



Fluoroscopy Protocols
Adult Upper G.I. with Air Contrast
UGIA

Fluoro Time Target Limit: 4.0 minutes

Scheduling and Prep:

- *The patient should be NPO from midnight before their exam until after their exam is completed.
- Afternoon appointments: NPO for eight hours. Patient can brush their teeth. No water, food, chewing gum, smoking, etc... Only medication that is necessary with minimal water and as early in the morning as possible

Supplies:

- *Effervescent crystals and cold water
- *Air contrast thick barium
- *Single contrast Upper G.I. thin barium
- *1-medicine cup, 1-Straw, and 2-drinking cups with mL measurements
- *Barium tablet (Only if having dysphagia)
- *Anatomical side marker
- *Barium tablet for measurements-if equipment does not have the capability

Air Contrast Esophagus Procedure:

*Position the Left anatomical side marker on the appropriate left side to be included
On these images.

- *Start with the patient in the upright position
- *Slightly oblique the patient to the left. (This will eliminate Superimposition of the esophagus and the spine)
- *Have the patient hold the air contrast (thick) 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.
- * The patient should refrain from belching throughout upper GI portion of this exam.
- *Take the empty medicine cup and instruct the patient to begin drinking the thick barium. Have the patient take big swallows, quickly, one right after the other until the cup is Empty.

**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 or she) feels that the exam should continue or be Discontinued. If told to discontinue giving barium, attempt to get some stomach images without giving Any more to drink. Skip to Procedure for Imaging the Stomach.

Spot Images: * *While the patient is drinking the thick barium, take an adequate number of Images of the air contrast esophagus. **Anticipate (4-6) images.**

- * **Concentrate on the distal esophagus at the EG junction.** Once the distal Esophagus has been sufficiently imaged; move superior to the mid and proximal Esophagus. Some of the best-coated images can be seen after several swallows, so Check again at the distal esophagus for better air contrast esophagus images.

Procedure for Imaging the Stomach:

- *Lower the patient to the prone position.
- *Have the patient roll onto their right side, and then supine, and then on their Left side. (The purpose of this is to allow the barium to thoroughly coat the stomach lining) If you see 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)
- *This will be the best time to demonstrate the fundus.
- **Image the air contrast **bulb** and air contrast **antrum** with filled C-loop. This can often be accomplished in one image. **If bulb is not filling out yet, wait until later In the exam.**

Procedure for imaging the single Contrast Esophagus:

- *Position the patient in the RAO position with their right Arm by their side. Have their head on a doubled pillow. Have the patient Hold the single contrast barium cup with a straw in their left hand.
- *Position the Right or Left anatomical side marker on the appropriate side to be Included on these images.
- *Have the patient drink one normal swallow and just **watch** the tail of the barium All the way down to the stomach. This will show esophageal motility without Gravitational assistance. Take note of any abnormal motility or pathology.
- *Next, have the patient drink three large swallows, fast and consecutively

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.** 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.)

Spot Images:

*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 or (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 images of reflux if it occurs, and label with reflux and an up arrow.

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

Overhead Images:

*AP stomach non-Siemens units only.

*If the patient has a "U" shaped stomach, use a 30-degree cephalic angle.

ONLY if patient has dysphagia: Give barium tablet.

Barium Tablet:

*Always wait until the end of the exam to administer the barium tablet.

*In the upright position, have patient swallow a barium tablet with water.

*Watch the tablet as it travels down the esophagus to the stomach

*Screen save an image of the EG junction, for documentation that the pill went down.

*Screen save the pill if it is stuck in the esophagus. Note for the radiologist how Long the tablet delays entering the stomach or if it does not go down within about five Minutes. If the tablet is not passing through the EG junction quickly, have the patient Drink more water. Do not Fluoro the entire time.

*If the pill is still lodged in the lower esophagus; have the patient drink one small Sip of thin barium. Take an image of the barium surrounding the tablet.

*If the pill does stick in the lower esophagus, for longer than about 5 minutes, the patient Can safely be released with instructions to sip on water and refrain from eating for about 20 minutes to allow the pill to dissolve.

*If the pill lodges in the upper esophagus; the patient should remain at the ARA clinic Sipping on water, until the pill passes on down the esophagus or if the pill is successfully Brought back up.

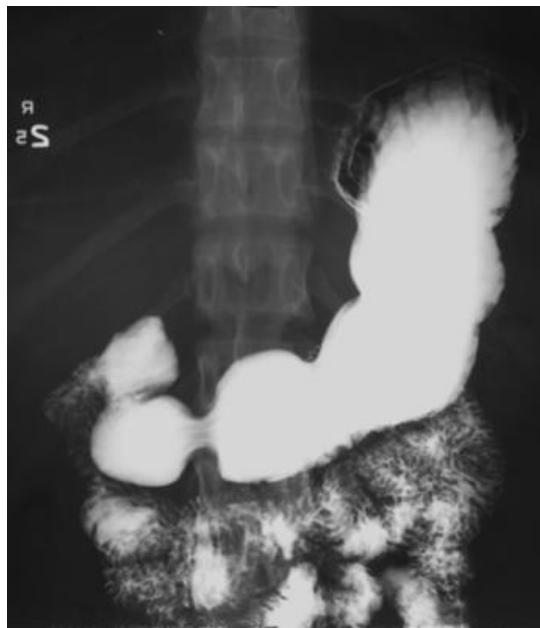
**The Radiologist is relying on the Fluoro technologist to witness and inform Them of reflux, barium tablet passage, pathology, and motility issues.

** These are the minimum images needed to demonstrate the proper anatomy for This exam. Take images of any pathology or other reasons.

** Take care to minimize patient and technologist exposure.

**Instruct the patient to drink extra fluids to prevent constipation from the barium.

LEFT



Reviewed January 23, 2024