrast with Small Bowel Follow Through FLUGISB

Fluoro Time Target Limit: 5.0 minutes

****Due to possible long exam times-Reserve the case to the Radiologist that will be reading it, early in the exam. The TURNAT team will receive a critical issue if the exam is not completed within one hour.**

Scheduling and Prep:

- *Nothing to eat or drink from midnight before their exam until after their exam is completed. They should take 2 tablespoons of Milk of Magnesia at 9:00pm the night before their procedure. (Patient is allowed to brush their teeth) (No water, food, chewing gum, smoking, etc...)
- * This exam is only scheduled in the morning due to the possible long exam time.
- *Only medications that the patient deems necessary, can be taken with a very small amount of water and as early as possible.
- *No more than one SBFT to be scheduled at each Fluoro site per day.
- *Scheduling should inform the patient that this exam could take several hours.**

Supplies:

- *Effervescent crystals *Chilled water for mixing with air crystals and for mixing the Thick barium *Thin barium *1-medicine cup, *1-Straw, *2-drinking cups with ml measurements *Anatomical side marker
- *If for dysphagia-13mm Barium Tablet**
- *13mm tablet on Fluoro Image Intensifier if your machine does not have built-in Measuring capabilities.

***Keep a record of the amount of barium that the patient consumed.**

Overhead Image: *AP KUB SCOUT OVERHEAD-Consult with the Radiologist if you see any unusual air / gas pattern or retained contrast from a previous study.

Air Contrast Esophagus Procedure:

- *Position an anatomical side marker on the appropriate side to be Included on the esophageal images.**
- **Take note of the time that the patient begins drinking the barium: This is the Beginning of the timing for the small bowel portion.**
- *Have patient in the upright position
- *Slightly oblique the patient to the left. (This will eliminate superimposition of the Esophagus and spine)
- *Have the patient hold the air contrast barium in their left hand so there will be

Minimal delay between drinking the air crystals and beginning to drink the thick Barium.

- *With patient holding medicine cup with water, in their right hand, pour effervescent crystals into the water. Encourage the patient to drink the mixture very quickly.
- *Instruct them not to belch throughout the upper GI exam.
- *Take the empty medicine cup and instruct the patient to begin drinking the barium with big swallows, quickly, one right after the other until the cup is empty.

Spot Images:

- *While the patient is drinking the thick barium, take an adequate number of Images to demonstrate the air contrast esophagus. **Anticipate 4-6 images.**
- * Concentrate on the distal esophagus at the EG junction. Once the distal Esophagus is sufficiently imaged; move superior to the mid and proximal Esophagus. Some of the best-coated images are seen after several swallows Have passed down, so check again at the distal esophagus for better air contrast Esophageal images.

Procedure for Imaging the Stomach:

- *Lower the table down placing the patient in the prone position.
- *Have the patient roll onto their right side, and then supine, and then on their left side. (The purpose of rolling the patient is to allow the barium to thoroughly coat the stomach lining.) If poor coating, have patient roll again.

Spot Images of the Stomach:

- *Take **three** images of the stomach in progressively less steep obliques.
- *One AP of the stomach.
- *One Right lateral stomach. (Be sure to roll the patient slightly forward to clear The barium from fundus) you can also tilt the table up about 20 degrees to Unsuperimposed the fundus from the barium filled body and antrum.
- *This will be the best time to demonstrate the fundus.

Procedure for imaging the single Contrast Esophagus:

- *Ensure that the anatomical marker is in place for these esophageal images.
- *Position the patient in the RAO position with their right arm by their side. Have Their head on a folded pillow. Have them hold the single contrast (thin) barium Cup with a straw in their left hand.
- *Have the patient drink one normal swallow and just **watch** the tail of the barium All the way, down. This will show their motility without gravity helping. Take Note of any abnormal motility or pathology.
- *Next, have the patient drink three large, fast, consecutive swallows.

Spot Images:

- *While the patient is drinking the three large, fast and consecutive swallows. Take images of the barium filled esophagus from superior esophagus to the inferior Esophagus, just enough to document the entire esophagus filled with barium to EG

Junction. To reduce exposure, **anticipate 2-4 images and some image saves.**

After the third swallow, have the patient inhale and bear down. (This is a good time to evaluate For hiatal hernias or **Schatzki's** rings as well as looking for motility issues.)

*Image the **barium-filled bulb** and **barium-filled antrum** with single contrast filled C-loop. This can often be accomplished in one image. **If demonstrated earlier in the exam, do not repeat.**

*Roll patient to their left side.

*Take images of the **air contrast filled duodenal bulb**, **air contrast filled antrum** with an Air contrast filled C-loop. This can often be accomplished in one image. **If demonstrated Earlier in the exam: do not repeat.**

*Have the patient then roll to the supine position and check for reflux.

****To minimize patient coughing or producing aerosolization (Airborne Particles):**

DO NOT: illicit a forced cough when attempting to provoke reflux. Instead, Have the patient swallow their saliva and then tighten their stomach muscles For a few seconds. Then roll the patient enough RPO to place the barium up against The EG Junction and repeat tightening of their stomach muscles.

*Screen save or expose any reflux and label with Reflux and an up arrow.

*Take an AP of entire barium coated structures. (Stomach and C- loop of the small bowel.) This will confirm or rule out malrotation

****If the patient is having dysphagia, stand patient upright have them swallow a barium tablet with water, at the end of the Upper G.I. portion.**

****Document the passage of the tablet or that the pill became stuck and for how long. If patient refuses to take the pill, inform the Radiologist in your notes to him/ her.**

New: At this point, you may want to do the spot images of the upper loops of small bowel to prevent missing these later In the exam.



Proceed to the Small Bowel Exam; the patient may belch the air out now.

Procedure for Small Bowel Follow Through:

- *Give patient another 230mL of chilled thin barium
- *The remainder of the small bowel images are to be done prone-unless patient is unable To comply, then perform AP.
- *Take timed images at 20-minute intervals and 30-minute intervals after one hour. When the barium has reached the cecum, that is the transit time.
- *There should **not** be an image labelled '**immediate**' since the Upper GI was Performed first.
- *Label the first Small Bowel Image with the amount of time that has Passed from the start of the patient drinking the barium.
- *The next image should be taken 15 to 20 minutes from the 1st image with the Amount of time that has passed from the patient beginning to drink the barium,
- *Send images in order.

Overhead Images:

- *PA KUB labeled with the amount of time that has Passed since patient began drinking for the UGIA.
- *PA KUB every 20 minutes up to 1 hour
- *After 1 hour, take PA KUB images every 30 minutes until Barium reaches cecum

EXAMPLE: KUB SCOUT

UGIA started 9:00am

Small Bowel Image #1- 9:20am- label this image 20 minute

Small Bowel Image #2- 9:40am- label this image 40 minutes

Small Bowel Image #3- 10:00am-label this image 1 hour

Small Bowel Image #4- 10:30am- label this image 1-1/2 hours

ECT...

- ** (There should never be an immediate overhead image when these exams are combined since time will have passed during the UGIA)

SPOT IMAGES:

- *When barium sufficiently fills the cecum, obtain spot images Of the filled loops of small bowel and unsuperimposed Terminal ileum.
- *Using your trained judgment, the patient may need to drink Additional barium to ensure even distribution, at some point During their exam. This will ensure upper bowel loops are Still filled with barium and can be visualized during the “Spotting” portion of the exam.
- *With compression paddle, take 2-3 magnified images of the Terminal ileum unsuperimposed by other loops of the small Bowel
- *Take approximately one image per quarter of the whole small Bowel while compressing.
- *** Take note of any dysmotility, polyps, dilatation, strictures, Or any other abnormalities.
- *Open to largest field of view and take an AP of entire filled Loops of bowel.



*Communicate to the Radiologist, the **transit time** from the beginning of drinking to the time that the barium reaches the cecum.

**If aspiration of the barium occurs; stop the patient from drinking, take note if the patient Coughs or does not cough. Consult the radiologist if he / she feels that the exam should Continue or be discontinued.

**The radiologist is relying on the Fluoro technologist to witness and inform Them of reflux, barium tablet passage, pathology, transit time and motility issues.

** These are the minimum images needed to demonstrate the proper Anatomy for this exam. When deemed necessary, more images may be Taken...

** Take care to minimize patient and technologist exposure.

**Following the procedure, instruct the patient to drink extra Fluids for 2-3 days, to help prevent constipation from the barium.

Reviewed January 23, 2024