Modified barium swallow (video swallow) with robust esophageal screening test (REST) - Adult

Scout radiograph		
None		
Positions and barium	**Images**	**Purpose**
Lateral sitting in chair	Continuous fluoro Cine images will be recorded Cone to include oral cavity, pharynx, larynx and upper cervical esophagus	Oral phase (bolus formation & propulsion. initiation of swallow, spill) Pharyngeal phase- penetration or aspiration, epiglottic inversion Cervical esophagus-stricture or diverticulum
Various consistencies of barium will be administered per speech pathologist.	Cine images of each ingestion	As above
REST Protocol	**Images**	
AP upright Cookie/cracker coated in 5 cc Ba paste	Follow bolus phyx to stomach with pulsed fluoro store.	If esophagus doesn't, empty, look again at 30 seconds, and 1 min
AP upright Patient administered thin barium	Follow bolus phyx to stomach with pulsed fluoro store.	If esophagus doesn't, empty, look again at 30 seconds, and 1 min
AP upright Patient administered thin barium	Follow bolus phyx to stomach with pulsed fluoro store.	If esophagus doesn't, empty, look again at 30 seconds, and 1 min
AP upright 13mm barium tablet	Follow bolus phyx to stomach with pulsed fluoro store.	If esophagus doesn't, empty, look again at 30 seconds, and 1 min

Table 1 Esophageal sweep protocol including bolus presentation, patient instruction, and imaging protocol

Bolus presentation	Patient instruction	Imaging
¼ Graham cracker with 5 cc. barium paste	Chew the cracker as much as you need and indicate before you are going to swallow.	Dynamically follow bolus from the pharynx to the stomach. Stop imaging and wait 30 s. Re-image at 30 s. Re-image at 1 min.
Patient administered cup sip of barium liquid (E-Z-Paque 70% w/v)	Take one large sip (uncontrolled volume) and hold it in your mouth. Only swallow one time.	Dynamically follow bolus from cervical esophagus to LES. If bolus is retained, stop imaging and wait 30 s. Re-image at 30 s. Re-image at 1 min.
Patient administered cup sip of barium liquid (E-Z-Paque 70% w/v)	Take one large sip (uncontrolled volume) and hold it in your mouth. Only swallow one time.	Dynamically follow bolus from lower esophagus to stomach. If bolus is retained, stop imaging and wait 30 s. Re-image at 30 s. Re-image at 1 min.
13-mm. Barium tablet	Take the barium tablet with as much water as you need.	Dynamically follow tablet from oral cavity to the stomach. If bolus is retained, stop imaging and wait 30 s. Re-image at 30 s. Re-image at 1 min.

Interpretation

Normal	*Solid*: Complete clearance of solid through esophagus within 1-min ± liquid wash. *Pill*: Passage through esophagus and LES within 1-min ± liquid wash. *Liquid*: Straight proximal to distal movement of bolus with inverted "v" shape stripping wave within 1 min.

If not cleared by 60s, give sips of water to clear

Rate each of the 4 swallows as:

Normal-(normal clearance)

Abnormal- (delayed clearance)

Dictation

Powerscribe template: "MBS-REST"

The following limitation is at the end of the template:

"Cursory view of the esophageal bolus flow in the upright position does not exclude esophageal pathology. Patients with unexplained dysphagia should undergo additional work up"