



Fluoroscopy Protocols

Esophagram-Single Contrast Barium Swallow -Adult

Fluoro Time Target Limit: 2.5 minutes

Scheduling and Prep: *Although, there is no prep for this exam,

It is suggested that the patient be NPO (Nothing by mouth) for 2 hours prior to the exam. This will help with patient comfort and reduce any food particles from refluxing into the esophagus, obscuring esophageal lining. **Do not reschedule the exam if the patient is not two hours NPO.

Supplies: *Single contrast barium, barium tablet, chilled water, 1-cup with mL measurements, 1-straw *Anatomical side marker placed on Image Intensifier surface. If your equipment does not have measuring capabilities built-in

**If the patient has a lap band, do not give air crystals, thick barium and do not give a Barium tablet unless instructed to do so by the radiologist.

Procedure: Upright

- *Have patient in the upright position. Slightly oblique the patient to the left (LPO). (This will eliminate superimposition of the esophagus and spine)
- *Have the patient drink one swallow of the barium and watch to make sure there is not an Obstruction. If there is an obstruction that prevents the flow of barium into the stomach, Document and discontinue the exam.
- * Show exam to the radiologist before the patient leaves, for further direction.
- * If no obstruction, have patient drink several large swallows of the barium.

Spot Images:

- *Take an adequate number of images to show the barium-filled 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 and take 1-2 images here.

Procedure for Imaging the Single Contrast Esophagus in the RAO Position:

- *Lower the table to place the patient in the RAO position with their right arm by their side. Have their head on a doubled-up pillow. Have the patient hold the single contrast barium Cup with a straw in their left hand.
- *Have the patient drink one normal sized swallow and just **watch** the tail of the barium all The way down. This will show 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. (Valsalva maneuver) (This is a good time to evaluate for hiatal hernias or **Schatzki's** rings as well as looking for motility issues.)

*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 sweep)
 This will show the C-loop to confirm or rule out malrotation.

Rapid Sequence Imaging:

*Upright-AP position, have the patient hold a large swallow of single contrast thin Barium in their mouth. With their chin elevated, activate rapid sequence imaging, 4 Per second and instruct the patient to swallow. Hold exposure button down just Long enough to image the upper esophagus in motion. Stop imaging as soon as The one swallow clears the upper esophagus. Avoid unnecessary imaging.

*Repeat this process in the lateral position with the patient's shoulders depressed.
Be sure to collimate well and include anatomical marker in all esophagus Images.

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

*In the upright position, have the patient swallow a barium tablet with water.
 (Unless Lap band patient)

*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 gets 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 distal esophagus, have the patient take a small sip of thin Barium and capture an image as the pill is surrounded by the barium.

- *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. Document with a hold screen capture.

- *If the patient aspirates the barium pill-Immediately contact the Radiologist and Medic.

- **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.

- **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.
When deemed necessary, more images may be taken to demonstrate pathology or for
Other reasons.

- ** Take care to minimize patient and technologist exposure.

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

Reviewed January 2024