

Quick Reference Guide



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IowaRadiology.com 515-226-9810

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Iowa Diagnostic Imaging and Procedure Center DBA Iowa Radiology

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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

70551 Without Contrast

70553 Without and With Contrast

****Please use 70553 for any pituitaries (sellas), and internal auditory canals (IAC's), orbits, soft tissue neck****

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

Indications

Without Contrast: headaches, seizures, TIA or stroke symptoms, memory loss, and organic brain syndrome, dementia or concussion

Without and With Contrast: history of cancer, weakness, loss of sensations, dizziness, vertigo, elevated prolactin, abnormal discharge from the breast, hearing loss, facial pain or numbness, and changes in vision

Contraindications

Patients with cardiac pacemakers, 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.

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.



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How Does Your Patient Prepare?

For all contrast MRI's:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.** The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

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

Patients will need to remove all jewelry, hair clips, ponytails 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 scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

Your patient should plan 60-90 minutes of total clinic time. The scan time can vary from 30-60 minutes depending on the study. Your patient may resume normal activities following the MRI.

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 Dr. Charles De Pena)

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. Although contrast codes are not needed to place an order, the following contrast codes may be used in placing orders: CT Contrast Q9967, MRI contrast A9577 and A9579.

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

74181 Without Contrast

74183 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), renal insufficiency

With and Without Contrast: kidneys, adrenals, liver, pancreas, spleen

Contraindications

Patients with cardiac pacemakers, 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.

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 6-8 hours prior to the exam.

For all contrast MRI's:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.** The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.



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Patients will need to remove all jewelry, hair clips, ponytails 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 scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

Your patient should plan 60-90 minutes of total clinic time. The scan time can vary from 30-60 minutes depending on the study. Your patient may resume normal activities following the MRI.

The Results

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

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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

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

72195 Without Contrast

72197 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, cancer, masses, or other soft tissue abnormalities. Contrast is also used for a bony pelvis when concerned for osteomyelitis, cancer, tumors or infections

***Imaging of hip/acetabulum=MRI of the joint lower extremity, CPT codes: 73721, 73722, 7323**

Imaging of pelvis/sacral plexus/ilic/pubic bone)=MRI pelvis, CPT codes: 72195, 72197

Contraindications

Patients with cardiac pacemakers, 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.



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How Does Your Patient Prepare?

For all contrast MRI's:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, ponytails 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.

For extreme cases of claustrophobia or pain, IV conscious sedation is available for adults 18 and older. Patients who do not tolerate the MRI will be instructed to contact you about possible conscious sedation. All candidates will be prescreened by a radiologist for need and safety. We require a current history and physical be performed within 30 days. Patients with BMI>40, diagnosed with sleep apnea or uncontrolled heart or lung disease are not candidates in a clinic setting. A referral for conscious sedation is required. Our radiologist will oversee the sedation and an ACLS certified nurse will monitor throughout the procedure and recovery. The medications typically used are fentanyl and versed.

Patients receiving conscious sedation should plan for a 3-4 hour appointment time to include recovery. A driver is needed.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam. Your patient may resume normal activities following the MRI. He/she 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 1 business day.

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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: C1 through C7 and T1, T2, base of skull

CPT Codes

72141 C-Spine Without Contrast
72156 C-Spine Without and With Contrast
72146 T-Spine Without Contrast
72157 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, numbness or tingling of the arms or fingers, pain in the upper or lower extremities

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

C or T Spine With and Without Contrast: history of MS (multiple sclerosis), transverse myelitis, tumors, cancer

Contraindications

Patients with cardiac pacemakers, 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.

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?



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For all contrast MRI's:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, ponytails 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.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

Your patient should plan 60-90 minutes of total clinic time. The scan time can vary from 30-60 minutes depending on the study. Your patient may resume normal activities following the MRI.

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 Dr. Charles De Pena)

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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)

CPT Codes

72148 Without Contrast

72158 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, pain radiating to the hips or down the legs, numbness in the legs

With and Without Contrast: history of lumbar surgery, transverse myelitis, MS (multiple sclerosis), tumors, or cancer

Contraindications

Patients with cardiac pacemakers, 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.

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:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**



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The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used. Patients will need to remove all jewelry, hair clips, ponytails 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 scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

Your patient should plan 60-90 minutes of total clinic time. The scan time can vary from 30-60 minutes depending on the study. Your patient may resume normal activities following the MRI.

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 Dr. Charles De Pena)

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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

Joint (most common)

73221 Without Contrast
73222 With Contrast (arthrograms)
73223 Without and With Contrast

Non-Joint

73218 Without Contrast
73220 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: pain, injury, instability and limited range of motion, arthritis

With Contrast: arthrograms of joints, previous surgery, labral tear, popping/clicking, age

Without and With Contrast: bone and soft tissue masses, infection of the bone and soft tissue

Contraindications

Patients with cardiac pacemakers, 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.

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:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**



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The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, ponytails 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 scanning 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 of key importance. Therefore, our patients are offered 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 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 1 business day.

(Information adapted from radiologyinfo.org and Dr. James Choi)

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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

Joint (most common)

73721 Without Contrast
73722 With Contrast – (arthrograms)
73723 Without and With Contrast

Non-Joint (foot, thigh, lower leg)

73718 Without Contrast
73720 With and Without Contrast

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

With Contrast: arthrogram of joints, labral tear, previous surgery, popping/clicking, age

Without and With Contrast: bone and soft tissue masses, infection of the bone and soft tissue

Contraindications

Patients with cardiac pacemakers, 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.

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:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as



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well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, ponytails 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 scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam. Your patient 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 1 business day.

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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 Codes

74185 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 cardiac pacemakers, 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.

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:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular incident, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's risk ratio. This ratio determines how much contrast is to be used.

Patients will need to remove all jewelry, hair clips, ponytails and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks.



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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.

For extreme cases of claustrophobia or pain, IV conscious sedation is available for adults 18 and older. Patients who do not tolerate the MRI will be instructed to contact you about possible conscious sedation. All candidates will be prescreened by a radiologist for need and safety. We require a current history and physical be performed within 30 days. Patients with BMI>40, diagnosed with sleep apnea or uncontrolled heart or lung disease are not candidates in a clinic setting. A referral for conscious sedation is required. Our radiologist will oversee the sedation and an ACLS certified nurse will monitor throughout the procedure and recovery. The medications typically used are fentanyl and versed.

What Happens During the Test?

Your patient will be asked to lie down on his/her back on the scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

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

After the Test

Your patient may resume normal activities following the MRI.

The Results

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

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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

70544	Head	Without Contrast (most common)
70546	Head	Without and With Contrast (rarely ordered)
70547	Neck	Without Contrast
70549	Neck	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

Without and With Contrast: neck pain, identify disease and evaluate aneurysms, dizziness, stroke, stenosis, bruits

Contraindications

Patients with cardiac pacemakers, 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.

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How Does Your Patient Prepare?

For all contrast MRI's:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's renal risk ratio. This ratio determines how much contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, ponytails and bobby pins. In addition, the patient will need to remove all clothing except underwear and socks.



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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 scanning 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. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

Your patient should plan 60 minutes of total clinic time. The scan time can vary from 15-20 minutes. Your patient may resume normal activities following the MRI.

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 Dr. Charles De Pena)

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CT Routine Head

What is a Routine Head CT?

CT scanning often referred to as a CAT scan, is a noninvasive test that is used to diagnose medical conditions. CT scanning provides more detailed information on head injuries, stroke, brain tumors and other brain diseases than regular x-rays.

CPT Codes

70450	Without Contrast (most common)
70460	With Contrast (rarely ordered)
70470	Without and With Contrast

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

Indications

With Contrast:	tumor, abnormal non-contrast CT
Without Contrast:	TIA or stroke symptoms, trauma, seizure, OBS (dementia), headache
Without and With Contrast:	known tumor, (primary brain tumor or metastatic disease)

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Charles De Pena)

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CT Mastoids Orbits Ear

What is a Mastoids/Orbits/Ear CT?

CT scanning often referred to as a CAT scan, is a noninvasive test that is used to diagnose medical conditions.

CPT Codes

70481 With Contrast (orbits only)

70480 Without Contrast

70482 Without and With Contrast

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

Indications

With Contrast: tumor or mass, proptosis, Graves' Disease, pain, double vision, swelling, vision changes

Without Contrast: injury, mastoiditis, hearing loss, cholesteatoma, pain

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Charles De Pena)

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CT Sinus/Facial Bones

What is a Sinus/Facial Bones CT?

CT scanning often referred to as a CAT scan, is a noninvasive test that is used to diagnose medical conditions. A CT scan of the facial area produces images of a patient's sinus cavity.

CPT Codes

70486	Without Contrast	(most common)
70487	With Contrast	(rarely ordered)
70488	Without and With Contrast	(rarely ordered)
76380	Limited	(limited or localized follow-up study)

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

Indications

Without Contrast:	headache, sinusitis, facial injury
With Contrast:	mass, cellulitis

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT.

If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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,



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Charles De Pena)

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CT Soft Tissue Neck

What is a Soft Tissue Neck CT?

CT scanning often referred to as a CAT scan, is a noninvasive test that is used to diagnose medical conditions. Soft tissue structures of the neck include nasopharynx, oropharynx, laryngopharynx, thyroid, lateral pharyngeal space, and others.

CPT Codes

70491	With Contrast (most common)
70490	Without Contrast (rarely ordered)
70492	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

With Contrast:	mass, adenopathy, swelling, pain
Without Contrast:	usually not performed
Without and With Contrast:	salivary (parotid) duct stones

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking medication in 48 hours.

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 Dr. Charles De Pena)

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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

72125	CT C-spine without contrast (most common)
72126	CT C-spine with contrast (rare)
72127	CT C-spine with and without contrast (only when recommended by radiologist)
72128	CT T-spine without contrast (most common)
72129	CT T-spine with contrast (rare)
72130	CT T-spine with and without contrast (only when recommended by radiologist)
72131	CT L-spine without contrast (most common)
72132	CT L-spine with contrast (rare)
72133	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

Contraindications

Pregnancy, allergy to contrast, elevated creatinine

Allergy to contrast material.

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.



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Additionally, the patient must be NPO for 6 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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Marvin Walker)

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CT Routine Chest

What is a Routine 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

71260	With Contrast (most common)
71250	Without Contrast
71270	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

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 hours prior to the exam.

Your patient should also inform his/her doctor of any recent illnesses or other



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Marvin Walker)

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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

75571 \$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, previous heart surgery, stents

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 Dr. Marvin Walker)



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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

74263 Screening

74261 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

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



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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.

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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

74177	Abdomen/Pelvis With Contrast (most common)
74176	Abdomen/Pelvis Without Contrast
74178	Abdomen/Pelvis Without and With Contrast
74160	Abdomen With Contrast
74170	Abdomen Without and With
72193	Pelvis With Contrast
72192	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:	organ specific (kidney, liver, adrenals, pancreas)

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. The patient must not take medications the day of the test



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and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking medication in 48 hours.

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 Dr. Marvin Walker)

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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

73200	Without Contrast (most common)
73201	With Contrast
73202	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: pain, injury, follow-up fracture

With Contrast: bone tumor

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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,



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. James Choi)

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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

73700	Without Contrast (most common)
73701	With Contrast
73702	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: pain, injury, follow-up fracture

With Contrast: bone tumor

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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,



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

The Results

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

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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 Code

74174	Abdomen and Pelvis
74175	Abdomen
72191	Pelvis

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

Indications

With Contrast: arterial and venous aneurysm, atherosclerotic occlusive disease, arterial and venous thromboembolism

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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,



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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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on glucophage/ metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. James Choi)

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CTA Brain (CT Angiogram)

What is a CTA of the Brain?

CT angiography is used to examine the blood vessels in the head. Angiography can be performed using CT or MRI.

CPT Code

70496 With Contrast

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, TIA or stroke, abnormal carotid duplex

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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



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a medical history. The patient will be instructed to lie on his/her back during the exam. The patient will be asked to remain very still during the scanning process. The scan should take approximately 30 minutes.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Charles De Pena)

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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 Code

70498 CTA Neck

70496 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

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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.



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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 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.

After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Charles De Pena)

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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.

CPT Code

71275 With Contrast

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

Indications

With Contrast: evaluate for pulmonary emboli, aneurysm, dissection, or coarctation

Contraindications

For contrast exams, patients on Glucophage/Metformin need a current creatinine within 30 days of the test. Additionally, the patient must not take medications the day of the test and should remain off these medications for 48 hours after the CT. If the creatinine was normal prior to the CT, the patient may resume medications in 48 hours.

Pregnancy.

Allergy to contrast material.

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 6 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.



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After the Test

Your patient may resume normal activities following the CT.

If a contrast material was used and the patient is on Glucophage/Metformin, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

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 Dr. Marvin Walker)

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Coronary CTA Protocol

Ordering and patient protocol for a Coronary CTA exam

Call 515-226-7441 to schedule with a CT tech. It is only performed at the Clive location.

Obtain prior authorization if indicated. In addition, we will require the patient to sign an ABN at our office stating that if insurance doesn't cover the exam, the patient will be responsible for payment.

A current H and P needs to be performed on the patient within 30 days.

A current creatinine within 30 days for patients presenting with risk factors. Creatinine risk factors include: Any patient over the age of 60, treated diabetes or HTN, or any known renal insufficiency. We can perform the creatinine draw at the time of the exam if needed. Please include order.

If the patient is on Metformin/Glucophage/Glucovance they will need to hold it the day of the exam and 48 hours post CT.

Full premeds will be necessary if the patient has a dye allergy. (50 mg prednisone 13,7, and 1 hour prior to CT and 50 mg oral Benadryl 1 hour prior to CT)

If the ordering office feels the patient's heart rate is going to run higher than 65 BPM the day of the exam, please prescribe 50-100 mg of oral metoprolol for the patient to take 2 hours prior to their arrival for the exam.

Please fax order, H and P, insurance card, medication list, and prior authorization to 515-226-8408.

CPT Code

75574

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

How Does Your Patient Prepare?

Refrain from caffeine products including: (coffee, soda, chocolate, tea), nicotine, and Excedrin for 24 hours prior to the CT.

Patients on Metformin/Glucophage/Glucovance will need to withhold the morning dose and for 48 hours after the CT.

Patients must have nothing to eat for 4 hours prior to CT and nothing to drink for 2 hours before the CT.



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Expect to be at our office for 1.5 hours. The CT tech will call to confirm the appointment and arrival time the day before the exam.

Clive Location: 12368 Stratford Dr., Suite 300 Clive, IA 50325

What Happens During the Test?

Your patient will be asked to remove any jewelry and the technologist will obtain a medical history.

We will start an IV in the patient's arm to administer contrast and hook up 4 electrode patches to monitor heart rate and blood pressure. Depending on heart rate, we may administer metoprolol to lower heart rate which helps us to obtain better images.

Your patient will be instructed to lie on his/her back during the exam.

During the exam, the tech will come into the room and administer a nitroglycerin tablet to be put under the patient's tongue.

The patient will be asked to remain very still during the scanning process.

The scan should take approximately 30 minutes.

After the Test

Your patient will be encouraged to drink plenty of fluids. Your patient may resume normal activities following the CT.

If your patient is on Metformin/Glucophage/Glucoavance, the patient must stay off the medication for 48 hours. If the patient's creatinine was normal prior to the CT, the patient may resume taking the medication in 48 hours.

The Results

A radiologist will analyze the images and send a signed report to the referring physician.

(Information adapted from radiologyinfo.org and David L. Lacey MD)

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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.

CPT Code

93880 bilateral

93882 unilateral

Indications

Common indications covered but not limited to: lump head/neck, speech disturbances, dysphasia, slurred speech, facial weakness, aphasia, transient global, ataxic gait, unsteadiness on feet, amnesia, abnormal gait, transient paralysis, history of stenosis, dissection, carotid bruit, vertigo, syncope, weakness/numbness, pulsative bulge in neck

Medicare will not cover the following indications: follow-up screening, headache, weakness, numbness, TIA-unspecified list symptoms of TIA, hyperlipidemia, amaurosis fugax, vision changes, PAD, diabetes

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.



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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 Dr. Jill Westercamp)

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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

76536

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.



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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 Dr. Jill Westercamp)

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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 Code

76700 abdominal complete

76705 abdominal limited- same as above, but excludes left side (spleen and left side of kidney)

Indications

nausea, vomiting, abdominal pain, abnormal liver enzymes, history of cancer, follow-up on abnormal x-ray, MRI or CT scan, palpable mass

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.



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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 Dr. Jill Westercamp)

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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 Code

76770 complete retroperitoneal area: aorta and kidneys

76775 limited to one retroperitoneal area or organ or follow up of a limited area: aorta or kidneys

76706 Medicare screening for aorta, AAA only

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.



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- 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?

Patient needs to be well hydrated for a renal or bladder exam. Your patient must be NPO for 6 hours with the exception of coffee, tea or water.

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 30-60 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 Dr. Jill Westercamp)

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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 Code

76770 complete study all organs visualized

76775 limited organs visualized

93975 study includes arterial inflow and venous outflow

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?

No patient preparation is required.

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



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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 Dr. Jill Westercamp)

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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

Men: bladder

CPT Code

76856 Trans-abdominal

76830 Trans-vaginal

96857 pelvis limited

TATV pelvis TA/TV

** Both studies are typically performed unless otherwise specified.

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

In men, a pelvic ultrasound is used to evaluate the bladder.

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.



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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 handheld 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 Dr. Jill Westercamp)

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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

76882

Indications

palpable mass or pain in the area of concern, popliteal fossa non vascular, limited, anatomic specific, 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 standing or 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 procedure is quick 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.



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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 Dr. Jill Westercamp)

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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

76870

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 may be 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.



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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 Dr. Jill Westercamp)

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Limited Doppler Ultrasound

What is a Limited 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

93976 limited to part of an organ or follow up of a limited area

Indications

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

Contraindications

none

How Does Your Patient Prepare?

Your patient should be well hydrated prior to a renal artery exam but does not need to come with a full bladder.

For superior mesenteric artery (SMA) tests, your patient will be asked to drink a fatty meal (ensure) when he/she arrives and must be NPO for 6 hours.

Images will be taken at 15 to 20 minute timed intervals.



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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 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 Dr. Jill Westercamp)

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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 Code

93970 Bilateral

93971 Unilateral

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 60 minutes to complete.



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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 Dr. Jill Westercamp)

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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

73040	Shoulder (most common)
73580	Knee
73525	Hip
73115	Wrist
73085	Elbow
73615	Ankle

(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.



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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, Dr. James Choi and Dr. Paul Keller)

(Additional codes: Injection portion: 23350 shoulder, 27370 knee, 27093 hip, 27648 ankle, 25246 wrist per compartment injected. MRI under fluoroscopic guidance: 77002 and 73222 shoulder, 77002 and 73722 knee, 77002 and 73722 hip, and 77002 and 73222 ankle, and 77002 and 73722 wrist.

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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 rectum. The liquid is a type of contrast. Contrast highlights specific areas in the body, creating a clearer image. The barium eventually passes out of the body with the stools.

CPT Code

74280 Double (air and barium most common)

74270 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. A small rubber tip 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.



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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 Dr. Paul Keller)

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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 Code

74220

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. Known or suspected ibuprofen perforation.

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 Dr. Paul Keller)



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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 Code

62270 (77003 for fluoroscopic guidance)

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.



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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 Dr. Paul Keller)

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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 barium (a thick, chalky fluid) or some other contrast media through the small intestines.

CPT Codes

74245 UGI with SB - with no air (gastric bypass patients with band or sleeve)

74249 UGI with SB - with air

74250 SB

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.



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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 Wikipedia and Dr. Paul Keller)

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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

20611 Shoulder, Hip, Knee, Ankle, Wrist, Sternoclavicular

77002 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 Dr. James Choi)

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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

74246	UGI with air (most common)	74240	UGI no air (gastric bypass band/sleeve patients)
74249	UGI with air and small bowel	74245	UGI no air with 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



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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 Dr. Paul Keller)

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Voiding Cystourethrogram (VCUG)

What is a Voiding Cystourethrogram?

A voiding cystourethrogram (VCUG) is an x-ray exam of the bladder and lower urinary tract that uses fluoroscopy and a contrast material. It is often performed on children to check bladder function.

Fluoroscopy makes it possible to see internal organs in motion. When the bladder is filled with and then emptied of a water-soluble contrast material, the radiologist is able to view and assess the anatomy and function of the bladder and lower urinary tract.

If a patient is catheterized prior to the exam we can perform this at either of our outpatient locations. If they have not been catheterized, the exam can only be performed at Methodist Hospital or in our downtown outpatient location.

CPT Code

74430 Non voiding

74455 Voiding (most common)

51600 Injection

Indications

This examination is often recommended after a urinary tract infection to check for a condition known as vesicoureteral (VU) reflux. Urinary tract infection may be the only symptom of the problem. A voiding cystourethrogram cannot evaluate obstruction of flow of urine from the kidneys. Additional examinations are needed if obstruction is suspected.

Contraindications

untreated urinary tract infection, hypersensitivity to contrast media, pregnancy

What Happens During the Test?

There is no preparation required for the test. A medical history is obtained, and the technologist begins by positioning the child on the table.

Several x-rays are taken of the bladder. After cleaning the genital area, a catheter is inserted through the urethra or penis. The catheter is filled with a water-soluble contrast material. Images are taken during the filling and emptying process under fluoroscopy. After the exam, the catheter is removed.



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A voiding cystourethrogram is painless. A local anesthetic is usually applied to minimize the discomfort of inserting the catheter. The antiseptic used to clean and prepare for the insertion of the catheter may feel cold. Some children may experience mild discomfort when the catheter is inserted, and the bladder is filled with the contrast material. A parent is allowed to stay in the room to comfort the child but will be required to wear a lead apron to prevent radiation exposure.

After the Exam

After the exam there are no restrictions. Urine may be pink the first time after the catheter is removed. A burning sensation is not unusual after a catheter is removed. Pain and inflammation should subside within one to two days.

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 Dr. Paul Keller)

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Digital Mammogram

What is a 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

77067 Screening

77066 Diagnostic

77065 Diagnostic Unilateral

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.

Contraindications

Women under the age of 40 unless indicated by her physician. pregnancy, breast feeding (patient should wait until 4 months post nursing unless clinically indicated)



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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 Dr. Jill Westercamp)

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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

76642 per breast

Indications

follow-up on a mammogram 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.



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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 Dr. Jill Westercamp)

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Ultrasound Guided Vacuum Assist Breast Biopsy

What is a Vacuum Assisted Breast Biopsy?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the breast. Ultrasound exams do not use radiation. A radiologist uses ultrasound guidance to sample a breast mass.

With a vacuum assisted device, vacuum pressure is used to pull tissue from the breast through the needle into the sampling chamber. Without withdrawing and reinserting the needle, it collects additional samples. Once the sample is obtained, it is sent to an independent pathologist to determine a diagnosis.

CPT Code

19083

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

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.



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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, 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 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 Dr. Jill Westercamp)

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Stereotactic Guided Core Needle Breast Biopsy

What is Core Needle Breast Biopsy?

Ultrasound imaging or sonography uses sound waves to produce pictures of the inside of the body. Ultrasound exams do not use radiation. A radiologist uses ultrasound guidance to sample a breast mass. Once the sample is obtained, it is sent to an independent pathologist to determine a diagnosis.

CPT Code

19081

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

Indications

abnormal breast mass detected with breast ultrasound, or palpable abnormality

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 lying face-up on the examination table. 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 (5 to 10) samples are taken with a spring loaded biopsy needle. The needle is removed, and a small



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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 Dr. Jill Westercamp)

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Breast MRI

What is a 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. Breast imaging begins with mammogram and ultrasound. In specific instances MRI can be offered.

CPT Codes

77058	unilateral
77059	bilateral

Indications

Without Contrast:	implant integrity evaluation
Without and With Contrast:	newly diagnosed breast cancer or post lumpectomy, specialized diagnostic with ultrasound, very high evaluation

Contraindications

Patients with cardiac pacemakers, 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.

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:

A current creatinine (within 45 days) is needed on all patients over the age of 60, as well as patients that have high blood pressure, diabetes, acute vascular disease, or a history of kidney disease. **Please fax these results with the order.**

The creatinine level is used to determine the patient's renal risk ratio. This ratio determines which type of contrast, if any, is to be used.

Patients will need to remove all jewelry, hair clips, pony-tails and bobby pins. In



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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.

Because this exam requires your patient to follow instructions during the procedure, neither oral or IV conscious sedation is available for this study.

What Happens During the Test?

Your patient will be asked to lie down on her stomach on the scanning 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 of key importance. Therefore, our patients are offered earplugs or a music headset; in addition, blankets are also available. Your patient should relax and remain still during the exam.

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

Your patient may resume normal activities following the MRI.

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 Dr. Jill Westercamp)

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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

76536

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.



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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 Dr. Jill Westercamp)

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OB Complete Ultrasound

What is an OB Complete 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 ultrasound or level 2 morphology 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 Code

76805 After 14 weeks; Optimal: 18-21 weeks

Indications

evaluation of fetal morphology, gestational age and assessment of fetal size and growth, placental localization

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. A full bladder is not necessary.

What Happens During the Test?

Our technologist will obtain a medical history. Your patient will be asked to lie face up on an examination table with her abdomen exposed. A clear gel is applied to 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 a scanner by a cord. The ultrasound image is available to the technologist immediately on a screen next to your patient.



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Once the transabdominal exam has been performed, your patients' feet will be placed in stirrups, similar to a gynecologic exam. The technologist will insert the ultrasound camera into her vagina and obtain several internal images.

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.

Iowa Radiology may provide a complimentary ultrasound picture to your patient as a keepsake.

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 Dr. Jill Westercamp)

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OB Ultrasound Less Than 14 Weeks

What is an OB Ultrasound Less than 14 Weeks?

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 of the mother and baby.

This exam is usually performed trans-abdominally and transvaginally.

Organs visualized include: embryo/fetus, uterus, ovaries

CPT Code

76801 less than 14 weeks

Indications

establish the presence of a viable pregnancy, estimate gestational age, determine if there are multiple pregnancies

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. A full bladder is necessary.

What Happens During the Test?

Our technologist will obtain a 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. 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 a scanner by a cord. The ultrasound image is available to the technologist immediately on a screen next to your patient.



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Once the transabdominal exam has been performed, your patients' feet will be placed in stirrups, similar to a gynecologic exam. The technologist will insert the ultrasound camera into her vagina and obtain several internal images.

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.

Iowa Radiology may provide a complimentary ultrasound picture to your patient as a keepsake.

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 Dr. Jill Westercamp)

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OB Ultrasound Over 14 Weeks

What is an OB Ultrasound over 14 weeks?

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

This exam is limited to heartbeat, fetal size or placenta location, fetal position, or qualitative amniotic fluid volume. This exam is normally performed transabdominally, however, if circumstances warrant a transvaginal approach may be used.

Organs visualized include: fetus, uterus, and occasionally maternal ovaries.

CPT Code

- 76805 over 14 weeks complete
- 76815 limited to fetal heartbeat, placental location or position
- 76816 re-evaluation of fetal size, amniotic fluid level, or evaluation of a specific organ
- 76817 transvaginal evaluation (may be used in addition to above codes)

Indications

This limited exam is used only when a patient has had a complete OB ultrasound. It is usually performed in the 3rd trimester and can be ordered as a follow-up exam to (76815, 76816).

determine fetal growth, estimate gestational age, evaluate the position of the placenta, determine the amount of amniotic fluid around the baby, check for opening or shortening of the cervix

Contraindications

none

How Does Your Patient Prepare?

Your patient should wear a loose-fitting two-piece outfit. A full bladder is not necessary.

What Happens During the Test?

Our technologist will obtain a 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



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face-up on an examination table that can be tilted or moved. A clear gel is applied to 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 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 complimentary ultrasound picture to your patient as a keepsake.

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 Dr. Jill Westercamp)

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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

Men: bladder

CPT Code

76856 Trans-abdominal

76830 Trans-vaginal

96857 pelvis limited

TATV pelvis TA/TV

** Both studies are typically performed unless otherwise specified.

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

In men, a pelvic ultrasound is used to evaluate the bladder.

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.



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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 Dr. Jill Westercamp)

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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 Code

58340 and 74740 (catheterization and introduction of contrast material)

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.



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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 Dr. Jill Westercamp)

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Sonohysterogram

What is a Sonohysterogram?

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 used to get a detailed view of the endometrium (lining) of the uterus. It can be used to pinpoint areas of concern.

CPT Code

58340 and 76831 (catheterization and introduction of saline solution)

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 Dr. Jill Westercamp)

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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

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

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.

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



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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 Dr. Bill Heggen)

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General X-Ray

Exam	CPT Code
Abdomen	
Abdomen – 2 views (Flat & Upright)	74019
Abdomen – 1 view	74018
Foreign Body (Child Torso)	76010
Chest	
Chest – 2 views	71046
Ribs – 2 views	71100
Sternum – 2 views	71120
SC Joints – 2 views	71130
Extremities	
Shoulder – 2 views	73030
AC Joints – with or without weights	73050
Humerus – 2 views	73060
Scapula – 2 views	73010
Clavicle – 2 views	73000
Forearm – 2 views	73090
Elbow – 3 views	73080
Wrist – 3 views	73110
Hand – 3 views	73130
Finger – 3 views	73140
Pelvis – 1 View	72170
Hip – 2-3 views (with or without pelvis)	73502
Femur – 2 views	73552
Knee – 3 views	73562
Tib/Fib – 2 views (lower leg)	73590
Ankle – 3 views	73610
Foot – 3 views	73630
Toe – 3 views	73660
Calcaneus – 2 views (heel)	73650



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General X-Ray (continued)

Exam	CPT Code
Head Work	
Skull – 4 views	70260
Sinuses – 3 views	70220
Nasal Bones – 3 views	70160
Facial Bones – 3 views	70150
Mandible – less than 4 views	70100
Mandible – minimum 4 views	70110
TMJ – open and closed mouth	70330
Eye for Foreign Body	70030
Orbits – 4 views	70200
Shunt – 2 view skull (less than 4 views)	70250
AP Chest	71045
AP Abdomen	74018
Spine	
Cervical Spine – 6 or more views	72052
Thoracic Spine – 3 views	72072
Lumbar Spine – 2-3 views	72100
Lumbar Spine – minimum 4 views	72110
Sacrum/Coccyx – minimum 2 views	72220
SI Joints – 3 or more views	72202
Scoliosis – 2-3 views thoracic/lumbar; cervical if done	72082
Scoliosis – 4-5 views	72083
Other Exams	
Bone Survey (adult)	77075
Bone Survey (pediatric)	77076
Bone Age	77072
IVP	74400



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Kyphoplasty and Vertebroplasty

What are Vertebroplasty and Kyphoplasty?

Vertebroplasty and Kyphoplasty are minimally invasive procedures which 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.

With kyphoplasty, the spinal fracture may be “reduced” with a balloon device and upon removal, cement is injected into the space. Kyphoplasty 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

Kyphoplasty 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;



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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, vertebroplasty and kyphoplasty have risks to be considered including: infection, complications from sedation and, cement leakage 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 kyphoplasty, 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 Dr. Charles DePena)

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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

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



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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 Dr. Benjamin Stradling)

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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 safe, 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.



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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 Dr. Andy Nish)

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