Quick Reference Guide

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Iowa Diagnostic Imaging and Procedure Center DBA Iowa Radiology

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MRI

MRI Brain

What is a Brain MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images can then be examined on a computer monitor or CD of images can be made. MRI does not use radiation.

CPT Codes/IMG Codes

70551/IMG 269 without contrast

70553/IMG 271 without and with contrast

****Please use 70553 for any pituitary or cranial nerve exams**

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	headaches, altered mental status, TIA or stroke symptoms, memory loss, tremor, seizure (chronic), demyelinating disease (asymptomatic follow-up)
without and with contrast:	tumor, infection, seizure (new onset), demyelinating disease (new evaluation or symptoms), dizziness, vertigo, hearing loss, facial pain or numbness, elevated prolactin, precocious puberty, growth hormone deficiency

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except socks and underwear. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can

be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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MRA Head or Neck (MR Angiogram)

What is a MR Angiogram of the Head?

MR angiography of the head and neck is used to examine the blood vessels in the head and carotid arteries. MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures. MRI does not use radiation.

CPT Codes/IMG Codes

70544	Head/IMG 263	without contrast (most common)
70546	Head/IMG 265	without and with contrast (rarely ordered)
70547	Neck/IMG 266	without contrast
70549	Neck/IMG 268	without and with contrast (most common)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Neck with contrast: stroke/TIA, stenosis, bruit, dissection

Head without contrast: stroke/TIA, stenosis, aneurysm (without and with contrast if history of prior endovascular stenting)

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 15-20 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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MRI Orbits

What is an Orbits MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images can then be examined on a computer monitor or CD of images can be made. MRI does not use radiation.

CPT Code/IMG Code

70543/IMG 262 without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without and with contrast: orbital mass/tumor, proptosis, infection/cellulitis, pain, Graves disease

****If exam is for the evaluation of vision changes or concern for optic neuritis, evaluation of the entire visual pathway is recommended including MRI Brain 70553/IMG 271 and MRI orbits 70543/IMG 262**

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except socks and underwear. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are of key importance. We offer earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Ryan Holdsworth, MD and radiologyinfo.org)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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MRI Neck

What is a Neck MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images can then be examined on a computer monitor or CD of images can be made. MRI does not use radiation.

CPT Code/IMG Code

70543/IMG 262 without and with contrast

***** MRI of the maxillofacial structures and/or mandible are ordered as MRI Neck 70543***

***** TMJ MRI is performed at Methodist hospital.***

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without and with contrast: mass/tumor, adenopathy, infection/cellulitis, pain, salivary gland abnormality

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except socks and underwear. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Ryan Holdsworth, MD and radiologyinfo.org)

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MRI Abdomen

What is an Abdomen MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. When an MRI of the abdomen is ordered, the organ to be visualized must be specified. E.g., MRI abdomen Attn: kidneys
Anatomy Visualized: kidneys, liver, adrenal glands, pancreas, bile ducts

CPT Codes/IMG Codes

74181/IMG 319 without contrast

74183/IMG 321 without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

**Radiologist would prefer a prior CT or ultrasound be performed before an MRI.

without contrast:	MRCP (magnetic resonance cholangiopancreatography), dialysis
with and without contrast:	kidneys, adrenals, liver, pancreas, spleen

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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MRA Abdomen (MR Angiogram Renal Arteries)

What is an Abdomen MRA?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images can then be examined on a computer monitor or CD of images can be made. MRI does not use (ionizing radiation) x-rays. Abdomen MRA's look at the renal arteries.

CPT Code/IMG Code

74185/IMG 1913 without or with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without and with contrast:	high blood pressure, dizziness, evaluation of aneurysms, indicate disease in the renal artery
without contrast:	renal insufficiency

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided scrub pants, gown and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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MRI Pelvis

What is a Pelvic MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation.

Anatomy Visualized: Bony Pelvis:	iliac crest, ilium, head of femur, symphysis pubis, ischium, sacrum, acetabulum (hip joints)*
Anatomy Visualized: Female Pelvis:	vagina, cervix, uterus, ovaries, rectum, bladder

CPT Codes/IMG Codes

(*See notes below, certain indications pertain to joints and will require a different CPT code to be ordered and/or prior authorized)

72195/IMG 289 without contrast

72197/IMG 291 without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Without Contrast:	bony pelvic pain, pelvic fractures, bilateral hip pain, sacrum
With and Without Contrast:	female pelvis, tumor/mass, infection/osteomyelitis or other soft tissue abnormalities.

***Imaging of hip/acetabulum=MRI of the joint lower extremity, CPT codes: 73721/IMG 1410, 73722/IMG 1970, 73723/IMG 317**

***Imaging of pelvis/sacral plexus/iliac/pubic bone)=MRI pelvis, CPT codes: 72195/IMG 289, 72197/IMG 291**

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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MRI Enterography

What is MRI Enterography?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. It evaluates the small intestines.

CPT Codes/IMG Codes

Please mention enterography when scheduling and add this comment to the order.

74183/IMG 321 MRI Abdomen without and with contrast (always)

AND

72197/IMG 291 MRI Pelvis without and with contrast (always)

***** Prior authorization for both exam codes is required (if needed)***

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Crohn's disease both primary and chronic complications, celiac disease, postoperative adhesions, radiation enteritis, scleroderma, polyposis syndromes

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please let our scheduler know if your patient is insulin dependent diabetic.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

Patient should be NPO 4 hours prior to the exam. Your patient should arrive 60 minutes prior to the exam to drink oral contrast Breeza.

If your patient is allergic to gadolinium contrast, please call our office for premedication instructions.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver if a sedative is used.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. This MRI examination will also require an injection of contrast material and glucagon into a vessel in the arm. If your patient is insulin dependent diabetic, glucagon will not be administered. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 60 minutes for the oral contrast and 2 hours of total clinic time.

The scan time can vary from 30-45 minutes.

After the Test

Your patient may resume normal activities following the study. Nausea, and a full or gassy feeling is normal and will resolve within a few hours.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 2 business days.

(Information adapted from Frank Thornton, MD and radiologyinfo.org)

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What is MRI Enterography or MRE-Patient Information and Instructions

MRI Enterography (or MRE) is an exam that helps your doctor see your small intestines. It is performed in an MRI scanner. It does not involve radiation and the oral contrast, and intravenous (IV) contrast are not radioactive.

Indications

Most commonly used to evaluate patients with Crohn's Disease for assessment of the primary disease or assessment of chronic complications. Other indications include celiac disease, postoperative adhesions, radiation enteritis, scleroderma, small bowel malignancies, polyposis syndromes.

What to Know Before Your MRE

The most important thing to keep in mind is that you should not eat any solid food or drink any liquids for at least 4 hours prior to your scheduled arrival time. You can make an exception if you need water to take a medication. Just make sure you do not drink more than 8 ounces.

- You need to arrive 1 hour 15 mins before the actual MRI Enterography exam in order to drink an oral contrast called Breeza.
- If your doctor prescribed a sedative to help you relax, please let the technologist know.
- You will change into a gown for the test.
- MRI staff will begin giving you this oral contrast in 15-minute intervals – 1 bottle each 15 mins for 45 mins (3 bottles total).
- As you drink, you may feel full and have to go to the bathroom. Don't worry, this is normal.

An adult will drink 3 bottles of oral contrast while a child will drink an amount based on their weight. Once you drink it, the Breeza will move through your small intestines and distend it, helping the radiologist who reads your study to see and evaluate any findings better than if there was no contrast present.

Intravenous IV Contrast

When you have almost completed drinking your Breeza oral contrast, an MRI staff member will take you to get an IV placed. Nobody enjoys needles, but you need the IV for another form of contrast. You won't receive the IV contrast until you are in the MRI scanner and the exam has begun. If you are an insulin dependent diabetic, glucagon will not be administered. This IV contrast allows the radiologist to view the vessels in your abdomen and to see inflammation in the wall of the bowel.

You will likely feel cool when the contrast is injected into you. This may be accompanied by a metallic taste in your mouth.

Final Preparations

Next, you'll get onto the exam table and lie flat on your back. In preparation for the study an MRI technologist will put a pillow under your head and a cushion under your knees to make you comfortable. Then, they will give you a pair of headphones to wear during the exam and allow you to choose your favorite type of music/artist. These will allow the technologist to speak to you, even while the MRI is in progress. The headphones will also block the noise from the scanner.

Don't be alarmed when the technologist places "shield-like" covers on your tummy and ties them with velcro. These help them obtain the best pictures for your radiologist to study. Finally, your technologist will also give you a small squeeze-ball to hold. If you squeeze this ball during the MRI Enterography, it will make a loud sound, alerting the technologist. As soon as they hear it, they will either talk to you through the headphones or come into the room to speak to you.

The exam begins

When it is time for your exam to begin, all the staff will leave the room. But you won't be alone; the nurses and technologist will be watching over you through a window in the exam room. During the exam, the technologist will take a few sets of pictures. For some of them, you will have to hold your breath.

After the first set of pictures, the technologist will let the radiologist look at the images to make sure the Breeza oral contrast has traveled far enough through your bowel. If it has not, they may ask you to drink more contrast or walk around for a while to help move the contrast through your intestines.

Once the radiologist has confirmed that you have enough contrast throughout your intestines, the technologist will come in the scanner room and give you one final injection in your arm. The injected material is called Glucagon. Your intestines are constantly moving and wriggling, and this injection slows them down temporarily to help the MRI capture a sharp or non-blurred image. Glucagon might cause some brief nausea but should pass quickly. But the feeling generally goes away after a few minutes.

As the MRI technologist takes the pictures, they will check in with you often to make sure you are OK as the exam continues.

The total time you will be on the table for your MRI Enterography will be 45 minutes to an hour.

Coming to a Close

When the technologist has taken all the pictures they need, an MRI staff member will take the IV out. You might feel full or a bit nauseated for several hours after the exam. This is normal and you shouldn't be concerned. If for some reason these symptoms don't go away by the next day, you should follow up with your doctor.

A radiologist who specializes in imaging of the abdomen will look at your scans, identify any problems, and then send a report to your referring provider. Once your referring provider has reviewed your study, he or she will contact you with the results.

What if I have Questions

If you have questions prior to the test please contact Iowa Radiology at 515-226-9810 and ask to speak to a CT technologist.

MRI Prostate

What is a Prostate MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. MRI of the prostate will assess and image the prostate within the male reproductive system. A series of sequences will be performed specifically of the prostate for the radiologist to differentiate between normal and diseased prostate tissue.

CPT Code/IMG Code

72197/IMG 291 MRI Pelvis/Prostate without and with contrast (always)

515-226-7435 - schedule / ask questions regarding Prostate MRI's only.

When scheduling please include a copy of the patient's front and back of insurance card.

In addition, please fax the following if available: office notes, PSA results, Gleason score, percent of cores biopsied, number of cores biopsied, and pathology report. This information is helpful for the Radiologist when dictating the MRI.

Indications

biopsy proven prostate cancer, elevated PSA, elevated Gleason score, enlarged prostate

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

Patients should be NPO 6 hours prior to the exam.

If your patient is allergic to gadolinium contrast, please call our clinic for premedication information.

Patients will need to remove all loose metal. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, your provider may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. A light coil is laid on the abdomen to obtain the images instead of an endorectal coil or probe. This new technology allows for a more comfortable experience. During the test, the MRI will make a rapid tapping noise. This MRI examination will require an injection of contrast material and glucagon into a vein in their arm. Diabetic patients that are insulin dependent will NOT receive the glucagon injection. Your patient's experience and comfort are of key importance. Therefore, we offer earplugs and a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 60-75 minutes of total clinic time. The scan time can vary from 45-60 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 2 business days.

(Information adapted from Frank Thornton, MD and radiologyinfo.org)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

MRI C or T Spine (Cervical Spine) (Thoracic Spine)

What is a C or T Spine MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. MRI of the spine looks at the vertebrae that make up the spine, as well as the disks, spinal cord, and the spaces between the vertebrae through which the nerves pass.

Anatomy visualized include: C spine: base of skull, C1–T1

T spine: mid vertebrae C7 through mid vertebrae L1

CPT Codes/IMG Codes

72141/IMG 279 C-Spine without contrast

72156/IMG 285 C-Spine without and with contrast

72146/IMG 281 T-Spine without contrast

72157/IMG 286 T-Spine without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

C or T Spine	without contrast:	neck pain, mid-back pain, radiculopathy numbness or tingling of the arms or fingers

****A history of cervical or thoracic or spine surgery DO NOT require contrast****

C or T Spine	with and without contrast:	tumor, infection, transverse myelitis, demyelinating disease (new onset or symptoms)

Tricare: Diagnostic Imaging for Acute Lower Back Pain

TRICARE will not cover diagnostic imaging for patients with acute lower back pain (LBP) within six weeks of symptom onset if there were no warning signs. Diagnostic imaging includes: x-rays, ultrasounds, CT scans and MRIs.

TRICARE will cover diagnostic imaging for low back pain (LBP) with the following warning signs:

- A possible fracture, history of osteoporosis, or chronic steroid use.
- A possible tumor, cancer, or infection.

- Possible cauda equina syndrome.
- A major motor weakness.
- Progressive neurological symptoms.

https://tricare.mil/CoveredServices/IsItCovered/DiagnosticImagingLBP

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants, and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

MRI L-Spine

What is a L-Spine (Lumbar Spine) MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. MRI of the spine looks at the vertebrae as well as the disks, spinal cord and the spaces between the vertebrae through which nerves pass.

Anatomy visualized include: L1 through L5, T-12 and the upper sacrum

If sacrum is ordered, please use MRI pelvis w/o CPT code (72195/IMG 289)

CPT Codes /IMG Codes

72148/IMG 283 without contrast

72158/IMG 287 without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	low back pain, radiculopathy, leg pain or weakness
with and without contrast:	history of lumbar surgery within 7 years (unless a prior MRI with/without contrast has already been performed since the surgery), tumor, infection

Tricare: Diagnostic Imaging for Acute Lower Back Pain

TRICARE will not cover diagnostic imaging for patients with acute lower back pain (LBP) within six weeks of symptom onset if there were no warning signs. Diagnostic imaging includes: x-rays, ultrasounds, CT scans and MRIs.

TRICARE will cover diagnostic imaging for low back pain (LBP) with the following warning signs:

- A possible fracture, history of osteoporosis, or chronic steroid use.
- A possible tumor, cancer, or infection.
- Possible cauda equina syndrome.
- A major motor weakness.
- Progressive neurological symptoms.

Last updated: 10/30/2020

https://tricare.mil/CoveredServices/IsItCovered/DiagnosticImagingLBP

Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed.

If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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MRI Upper Extremity

What is an Upper Extremity MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. Images are interpreted on computer and upon request, can be transferred to a CD. MRI does not use radiation.

CPT Codes/IMG Codes

Joint (most common)

73221 without contrast	73222 with contrast	73223 without and without contrast
IMG 1332 Shoulder	IMG 1788 Shoulder	IMG 1346 Shoulder
IMG 1330 Elbow	IMG 1787 Elbow	IMG 1345 Elbow
IMG 1328 Wrist	IMG 301 Wrist	IMG 1344 Wrist
IMG 120107 Finger	IMG 120105 Fingers	IMG 120106 Fingers

Non-Joint

73218 without contrast	73220 with and without contrast
IMG 120021 Brachial Plexus	IMG 120023 Brachial Plexus
IMG 293 Humerus	IMG 297 Humerus
IMG 1750 Forearm	IMG 1321 Forearm
IMG 1752 Hand	IMG 1324 Hand

CPT Codes Joint Injection

23350/IMG 85	shoulder	24220 /IMG 94 elbow
25246/IMG 106	wrist	(See additional coding used by our billing on the following page.)

If ordering MR arthrography, please place two orders:
• MRI upper extremity; joint with contrast • joint injection

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	pain, injury, instability and limited range of motion, arthritis, age >50 if concerned for labral tear
with contrast:	arthrograms of joints, previous surgery, labral tear, popping/clicking, age <50 if concerned for labral tear
without and with contrast:	bone and soft tissue masses, infection of the bone and soft tissue

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Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device. Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting. Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information. Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except socks and underwear. Your patient will be provided a gown, scrub pants and a secure locker in which valuables can be placed. If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise and the patient will feel vibrations. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

Additional codes: 77002 for fluorscopic guidance and contrast codes will be billed.

(Information adapted from radiologyinfo.org and James Choi, MD)

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MRI Lower Extremity

What is a Lower Extremity MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images are interpreted on computer and upon request can be transferred to a CD. MRI does not use radiation. Normally when an MRI is performed, a joint is included in the image as a point of reference.

CPT Codes/IMG Codes

Joint (most common)

73721 without contrast	73722 with contrast	73723 without and with contrast
IMG 1410 Hip	IMG 1790 Hip	IMG 317 Hip
IMG 1408 Knee	IMG 315 Knee	IMG 1418 Knee
IMG 1405 Ankle	IMG 1412 Ankle	IMG 1417 Ankle
IMG 120104 Toes	IMG 120102 Toes	IMG 120103 Toes

Non-Joint (foot, thigh, lower leg, fingers, toes)

73718 without contrast	73720 with and without contrast
IMG 120054 Femur	IMG 1400 Femur
IMG 1388 Tib/Fib	IMG 1403 Tib/Fib
IMG 1393 Foot	IMG 1398 Foot

CPT Codes/IMG Codes Joint Injection

27093/IMG 118 hip 27369/IMG 135 knee 27648/IMG 145 ankle

(See additional coding used by our billing on the following page.)

If ordering MR arthrography, please place two orders:
- ***MRI lower extremity; joint with contrast***
- ***joint injection***

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	pain, injury, instability and limited range of motion, arthritis, age >50 if concerned for labral tear
with contrast:	arthrogram of joints, labral tear, previous surgery, popping/clicking, age <50 if concerned for labral tear
without and with contrast:	bone and soft tissue masses, infection of the bone and soft tissue

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Contraindications

Patients with implanted neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device. Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting. Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information. Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided scrub pants, a gown and a secure locker in which valuables can be placed. If your patient is anxious, you may prescribe an oral sedative prior to the MRI. Please ensure that your patient has a driver.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the exam table. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Some MRI examinations may require an injection of contrast material into a vein in the arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 30-60 minutes of total clinic time. The scan time can vary from 20-45 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

Additional codes: 77002 for fluorscopic guidance and contrast codes will be billed.

(Information adapted from radiologyinfo.org and James Choi, MD)

CT

CT Head

What is a Head CT?

CT scanning often referred to as a CAT scan, is a diagnostic noninvasive imaging test that is used to create detailed images of internal organs, bones, soft tissues, and blood vessels. CT of the head is most appropriate for the evaluation of the acute abnormalities or if a patient cannot have an MRI. MRI is generally recommended for most outpatient indications.

CPT Codes/IMG Codes

70450/IMG 181	without contrast (most common)
70460/IMG 182	with contrast
70470/IMG 183	without and with contrast (rarely indicated)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	TIA or stroke symptoms, altered mental status, trauma, seizure, acute headache
with contrast:	tumor or infection ***and*** patient unable to undergo MRI, abnormal non-contrast CT

Contraindications

pregnancy, allergy to contrast material, GFR <30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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CTA Brain, CTA Neck and CTA Carotids (CT Angiogram)

What is a CTA Carotids?

CT angiography is used to examine the blood vessels in the neck and head. Angiography can be performed using CT or MRI. Routine protocol is to perform a CTA of the brain in conjunction with the neck.

CPT Codes/IMG Codes

70498/IMG 199 CTA Neck

70496/IMG 786 CTA Brain

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

with contrast: headache, neck pain, vertigo, syncope, aneurysm, stenosis, TIA or stroke symptoms, abnormal carotid ultrasound or MRA

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will be instructed to lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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CT Orbits

What is an Orbit CT?

Computed Tomography (CT) scanning is a noninvasive diagnostic imaging test used to create detailed images of internal organs, bones, soft tissues, and blood vessels. CT of the orbits is most appropriate acute for indications such as infection or trauma. MRI is generally recommended for most other indications.

CPT Codes/IMG Codes

70480/IMG 1237	without contrast
70481/IMG 1238	with contrast
70482/IMG 1240	without and with contrast (rarely indicated)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	trauma/injury
with contrast:	infection/cellulitis (If patient cannot have an MRI: orbital mass/tumor, proptosis, Graves' disease)

Contraindications

pregnancy, allergy to contrast material, GFR <30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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CT Temporal Bone

What is a Temporal Bone CT?

Computed Tomography (CT) scanning is a noninvasive diagnostic imaging test used to create detailed images of internal organs, bones, soft tissues, and blood vessels. Temporal bone CT creates high resolution images of the structures of the bony structures of the temporal bone/middle ear.

CPT Codes/IMG Codes

70480/IMG 1237	without contrast (most common)
70481/IMG 1238	with contrast
70482/IMG 1240	without and with contrast (rarely indicated)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	injury, mastoiditis, hearing loss, cholesteatoma, pain
with contrast:	tumor/mass, soft tissue infection

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for all contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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CT Sinus/Facial Bones (maxillofacial)

What is a Sinus/Facial Bones CT?

Computed Tomography (CT) scanning is a noninvasive diagnostic imaging test used to create detailed images of internal organs, bones soft tissues and blood vessels.

CPT Codes/IMG Codes

70486/IMG 1242	without contrast (most common)
70487/IMG 1247	with contrast
70488/IMG 1249	without and with contrast (rarely ordered)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	chronic sinusitis, trauma/injury
with contrast:	infection/cellulitis

Contraindications

pregnancy, allergy to contrast material, GFR <30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. Your patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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CT Neck (soft tissue)

What is Neck CT?

Computed Tomography (CT) scanning is a noninvasive diagnostic imaging test used to create detailed images of internal organs, bones, soft tissues, and blood vessels. Soft tissue structures of the neck include salivary glands, pharynx, larynx, thyroid, lymph nodes, and others.

CPT Codes/IMG Codes

70491/IMG 192	with contrast (most common)
70490/IMG 191	without contrast
70492/IMG 193	without and with contrast (rarely indicated)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

with contrast:	tumor/mass, adenopathy, infection
without contrast:	only if patient cannot have contrast

Contraindications

pregnancy, allergy to contrast material, GFR <30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Pub Med and Ryan Holdsworth, MD)

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CT Spine

What is a Spine CT?

CT of the spine is used to help diagnose spinal column damage in injured patients. Most CT spines are done because the patient cannot have an MRI.

CPT Codes/IMG Codes

72125/IMG 207	CT C-spine without contrast (most common)
72126/IMG 208	CT C-spine with contrast (rare)
72127/IMG 209	CT C-spine with and without contrast (only when recommended by radiologist)
72128/IMG 210	CT T-spine without contrast (most common)
72129/IMG 211	CT T-spine with contrast (rare)
72130/IMG 212	CT T-spine with and without contrast (only when recommended by radiologist)
72131/IMG 213	CT L-spine without contrast (most common)
72132/IMG 214	CT L-spine with contrast (rare)
72133/IMG 215	CT L-spine with and without contrast (only when recommended by radiologist)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	pain, trauma, fall, fractures, pars defect, sciatica
with contrast:	mass of spine or infection

***If physician wants intrathecal contrast, that is a CT myelogram and is only performed at Methodist Hospital**

Tricare: Diagnostic Imaging for Acute Lower Back Pain

TRICARE will not cover diagnostic imaging for patients with acute lower back pain (LBP) within six weeks of symptom onset if there were no warning signs. Diagnostic imaging includes: x-rays, ultrasounds, CT scans and MRIs.

TRICARE will cover diagnostic imaging for low back pain (LBP) with the following warning signs:

- A possible fracture, history of osteoporosis, or chronic steroid use.

- A possible tumor, cancer, or infection.
- Possible cauda equina syndrome.
- A major motor weakness.
- Progressive neurological symptoms.

Last updated: 10/30/2020

https://tricare.mil/CoveredServices/IsItCovered/DiagnosticImagingLBP

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will be asked to change into a gown and to lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process and will be given breathing instructions.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Marvin Walker, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

Low Dose CT Lung Screening (LDCTLS)

What is a Low Dose CT Lung Screening (LDCTLS)?

It is a noninvasive screening test to detect lung cancer in asymptomatic people with a high risk of lung cancer. Annual screening is recommended for adults who are longtime and/or heavy smokers and don't have any symptoms of lung cancer.

CPT Codes/IMG Codes

71271/IMG 7126	screening
71250/IMG 1100143	3 or 6 month diagnostic follow-up

Diagnosis Codes (required with the order)

Former smokers:	Z87.891
Current smokers:	F17.210 nicotine dependence, cigarettes, uncomplicated
	F17.211 nicotine dependence, cigarettes, in remission
	F17.213 nicotine dependence, cigarettes, with withdrawal
	F17.218 nicotine dependence, cigarettes, with other nicotine-induced disorders
	F17.219 nicotine dependence, cigarettes, with unspecified nicotine-induced disorders

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

*Are age 50 to 80 with private insurance or 50-77 Medicare. * Currently smoke or have quit smoking within the last 15 years with no symptoms. * Have a tobacco smoking history of at least 20 "pack years" *Are willing to undergo surgery if necessary. **Patient must meet all criteria.**

Contraindications

inability to lie on back for 10 minutes

How Does Your Patient Prepare?

No preparation or contrast are required.

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What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. The patient will be asked to remain very still during the scanning process.

Plan for a 30 minute appointment time and the scan should take approximately 10 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from ACR.org and Paul Jabour, MD)

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Diagnostic & Preventative Imaging Center

CT Lung Screening Order Form

Patient Name:_____ DOB:___/___/___ Patient Phone #:_____

Date/time of exam:_____ Height:_____ Weight:_____ BMI:_____

Packs/day (20 cigarettes/pack):_____x Years smoked:_____=**Pack years***:_____
*Pack year calculator: http://smokingpackyears.com/

Currently smoking: Y or N If not currently smoking, how many years since stopped? _____

LUNG SCREENING EXAM (Please select one) ○ Initial Lung Screening Exam ○ Subsequent Exam

Patient Insurance:_____ Authorization Number:_____
*Please authorize the following code: ***71271 CT Low Dose Lung Screening*** for all insurance companies.

The patient must meet ALL the following requirements to be eligible for the CT Lung Screening Program.
If the patient does not meet the following criteria, would they like to proceed as a self-pay?

Patient Agreement to Self-pay:_____Date:_____

- The patient has participated in a shared decision-making session during which potential risks and benefits of CT lung screening were discussed, was informed of the importance of adherence to annual screening, impact of comorbidities, and ability/willingness to undergo diagnosis and treatment should the patient be diagnosed with lung cancer. The patient was informed of the importance of smoking cessation and or maintaining smoking abstinence.
- The patient is between the ages of 50-77 years for Medicare, 50-80 for private insurance
- Is a current smoker or has quit within the past 15 years
- Has at least a 20+ pack year smoking history
- THE PATIENT IS ASYMPTOMATIC OF LUNG CANCER. **I attest the patient does not have and is not being treated for any of the following:** significant chest pain, unintended weight loss, hemoptysis, active pneumonia, no personal history of lung cancer, does not require home oxygen and has not received treatment or had evidence of any cancer other than non-melanoma of the skin in the past 5 years.

Ordering Provider Signature:_____Date___/___/___
By signing this order, you are attesting that the patient meets all the above required elements, a shared decision-making visit has occurred and required elements are documented in the office notes.

Ordering Provider (print name):_____Phone:_____

Ordering Provider NPI # (required):_____Fax:_____

This order must be filled out for all patients, any questions please call 515-226-9810. Please fax order: 515-226-8408

CT Chest

What is a Chest CT?

A CT of the chest can be used to help diagnose clinical signs or symptoms of disease of the chest including tumors in the lung, lung nodules, and mediastinum or tumors that have spread from other parts of the body.

CPT Codes/IMG Codes

71260/IMG 202	with contrast (most common)
71250/IMG 200	without contrast
71270/IMG 203	without and with contrast (rare)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

with contrast:	cough, follow-up or staging lung cancer, pneumonia, follow-up mediastinal or hilar lung module
without contrast:	interstitial lung disease, bronchiectasis
Lung nodule:	Protocol is dependent on size of nodule and patient characteristics.

Contraindications

pregnancy, allergy to contrast material, GFR <30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will be asked to change into a gown and to lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process and will be given breathing instructions.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Marvin Walker, DO)

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CTA Chest (CT Angiogram)

What is a Chest CTA?

CT angiography is used to examine the blood vessels of the chest. Please specify what vessels to best evaluate.

CPT Code/IMG Code

71275/IMG 206 without and with contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without and with contrast: evaluate for pulmonary emboli, aneurysm, dissection, or coarctation

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will be instructed to lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Marvin Walker, DO)

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CT Cardiac Calcium Score

What is a CT Cardiac Score?

A cardiac CT scan is a non-invasive way of obtaining information about the location and extent of calcified plaque in the coronary arteries—the vessels that supply oxygen-containing blood to the heart wall.

CPT Code/IMG Code

75571/IMG 3116 $99 Self Pay

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

screening for coronary artery disease

Contraindications

pregnancy, current heart disease, have had heart attack, angioplasty/stent placement, bypass surgery, metallic objects in the heart such as mechanical heart valves, pacemaker wires, stents or other metallic devices, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

Avoid caffeine and smoking for four hours prior to the exam.

What Happens During the Test?

Your patient will be asked to change into a gown removing clothing and jewelry. The patient will lie on his/her back on the exam table. Electrodes will be attached to the patient's chest and to an electrocardiograph (ECG) machine that records the electrical activity of the heart. The patient will be asked to remain very still during the exam and be given breathing instructions. There are no restrictions following the test.

The actual scanning time is usually 10 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day

(Information adapted from radiologyinfo.org and Marvin Walker, DO)

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CT Virtual Colonoscopy

What is CT Virtual Colonoscopy?

CT colonography is used to screen for polyps and other lesions in the large intestine. CT colonography has a markedly lower risk of perforating the colon than conventional colonoscopy. Most screening patients who are examined do not have polyps and can be spared having to undergo a full colonoscopy.

Most screenings are currently covered by commercial insurance companies. Medicare will only cover a diagnostic virtual colonoscopy and must have documentation to support medical necessity.

CPT Codes/IMG Codes

74263/IMG 1662 screening

74261/IMG 1233 diagnostic

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

colon cancer screening, failed colonoscopy

medical necessity: inability to tolerate sedation, inability to discontinue anticoagulation therapy, or as indicated by his/her medical policies.

Contraindications

pregnancy, bowel containing hernia, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

The colon prep will be mailed to your patient from Iowa Radiology.

What Happens During the Test?

Your patient will be asked to change into a gown and the technologist will obtain

a medical history. The patient will lie on his/her left side during the exam. A very small, flexible tube will be passed two inches into the rectum to allow air to be gently pumped into the colon. The patient will then be asked to roll onto his/her back. Once the colon is full, the patient may experience abdominal discomfort. The technologist will take a series of pictures while the patient is positioned on his/her back and then asked to roll onto his/her stomach for the remainder.

Plan for a 60-minute appointment.

After the Test

Your patient may resume normal activities following the CT colonoscopy. Any full or gassy feeling will absorb quickly.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Marvin Walker, DO)

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CT Abdomen/Pelvis

What is an Abdomen/Pelvis CT?

During an abdomen CT, organs visualized include: liver, spleen, kidneys, pancreas, top half of large and small intestine, and superior aspect of ureters.

During a pelvis CT, organs visualized include: bottom half of large and small intestine, distal ureters, bladder, uterus, and ovaries.

Abdomen anatomy visualized: top of diaphragm to the top of the pelvis

Pelvis anatomy visualized: top of the pelvis to the bottom of the pelvis

The most common way to order this exam is an abdomen/pelvis together with contrast. If you are following-up on a specific organ in the abdomen or pelvis, then the exam might be ordered separately.

CPT Codes/IMG Codes

74177/IMG 794	Abdomen/Pelvis with contrast (most common)
74176/IMG 784	Abdomen/Pelvis without contrast
74178/IMG 783	Abdomen/Pelvis without and with contrast
74160/IMG 237	Abdomen with contrast
74170/IMG 238	Abdomen without and with
72193/IMG 218	Pelvis with contrast
72192/IMG 217	Pelvis without contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Abdomen/Pelvis with contrast:	abdominal pain, appendicitis, bloating, diverticulitis or mass
Abdomen/Pelvis without contrast:	kidney stone, acute hematuria with pain
Abdomen/Pelvis without and with contrast:	hematuria without pain, chronic UTI - specify urogram.
Abdomen without and with contrast:	organ specific (kidney, liver, adrenals, pancreas)

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will be asked to change into a gown and to lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV.

The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Marvin Walker, DO)

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CTA Abdomen/Pelvis (CT Angiogram)

What is a CTA of the Abdomen/Pelvis?

CT angiography is used to examine the blood vessels the abdomen and pelvic area. Routine protocol is to perform a CTA of the abdomen and pelvis together because the aorta extends from the abdomen into the pelvis.

CPT Codes/IMG Codes

74174/IMG 240	without and with Abdomen and Pelvis
74175/IMG 239	without and with Abdomen
72191/IMG 216	without and with Pelvis

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without and with contrast:	arterial and venous aneurysm, atherosclerotic occlusive disease, arterial and venous thromboembolism

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

A current creatinine (30 days) is required if the patient is 60 years of age and older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and clothing. He/she will be given a gown and the technologist will obtain a medical history. The patient will be instructed to lie on his/her back during the exam. Because contrast is indicated,

the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process and will be given specific breathing instructions.

The scan should take approximately 5 minutes, but the visit may require up to 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and James Choi, MD)

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CT Upper Extremity

What is an Upper Extremity CT?

CT scanning, is a noninvasive test that is used to diagnose medical conditions. CT is an excellent exam for examining bone detail and anatomy.

Anatomy Visualized: hand, wrist, forearm, humerus, shoulder, clavicle and elbow

CPT Codes/IMG Codes

73200 without contrast (most common)

IMG 1723 Shoulder	IMG 1727 Forearm	IMG 1745 Fingers
IMG 220 Humerus	IMG 1733 Wrist	
IMG 3107 Elbow	IMG 1739 Hand	

73201 with contrast

IMG 1724 Shoulder	IMG 1730 Forearm	IMG 1747 Fingers
IMG 223 Humerus	IMG 1736 Wrist	
IMG 3108 Elbow	IMG 1024 Hand	

73202 without and with contrast

IMG 1725 Shoulder	IMG 1732 Forearm	IMG 1749 Fingers
IMG 225 Humerus	IMG 1738 Wrist	
IMG 1100141 Elbow	IMG 1743 Hand	

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast: pain, injury, follow-up fracture

with contrast: bone tumor

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 5 minutes, but the visit may require up to 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and James Choi, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

CT Lower Extremity

What is a Lower Extremity CT?

CT scanning often referred to as a CAT scan, is a noninvasive test that is used to diagnose medical conditions. It is an excellent test for examining bone detail and anatomy.

Anatomy Visualized: hip, knee, ankle, and foot

CPT Codes/IMG Codes

73700 without contrast (most common)

IMG 1371 Hip	IMG 1375 Tib/Fib	IMG 1677 Toes
IMG 1373 Femur	IMG 1379 Ankle	
IMG 228 Knee	IMG 1377 Foot	

73701 with contrast

IMG 230 Hip	IMG 1631 Tib/Fib	IMG 1675 Toes
IMG 1669 Femur	IMG 1667 Ankle	
IMG 1384 Knee	IMG 1380 Foot	

73702 without and with contrast

IMG 233 Hip	IMG 1676 Tib/Fib	IMG 1682 Toes
IMG 1385 Femur	IMG 1541 Ankle	
IMG 1672 Knee	IMG 1628 Foot	

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	pain, injury, follow-up fracture
with contrast:	bone tumor

Contraindications

pregnancy, allergy to contrast material, GFR < 30 for contrast exams

How Does Your Patient Prepare?

Without contrast studies: No preparation required.

With contrast studies: A current creatinine within 30 days is required if the patient is 60 years of age or older, has diabetes, hypertension, or renal insufficiency.

Additionally, the patient must be NPO for 4 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other medical conditions, and if he/she has a history of heart disease, asthma, diabetes, kidney disease or thyroid problems. Any of these conditions may increase the risk of an unusual adverse event.

What Happens During the Test?

Your patient will be asked to remove any jewelry, clothing, and change into a gown. The technologist will obtain a medical history. The patient will lie on his/her back during the exam. If contrast is indicated, the technologist will start an IV. The patient may feel warm and flushed for a few seconds. The patient will be asked to remain very still during the scanning process.

The scan should take approximately 5 minutes, but the visit may require up to 30 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and James Choi, MD)

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Ultrasound

Carotid Ultrasound

What is a Carotid Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

This exam looks at the carotid arteries located on either side of the neck. It is always performed bilaterally. A carotid ultrasound is generally considered a screening exam and an abnormal exam may warrant further evaluation with a follow-up diagnostic CTA or MRA.

CPT Code/IMG Code

93880/IMG 1202 bilateral

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

common indications covered but not limited to: history of stenosis, dissection, carotid bruit, vertigo, syncope, pulsative bulge in neck

Medicare will not cover the following indications: follow-up screening, headache, weakness, numbness. TIA-unspecified must list symptoms. Indications that are covered include: hyperlipidemia, amaurosis fujax, vision changes and PAD.

Contraindications

none

How Does Your Patient Prepare?

No preparation is required prior to the exam.

What Happens During the Test?

Our technologist will obtain a medical history. Your patient will be scanned lying down on his/her back. The technician will apply a clear gel to the neck to evaluate the arteries.

The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the neck. The exam measures and analyzes blood flow patterns in the carotid arteries.

The transducer is a small hand-held device attached to an ultrasound machine by a cord. The images are readily available to the technologist.

The exam takes approximately 60 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Ryan Holdsworth, MD)

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Thyroid Ultrasound

What is a Thyroid Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

The thyroid gland is located in front of the neck just below the Adam's apple and is shaped like a butterfly, with one lobe on each side of the neck (trachea) connected by a narrow band of tissue. It is one of the endocrine glands in the body that makes and sends hormones into the bloodstream.

CPT Code/IMG Code

76536/IMG 3227 US soft tissue of head/neck or thyroid

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

enlarged thyroid, palpable mass, abnormal thyroid enzymes, abnormalities seen on other modalities, dysphasia, follow-up nodules

Contraindications

none

How Does Your Patient Prepare?

No patient preparation is required prior to the exam.

What Happens During the Test?

Our technologist will obtain a medical history. Your patient will be asked to lie down face up with his/her neck extended. The technician will place a clear gel on the neck to evaluate the thyroid and surrounding tissues.

The sonographer (ultrasound technologist) then glides the transducer against the skin and sweeps it back and forth over the neck. The transducer is a small hand-held device attached to an ultrasound machine by a cord.

The exam takes approximately 30 minutes.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Abdominal Complete Ultrasound

What is an Abdominal Complete Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels. The images are obtained trans-abdominally.

Organs visualized include: liver, gallbladder, pancreas, kidneys, aorta, bile duct, spleen and inferior vena cava.

CPT Codes/IMG Codes

76700/IMG 524	abdominal complete
76705/IMG 3195	abdominal limited- same as above, but excludes left side (spleen and left side of kidney)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

nausea, vomiting, abdominal pain, abnormal liver enzymes, history of cancer, follow-up on abnormal x-ray, MRI or CT scan, palpable mass, pain or lump in groin to rule out inguinal hernia

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear comfortable clothing. He/she needs to be NPO for 6-8 hours prior to the exam which includes no smoking or gum chewing.

What Happens During the Test?

Our technologist will obtain a thorough medical history. Your patient will be positioned face up on the exam table and will be scanned on the front, his/her side or back. A clear gel is applied to the abdomen and flank area.

The sonographer (ultrasound technologist) presses the transducer against the skin and sweeps it back and forth over the area of concern. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist. Most ultrasound imaging is fast, easy and painless.

The test takes approximately 30 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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Kidney or Aorta Ultrasound

What is a Kidney or Aorta Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

Anatomy visualized: This exam is either of the genitourinary system **or** the abdominal aorta with the main iliac arteries.

CPT Codes/IMG Codes

76770/IMG 526	complete retroperitoneal area: kidneys, bladder, and aorta if indicated
76775/IMG 527	limited retroperitoneal: aorta only
76706/IMG 140068	Medicare screening for aorta, AAA only

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Renal:	follow-up mass or cyst, proteinuria, hematuria, flank/ back pain, recurrent UTI, renal disease or insufficiency, dysuria
Aorta:	back pain, family or personal history of abdominal aortic aneurysm (AAA), pulsatile abdominal mass, smoking, vascular disease, Medicare screening
Medicare AAA screening:	Only allowed once per lifetime and must meet criteria (see cms.gov).

This is also only covered if risk factors are met:
Is included in at least one of the following risk categories:

1. Has a family history of abdominal aortic aneurysm (Medicare is allowing women to have a screening with this risk factor only);

2. Is a **man** age 65 to 75 who has smoked at least 100 cigarettes in his lifetime;

3. Is a beneficiary, who manifests other risk factors in a beneficiary category recommended for screening by the United States Preventive Services Task Force regarding AAA, as specified by the Secretary of Health and Human Services, through the national coverage determinations process.

- The U.S. Preventive Services Task Force (USPSTF) recommendation summary for AAA screening:

- The USPSTF recommends one-time screening for AAA with ultrasonography in men ages 65 to 75 years who have ever smoked.

- The USPSTF recommends that clinicians **selectively offer** screening for AAA in men ages 65 to 75 years who have never smoked rather than routinely screening all men in this group.
- The USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening for AAA in women ages 65 to 75 years who have ever smoked.
- The USPSTF **recommends against routine screening for AAA in women** who have never smoked.

Contraindications

none

How Does Your Patient Prepare?

Drink 16 oz. of water one hour prior to exam and come with a full bladder. For an aorta exam, your patient should be NPO for 6 hours.

What Happens During the Test?

Our technician will obtain a medical history. Your patient will be asked to lie down on an examination table. The technician will place a clear gel on the abdomen. The patient will need to change positions or suspend breathing as indicated by the technologist during the exam.

The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the abdomen. The transducer is a small hand-held device attached to an ultrasound machine by a cord.

For renal or bladder tests, your patient may be asked to empty his/her bladder and then rescanned to obtain pre and post void urinary volumes. Pre and post void volumes are only done when requested on the order.

The exam takes approximately 30 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Renal Artery Duplex Ultrasound

What is a Renal Artery Duplex Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

Renal artery ultrasound is a test that shows the renal arteries, the arteries that carry blood to the kidney. These arteries may narrow or become blocked and this may result in kidney failure or hypertension. The speed of blood flow through the arteries is measured and determines the degree of narrowing of the artery or renal artery stenosis (RAS).

Organs visualized include: both kidneys, bladder, aorta, and blood flow to the kidneys.

CPT Codes/IMG Codes

76770/IMG 526	retroperitoneal complete: kidneys and bladder
93975/IMG 3214	renal artery duplex, study includes arterial inflow and venous outflow

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

chronic kidney disease, uncontrolled or new onset of hypertension, chronic renal failure, renal sclerosis, unilateral small kidney, cystic kidney disease, kidney transplant status

A complete retroperitoneal ultrasound may be ordered if reason is related to urinary pathology. Only the kidney and bladder will need to be imaged.

Contraindications

none

How Does Your Patient Prepare?

NPO preferred 6 hours. Please do not empty bladder prior to exam.

What Happens During the Test?

A technologist will obtain a detailed medical history. Your patient will be asked to lie down on an examination table. The technician will place a clear gel on his/her abdomen. The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the abdomen. The transducer is a small hand-held device attached to an ultrasound machine by a cord. When the transducer is placed against the skin; an image of the artery is shown on a video screen. The renal arteries are identified, and a measurement will be made of the speed of blood flow through each artery.

The test takes approximately 60 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Pelvic Ultrasound

What is a Pelvic Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

Organs visualized include: **Women:** uterus, endometrium, ovaries, adnexa, and bladder

CPT Codes/IMG Codes

76856/IMG 549	trans-abdominal
76830/IMG 547	trans-vaginal
76857/IMG 550	pelvis limited
TATV/IMG 4041	pelvis TA/TV

** Both studies are typically performed unless otherwise specified.

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

history of renal anomalies, abnormal imaging from another modality (MRI/CT), evaluate the ovaries, uterus, cervix, adnexa, and bladder, pelvic pain, abnormal bleeding, menstrual concerns, history of fibroids, cysts, ovarian or uterine cancers

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. He/she should come to our office with a full bladder.

What Happens During the Test?

Our technologist will obtain a thorough medical history. Your patient will be asked to disrobe from the waist down and will be provided a gown or blanket. He/she

is positioned lying face-up on an examination table that can be tilted or moved. A clear gel is applied to his/her abdomen.

The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the pelvis. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist.

For women, after the transabdominal part of the exam is done, your patient will be asked to empty her bladder. She will lie down on the exam table and her feet will be placed in stirrups, similar to a gynecologic exam. The technologist or radiologist will insert the ultrasound camera into her vagina and take several images of the uterus and ovaries.

The exam takes approximately 30 minutes to complete.

After the Test

Your patient may resume normal activities.

The Results

The radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Elastography Ultrasound

What is an Elastography Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

Liver Elastography is a non-invasive test that can add useful information in the examination of liver disease. Liver elastography provides a measure of liver stiffness.

Organs visualized include: Liver

CPT Codes/IMG Codes

76700/IMG 524	US Abdomen Complete Elastography
76705/IMG 3195	US Abdomen Limited Elastography
76981/IMG 140107	US Liver Elastography

Indications

failed fibroscan, fatty liver disease, nonalcoholic fatty liver disease, abnormal liver function tests

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. Patient should be without food or drink for 6 hours prior to the exam and cannot consume alcohol for 12 hours prior.

What Happens During the Test?

Our technologist will obtain a thorough medical history. He/she

is positioned lying face-up on an examination table that can be tilted or moved. A clear gel is applied to his/her abdomen.

The sonographer (ultrasound technologist) then presses the transducer against the

skin and sweeps it back and forth over the abdomen. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist.

The exam takes approximately 30 minutes to complete.

After the Test

Your patient may resume normal activities.

The Results

The radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Bradley King, DO)

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Extremity Ultrasound

What is an Extremity Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels. This exam is specific to the area of concern (i.e., lump) and not for a vascular indication.

CPT Code/IMG Code

76882/IMG 4054 US limited, joint or other non vascular structures, joint space, tendons, muscle, soft tissue, or soft tissue mass(es)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

palpable mass or pain in the area of concern, popliteal fossa non vascular, foreign body

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear comfortable clothing.

What Happens During the Test?

Your patient may be asked to remove clothing in the area to be examined and may be given a gown. He/she will be scanned in a supine position. A clear gel is applied to the area of concern.

The sonographer (ultrasound technologist) presses the transducer against the skin and sweeps it back and forth over the area of concern. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist.

The test takes approximately 30 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

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The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Scrotal/Testicular Ultrasound

What is a Scrotal/Testicular Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

CPT Code/IMG Code

76870/IMG 551 US scrotum and contents

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

palpable mass, pain, injury, undescended testicle

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear comfortable clothing.

What Happens During the Test?

Your patient will asked to remove clothing from the waist down and will be covered with a sheet. He will be scanned lying face-up on the examination table. A clear gel is applied to the scrotum.

The sonographer (ultrasound technologist) presses the transducer against the skin and sweeps it back and forth over the entire area. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist. Most ultrasound imaging is fast, easy and painless.

The test takes approximately 30 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Doppler Ultrasound

What is a Doppler Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

It is an ultrasound examination with Doppler and color flow of the liver vasculature, the superior mesenteric artery (SMA), or the renal arteries.

CPT Code/IMG Code

93975/IMG 6460 doppler artery and vein

93976/IMG 6460 US limited doppler

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

93976 SMA	post-prandial pain
93975 liver	hepatitis, cirrhosis, elevated LFT's
93975 renal artery	new onset or uncontrolled hypertension, renal insufficiency

Contraindications

none

How Does Your Patient Prepare?

Your patient should be NPO 6 hours. Do not empty bladder prior to exam.

Liver Doppler / SMA: NPO for 6 hours

What Happens During the Test?

Our technician will obtain a detailed medical history. Your patient will be asked to lie down on an examination table. The technician will place a clear gel on his/her abdomen. The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the abdomen. The transducer is a small hand-held device attached to an ultrasound machine by a cord. When the transducer is placed against the skin, an image of the area of concern and color flow is shown on a video screen.

For SMA tests, periodic images are taken at 15 to 20 minute timed intervals.

The exam takes approximately 30-60 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Venous Ultrasound

What is a Venous Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

The most common reason for a venous ultrasound exam is to search for blood clots especially in the veins of the leg.

Please specify upper or lower extremities and right, left, or both.

You may want to order this as a hold and call exam.

CPT Codes/IMG Codes

93970/IMG 3206 Bilateral

93971/IMG 3213 Unilateral

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

diagnose deep vein thrombosis (DVT), pain, swelling, edema, postpartum, skin changes (warm-red), post-surgery

Contraindications

none

How Does Your Patient Prepare?

No specific preparation is required.

Your patient will be asked to remove all clothing from the waist down and will be provided a sheet.

What Happens During the Test?

Our technologist will obtain a medical history. Your patient will be asked to lie down on an examination table. The technician will place a clear gel on the area of concern. The sonographer (ultrasound technologist) begins in the groin area and follows the veins all the way down the leg. This test involves compression of the transducer and augmentation or gentle squeezing of the calf for part of the exam. The images are readily available to the technologist.

The exam takes approximately 30-60 minutes to complete.

After the Test

After the exam the gel is wiped off.

If your patient does have a DVT, the referring physician will be phoned immediately.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Fluoroscopy

Arthrogram

What is an Arthrogram?

Arthrography is the x-ray examination of a joint that uses a special form of x-ray called fluoroscopy and a contrast material containing iodine.

Fluoroscopy makes it possible to see internal joints in motion. When iodine is injected into the joint space, it coats the inner lining of the joint structures and appears bright white on an arthrogram, allowing the radiologist to assess the anatomy and function of the joint.

CPT Codes/IMG Codes

23350/IMG 85 Shoulder (most common)

27369/IMG 135 Knee

27093/IMG 118 Hip

25246/IMG 106 Wrist

24220/IMG 94 Elbow

27648/IMG 145 Ankle

(If MR arthrography, see MRI upper or lower extremity pages)

(See additional coding used by our billing on following page)

Indications

diagnose persistent unexplained joint pain or identify abnormalities in the shoulder (rotator cuff tear), knee, wrist, elbow or ankle

Contraindications

pregnancy, allergy to iodine, known infection on or around the joint

How Does Your Patient Prepare?

There is no special preparation required. Patients on Coumadin should stop taking their medication 3 days before the procedure. Patients on Plavix/Ticlid/Aggrenox need to stop taking medications 3 days before the exam. Your patient may be asked to wear a gown.

If a recent x-ray (post injury) has been done, please send it along, or send and order and we will perform an x-ray prior to the exam.

What Happens During the Test?

A medical history of your patient will be obtained, and he/she is positioned on the examination table.

Next, the skin around the joint is cleansed with antiseptic and a local anesthetic is injected into the area. Contrast is injected then into the joint space. The needle is then removed to prevent the contrast material and/or air from escaping. Your patient will be asked to move the affected joint to distribute the contrast material throughout the space. Still images are then obtained with the joint in various positions.

The examination is usually completed within 30 minutes.

After the Exam

Your patient should refrain from intense physical exercise. Expect some tenderness. Rest the joint for about 12 hours. Do not participate in any strenuous activity for one to two days. Use ice and ibuprofen for any swelling and pain.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org, James Choi, MD and Paul Keller, MD)

Additional codes: Injection portion: 73040 shoulder, 73085 elbow, 73115 wrist, 73525 hip, 73580 knee, 73615 ankle. A contrast code will also be billed. If MR arthrography: see MRI upper or MRI lower extremity pages.

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Barium Enema (BE)

What is a Barium Enema?

Barium enema is a special x-ray done under fluoroscopy of the large intestine, which includes the colon and rectum. Before x-rays are taken, a liquid called barium sulfate is placed in the bowel through the rectum. The liquid is a type of contrast. Contrast highlights the colon (large intestine). The barium eventually passes out of the body with the stools.

CPT Codes/IMG Codes

74280/IMG 3047	Double (air and barium most common)
74270/IMG 3045	Single

Indications

diagnose colon cancer or the extent of inflammatory bowel disease, failed colonoscopy, low anastomosis

Contraindications

severe colitis, recent colonic biopsy, toxic megacolon, known or suspected colonic perforations, pregnancy

How Does Your Patient Prepare?

Your patient should obtain colon preparation from their ordering physician.

What Happens During the Test?

Our technologist will take a detailed medical history of your patient. Your patient will be positioned on his/her side on the exam table. An enema is inserted into the rectum where barium is allowed to flow into the intestine. Some cramping may be present as the barium is instilled. Utilizing fluoroscopy, the radiologist watches as barium flows through the tip to coat or highlight the colon.

A technologist then takes a series of x-rays in different positions to view all angles of the colon. The tip is then removed from the rectum. The patient is asked to use the rest room and then returns for one final x-ray.

The procedure typically takes 30 to 60 minutes to complete.

After the Test

Your patient may resume normal activities following the exam. Barium may cause constipation or possible impaction after the procedure. Ensure your patient drinks plenty of fluids and eats foods high in fiber to expel the barium. Stools will be white or chalky.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Medline Plus and Paul Keller, MD)

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Esophagram or Barium Swallow

What is an Esophagram?

The esophagram or barium swallow is a test whereby a patient is instructed to drink a barium sulfate compound that enables the radiologist to study the function and appearance of the esophagus and assess the swallowing process.

CPT Codes/IMG Codes

74220-single/IMG 3035

74221-double/IMG 200144

Indications

The esophagram can assess symptoms of painful or difficult swallowing, dysphagia, bloodstained vomit, abdominal pain and weight loss. The radiologist is able to detect narrowing or irritation of the esophagus, blockages, hiatal hernia, or abnormally enlarged veins that may cause bleeding in the esophagus, ulcers, polyps, or tumor.

Contraindications

Pregnancy.

What Happens During the Test?

There is no preparation required for the exam. Our technologist will obtain a medical history from your patient. Your patient will be given a cup of barium to drink while the radiologist watches and evaluates the swallowing process using fluoroscopy. As the barium coats the lining of the esophagus, images are taken to track the pathway to the stomach. The patient may be placed in various positions during the exam.

The procedure takes approximately 10 minutes to perform.

After the Exam

Ensure that your patient drinks sufficient fluids to eliminate the barium. Following the procedure, he/she may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Web MD and Paul Keller, MD)

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Lumbar Puncture or Spinal Tap

What is a Lumbar Puncture?

A lumbar puncture (also called a spinal tap) is a procedure used to collect and look at the cerebrospinal fluid (CSF) surrounding the brain and spinal cord.

CPT Codes/IMG Codes

62328/IMG 3029	diagnostic
62329	therapeutic

Indications

Find a reason for symptoms caused by infection (meningitis), cancer, or subarachnoid hemorrhage. Diagnose diseases of the brain such as multiple sclerosis or Guillain-Barré Syndrome. Measure the cerebral spinal fluid (CSF) pressure in the space surrounding the spinal cord.

Contraindications

skin infection near the site of the puncture, acute spinal cord trauma, suspicion of increased intracranial pressure due to a cerebral mass, pregnancy

How Does Your Patient Prepare?

There is no special preparation required before the test. Inform your physician if your patient is on blood thinners or other medications.

What Happens During the Test?

A technologist will obtain a medical history from your patient. Your patient will be asked to lie on his/her stomach. The radiologist will mark on the patient's back with a pen where the puncture will occur. The area is cleansed with antiseptic soap and draped with sterile towels. A local anesthetic is injected. A long thin needle is inserted in the spinal canal. When the needle is in place, the solid central core of the needle is removed.

When the needle is in the spinal canal, a nanometer is hooked to the needle to measure the pressure of the CSF. The radiologist will take the opening pressure reading and will check the appearance and consistency of the fluid. Samples are collected and sent to an independent lab for study.

The entire procedure takes about 30 minutes.

After the Exam

Your patient will be asked to lie flat in bed with his/her head slightly raised for at least 30 minutes. Your patient may be asked to drink extra fluids after the procedure to prevent headache.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Web MD and Paul Keller, MD)

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Small Bowel Follow Through (SBFT)

What is a Small Bowel Follow Through?

A small bowel follow through (SBFT) is an exam that follows contrast media through the small intestines. This test outlines any abnormalities or blockages.

CPT Codes/IMG Codes

74248S/IMG 3039	UGI with SB - with no air (gastric bypass patients with band or sleeve)
74248/IMG 3042	UGI with SB - with air
74250/ IMG 3043	SB (single contrast)

Indications

diagnose conditions of the small bowel including Crohn's disease, ulcerative colitis, anemia, abdominal pain and bowel cancer

Contraindications

known or suspected perforation of the GI tract, bowel obstruction, severe constipation, pregnancy

How Does Your Patient Prepare?

Fast for at least 8 hours. NPO including smoking or chewing gum after midnight.

What Happens During the Test?

The patient will be required to drink two types of barium. After drinking the barium, x-ray pictures will be taken of the abdomen at timed intervals. The length of time it takes to complete the exam depends on the time it takes for the barium to pass through the small intestine. This varies among people. Once the barium reaches the colon, the radiologist then takes live x-rays while pressing on the abdomen.

The procedure typically takes 2 hours but may take up to 4 or 5 hours.

After the Test

Your patient may resume normal diet and activities following the exam. Barium may cause constipation or possible impaction after the procedure if it is not completely eliminated. Ensure your patient drinks plenty of fluids and eats foods high in fiber

to excrete the barium from the body. Bowel movements may be white or chalky.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Wikipedia and Paul Keller, MD)

This manual is intended for use as merely a guideline for referring physicians and their staff only. It contains information pertaining to the most commonly ordered exams and indications. However, Iowa Radiology does not recommend any particular examination. Individual radiologist preference or patient circumstances may dictate ordering alternative studies.

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Therapeutic Joint and Bursal Injections

What is a Therapeutic Injection?

Joint or bursal injection is a useful diagnostic and therapeutic procedure for patients and physicians. Placing a steroid medication into the joint or bursa reduces inflammation and, therefore; can alleviate pain.

CPT Codes/IMG Code

20611	Shoulder, Hip, Knee, Ankle, Wrist, Sternoclavicular
77002/IMG 3069	Fluoroscopic Guidance
J3301	Steroid (Usually Kenalog)

Indications

joint and bursal related pain including some of these common maladies: trochanteric bursitis, pes anserine bursitis, prepatellar bursitis, leg length abnormalities, rheumatoid arthritis, osteoarthritis, pain and disability from iliotibial band syndrome

Contraindications

pregnancy, acute fracture, joint prosthesis, inaccessible joints, lack of response after three to four injections

How Does Your Patient Prepare?

Patients on Coumadin should stop taking his/her medication 3 days before the procedure. Patients on Plavix/Ticlid/Aggrenox need to stop taking medications 3 days before the exam.

This procedure does not require patients to have a driver.

What Happens During the Test?

The technologist will obtain a patient history. The patient will be asked to lay on his/her back and the radiologist will sterilize the area around the site to be injected.

The radiologist will numb the area with a local anesthetic. Fluoroscopy will be used to direct a small needle into the joint. A small mixture of anesthetic and cortisone is then slowly injected into the joint. Patients may or may not notice pain relief in the first few hours after an injection.

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The injection itself only takes a few minutes, but the overall procedure takes approximately 30 minutes.

After the Procedure

Your patient may return to their normal diet and exercise routine. He/she may resume medication regime. He/she may feel some discomfort after the procedure. Your patient should not perform any heavy lifting or rigorous activity for 24 hours. If no improvement is seen within 10 days following the injection, it is unlikely that the patient will gain any pain relief from the injection and further diagnostic tests may be needed.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from American Family Physician and James Choi, MD)

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Upper Gastrointestinal Exam (UGI)

What is an Upper Gastrointestinal Exam?

The upper gastrointestinal exam or UGI series looks at the upper and middle sections of the GI tract under fluoroscopy. It consists of a series of x-ray images of the esophagus, stomach and the upper gastrointestinal tract.

CPT Codes/IMG Codes

74240/IMG 3037	UGI no air (gastric bypass band/sleeve patients)
74248S/IMG 3039	UGI no air with small bowel
74246/IMG 3040	UGI with air (most common)
74248/IMG 3042	UGI with air and small bowel

Indications

look for signs of ulcers, acid reflux disease, uncontrollable vomiting or unexplained blood in the stools, hematochezia or positive fecal occult blood

Contraindications

bowel or esophageal perforation, bowel obstruction or severe constipation, pregnancy

How Does Your Patient Prepare?

Your patients should fast for at least 8 hours. NPO including smoking or chewing gum after midnight.

What Happens During the Test?

The technologist will take a detailed patient history. The patient will be asked to stand in an upright position with the x-ray table tilted up. A technologist will ensure patient comfort as the table changes positions. During the procedure, your patient will take repeated swallows of a barium contrast. The barium contrast will enable the radiologist to show the lining of the stomach and intestines in greater detail. Using fluoroscopy, the radiologist watches the barium pass through the GI tract. Pressure may be applied to the patient's abdominal area.

The UGI typically takes 30 minutes to complete.

After the Test

The patient may resume normal diet and activities after the exam. Barium may cause constipation or possible impaction after the procedure if it is not completely eliminated from the body. Your patient should drink plenty of fluids and eat foods high in fiber to expel the barium from the body. Stools may be lighter in color until all the barium is excreted.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from Wikipedia and Paul Keller, MD)

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Cystogram

What is a Cystogram?

A cystogram is an x-ray exam of the bladder and lower urinary tract that uses fluoroscopy and contrast material.

Fluoroscopy makes it possible to see internal organs in motion. When the bladder is filled with water-soluble contrast material, the radiologist can view and assess the anatomy to evaluate for defects or possible leaks of the bladder following previous surgery.

The patient must be catheterized prior to the exam. We are unable to catheterize the patient in our facility. If the patient has not been catheterized, the exam can only be performed at Iowa Methodist Hospital.

CPT Codes/IMG Codes

74430/ IMG 3058 non voiding cystogram

Indications

This examination is often recommended after trauma or surgery to check for bladder leaks or abnormalities of the bladder.

Contraindications

Hypersensitivity to contrast media, pregnancy

What Happens During the Test?

Patients must arrive with a catheter. A medical history is obtained, and the technologist begins by positioning the patient on the table.

Several x-rays are taken of the bladder. The bladder is filled with a water-soluble contrast material. Images are taken under fluoroscopy while filling the bladder. The catheter is not removed in the office.

A cystogram is painless. Some patients may experience mild discomfort when the bladder is filled with the contrast material.

After the Exam

After the exam there are no restrictions.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Bradley King, MD)

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Women's Imaging

3D Digital Mammogram

What is a 3D Digital Mammogram?

A digital mammogram is a noninvasive test used to help detect breast diseases. Digital mammography uses a computer rather than x-ray film to digitally record and store images of the breast. These images become a more versatile diagnostic tool that can be enlarged or highlighted.

What is Low Dose 3D Mammography?

Breast tomosynthesis or low dose 3D mammography converts digital breast images into a stack of very thin layers or "slices"—building what is essentially a "3-dimensional mammogram".

Now the radiologist can see breast tissue detail in a way never before possible. The doctor can examine the tissue a millimeter at a time so fine details are more clearly visible.

Low dose 3D mammography is superior to traditional 2D mammography alone. Benefits include: Increased cancer detection over 2D mammography alone and fewer callbacks.

3D mammography or tomosynthesis is performed on all patients.

CPT Codes/IMG Codes

77067/IMG 4149	screening bilateral
77066/IMG 4151	diagnostic bilateral
77065/IMG 4152	diagnostic unilateral
77067U/IMG 4150	screening unilateral

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Screening: routine annual exam

Diagnostic: palpable abnormalities, focal pain/tenderness, nipple discharge, dimpling of the skin, nipple retraction

**If a mammogram is ordered as a diagnostic, we cannot change it to a screening.

Special Considerations

If your patient is 30 years old and has a diagnostic indication, we will begin with a mammogram and ultrasound . If your patient is < 30 we begin with ultrasound.

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If your patient is pregnant we will start with ultrasound. If your patient is breast feeding and requires a diagnostic mammogram, we will perform the mammogram and ask that she pump 30 minutes prior to appointment. If your patient is breast feeding, we recommend she stop breast feeding 4-6 months prior to appointment.

Baseline mammogram is recommended at age 40 and some women start with a baseline at age 35. If your patient's mother is diagnosed with breast cancer, your patient should begin screening mammograms 10 years prior to that age.

How Does Your Patient Prepare?

Your patient should wear a comfortable two-piece outfit.

Refrain from applying lotions, deodorant, powders or perfumes around the breast and armpit area.

Inform us if her last mammogram was performed at a location other than Iowa Radiology. We will contact that facility and attempt to obtain the images for comparison prior to the exam.

What Happens During the Test?

The technologist will obtain a detailed history from your patient. She will be provided a gown and asked to undress from the waist up. The technologist will place the breast on a platform and gradually compress it with a plastic paddle. Your patient will be given breathing instructions.

The exam takes approximately 15 minutes.

After the Test

Your patient may resume normal activities. Deodorant and toiletries are available to your patient following the exam.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

If additional views are needed, we will contact your patient to schedule this follow up and notify the referring physician of this in the report.

In addition, patients with normal mammograms will also receive a letter in the mail notifying them of these results.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Breast Ultrasound

What is a Breast Ultrasound?

The primary use of breast ultrasound is to help diagnose breast abnormalities detected by a physician during a physical exam and to characterize potential abnormalities seen on a mammogram or felt during an examination. Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

CPT Code/IMG Code

76642/IMG 4148 per breast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

follow-up a mammographic finding, lump or focal pain

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. A mammogram is typically performed prior to an ultrasound.

What Happens During the Test?

A thorough medical history will be obtained. Your patient will be provided a gown, asked to disrobe from the waist up and to lie down on the ultrasound table. The technologist will apply a clear gel to the area of interest. If there is a palpable mass, the patient will be asked to identify the area of concern.

The sonographer (ultrasound technologist) or radiologist then presses the transducer against the skin and scans the breast. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist.

The exam takes approximately 30 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities. After the test, the radiologist will review the images and results will be given to your patient.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Ultrasound Guided Breast Biopsy

What is an Ultrasound Guided Breast Biopsy?

Ultrasound-guided breast biopsy is a minor procedure. It is less invasive than surgical biopsy, leaves little to no scarring and does not involve exposure to ionizing radiation. The radiologist places an ultrasound probe over the site of the breast abnormality, and using local anesthesia, guides a biopsy needle directly into the mass. Multiple tissue specimens are then taken using a hand-held biopsy device.

CPT Codes/IMG Codes

19083/IMG 1283

Additional CPT Codes Used: 77066/IMG 4151 or 77065/IMG 4152 for bilateral and unilateral (respectively) follow-up mammograms to verify clip placement

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

suspicious breast mass detected on breast ultrasound or by exam

Contraindications

current aspirin, ibuprofen, warfarin, Plavix, or heparin use are a relative contraindication and will be discussed prior to the procedure

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. She does not need a driver.

She should plan to be off work the day of the procedure but can return to normal activities the following day.

Ibuprofen or aspirin therapy should be discontinued **3 days prior** to the biopsy. Plavix, Warfarin or heparin therapy should be discontinued **7 days prior** to the biopsy. Referring physician to have the following blood work drawn within **24 hours prior** to the biopsy: PT, PTT and INR.

What Happens During the Test?

Your patient will be asked to disrobe from the waist up and will be provided a gown or blanket. She is positioned lying face-up on the examination table. The radiologist uses ultrasound guidance to image the breast mass.

The patient's breast is cleansed with antiseptic soap. The skin and tissue around the mass are numbed with lidocaine.

A needle is inserted which uses a vacuum powered instrument to collect multiple tissue samples during one needle insertion. The needle is removed, and a small marking clip is placed in area biopsied which will identify the site for future reference. The patient's skin will be covered with either Dermabond or steri-strips to protect the biopsy site and promote healing.

Following the procedure, a mammogram is performed to ensure proper placement of the clip.

The procedure takes approximately 90 minutes to complete.

After the Test

Your patient will be sent home with an ice pack and post procedure instructions. The site will be tender for a few days and bruising will likely be present. Most women experience a mild to moderate ache, which is usually controlled by an ice compress and acetaminophen. She should not engage in any strenuous activities and get plenty of rest. She may bathe the morning after the biopsy, being careful not to soak or scrub the biopsy site.

When to notify us:

If she is bleeding 24 hours after the biopsy. Some blood should be present on the bandage at first, but it should decrease throughout the day. If a constant flow of blood occurs, apply firm pressure to the site for 15-20 minutes. Call us if the condition persists.

If there are signs of infection in the first two weeks. This would include a whitish discharge, increasing redness and swelling of the skin or fever. While some redness at the site is normal, she should be aware of these changes.

The Results

Samples are sent to an independent pathologist. Patients are contacted by a radiologist within 48 hours. Referring physicians are contacted within 48 hours by phone results requiring a surgical referral. In addition, a signed report will be sent to the physician within 24-48 hours.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Stereotactic Guided Core Needle Breast Biopsy

What is Core Needle Breast Biopsy?

Stereotactic breast biopsy is a non-surgical method of assessing a breast abnormality and is performed by a specially trained radiologist on an outpatient basis. In stereotactic breast biopsy, a special mammography machine uses x-rays to help guide the radiologist's instruments to the site of the abnormal growth. Stereotactic mammography pinpoints the exact location of a breast mass by using computer and digital X-rays taken from two different angles. Using these computer coordinates, the radiologist inserts the needle through the skin, advances it into the lesion and removes tissue samples.

CPT Codes/IMG Codes

1908/IMG 1276

Additional CPT Codes Used: 77066/IMG 4151 and 77065/IMG 4152 for bilateral and unilateral (respectively) follow-up mammograms to verify clip placement

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

suspicious solid mass, microcalfications, distorted structure of the breast tissue, area of abnormal tissue change, new mass, calcium deposits at previous surgery site

Contraindications

Current aspirin, ibuprofen, warfarin, Plavix, or heparin use are relative contraindications and will be discussed with your patient prior to the procedure.

How Does Your Patient Prepare?

Patient should wear a loose-fitting two-piece outfit. She does not need a driver.

She should plan to be off work the day of the procedure but can usually return to normal activities the following day.

Ibuprofen or aspirin therapy should be discontinued **3 days prior** to the biopsy. Plavix, Warfarin or heparin therapy should be discontinued **7 days prior** to the biopsy. Referring physician to have the following blood work drawn within **24 hours prior** to the biopsy: PT, PTT and INR.

What Happens During the Test?

Our technologist will obtain a thorough medical history. Your patient will be asked to disrobe from the waist up and will be provided a gown or blanket. She is positioned sitting in chair. The patient's breast is cleansed with antiseptic soap. The skin and tissue around the mass are numbed with lidocaine. A guide needle is placed next to the mass and several (8 to 12) samples are taken with a spring loaded biopsy needle. The needle is removed, and a small marking clip is placed in area biopsied which will identify the site for future reference. The patient's skin will be covered with either Dermabond or steri-strips to protect the biopsy site and promote healing.

Following the procedure, a mammogram is performed to ensure proper placement of the clip.

The exam takes approximately 60 minutes to complete.

After the Test

Your patient will be sent home with an ice pack, steri strips, and post procedure instructions. The site will be tender for a few days and bruising will likely be present. Most women experience a mild to moderate ache, which is usually controlled by an ice compress and acetaminophen. She should not engage in any strenuous activities and get plenty of rest. She may bathe the morning after the biopsy, being careful not to soak or scrub the biopsy site.

When to notify us:

If she is bleeding 24 hours after the biopsy. Some blood should be present on the bandage at first, but it should decrease throughout the day. If a constant flow of blood occurs, apply firm pressure to the site for 15-20 minutes. Call us if the condition persists.

If there are signs of infection in the first two weeks. This would include a whitish discharge, increasing redness and swelling of the skin or fever. While some redness at the site is normal, she should be aware of these changes.

The Results

Samples are sent to an independent pathologist. Patients and referring physicians are notified by telephone any results requiring a surgical referral. In addition, a signed report will be sent to the referring physician within 24-48 hours.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Breast MRI – Abbreviated

What is Abbreviated Breast MRI (AB MRI)?

MR uses a powerful magnetic field, radio waves, and a computer to produce detailed images of the breast. MRI does not use radiation. Breast imaging begins with a mammogram and ultrasound. In specific instances, MRI can be offered. AB MRI provides the sensitivity of MRI for breast cancer detection but is performed in 10-15 minutes. Abbreviated Breast MRI is not covered by insurance. Payment of $449 is due at the time of service. An order is required.

CPT Code/IMG Code

76498/IMG 1147 MRI Abbreviated Breast without and with contrast
$449 self-pay

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

heterogeneously dense or extremely dense breasts, lifetime risk of breast cancer less than 20%, no personal history of breast cancer

Contraindications

Patients with neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. The description includes when and where the device was implanted and the serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

For premenopausal women, this exam is scheduled 6-10 days after the first day of your period. Patients will need to remove all jewelry, hair clips and bobby pins. In

addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown and a secure locker in which valuables can be placed. A technologist will take a thorough medical history.

Your patient may take oral anti-anxiety medications as prescribed by his/her doctor. Please ensure that she brings a driver. Iowa Radiology does not prescribe or administer anti-anxiety medications.

What Happens During the Test?

Your patient will be asked to lie down on her stomach on the exam table where her breasts will hang into cushioned openings. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Initial images will be obtained and contrast will be injected into a vein in her arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 45 minutes of total clinic time. The scan time is typically 10-15 minutes.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 2 business days.

(Information adapted from radiologyinfo.org, ACR.org, SBI.org and Jill Westercamp, MD)

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Breast MRI – High Risk

What is High Risk Breast MRI?

MR imaging uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. MRI does not use radiation. This exam is ordered for implant integrity evaluation, newly diagnosed breast cancer or post lumpectomy, specialized diagnosed follow-up or for very high risk evaluation: over 20% lifetime risk of breast cancer. Breast imaging begins with mammogram and ultrasound. In specific instances MRI can be offered.

CPT Codes/IMG Codes

77049/IMG 1143	bilateral without and with contrast (most common)
77046/IMG 4023	unilateral without contrast
77047/IMG 1144	bilateral without contrast

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

without contrast:	implant integrity evaluation
without and with contrast:	newly diagnosed breast cancer or post lumpectomy, specialized diagnostic with ultrasound, very high evaluation in patients for higher risk of breast cancer: lifetime risk assessment score over 20%

Contraindications

Patients with neuro-stimulators or implanted medicine pumps are conditional to having an MRI. Many patients who have these implanted devices are now safe to scan. These patients should have a medical ID card that describes the implant. This description includes when and where the device was implanted and serial and model numbers of the device.

Patients with cardiac pacemakers and defibrillators are only scanned in a hospital setting.

Please call Iowa Radiology at 515-226-9810 and ask to speak to an MRI tech who will verify the device and schedule your patient.

How Does Your Patient Prepare?

For all contrast MRI's: If your patient is allergic to gadolinium contrast, call our clinic for premedication information.

For premenopausal women, this exam is scheduled 6-10 days after the first day of your period. Patients will need to remove all jewelry, hair clips and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks. Your patient will be provided a gown and a secure locker in which valuables can be placed. A technologist will take a thorough medical history.

Your patient may take oral anti-anxiety medications as prescribed by his/her doctor. Please ensure that she brings a driver. Iowa Radiology does not prescribe or administer anti-anxiety medications.

What Happens During the Test?

Your patient will be asked to lie down on her stomach on the exam table where her breasts will hang into cushioned openings. The table will then slide into the scanning area. During the test, the MRI will make a rapid tapping noise. Initial images are obtained and if contrast is indicated, a contrast material will be injected into a vein in her arm. Your patient's experience and comfort are extremely important to us. Patients are offered earplugs and/or a music headset. In addition, warm blankets are available upon request. Your patient should relax and remain still during the exam. He/she may resume normal activities following the MRI.

Your patient should plan 60-90 minutes of total clinic time. The scan time can vary from 30-60 minutes depending on the study.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 2 business days.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Thyroid Ultrasound

What is a Thyroid Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

The thyroid gland is located in front of the neck just below the Adam's apple and is shaped like a butterfly, with one lobe on each side of the neck (trachea) connected by a narrow band of tissue. It is one of the endocrine glands in the body that makes and sends hormones into the bloodstream.

CPT Code/IMG Code

76536/IMG 3227 ultrasound soft tissue of head/neck or thyroid

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

enlarged thyroid, palpable mass, abnormal thyroid enzymes, abnormalities seen on other modalities, dysphasia, follow-up nodules

Contraindications

none

How Does Your Patient Prepare?

No patient preparation is required prior to the exam.

What Happens During the Test?

Our technologist will obtain a medical history. Your patient will be asked to lie down face up with his/her neck extended. The technician will place a clear gel on the neck to evaluate the thyroid and surrounding tissues.

The sonographer (ultrasound technologist) then glides the transducer against the skin and sweeps it back and forth over the neck. The transducer is a small hand-held device attached to an ultrasound machine by a cord.

The exam takes approximately 30 minutes.

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After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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OB Ultrasound

What is an OB Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Fetal heart beat and anatomy can be assessed, and measurements can be made accurately on the images displayed on the screen. These measurements help determine the assessment of gestational age, size, and growth in the fetus. A complete morphology ultrasound is typically performed when the pregnancy is approximately 20 weeks. It is a comprehensive look at the baby's organs and skeletal structure.

This exam is performed trans-abdominally and a trans-vaginal approach is used to evaluate the cervix.

Anatomy visualized include: baby's organs and skeletal structure, placenta, cervix, amniotic fluid characteristics.

CPT Codes/IMG Codes

76801/IMG 530	less than 14 weeks – dating, viability
76802/IMG 531	US OB more than one gestation
76805/IMG 532	over 14 weeks (morphology) optimal 18-21 weeks
76815/IMG 536	limited OB – limited to heart beat, placenta location, baby head breach or head down
76816/IMG 537	F/U – re-evaluation of fetal size, amniotic fluid level, specific body part, organ
76817/IMG 538	OB T.V. –may be used in addition to above codes

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

Depending on the fetal age and the reason the provider is ordering an OB ultrasound, we can see fetal growth, estimate gestational age, evaluate the position of the placenta, determine the amount of amniotic fluid around the baby, and check for opening or shortening of the cervix. At 20 weeks, gestation we can look at the fetal anatomy.

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. Some indications may require the patient to come in with a full bladder. Ask the scheduler if your patient needs a full bladder.

What Happens During the Test?

Our technologist will obtain a medical history from the patient. The patient will be positioned on the ultrasound table and a warm gel is put on the patient's abdomen to provide lubrication for the scan. A transvaginal exam will be performed as indicated. The technologist will run a transducer over the patient's abdomen and pelvis taking images for the radiologist to view and interpret.

This exam takes 30-60 minutes to complete.

After the Test

After the exam the gel is wiped off. Your patient may resume normal activities.

Iowa Radiology may provide a link to your patient's ultrasound images.

The Results

Our radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from ob-ultrasound.net and Jill Westercamp, MD)

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Pelvic Ultrasound

What is a Pelvic Ultrasound?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. Ultrasound images are captured in real-time, so they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.

Organs visualized include: **Women:** uterus, endometrium, ovaries, adnexa, and bladder

CPT Codes/IMG Codes

76856/IMG 549	trans-abdominal
76830/IMG 547	trans-vaginal
76857/IMG 550	pelvis limited
TATV/IMG 4041	pelvis TA/TV

** Both studies are typically performed unless otherwise specified.

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

history of renal anomalies, abnormal imaging from another modality (MRI/CT), evaluate the ovaries, uterus, cervix, adnexa, and bladder, pelvic pain, abnormal bleeding, menstrual concerns, history of fibroids, cysts, ovarian or uterine cancers

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. She should come to our office with a full bladder.

What Happens During the Test?

Our technologist will obtain a thorough medical history. Your patient will be asked to disrobe from the waist down and will be provided a gown or blanket. She is positioned lying face-up on an examination table that can be tilted or moved. A clear gel is applied to her abdomen.

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The sonographer (ultrasound technologist) then presses the transducer against the skin and sweeps it back and forth over the pelvis. The transducer is a small hand-held device attached to an ultrasound machine by a cord. The ultrasound image is available to the technologist.

For women, after the transabdominal part of the exam is done, your patient will be asked to empty her bladder. She will lie down on the exam table and her feet will be placed in stirrups, similar to a gynecologic exam. The technologist or radiologist will insert the ultrasound camera into her vagina and take several images of the uterus and ovaries.

The exam takes approximately 30 minutes to complete.

After the Test

Your patient may resume normal activities.

The Results

The radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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Hysterosalpingogram

What is a Hysterosalpingogram?

A hysterosalpingogram (HSG) is an x-ray test performed under fluoroscopy that looks at the inside of the uterus and fallopian tubes. It often is performed for an infertility work-up. It can also be performed post "Essure", to verify the integrity and placement of the stents used to block the fallopian tubes. This test may not be covered by insurance.

CPT Codes/IMG Code

58340 and 74740/IMG 166 (catheterization and introduction of contrast material)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

infertility, evaluation of fallopian tubes and uterus, post "Essure"

Contraindications

heavy bleeding, pregnancy

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. Your patient may take 600 mg of ibuprofen one half hour prior to the exam.

For an infertility workup: Timing of the exam is critical. This test should be done approximately 6 to 12 days after the onset of menstruation. Ensure no sexual activity 2 days prior to exam.

What Happens During the Test?

Our technologist will obtain a detailed medical history. Your patient will be asked to disrobe from the waist down, empty her bladder and will be provided a gown or blanket. She is positioned lying face-up on an examination table with feet raised.

The radiologist will insert a speculum into the vagina to access the cervix. The cervix is cleansed with an antiseptic soap and a flexible catheter is passed through the cervix into the uterus. Next, a contrast material is injected through the catheter. X-ray pictures are taken live time and viewed on a TV monitor. The uterus will be imaged, and the fallopian tubes will be evaluated for patency. Your patient may be asked to change positions if needed. After several pictures are obtained, the catheter is removed.

Your patient may experience cramping similar to those experienced during menses.

The exam takes approximately 15 minutes to complete.

After the Test

Your patient may experience cramping and/or spotting for 24-48 hours following the exam.

The Results

After the exam, our radiologist will discuss the results with your patient.

In addition, a radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from webmd.org and Jill Westercamp, MD)

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Sonohysterogram

What is a Sonohysterogram?

A sonohysterogram is an ultrasound procedure used to diagnose uterine and endometrial abnormalities. It can help to pinpoint areas of concern for abnormal uterine bleeding, fibroids, or polyps. Ultrasound does not use radiation. Ultrasound images are used to show the structure of the uterus and endometrium and its thickness.

CPT Codes/IMG Code

58340 and 76831/IMG 548 (catheterization and introduction of saline solution)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications

abnormal uterine bleeding, fibroids, abnormal or irregular endometrium on a prior ultrasound, or polyps or polyp fragments with an endometrial biopsy

Contraindications

heavy bleeding, pregnancy

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. Timing of the exam is critical. In most cases, it should be performed 4 to 8 days after the start of menses. She may take 600 mg of ibuprofen one half hour prior to the exam.

What Happens During the Test?

Our technologist will obtain a detailed medical history. Your patient will be asked to disrobe from the waist down and will be provided a gown or blanket. She is positioned lying face-up on an examination table. The radiologist uses a speculum to access the cervix. The cervix is sterilized with antiseptic soap.

A flexible plastic catheter is passed through the opening of the cervix. The speculum is then removed, and a vaginal ultrasound camera/probe is inserted into her vagina. Sterile saline is injected into the uterus, enlarging the uterine cavity. The saline outlines the lining and allows for easy visualization and measurement. After several pictures are obtained, the probe is removed. Your patient may experience cramping similar to those experienced during menses. Following the exam, saline will be expelled when she resumes a sitting position.

The exam takes approximately 60 minutes to complete.

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After the Test

After the exam, the radiologist will discuss the results with your patient. Your patient may experience cramping, spotting and a watery discharge for 24-48 hours following the exam.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org and Jill Westercamp, MD)

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DEXA Bone Density Scan

What is a DEXA?

Bone density scanning, also called dual-energy x-ray absorptiometry (DEXA) is an enhanced form of x-ray technology that is used to measure bone loss. It is performed on the lower spine and hips. It can also be used on the wrist for those who have had compression fractures. It is used to diagnose osteoporosis and assess an individual's risk for developing fractures. It is quick, noninvasive and uses less than 1/10th the dose of a standard chest x-ray.

Bone Loss Risk Factors:

- post-menopausal woman who is not taking estrogen
- post-menopausal woman who is tall (over 5'7") or thin (less than 125 pounds)
- personal or maternal risk of hip fractures
- man, with clinical conditions associated with bone loss
- use of medications known to cause bone loss such as corticosteroids, Dilantin, or high dose thyroid replacement drugs
- have type 1 diabetes, kidney or liver disease, or family history of osteoporosis
- hyperthyroidism or hyperparathyroidism
- have had x-ray evidence of vertebral fracture or other sign of osteoporosis
- have experienced a fracture after a mild trauma

CPT Codes/IMG Codes

77080/IMG 3000	DEXA	axial skeleton (hips, pelvis, spine)
77081	DEXA	appendicular skeleton (wrist, heel, radius)

Please include copies of both front and back of the patient's insurance cards on all ordered exams.

Indications: Medicare and Major Insurance Carriers

Medicare covers bone mass measurements every 2 years for "qualified" individuals considered to be at risk for osteoporosis. A qualified individual means a Medicare beneficiary who meets the medical indications for one of the following five categories:

1. an estrogen-deficient, postmenopausal woman
2. an individual with vertebral abnormalities
3. an individual with known primary hyperparathyroidism
4. some individuals receiving steroid therapy
5. individuals receiving FDA-approved osteoporosis drug therapy

Note: If medically necessary, Medicare may provide coverage for a beneficiary more frequently than every 2 years.

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Males are not eligible for a screening exam as part of welcome to Medicare physical.

Indications: TRICARE

TRICARE covers bone density studies or DEXA scans for diagnosis and monitoring of osteoporosis or osteopenia, patients with signs and symptoms of bone disease or those at high risk for developing osteoporosis.

TRICARE does not cover bone density studies for the routine screening of osteoporosis.

https://tricare.mil/CoveredServices/IsItCovered/BoneDensityStudy

Contraindications

If your patient has had a contrast exam or a barium enema, he/she may need to wait 10 to 14 days before undergoing a DEXA test. Women who are pregnant or think they may be pregnant should inform their technologist.

How Does Your Patient Prepare?

Your patient may eat normally the day of the exam. Do not take calcium supplements for at least 24 hours before the exam. Dress comfortably avoiding garments that have zippers, belts or buttons made of metal. Your patient may be asked to wear a gown.

What Happens During the Test?

Your patient will be asked to lie on a padded table. An x-ray generator or arm is located above. To assess the spine, the patient's legs are supported on a padded box to flatten the pelvis and lower spine. To assess the hip, the patient's foot is placed in a brace that rotates his/her hip inward. In both cases the detector arm is slowly passed over the hip and spine generating images on a computer monitor. The patient will need to remain still for a few seconds. It is a quick and painless procedure. There are no restrictions after the exam.

Your patient can expect a 30 minute appointment with a 10 minute scan time.

The Results

A radiologist will analyze the images and send a signed report to the referring physician within 1 business day.

(Information adapted from radiologyinfo.org, cms.gov and Jill Westercamp, MD)

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General X-Ray

General X-Ray

Exam	CPT Code/IMG Code
Abdomen	
Abdomen – 2 views (flat & upright)	74019/IMG 156
Abdomen – 1 view	74018/IMG 154
Foreign Body (child torso)	76010/IMG 169
Chest	
Chest – 2 views	71046/IMG 36
Ribs – 2 views	71100/IMG 46
Ribs – 3 views	71110/IMG 50
Ribs – unilateral with PA/Chest	71101/IMG 48
Sternum – 2 views	71120/IMG 52
SC Joints – 2 views	71130/IMG 53
Extremities	
Shoulder – 2 views	73030/IMG 3183
AC Joints – with or without weights	73050/IMG 87
Humerus – 2 views	73060/IMG 88
Scapula – 2 views	73010/IMG 79
Clavicle – 2 views	73000/IMG 77
Forearm – 2 views	73090/IMG 96
Elbow – 3 views	73080/IMG 92
Wrist – 3 views	73110/IMG 102
Hand – 3 views	73130/IMG 110
Finger – 3 views	73140/IMG 1565
Pelvis – 1 View	72170/IMG 3180
Hip – 2-3 views (with or without pelvis)	73502/IMG 10006
Femur – 2 views	73552/IMG 10011
Knee – 3 views	73562/IMG 130
Knee – 4 views	73564/IMG 132
Tib/Fib – 2 views (lower leg)	73590/IMG 137
Ankle – 3 views	73610/IMG 143
Foot – 3 views	73630/IMG 149
Toe – 3 views	73660/IMG 1577
Calcaneus – 2 views (heel)	73650/IMG 151

General X-Ray (continued)

Exam	CPT Code/IMG Code
Head Work	
Skull – 4 views	70260/IMG 22
Sinuses – 3 views	70220/IMG 19
Nasal Bones – 3 views	70160/IMG 11
Facial Bones – 3 views	70150/IMG 8
Mandible – less than 4 views	70100/IMG 2
Mandible – minimum 4 views	70110/IMG 3
TMJ – open and closed mouth	70330/IMG 27
Eye for Foreign Body	70030/IMG 1
Orbits – 4 views	70200/IMG 3166
Shunt – 2 view skull (less than 4 views)	70250/IMG 3167
AP Chest	71045/ IMG 34
AP Abdomen	74018/ IMG 154
Spine	
Cervical Spine – 2-3 views	72040/IMG 56
Cervical Spine – 4 views	72050/IMG 3172
Cervical Spine – 6 or more views	72052/IMG 59
Thoracic Spine – 3 views	72072/IMG 62
Lumbar Spine – 2-3 views	72100/IMG 66
Lumbar Spine – minimum 4 views	72110/IMG 69
Lumbar Spine complete with bending	72114/IMG 3178
Sacrum/Coccyx – minimum 2 views	72220/IMG 76
SI Joints – 3 or more views	72202/IMG 3182
Scoliosis – 2-3 views thoracic/lumbar; cervical if done	72082/IMG 10002
Scoliosis – 4-5 views	72083/IMG 10003
Other Exams	
Bone Survey (adult)	77075/IMG 173
Bone Survey (pediatric)	77076/IMG 174
Bone Age	77072/IMG 1447
IVP	74400/IMG 1231

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General X-Ray (continued)

Tricare: Diagnostic Imaging for Acute Lower Back Pain

TRICARE will not cover diagnostic imaging for patients with acute lower back pain (LBP) within six weeks of symptom onset if there were no warning signs. Diagnostic imaging includes: x-rays, ultrasounds, CT scans and MRIs.

TRICARE will cover diagnostic imaging for low back pain (LBP) with the following warning signs:

- A possible fracture, history of osteoporosis, or chronic steroid use.
- A possible tumor, cancer, or infection.
- Possible cauda equina syndrome.
- A major motor weakness.
- Progressive neurological symptoms.

Last updated: 10/30/2020

https://tricare.mil/CoveredServices/IsItCovered/DiagnosticImagingLBP

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Interventional Radiology

Vertebroplasty and Vertebral Augmentation with Cement Placement

What are Vertebroplasty and Vertebral Augmentation with Cement Placement?

These minimally invasive procedures treat spine fractures caused by osteoporosis and cancer. Both procedures involve the injection of bone cement into the vertebral body through a needle inserted into the vertebral body creating an “internal cast”. Both procedures are used to provide rapid and sustained back pain relief with minimal recovery.

By using vertebral augmentation with cement placement, the spinal fracture may be “reduced” with a balloon device and upon removal, cement is injected into the space. This technique can help to straighten the spine and help to prevent additional fractures. With vertebroplasty, cement is injected into the vertebral body to stabilize the fracture. The type of procedure performed is dependent on the location and severity of the fracture.

Please call 515-241-6643 to refer a patient.

CPT Codes

Vertebroplasty	22510 Thoracic, 22511 Lumbar
Vertebral Augmentation with Cement Placement	22513 Thoracic, 22514 Lumbar

Indications

Osteoporotic or tumor induced vertebral fracture less than 6 months old with persistent pain, not responding to conservative treatment.

Accepted standard conservative medical treatment is defined as:

- initial bed rest with progressive activity; and narcotic or non-narcotic analgesics; and back bracing
- medical treatment of osteoporosis

The ideal candidate: has had an acute fracture for less than 4 weeks; will not tolerate prolonged analgesics and; will not tolerate prolonged bed rest.

Medicare Indications and Limitations of Coverage

Indications

The principal indications for percutaneous vertebroplasty and vertebral augmentation including cavity creation are listed as follows:

1. Painful osteolytic metastasis;
2. Multiple myeloma with painful vertebral body involvement;
3. Painful and/or aggressive hemangiomas;
4. Osteoporotic vertebral collapse with persistent debilitating pain which has not responded to accepted standard medical treatment;
5. Unstable fractures due to osteoporosis (Kummell's Disease);
6. Steroid-induced fractures;
7. Reinforcement or stabilization of vertebral body prior to surgery;
8. Painful vertebral eosinophilic granuloma with spinal instability.

Limitations of Coverage

Percutaneous vertebroplasty/ vertebral augmentation including cavity creation is contraindicated for the following:

1. Uncorrected coagulation disorders;
2. Presence of infection (local or systemic);
3. Known allergy to any of the materials used in either of the procedures.

The following is a list of relative contraindications:

1. Extensive vertebral destruction;
2. Significant vertebral collapse in which the vertebra is less than 1/3 of its original height;
3. Neurologic symptoms related to spinal cord and nerve root compression;
4. Cervical vertebroplasty (However, in rare instances, these are performed by physicians who are highly skilled in this procedure).

If percutaneous vertebroplasty or vertebral augmentation including cavity creation is performed despite a relative contraindication, the medical record must clearly document the rationale for this decision.

Contraindications

active infections, inability to lie prone, inability to tolerate IV conscious sedation

Benefits and Risks

Overall, 9 out of 10 patients experience sustained pain relief and increased mobility. Narcotic use and bed rest is less than non-surgically treated patients. Left untreated VCF's are associated with an increased risk of further collapse, future fractures, chronic pain, spinal deformity and kyphosis.

Although the complication rate is low, vertebral augmentation and kyphoplasty have risks to be considered including: infection, complications from sedation and, cement leak- age causing pain or paralysis. Our radiologist will thoroughly explain risks and benefits prior to the procedure.

How Does Your Patient Prepare?

Prior to treatment, an MRI will be performed to determine the extent and exact location of the fracture. We will contact your patient to schedule the MRI. This does not require a prior authorization from your office. If your patient cannot have an MRI because of a pacemaker or stimulator, a bone scan can be performed.

Your patient will be scheduled at Iowa Methodist Medical Center in the radiology department. We require a current physical and history be obtained at least 30 days prior to the procedure. IV conscious sedation will be administered for the procedure.

Patients are generally released from the hospital the same day. Plan approximately one hour per fracture level treated and 3-4 hours for recovery.

Patients will require a driver.

What Happens During the Procedure?

Your patient will be asked to lie face down on the table. Once the sedation and narcotic have been administered, the interventional radiologist makes a small 2 to 3 mm size incision in the back. Guided by fluoroscopy x-ray, a needle is inserted into the fractured vertebrae. The fracture is then filled with bone cement. Generally, the procedure is done on both sides of the vertebral body.

With vertebral augmentation with cement placement, the fractured cavity is expanded with a balloon. Once inflated, it causes the collapsed vertebrae to be lifted and a space is created. The balloon is removed, and cement is injected into the cavity created by the balloon. The cement forms an internal cast which dries in about 15 minutes.

Following the Procedure

Your patient will be moved into recovery for 3-4 hours. Most patients may resume normal activities the next day. Any special instructions will be given to your patient after the procedure. Pain relief and increased mobility may be immediate or take a few days. We will place a follow up call to your patient two weeks after the procedure to see how he or she is doing.

(Information adapted from Society of Interventional Radiology and Benjamin Stradling, DO)

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Tenex Health TX

What is Tenex Health TX?

Tenex Health TX is a minimally invasive outpatient procedure using ultrasound to identify and debride painful scar tissue related to plantar fasciitis, Achilles tendonitis, and tendinitis in the elbow. Once the scar tissue is removed the body signals a healing response to generate and heal the healthy tissue. It is quicker and easier than surgery with a much shorter recovery time and vastly fewer risks and possible complications. This procedure can dramatically improve the quality of life for many patients suffering from these chronic conditions. If you have a patient who may benefit from this treatment our interventional nurse will contact your patient to arrange a consultation.

Please call 515-226-7496 to refer a patient.

CPT Codes

24305	Shoulder		
24357	Elbow		
28008	Foot – plantar fasciitis	27605	Foot – Achilles tendonitis
27306	Knee – single tendon	27307	Knee – multiple tendons
76882	Limited ultrasound		
76942	Ultrasound guidance for needle placement		

Indications

Chronic tendinosis or plantar fasciitis which has persisted for at least 3 months and conservative treatment has failed. Conservative treatment might include any or all of the following: rest, ice, compression, elevation, bracing, orthotics, physical therapy, anti-inflammatories and/or cortisone injections. The patient can easily identify the source and location of the pain.

Contraindications

Active infections, recent steroid injections

Benefit and Risks

Tenex Health TX is an FDA cleared device to remove damaged tissue. It is different than open surgery in that there is no general anesthesia, a tiny incision, and a targeted application of ultrasonic energy. In a recently published study, doctors reported no side effects related to the procedure. Many people who underwent the procedure took no pain medication after the procedure. Those who did took only over the counter medicine and used the medication for a short period of time. The

most common reported problem is soreness after the procedure. The majority of patients were somewhat to very satisfied with the procedure.

How Does your Patient Prepare?

Prior to treatment, your patient will be contacted by our interventional nurse who will gather information on the history of the tendinosis or plantar fasciitis. If the patient meets the treatment criteria, we will schedule your patient to come in for a consult with the radiologist at our Methodist outpatient office. The doctor will examine the tendon under ultrasound to make sure the procedure is appropriate for your patient. Our nurse will contact your patient's insurance and obtain any required prior authorizations. If treatment of the plantar fascia or Achilles tendon is required, a boot will be ordered.

What Happens During the Procedure?

Your patient will check in at Unity Point Lutheran outpatient radiology. Your patient will be given a room and asked to lie on a table. The area is sterilized, and a local anesthetic is administered to the procedure site to numb the area of concern. A small skin nick is made allowing a small micro tip device to be inserted into the tendon or plantar fascia. The radiologist moves the visual ultrasound over the skin revealing the tissue inside that needs to be removed. The machine delivers ultrasonic energy which cuts and debrides the diseased portion of the tendon leaving the healthy tissue in place. Once the pain causing tissue is removed, the body's natural healing response takes over to regenerate normal healthy tissue.

The Tenex Health TX procedure generally takes about 30-45 minutes.

Following the Procedure

A steri strip is applied. Patient recovery will include some level of moderated activity depending on the area treated. Generally, patients are able to drive home unless the patient's foot was treated. Most patients experience minimal pain (treatable with over-the-counter pain medications) and a return to full functioning within about six to twelve weeks with significant reduction in pain and restoration of mobility. We will follow up with a call to your patient one week after the procedure to see how he or she is doing. In addition, we will see your patient within 3-6 weeks post procedure to monitor progress. If physical therapy is needed, we can make that referral. We can also release workers compensation patients back to their jobs.

(Information adapted from Tenex TX Health and Benjamin Stradling, DO)

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Uterine Fibroid Embolization (UFE)

What is Uterine Fibroid Embolization (UFE)

UFE is a minimally invasive procedure which is performed at Methodist Hospital while your patient is conscious, but sedated. It is performed by an interventional radiologist. The radiologist places synthetic particles inside the blood vessels that supply blood to the fibroid tumors. These tiny particles or embolic agents block the blood supply to the fibroid tissue causing it to shrink. It is less invasive than a traditional hysterectomy and usually requires an overnight hospital stay with about one week recovery time. Our team will call your patient to schedule a consult and obtain any needed prior authorizations.

Please call 226-7496 to refer a patient.

CPT Code

37243

Indications/Symptoms

Pelvic pain, heavy or prolonged menstrual periods, pelvic pressure or heaviness, abnormally enlarged abdomen, pain in the back of legs, pain during intercourse, bladder pressure, constipation

Fibroids may be initially diagnosed during a gynecologic internal exam, or by ultrasound. Appropriate treatment depends on the size, location, and severity of symptoms. It is most often evaluated with a contrast enhanced MRI of the pelvis.

Contraindications

Pregnancy, allergy to contrast material (iodine), previous pelvic inflammatory disease, pelvic radiation

Benefits and Risks

Uterine Fibroid Embolization (UFE) is very safe with roughly 80-90% of patients experiencing symptom relief due to tumor shrinkage. It is less invasive than a hysterectomy and has a shorter recovery. Many women are seeking a uterine sparing option which UFE provides.

Even though UFE is save, it does carry some small risks including: infection and possible damage to the femoral artery. In addition, in a small percentage of middle aged women already nearing menopause, early menopause may occur. Infertility can occur in a small percent of patients after UFE.

How Does Your Patient Prepare?

An overnight hospital stay is required to allow optimal management of post procedure pain and possible nausea. Your patient should wear a loose-fitting two-piece outfit. She should plan to be off work for the week following the procedure. Anticoagulation therapy should be discontinued prior to the procedure following the specific discontinuation instructions specific to your patient's medication.

Ibuprofen or aspirin therapy should be discontinued **5 days prior** to the procedure. Your patient will receive complete pre-procedure preparation instruction at the consult.

What Happens During the Test?

Your patient will be positioned on the examining table. A nurse will start an IV and sedative medication will be dispensed, and a Foley catheter is inserted. The groin area is shaved, sterilized, and covered with a drape. Vital signals are monitored throughout the procedure by an ACLS certified nurse.

Following local anesthetic, a small nick is made in the skin (less than ¼ inch) at the groin and a catheter is inserted into the femoral artery. The catheter is image guided through the artery using fluoroscopy. The radiologist injects an embolic agent into the artery that supplies the blood to the fibroid tumor. This process blocks the blood supply to the tumor and causes it to shrink. The artery on the other side of the uterus is then treated.

The procedure takes approximately 2 hours to complete.

After the Procedure

Your patient will be sent home after initial 24 hour observation in the hospital with post procedure instructions. The site will be tender for a few days and bruising may be present. Most women experience mild to moderate pelvic cramping which is usually controlled by anti-inflammatories. She should stay hydrated, get plenty of rest, and avoid all strenuous activities. The majority of women can resume normal activities in a few days and most are able to return to work after one week. It is normal to experience pelvic cramping, vaginal discharge (which may be discolored even lasting up to several weeks), low energy level, decreased appetite for several days, and/or a fever up to 101 degrees.

Your patient should call if they experience any of the following:

- Foul smelling discharge
- Increasing pain
- Sudden increase in drainage
- Increase in temperature
- Bleeding at the puncture site

Our team will follow your patient and the referring providers will receive updates or reports by the radiologist.

(Information adapted from Society of Interventional Radiology and Andrew Nish, MD)

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