

 SELECT RADIOLOGY SOLUTIONS A Division of Radiology Imaging Associates	Hepatobiliary (HIDA) scan		
	Approval: K. Shamlou, MD	rev:2	7/15/2026

Hepatobiliary (HIDA) Scan

Radiopharmaceutical: Tc99m-Mebrofenin (Choletec ®)

Dose: 4 mCi

T1/2: 6 hours

Energy: 140 keV

CPT: 78227 (HIDA with Sincalide); 78226 (HIDA without Sincalide)

Indications:

Indications for a hepatobiliary scan (HIDA) include, but are not limited to:

1. Evaluation of functional biliary pain syndromes (right upper quadrant pain, post-prandial abdominal pain, nausea, and vomiting).
2. Differentiation of acute versus chronic cholecystitis.
3. Evaluation of biliary obstruction.
4. Biliary dyskinesia.
5. Post cholecystectomy syndrome.
6. Bile leakage.
7. Biliary atresia.
8. Evaluation of hepatic transplant function.
9. Evaluation of choledochal cyst.
10. Calculation of gallbladder ejection fraction.

Radiopharmaceutical:

- 4 mCi 99mTc-Mebrofenin (Choletec)
- Pediatric patients to receive 0.06 mCi/kg of body weight.

Pharmacologic Intervention:

- 0.02 micrograms/Kg cholecystokinin (CCK, Kinevac, or sincalide) in 50 cc normal saline solution bag infused IV over 60 minutes, typically at 60 minutes post injection of tracer. CCK can be administered at 45 minutes if there is sufficient filling of the gallbladder. Delayed filling of the gallbladder may require later administration of CCK.
- Patients who are status post cholecystectomy can receive Kinevac (Sincalide) at 30 minutes, as long as common bile duct and a duodenum are visualized.
 - In the event of a Kinevac (Sincadline) shortage, 8oz Ensure PLUS is to be administered orally in place of at the appropriate time per protocol.
- Pediatric use of Kinevac (Sincalide) will be determined by radiologist.

Patient Instruction:

- NPO for at least 4 hours.
- No opioids for at least 4 hours.
- Scan time is approximately 1.5-2 hrs.
- Upon scheduling, if patient has any pertinent prior studies, please instruct either the patient or the physician's office to make those available for comparison.

Equipment:

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1. GE 830 Discovery

Procedure:

1. Set intravenous line for injection of radiotracer and interventional medication.
2. With patient lying down on scan bed, inject radiopharmaceutical.
3. Acquire immediate dynamic images from anterior projection for 60 seconds/frame for 105-120 frames (Depending on filling time of the gallbladder).
4. Give Kinevac (CCK) at 60 minutes post radiotracer injection if parenchyma, gallbladder and common bile duct appear. CCK can be administered at 45 minutes if the gallbladder is sufficiently filled. IF gallbladder visualizes late and is not sufficiently filled at 60 minutes, wait until 75 or 90 minutes to infuse CCK.
5. Continue scan for 60 minutes post CCK injection.

Note: If no GB and/or small bowel visualization at 2 hours, acquire a 5 minute anterior and right lateral statics. The patient will need to return for 4 hour static images in anterior and right lateral projections. Patients started after 2 p.m. will need to return the next morning for additional imaging.

S/P cholecystectomy - remote history

6. If patient has had cholecystectomy, CCK can be administered at 30 minutes as long as there is visualization of the parenchyma, bile ducts, and small intestine.

S/P RECENT Cholecystectomy (Bile leak)

7. If patient is status post recent cholecystectomy, administer radiopharmaceutical and acquire a 60 sec/frame dynamic acquisition for 60 minutes. After the 60 minute dynamic, place the patient in the right lateral decubitus position for 15 minutes. Return the patient to supine and acquire a 5 minute anterior static.

Acquisition Parameters: Dynamic

- LEHRS collimator.
- Matrix 128 x 128.
- Scan 105-120 frames at 60 seconds/frame.
- Zoom: 1.46

Acquisition Parameters: Static

- LEHRS collimator
- Matrix: 256x256
- Stop on time: 300 sec
- Zoom: 1.0 full field

Processing/Data sets for PACS

- ROI/EF screen shot to include ROI of the Gallbladder, Liver parenchyma, and common bile duct.
- Composite screen shot of the dynamic data reformatted into summed frames (5 frames per image)
- Dynamic data set

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