

Outpatient Preps

Ultrasound

Ultrasound Abdominal (complete or limited)

(Gallbladder and ascites surveys): The patient should be NPO for 6-8 hours prior to exam.

Ultrasound Renal/Retroperitoneal:

Patient must drink 32-40oz of water 1 hour prior to exam in order to have full bladder. (Per Havey, not RRA protocol)

Ultrasound Breast:

Patient must bring films if done at an outside facility.

Patient must have previous mammo/ultrasound; depending on age, area of concern must be identified prior to ultrasound exam.

Ultrasound 1st,2nd, and 3rd trimester obstetrics:

Patient must drink 32-40oz of water 1 hour prior to exam in order to have full bladder.

Ultrasound Pelvic with color flow (complete or limited):

Patient must drink 32-40oz of water 1 hour prior to exam in order to have full bladder.

Vascular abdominal aortic aneurysm:

Take all morning medications as prescribed with small sips of water.

DO NOT EAT for at least 4 hours before appointment. *Diabetics should ask for early morning appointments to avoid prolonged periods of fasting. Patient will be lying on their back.

Wear loose fitting clothing as the technologist will be examining your abdominal area.

Vascular mesenteric artery:

Take all morning medications as prescribed with small sips of water.

DO NOT EAT for at least 4 hours before appointment. *Diabetics should ask for early morning appointments to avoid prolonged periods of fasting. Patient will be lying on their back.

Wear loose fitting clothing as the technologist will be examining your abdominal area.

Vascular carotid screening:

DO NOT WEAR A TURTLENECK.

Wear open collared shirt or T-shirt that is short sleeved.

Patient will be lying on their back.

Vascular lower extremity arterial duplex:

DO NOT WEAR PANTYHOUSE.

Wear a short sleeved shirt.

Wear loosing fitting pants that can be lifted or removed.

The patient may be instructed to remove all clothing except underwear and be given a gown.

The technologist needs to examine both ankles and arms.

Blood pressures are taken on all four extremities. Patient will be lying on their back.

Any bandages may need to be removed and replaced after the study is complete depending on their location. Patient should be instructed to bring extra bandages to their visit if this applies.

Vascular lower extremity venous duplex:

DO NOT WEAR PANTYHOUSE.

Wear a short sleeved shirt.

Wear loosing fitting pants that can be lifted or removed.

The patient may be instructed to remove all clothing except underwear and be given a gown.

Patient will be lying on their back.

Any bandages may need to be removed and replaced after the study is complete depending on their location. Patient should be instructed to bring extra bandages to their visit if this applies.

Vascular upper extremity duplex:

Patient should wear loose fitting short sleeved T-shirt.

The patient may be instructed to remove all clothing from the upper part of the body except underwear and be given a gown.

Vascular renal artery duplex:

Take all morning medications as prescribed with small sips of water.

DO NOT EAT for at least 6 hours before appointment. *Diabetics should ask for early morning appointments to avoid prolonged periods of fasting.

Patient will be lying on their back.

Wear loose fitting clothing as the technologist will be examining your abdominal area.

MRI

For all MRI exams:

PACEMAKERS ARE CONTRAINDICATED: Any patient with a pacemaker will be cancelled. While some pacemakers are listed as “MRI compatible” or “MRI Conditional” by the manufacturer, CMH cannot accommodate required monitoring equipment necessary for patient safety.

Patients need to bring all information regarding any other known implants and/or shrapnel.

Patients should wear clothing that is free from metal. Patients may be asked to remove all clothing except underwear and be given a gown. Patients may be asked to remove jewelry for certain exams.

Patients do NOT need to be NPO for any exam at any time.

IV Contrast

Creatinine results are required on all patients age 40 and older or any patient who has a history of diabetes, hypertension, or renal disease. If no results are available that have been done 30 days prior to the exam, an I-stat creatinine test will be performed in the radiology department.

Please be aware that patients with a history of claustrophobia may not be able to tolerate an MR exam without being medicated. Medications will need to be prescribed by ordering physician in advance of exam time.

XRAY

Patients may be asked to remove all clothing except underwear and be given a gown.

Upper GI

The patient should be NPO after midnight the night before the exam. For this reason, morning appointments are best.

Barium Enema

The ordering physician should choose the method to be used to cleanse the colon which is needed for optimal images. If the colon is not cleansed at the patient's appointment time, the exam will be rescheduled. The patient should be NPO after midnight the night before the exam. For this reason, morning appointments are best.

IVP

The patient should be NPO for a minimum of 4 hours prior to the exam.

Small Bowel Series

The patient should be NPO after midnight the night before the exam. For this reason, morning appointments are best.

MAMMO

Screening Mammo

Patients need to be free from any deodorants and powders. If patients arrive for their exam wearing deodorants and/or powders they will be asked to cleanse the area with wipes that are provided.

Diagnostic Mammo

Patients who have had a screening mammogram somewhere other than CMH will need to bring their screening images with them. Diagnostic mammograms cannot be performed without a screening mammogram for comparison.

Patients need to be free from any deodorants and powders. If patients arrive for their exam wearing deodorants and/or powders they will be asked to cleanse the area with wipes that are provided.

STEREOTACTIC BREAST BIOPSIES

Patients will need to be off of any and all blood thinners for 5 days preceding their biopsy.

CT EXAMS

Patients are permitted to eat a light meal and drink fluids before any exam.

Patients may be asked to remove jewelry for exams on the head or neck.

Barium Oral Contrast*

ABDOMEN ONLY: 1 bottle of oral contrast 1 hour prior to exam time.

ABDOMEN AND PELVIS (Scheduled): 2 bottle of oral contrast. 1 bottle the night before the exam and 1 bottle 1 hour prior to exam time.

Studies of the pancreas do not require oral contrast.

Gastrografin Oral Contrast*

ABDOMEN AND PELVIS (Add on outpatients, inpatients, and ED):

- 1) If appendicitis is the diagnosis: 4 bottles 15 minutes apart (1 hour total)
- 2) If diverticulitis if the diagnosis: 4 bottles 30 minutes apart (2 hour total)

***Ordering physician should clarify if oral contrast is needed for the exam ordered.**

IV Contrast

Creatinine results are required on all patients age 40 and older or any patient who has a history of diabetes, hypertension, or renal disease. If no results are available that have been done 30 days prior to the exam, an I-stat creatinine test will be performed in the radiology department. Ordering physicians are responsible for pre-medicating their patients in the event of known contrast allergies. Suggested medication protocol: 50mg Prednisone 13 hours prior to exam time and again 7 hours prior to exam time. 50mg Benedryl and 50mgPrednisone 1 hour prior to exam time. Patient should not drive following administration of Benedryl.

Renal Stone Exams

Oral and IV contrast are contraindicated for renal stone exams as both contrast materials can obscure a stone.

NUCLEAR MEDICINE

MUGA

Exam will last 1.5-2 hours. There is no prep for this exam.

Testicular Scan

Exam will last 30 minutes. There is no prep for this exam.

VCUG

Exam will last 30-45 minutes. There is no prep for this exam.

HIDA Scan

Exam will last at least 1 hour (possibly longer). Patient should be NPO for 4 hours before the exam. Patient should be off all opiates for 6 hours prior to the exam.

Liver/Spleen Scan

The exam will last 45 minutes. There is no prep for this exam.

RBC Liver SPECT (Hemangioma)

Exam will last 3.5 hours. There is no prep for this exam.

Bone Scans(Limited, Whole body, 3-Phase, & SPECT

Exam will last for 3.5-4 hours. There is no prep for this exam. After injection patient will need to drink at least 16 oz. of water before the imaging portion of exam.

Lung Scan (VQ, Quantitative Lung)

Exam will last 30-45 minutes. The patient should have a chest x-ray performed within 24 hours prior to the exam.

Renal Scan & Renal Scan with Lasix

Exam will last 45 minutes. The patient should drink 3-8 oz of water the morning of the exam so they are in a normal state of hydration.

HIDA Scan with CCK

Exam will last 2 hours. Patient should be NPO for 4 hours before the exam. The patient should have a fatty meal the evening before the exam. Patient should be off all opiates (see list) for 24 hours if inpatient status and 48 hours if outpatient status.

OPIATE PAIN DRUGS

<u>Generic</u>	<u>Brand Name</u>
Meperidine	Demerol
Codeine	Codeine Sulfate
Morphine	MS Contin
Oxycodone HCL	Oxycontin
Oxycodone + ASA	Perodan
Oxycodone + acetaminophen	Percocet, Tylox
Hydromorphone hydrochloride	Dilaudid
Hydrocodone	Hysingla, Zohydro ER
Hydrocodone bitartrate + Homatropine methylbromide	Hycodan
Hydrocodone + chlorpheniramine	Tussionex (cough suppressant)
Hydrocodone + acetaminophen	Vicoden, Lortab, Norco, Lorcet
Fentanyl citrate	Actiq
Buprenorphine	Butrans, Subutex
Buprenorphine + nalaxone	Suboxone
Tramadol	Ultram
Acetaminophen + propoxyphene	Darvocet
Fentanyl transdermal	Durgesic patch
Acetaminophen + codeine	Tylenol #3
Methadone	Dolophine, Methadose

Gastric Emptying

Exam will last 4-4.5 hours. The patient should be NPO for 6 hours before the exam. No smoking the morning of the exam until imaging is complete. The following medication restrictions should be followed:

1. No laxatives for 24 hours prior to exam or until imaging is complete.
2. Any medication that affects the rate of gastric emptying should be stopped for 48 hours prior to the exam. This includes: prokinetics, anticholinergics/antispasmodics, opiates/narcotics, and benzodiazepines. (see list)

OPIATE PAIN DRUGS

<u>Generic</u>	<u>Brand Name</u>
Meperidine	Demerol
Codeine	Codeine Sulfate
Morphine	MS Contin
Oxycodone HCL	Oxycontin
Oxycodone + ASA	Perodan
Oxycodone + acetaminophen	Percocet, Tylox
Hydromorphone hydrochloride	Dilaudid
Hydrocodone	Hysingla, Zohydro ER
Hydrocodone bitartrate + Homatropine methylbromide	Hycodan
Hydrocodone + chlorpheniramine	Tussionex (cough suppressant)
Hydrocodone + acetaminophen	Vicoden, Lortab, Norco, Lorcet
Fentanyl citrate	Actiq
Buprenorphine	Butrans, Subutex
Buprenorphine + nalaxone	Suboxone
Tramadol	Ultram
Acetaminophen + propoxyphene	Darvocet
Fentanyl transdermal	Durgesic patch
Acetaminophen + codeine	Tylenol #3
Methadone	Dolophine, Methadose

PROKINETIC DRUGS

<u>Generic</u>	<u>Brand Name</u>
Metoclopramide	Reglan, Reglan ODT, Octamide
Domperidone	Motillium
Erythromycin	EES, ERY-C, EryTab, Erythrocin
Clarithromycin	Biaxin
Azithromycin	Zithromax, Z Pak
Tegaserod maleate	Zelnorm

ANTICHOLINERGIC/ANTISPASMODIC DRUGS

<u>Generic</u>	<u>Brand Name</u>
Dicyclomine hydrochloride	Bentyl
Belladonna alkaloids	Donnatal
Hyoscyamine Sulfate	Levsin
Glycopyrrolate	Robinul
Atropine-diphenoxylate	Atropine

BENZODIAZEPINES

<u>Generic</u>	<u>Brand Name</u>
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Diazepam	Valium, Diastat, Valrelease
Alzrazolam	Niravam, Xanax
Lorazepam	Ativan
Clonazepam	Klonopin
Chlordiazepoxide	Librium
Chlordiazepoxide + clidinium	Librax
Triazolam	Halicon
Temazepam	Restoril
Quazepam	Doral
Estazolam	Prosom
Flurazepam	Dalmane
Oxazepa M	Serax
Clorazepate	Tranxene
Midazolam	Versed

OTHER DRUGS THAT MAY EFFECT GASTRIC EMPTYING

<u>Generic</u>	<u>Brand Name</u>
Nifedipine	Procardia, Adalatr, Nifediac, Afeditab
Progesterone	Progesterone
Octeotide acetate	Sandostatin
Phentolamine	Regitine
Theophylline	Thedur, Choledyl, Lufyllin, Slo-Bid, Quibron T, Slo-Phyllin

GI Bleeding Scan

Exam will last for 1.5-2 hours. There is no prep for this exam.

Meckel's Diverticulum

Exam will last 1.25 hours. The patient should be NPO for 4 hours prior to the exam. The following medication restrictions should be followed:

1. No barium sulfate for 48 prior to the exam.
2. Discontinue thyroid blocking agents. (experchlorate or SSKI)

Lymphoscintigraphy (Breast, Melanoma)

Exam will last 30-45 minutes. There is no prep for this exam.

Thyroid Uptake & Scan (I-123, RAI)

This is a 2 day exam. The patient should be NPO for 2 hours ingesting radioactive capsule(s). The patient should not have any food or drink that contains iodine for 2-3 weeks prior to the exam. (SlimFast, Ensure, Red Bull, Boost, Atkins supplements, protein bars, Luna Bars, Cliff Bars, sushi, seaweed, agar, carrageen, and kelp) The patient should not have any radiologic exam which includes an injection of water soluble iodinated contrast for 6-8 weeks prior to exam. The patient should not have lipophilic contrast for 1-6 months prior to exam. The following medication restrictions should be followed:

1. No Cytomel for 2 weeks prior to exam.
2. No Synthroid or Proloid for 4 weeks prior to exam.
3. Triiodothyronine, Liothyronine for 2 weeks prior to exam.
4. No Thyroxine or Levoxyl for 4 weeks prior to exam.
5. No Armour Thyroid for 4 weeks prior to exam.
6. No Levothyroid, Euthroid for 4 weeks prior to exam.
7. No Propylthiouracil (PTU) for 3 full days prior to exam.
8. No Methimazole, Tapazole for 5 full days prior to exam.
9. No Carbimazole for 5 full days prior to exam.
10. No Lugols Solution, Potassium Iodide Solution (SSKI), or Topical Iodine for 3 weeks prior to exam.
11. No multivitamins that contain iodine for 2 weeks prior to exam.
12. No cough suppressants, expectorants, and cold medicines that contain iodine for 2-3 weeks prior to exam.
13. No Amiodarone, pacerone, or cordarone for 6 months prior to exam.
14. No adrenocorticosteroids, mercurials, nitrates (MDur, Isordil, Ismo Isosorbide), bromides, butazolidine, perchlorate, salicylates (large doses), sulfonamides, or thiocyanate for 1 week prior to exam.

Thyroid Therapy (I-131, Hyperthyroid)

Exam will last for 30 minutes and follow same prep as Thyroid Uptake & Scan exam.

Urea Breath Test (H. Pylori)

Exam will last for 30 minutes. The patient should be NPO for 6 hours prior to the exam. The following medication restrictions should be followed:

1. No antibiotics for 4 weeks prior to exam.
2. No bismuth, Sucralfates, and PPIs for 2 weeks prior to exam.

Please note that these exams are physically sent off site for interpretation. Findings should be available approximately 1 week after exam.

Parathyroid Scan

Exam will last 3 hours. There is no prep for this exam.

Technetium Thyroid Scan

Exam will last for 30 minutes. The patient should not have any radiologic exam which includes an injection of water soluble iodinated contrast for 6-8 weeks prior to exam. The following medication restrictions should be followed:

1. No Cytomel for 2 weeks prior to exam.
2. No Synthroid for 4 weeks prior to exam.

Gallium Scan

This is a 2-3 day exam. Bowel prep may be required if indicated by diagnosis to be determined by radiologist.

Lexiscan Stress

Exam will last 2.5-3 hours. The patient should wear comfortable clothes (no dresses) and walking shoes. The patient may have a light breakfast and should stay hydrated the day of the exam. The patient may also take any unrestricted medications. The following restrictions should be followed:

1. No caffeine or nitrates for 12 hours prior to exam. (No coffee, tea, chocolate, or any other caffeine product)
2. Ordering physician should order a hold on aminophylline/theophylline products for at least 12 hours prior to exam.
3. Ordering physician should order a hold on dipyridamole products for at least 48 hours prior to exam.

Nuclear Treadmill (Cardiolite)

Exam will last 2.5-3 hours. The patient should wear comfortable clothes (no dresses) and walking shoes. The patient may have a light breakfast and should stay hydrated the day of the exam. The patient may also take any unrestricted medications. The following restrictions should be followed:

1. No caffeine or nitrates for 12 hours prior to exam. (No coffee, tea, chocolate, or any other caffeine product)
2. Ordering physician should order a 24 hold on any beta-blockers (see list)**.

****Beta Blockers** should be held for a minimum of 24 hours for treadmill stress testing. These medications need to specifically ordered to be held by the physician ordering the exam as some stress tests are done to determine the effectiveness of the medication during exertion.

ACEBUTOLOL
ATENOLOL
ATENOLOL+CHLORTHALIDONE
BETAPACE AF
BETAPACE
BETAXOLOL

BETIMOL
BETOPTIC
BETOPIC S
BISOPROLOL
BISOPROLOL+HYDROCHLOROTHIAZIDE
BLOCADREN

CARTEOLOL
CARTOL ORAL
CARVEDILOL
COREG
CORGARD
COSOPT
DORZOLAMIDE+TIMOLOL
INDERAL
INDERAL LA
INDERIDE
KERLONE
LABETALOL
LEVATOL
LOPRESSOR
METOPROLOL
NADOLOL
NORMODYNE
OCUPRESS OPTHATLMIC

PENBUTOLOL
PINDOLOL
PROPRANOLOL
PROPRANOLOL+HYDROCHLOROTHIAZIDE
SECTRAL
SOTALOL
TENORETIC
TENORMIN
TIMOLOL
TIMOPTIC-XE
TIMOPTIC
TIMOPTIC OCUDOSE
TOPROL XL
TRANDATE
VISKEN
ZEBETA
ZIAC

Renal Scan with Captopril

Exam will last 3-3.5 hours. The patient should drink 3-8 oz of water the morning of the exam so they are in a normal state of hydration. The patient should be NPO for 4 hours prior to the exam. The following medication restrictions should be followed:

1. Off of diuretics for 2 days.
2. Off of all short acting ACE inhibitors/ARBs for 3 days and off long acting ACE inhibitors/ARBs for 5 days. (SEE LIST)***
3. Off of all other medications from midnight the day of the exam.

*****Med list for Captopril Renal Scan**

Patients should be off short acting ACE inhibitors/ARBs for **3 days**. Patients should be off long acting ACE inhibitors/ARBs for **5 days**. Patients should be off diuretics for **2 days**.

ACE Inhibitors/ARBs – short acting

Captopril (Capoten)

ACE Inhibitors – long acting

Benazepril (Lotensin)

Benazapril + Hydrochlorothiazide (Avalide)

Benazapril + Amlodipine (Lotrel)

Captopril + Hydrochlorothiazide (Capozide)

Enalapril (Vasotec or Renitec)

Enalapril + Felodapine (Lexxel)

Enalapril + Diltiazem (Teczem)

Enalapril + Hydrochlorothiazide (Vasoretic)

Fosinopril (Monopril)

Lisinopril (Prinivil or Zestril or Lisodur or

Lopril)

Lisinopril + Hydrochlorothiazide (Prinizide or Zestoretic)

Moexipril (Univasc)

Moexipril + Hydrochlorothiazide (Uniretic)
Quinapril (Accupril)
Perindopril Erbumine (Aceon or Coversyl)
Ramipril (Altace or Tritace or Ramace or Ramiwin)
Trandolapril (Mavik)
Trandolapril + Verapamil (Tarka)
Zofenopril (Zofenoprilum)

ARBs – long acting

Candesartan Cilexetil (Atacand)
Eprosartan (Teveten)
Irbesartan (Avapro)
Losartan (Cozaar)
Losartan + Hydrochlorothiazide (Hyzaar)
Olmesartan Medoxomil (Benicar)
Telmisartan (Micardis)
Valsartan (Diovan)

Diuretics

Chlorthalidone (Hygroton)
Chlorothiazide (Diuril)
Hydrochlorothiazide (Esidrix, Hydrodiuril)
Indapamide (Lozol)
Metolazone (Zaroxolyn, Mykrox)
Bumetanide (Bumex)
Furosemide (Lasix)
Torsemide (Demadex)
Amiloride (Midamor)
Spironolactone (Aldactone)
Triamterene + Hydrochlorothiazide (Dyazide)