Austin Radiological Association

Upper G.I. with Air Contrast (AGES 11-17)

Scheduling and Prep:

*The patient should be NPO from midnight before their exam until after their exam is completed. Patient is allowed to brush their teeth. No water, food, chewing gum, smoking.

Supplies:

*Effervescent crystals and water *Air contrast barium (HD-200, 764, or similar)  
*Single contrast Upper G.I. barium (L-186 or equivalent)  
*2 medicine cups, 1 Straw and 2 drinking cups  
* 13mm barium tablet - ONLY for patients with dysphagia and evaluation of ability to swallow pills has been established.

*EVALUATE THE OLDER PEDIATRIC PATIENT

Talk to your patient to establish their level of maturity. Talk to the parent to see if the patient would likely be able to handle holding in the air contrast. If dysphagia is an issue, ask both parent and child if they have a history of being able to swallow tablets. (They may take tablet forms of vitamins or other meds without difficulty).  
Explain in detail how the “fizzies” work. Let them know what to expect. Encourage them to sip them down quickly as opposed to all at once. They might surprise us and do better than we think.

Air Contrast Esophagus Procedure:

*Have patient in the upright position  
*With patient holding medicine cup with effervescent crystals, pour water onto the crystals. Encourage the patient to drink the mixture very quickly. Instruct them not to belch.  
*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 and drink big swallows quickly, one right after the other until the cup is empty.

Spot Images:

*Take several (4-8) air contrast filled barium coated esophagus 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. As always, to lower radiation exposure, it is best to do some holds as opposed to exposures.
Procedure for Imaging the Stomach:

*Move patient to the prone position.
*Have the patient roll around like a log 2 times to coat the stomach well. The patient should then land in the supine position.

Spot Images of the Stomach:

* Immediately look to see if you can capture an image to demonstrate the duodenal sweep going across the spine. This is to evaluate for mal-rotation of the small intestines. If the stomach is not emptying; move on to the air contrast stomach images and keep an eye on the barium emptying the stomach and catch the sweep as soon as it is apparent.
*Take 3 images of the stomach in progressively less steep obliques.
* AP of the stomach.
*Right lateral. (Be sure to roll the patient slightly forward to clear the barium from fundus). This will be the only image that will demonstrate the fundus.

Procedure for Imaging the single Contrast Esophagus:

*Tape a barium tablet to underside of fluoro tower in the collimated field of view for measurement purposes.
*Position the patient in the RAO position with their right arm by their side. Have their head on a pillow. Have them hold the single contrast barium cup with a straw in their left hand.
*Have the patient drink one large swallow and just watch the tail of the barium all the way down. This will show their motility without gravity helping.
*Have the patient drink 3 large swallows consecutively.

Spot Images:

*Take several hold images of the barium filled esophagus from upper esophagus to EG junction. (Evaluate for hiatal hernias, Schatzki’s rings, and motility issues.)
*Image the barium filled bulb, deflated bulb, barium filled antrum, deflated antrum.
Utilize the hold option here more then exposing images.
*Roll patient to their left side.
*Position the air contrast filled duodenal bulb, deflated bulb, air contrast filled antrum, and deflated antrum.
*Roll the patient supine and check for reflux. Have the patient cough and strain. Roll the patient enough RPO to place the barium up against the EG junction and repeat coughing and straining. Image any reflux and label.
*Take an AP of all barium coated structures.
**Overhead Images:**

Only do an overhead if your fluoro equipment is not able to include the entire stomach and small bowel that has filled with barium up to that point of the study.

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

** 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. Care should be taken to minimize patient and technologist exposure. Utilize the hold option especially on barium filled structures more than air contrast structures.

**If the patient is having dysphagia, and it has been established that the patient is comfortable swallowing a tablet, have them swallow a barium tablet at the end of the study.

**Always consult the on-site radiologist for questions.