

## Small Bowel Follow Through Exam

### PURPOSE / CLINICAL INDICATION:

- Suspected abnormal small bowel transit time
- Surgery treatment planning (PHHS)
- Evaluate postsurgical anatomy
- In general, all other indications for small bowel follow through are better evaluated with CT or MR (standard or enterography)
  - Suspected or known small bowel obstruction
  - Suspected or presence of primary or secondary neoplasm
  - Inflammatory bowel disease
  - GI bleeding
  - Malabsorption
  - Possible enteric fistula
  - Complete GI evaluation after negative EGD and colonoscopy

### SPECIAL CONSIDERATIONS / CONTRAINDICATIONS:

- Contraindications
  - Intestinal perforation and colonic obstruction
- For suspected fistula, use water-soluble
- Surgery treatment planning (PHHS), use Omnipaque 350 for water soluble; Gastrografin is contraindicated

	ORDERABLE NAME:	EPIC BUTTON NAME:	NOTES:
UTSW	XR Small Bowel Series		Perform appropriate Upper GI protocol before this protocol
	XR Upper GI W Small Bowel Follow Thru		Perform appropriate Upper GI protocol before this protocol
	XR Upper GI WO Air W Small Bowel Follow Thru		Perform appropriate Upper GI protocol before this protocol
PHHS	XR Small Bowel Series	Small bowel	Perform appropriate Upper GI protocol before this protocol
	XR Upper GI W Small Bowel Follow Thru		
	XR Abdomen AP (Surgical Planning)	NA – not protocolled	

### EQUIPMENT / SUPPLIES / CONTRAST:

- Barium vs water soluble
- If patient is unable to swallow contrast, then contrast can be introduced by NG tube

### PATIENT PREPARATION:

- Review for contrast allergy
- Patient needs to be NPO after Midnight (at least 8 hours prior to exam, except medications)
- The exam should be started early in the morning (preferably no later than 10 am.)
- Review prior surgical history and any radiological exam results

### PROCEDURE IN BRIEF:

- Evaluation of the small bowel using fluoroscopic and overhead images after oral contrast administration.

### COMPLETE PROCEDURE TECHNIQUE:

- Exam the scout image (supine) for possible bowel obstruction, free air or residual contrast.
- When performed in conjunction with an upper GI or esophagram, perform that procedure first followed by the small bowel evaluation
- Have patient drink contrast. Note time at first drink (i.e. during UGI).
- Patient is placed in prone position for overhead radiographs
  - In this position, the center of the abdomen is compressed making the entire abdomen more uniform in thickness and permitting more uniform x-ray penetration.
  - There is better separation and less overlapping of small bowel loops.

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- Loops of ileum tend to migrate cephalad and become less compacted in the pelvis.
- Image the patient (PA) in approximately 30 minutes interval (initial evaluation 30 minutes from first swallow) for the first 2 hours (and fluoroscopic exam if possible), then radiologist to decide the subsequent schedule for images.
  - Radiologist to review after each image. For any identified abnormality, perform fluoroscopic evaluation at that time.
  - If there is clinical concern for proximal small bowel pathology, perform fluoroscopic evaluation at time of optimal distention of that bowel segment.
- Spot the small bowel segments also in oblique orientations
  - Assess for normal peristalsis
- Turn patient lateral decubitus and observe for possible bowel contained ventral hernia under fluoroscopic exam (spot image if abnormalities seen)
  - Evaluate with Valsalva
- In the interval between overhead images, the patient is encouraged to walk around.
  - Debilitated patient can be left on the table between films.
  - For patients unable to sit or stand should be placed in the right lateral decubitus position to encourage gastric emptying of introduced contrast, and then rolled periodically from one side to the other to better distribute the contrast and speed its transit assisted by gravity.
- After the contrast has reached the right colon, spot images of the terminal ileum are routinely obtained.
  - The terminal ileum is a common location of small bowel pathology, and it is often best evaluated in supine or LPO positions
- **EXCEPTION: Surgery treatment planning (PHHS)**
- Oral administration of 100cc Omnipaque 350.
- Obtain 1 view AP Abdomen 8 hours after contrast administration.

### IMAGE DOCUMENTATION:

- Spot images:
  - At least 1 frontal image in all 4 abdominal quadrants (compression can help)
    - RLQ image should include terminal ileum
  - Lateral abdomen with Valsalva (if clinical suspicion of ventral hernia)
  - Oblique images as needed for abnormalities (larger unmagnified field)
- Overhead images:
  - Scout image AP (supine)
  - Post contrast (in PA position) – approximately 30 minutes interval for the first 2 hours, then radiologist to decide the schedule interval for the sequential images

### ADDITIONAL WORKFLOW STEPS:

- Manual or mechanical compression can be helpful.
- Ensure the administered contrast has reached the right colon and terminal ileum identified before terminating the exam.
- Documentation of terminal ileum sometimes require patient in prone position.
- Per CPT, Surgery Treatment planning imaging is a 1v Abdomen with water soluble contrast and should not be charged as a small bowel follow through.

### REFERENCES:

- [General Fluoroscopy Considerations](#)
- [Procedure Contrast Grid](#)
- ACR Practice Parameter for the Performance of a Barium Small Bowel Examination in Adults, amended 2014

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