

Timed Esophagram Study Protocol

Left Posterior Oblique Cervical/Thoracic Esophagus Upright Phase:

- Patient stands upright (if patient is incapable of standing, elevate head of table as much as is safely possible or have the patient sit in a chair)
- Rotate the patient into left posterior oblique (LPO) position
 - Ask the patient to drink the amount of barium they can tolerate without regurgitation or aspiration (ideally 8 oz or 236 mL)
 - A straw can be used to better tolerate the barium
- Fluoroscopically scan the esophagus while the patient swallows
 - Have 3 to 4 pictures of the lower esophagus (at least 2 showing the EGJ) and have at least 2 pictures of the upper and mid esophagus
 - Include a timed picture of the EGJ to the maximal height of the barium column at 1 and 5 minutes after the last swallow of barium
 - Measure and record the distance in centimeters from the EGJ to the top of a distinct barium column (barium height) as well as the maximal esophageal width/distention
- Rotate the patient to the right posterior oblique (RPO) position if abnormalities are seen and repeat imaging

Prone Cervical/Thoracic Esophagus Phase:

- Patient lies prone in right anterior oblique (RAO) position on the exam table
- Have patient take a single swallow of barium through a straw
 - Evaluate esophageal motility by following the tail of the barium column from the pharynx to the stomach
- Have patient drink several swallows continuously and take pictures
 - At least 2 pictures of the upper and mid esophagus, 1 picture of the lower esophagus and 1 picture of the EGJ in normal study, additional images in different projections if abnormalities are seen
- As the barium bolus approaches the distal esophagus, have the patient perform a Valsalva maneuver to evaluate for possible esophageal rings, stenosis, and/or hiatal hernia
- Evaluate for possible gastroesophageal reflux
 - Have the patient roll supine (so contrast will be in the fundal/cardia region). Then have the patient roll to the right lateral decubitus position
 - Observe fluoroscopically and document if reflux occurs
 - Other stress maneuvers may be considered: Valsalva, straight leg raise, turn 360 on table, coughing when patient is in supine or LPO positions
- Have the patient swallow a 13mm barium tablet with water in the upright AP position to evaluate for stricture/narrowing or EGJOO.

Image Documentation (pertaining to the cervical/thoracic esophagus phases of the study)

- Left Posterior Oblique Cervical/Thoracic Esophagus Upright Phase:
 - Upper and mid esophagus
 - Lower esophagus (at least 2 showing EGJ)
 - Timed picture of the EGJ to the maximal height of the barium column at 1 and 5 minutes after the last swallow of barium
 - RPO images if abnormalities are noted
- Prone Cervical/Thoracic Esophagus Phase:
 - Upper and mid esophagus
 - Lower esophagus (at least 1 showing EGJ)
 - Additional images if abnormalities are noted
- Upright AP with barium tablet