Dear Provider:

On behalf of the staff and physicians of Altru Health System, it is our pledge to provide you and your patients unsurpassed clinical quality and customer service. We look forward to serving you, not only as a resource for your patients, but also as a partner in the fulfillment of your patient care mission.

Please feel free to contact us if you have any questions regarding the scope of imaging services available at Altru Health System.

Sincerely,

Steven P. Metcalf Jackie Walsh
Radiology Manager Administrative Director
(701) 780-5829 (701) 780-2439

Bradley Aafedt, MD Robert Thompson, MD
Department Chairman Medical Executive
(701) 780-6157 (701) 780-1611
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The physicians and staff of Altru's Radiology Department are committed to quality and exemplary customer service. The department is made up of approximately 150 employees, including diagnostic radiologists, neuroradiologists and interventional radiologists. Approximately 145,000 patient exams are performed each year. The department, except for mammography, is fully digital.

For all departments, radiology technologist certification is required. All of Altru's radiologists are board certified or board certification eligible.

**Radiology Services Mission**

The mission of our Radiology Department is to provide medical imaging services to the customers of Altru Health System. These customers consist of patients, family members, physicians, and other hospital personnel. Our customers can expect high quality diagnostic imaging with state-of-the-art technology and individualized care. We believe that the employees of Radiology take pride in the contribution they make toward the overall mission of the Altru Health System.

**Radiology Services Vision**

To be comprehensive and integrated provider of radiology health care services with unequivocal commitment of quality, efficiency, and respect for the health care interests of our patients, family members, physicians, and customers throughout Altru Health System.

**Medical Staff**

**Diagnostic Radiology** ................................................................. Clinic (701) 780-6157, Hospital (701) 780-5246
Bradley Aafedt, MD, Chairman
Leslie Soine, MD
Larissa Hood, MD
Bonnie Omdahl, MD
Jodi Treuer, MD
William Hagen, DO
Bernie Dallum, MD

**Neuro-Radiology** .................................................................................................................. (701) 780-5246
Gerald Smyser, MD
Shawn Schreiner, MD

**Interventional Radiology** .................................................................................................. (701) 780-5246
Randall Smith, MD
Daniel R. Schmelka, Jr., MD

**Patient Scheduling and Registration**

Access to most patient exams is typically less than three business days. At the time of scheduling, provider offices will be asked to provide a signed and dated order (faxed is acceptable) along with appropriate and pertinent medical history to support the exam request.

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling. Urgent and/or emergent exams are performed on a medical necessity basis. Hospital departments are staffed or on-call 24 hours a day, seven days a week.
Scheduling Phone Numbers

Altru Hospital

MRI/Nuclear Medicine/Diagnostic X-Ray ................................................................. (701) 780-5328
PET ......................................................................................................................... (701) 780-5328
Arthograms/Hip Injections .................................................................................. (701) 780-5328
Nuclear Cardiology ............................................................................................... (701) 780-5272
CT .......................................................................................................................... (701) 780-5933
Interventional Radiology ..................................................................................... (701) 780-1707
Interventional Radiology Patient Care Coordinator ........................................ (701) 780-1708
Radiologists ........................................................................................................ (701) 780-5246

Altru Clinic - Main

GI Fluoro/IVP/VCUG/Dexscan .............................................................................. (701) 780-6157 or 6475
Ultrasound ........................................................................................................... (701) 780-6240
Mammography ..................................................................................................... (701) 780-6258 or 6461
Mammography Resource Nurse ................................................................. (701) 780-6258 or 6461
Breast Center ....................................................................................................... (701) 780-6427
Image Guided Breast Biopsy ............................................................................... (701) 780-6152
Radiologists ........................................................................................................ (701) 780-6157

Image Service Center and Reports

Hospital ................................................................................................................ (701) 780-5277
Clinic .................................................................................................................... (701) 780-6150

Pre-authorization

Most insurance carriers (including Workman’s Comp) require exam pre-authorization for CT, MRI, PET, invasive procedures and nuclear medicine. Please be sure to check this requirement with your patient’s insurance carrier prior to scheduling.

Result Reporting

Most exams are interpreted by our radiologists within 24 hours. Typically, paper copies of reports are mailed and received within 48 to 72 hours. Reports may be obtained sooner by requesting a faxed copy by contacting the Image Service Center. Reports are also available via our dictation listen line service.

Altru Health System has a partnership with St. Paul Radiology in Minneapolis, Minnesota. Images from radiology exams can be sent to St. Paul Radiology electronically (teleradiology). After 5 p.m. during the week and during the weekends, St. Paul Radiology provides the interpretations for most CT and MRI exams.

PACS and Digital Imaging

In December 2007, Altru Health System fully implemented a Picture Archive and Communication System (PACS). At that time the department no long, except for mammography, provides images on film. Image send out requests are provided on CD’s, which are self-loading and initiating. This may vary depending on the computer used to view the images on the CD.

PACS related questions can be directed to Lorette Hendrickson, PACS Administrator, at (701) 780-6179.
Mammography
Altru Clinic - Main

Mammography is an x-ray of the breast using low dose radiation. The key role is to identify breast cancer early when it is very small. Altru is an ACR accredited facility providing service for women and men. We follow the American Cancer Society guidelines for screening mammograms starting at age 40.

Service Location
Altru Clinic - Main

Hours of Service
7 a.m. - 5 p.m. Monday through Friday

Staff
• Certified radiologist
• Certified mammography technologist(s)
• Registered nurses

Equipment
• Four Rooms: Instrumentarium (film/screen)
• CAD (Computer Aided Detection software)

Procedures
• Screening - used to find breast cancer early in women with no symptoms
• Diagnostic - problem solving examinations in patients who have abnormal physical findings or an abnormal screening mammogram
• Needle localization - definitive way to test for the presence of a malignant tumor or to determine if an abnormality is benign

Results Reporting
• Patient is informed that he or she will receive a letter within two to ten days regarding the results of the mammogram. When previous films need to be obtained for comparison the time for results may be delayed up to two weeks.
• Primary care provider will also receive a copy of the report.

Contact Information
• To schedule an appointment ................................................................. (701) 780-6152
• Supervisor, Tarra Ihry ................................................................. (701) 780-6955

Instructions for any patient preparations that may be need for an exam will be provided at the time of scheduling.
Mammography
Altru Clinic - Lake Region

Mammography is an x-ray of the breast using low dose radiation. The key role is to identify breast cancer early when it is very small. Altru is an ACR accredited facility providing service for women and men. We follow the American Cancer Society guidelines for screening mammograms starting at age 40.

Service Location
Altru Clinic - Lake Region
1001 7th Avenue North East
Devils Lake, North Dakota  58301

Hours of Service
8:30 a.m. - 4:30 p.m. Monday through Wednesday
8:30 a.m. - 12 p.m. Thursday

Staff
All staff are registered/licensed through the American Registry of Radiologic Technologist, with an advanced certificate through the ARRT in Mammography.

Equipment
• GE SenoGraphic 800T
• R2 CAD (Computer Aided Detection software)

Procedures
• Screening - used to find breast cancer early in women with no symptoms
• Diagnostic - problem solving examinations in patients who have abnormal physical findings or an abnormal screening mammogram
• Needle localization - definitive way to test for the presence of a malignant tumor or to determine if an abnormality is benign.

Results Reporting
• Patient is informed that he/she will receive a letter within two to ten days regarding the results of the mammogram. When previous films need to be obtained for comparison, the time for results may be delayed up to two weeks.
• Primary care provider will also receive a copy of the report.

Contact Information
• To schedule an appointment ................................................................. (701) 662-2158
• Supervisor, Janis Jaeger ................................................................. (701) 665-5223

Instructions for any patient preparations that may be needed for a exam will be provided at the time of scheduling.
Breast Biopsy

A breast biopsy removes a sample of male or female breast tissue that observed under a microscope to check for breast cancer. A breast biopsy is usually done to check a lump found during a breast examination or a suspicious area found on a mammogram or ultrasound.

Service Location
Altru Clinic - Main

Days of Service
Tuesday and Wednesday Every Other Week

Staff
St. Paul Radiology
Joe Tashjian, M D
Tara Bowman, M D
Dedicated breast staff: RN, CNA, Certified Mammographer & U/S Technologist

Equipment
• Fischer table
• Mammotone /vacuum assisted device

Procedures
• Stereotactic Breast Biopsy

Results Reporting
• Patient receives biopsy results from ordering primary care provider
• Radiologist who performs the procedure reviews the pathology
• Determines if outcome is concordant or discordant
• Follow up recommendations are given in form of addendum to the procedure report
• Patient will receive letter with follow up recommendations after radiologist reviews pathology

Contact Information
• To schedule an appointment ................................................................. (701) 780-6152
• Procedures are scheduled Tuesdays and Wednesdays (rotating every other week) by a radiologist or primary care provider
• Procedures are also done on selective Tuesdays by a surgeon

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Ultrasound

Ultrasound, also called sonography, is the use of high frequency sound waves to produce an image of an organ or body tissue. Because ultrasound images are captured real-time, they can show the structure and movement of the body's internal organs as well as blood flow. Ultrasound exams do not use ionizing radiation. Ultrasound imaging is usually a painless medical test that helps physicians diagnose and treat medical conditions.

Service Location
- Altru Clinic - Main (outpatient care)
- Altru Clinic - Main (wound clinic/vascular services)
- Altru Hospital (inpatient care)

Hours of Service
- Clinic outpatient: 7 a.m. - 5 p.m. Monday through Friday
- Hospital inpatient: 7 a.m. - 12 p.m. Monday through Thursday
  7 a.m. - 5 p.m. Fridays

On-call Coverage
- 12 a.m. - 7 a.m. Monday through Thursday
- 5 p.m. Friday to 7 a.m. Monday

Staff
- All staff are RDMS, RVT or registry eligible.

Equipment
- Three GE Logic 9
- Five Siemens Sequoia

Procedures
- Abdominal ultrasound
- Breast ultrasound
- Hysterosonography
- Ob/Gyn ultrasound
- Pediatric abdomen, hip and spine ultrasounds
- Thyroid and scrotal ultrasounds
- Vascular ultrasound

We also offer ultrasound guided biopsy procedures such as breast and kidney biopsies.

Contact Information
- To schedule an appointment ................................................................. (701) 780-6240
- Ultrasound supervisor, Laurie Mahin .................................................. (701) 780-6561
- Ultrasound tech work area ................................................................. (701) 780-6512 or 6519
- Vascular tech work area .................................................................... (701) 780-6252
- Hospital ultrasound room ................................................................. (701) 780-5801

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Hospital

Diagnostic radiology at Altru Hospital provides quality radiographs and outstanding patient care. Our diagnostic services include exams in fluoroscopy, tomography, portable x-rays, c-arms, trauma and routine radiography.

Altru offers computer radiography (CR), digital radiography (DR) and picture archiving and communication system (PACS). Computer radiography (CR) uses very similar equipment to conventional radiography except that in place of a film to create the image, an imaging plate is used. CR records the x-ray image on a highly sensitive imaging plate. The image is read by laser, processed by computer, and reconstructed with enhanced diagnostic information. The digitized data then can be put on our hospital-wide (PACS). Digital radiography (DR) is a form of x-ray imaging, where digital X-ray sensors are used instead of traditional films. The difference between CR and DR is that, when an exposure is done on the DR equipment, you will almost instantly display the image on the screen in front of the radiographer, therefore removing any need to put the image plate through the reader. Reports can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Service Location
Altru Hospital, main level

Hours of Service
Services are available 24 hours a day, seven days a week, with back up on-call coverage.

Staff
All technologists are registered/licensed through the American Registry of Radiologic Technologist. We are also a training facility for the Northland Community & Technical College Radiology Students.

Procedures
- Arthrography/Injections
- Diagnostic Radiography
- Intravenous Pyelogram (IVP)
- Inpatient Fluoroscopy
- Lumbar Punctures
- Myelograms
- Video Pharynx

Contact Information
- To schedule an appointment ................................................................. (701) 780-5328
- Supervisor, Jeanne Boman ................................................................. (701) 780-5263
- Central Workstation ........................................................................... (701) 780-5245
- Radiology Reception Area ................................................................. (701) 780-5246

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology  
Altru Clinic - Main

Diagnostic radiology at Altru Clinic - Main is committed to providing high quality radiographs and outstanding patient care. Our diagnostic services include exams in fluoroscopy, tomography, bone density (DEXA) and routine radiography.

Altru Clinic - Main provides all radiography services in a digital imaging format using computer radiography (CR), digital radiography (DR) and a picture archiving and communication system (PACS). CR is very similar to conventional x-ray except, in place of a film, an imaging plate is used. The CR image is captured on a highly sensitive imaging plate, read by laser beam, digitized by computer, and reconstructed with enhanced diagnostic information. DR is similar to CR, the difference being x-ray exposures made on the DR equipment are captured on a fixed image plate inside the x-ray equipment, so there is no handling of the image plate by the technologist and the images are displayed almost instantly on the computer screen. The digitized image data is then stored by our hospital-wide PACS and available for review on computer, by any Altru healthcare provider. Radiology results can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Location  
Altru Clinic - Main

Hours of Service  
7:30 a.m. - 5:30 p.m. Monday through Friday

Staff  
All technologists are registered/licensed through the American Registry of Radiologic Technologist. We are also a training facility for Northland Technical College Radiology Students.

Procedures  
• Injections
• Routine Radiographs
• Scoliosis Surveys
• Intravenous Pyelogram (IVP)
• GI Fluoroscopy (Barium and contrast studies)
• Bone Density - DEXA scans

Contact Information  
• To schedule an appointment................................................................. (701) 780-6475 or 6157
• Supervisor, Rich Lofgren ................................................................. (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Family Medicine Center

Diagnostic Radiology at the Altru Clinic - Family Medicine Center (FMC) is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

FMC provides all radiography services in a digital imaging format using computer radiography (CR) and picture archiving and communication system (PACS). CR is very similar to conventional x-ray except, in place of a film, an imaging plate is used. The CR image is captured on a highly sensitive imaging plate, read by laser beam, digitized by computer, and reconstructed with enhanced diagnostic information. The digitized image data is then stored in PACS and available for review on computer, by any Altru health care provider.

Radiology results can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Location
Altru Clinic - Family Medicine Center

Hours of Service
7:30 a.m. - 5:30 p.m. Monday through Friday

Procedures
• Routine Radiographs

Contact Information
• To make an appointment ................................................................. (701) 795-2234
• Supervisor, Rich Lofgren ............................................................. (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Grand Forks Family Medicine Residency

Radiology at the Grand Forks Family Medicine Residency (FMR) is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

FMR provides radiography services in a digital imaging format using computer radiography (CR) and picture archiving and communication system (PACS). CR is very similar to conventional x-ray except, in place of a film, an imaging plate is used. The CR image is captured on a highly sensitive imaging plate, read by laser beam, digitized by computer, and reconstructed with enhanced diagnostic information. The digitized image data is then stored in PACS and available for review on computer, by any Altru health care provider.

Radiology results can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Location
Grand Forks Family Medicine Residency (next to the Barnes & Noble bookstore by the Ralph Engelstad Arena on UND Campus).

Hours of Service
8:30 a.m. to 5:30 p.m. Monday through Friday

Procedures
• Routine Radiographs

Contact Information
• To make an appointment ........................................................................................................... (701) 780-6865
• Supervisor, Rich Lofgren ........................................................................................................... (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology  
Altru Rehabilitation Center

Diagnostic radiology at Altru Rehabilitation Center is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Rehabilitation Center provides all radiography services in a digital imaging format using computer radiography (CR), digital radiography (DR) and a picture archiving and communication system (PACS). CR is very similar to conventional x-ray except, in place of a film, an imaging plate is used. The CR image is captured on a highly sensitive imaging plate, read by laser beam, digitized by computer, and reconstructed with enhanced diagnostic information. DR is similar to CR, the difference being x-ray exposures made on the DR equipment are captured on a fixed image plate inside the x-ray equipment. There is no handling of the image plate by the technologist and the images are displayed almost instantly on the computer screen. The digitized image data is then stored by our hospital-wide PACS and available for review on computer, by any Altru health care provider.

Radiology results can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Location  
Main level of Altru Rehabilitation Center, in Orthopedics

Hours of Service  
8 a.m. to 4:30 p.m. Monday through Friday

Staff  
All technologists are registered/licensed through the American Registry of Radiologic Technologist. We are also a training facility for Northland Technical College Radiology Students.

Procedures  
- Routine Radiographs  
- Scoliosis Surveys  
- Long Leg Alignment Surveys

Contact Information  
- To make an appointment .......................................................... (701) 780-4985  
- Supervisor, Rich Lofgren .......................................................... (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Cavalier

Diagnostic radiology (X-ray) department at Altru Clinic - Cavalier, North Dakota, is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru's clinic in Cavalier provides radiography services using conventional x-ray film and wet film processing. The films are sent by courier from Cavalier to Altru Clinic - Main, where they are scanned in to the picture archiving and communication system (PACS) and then routed to Altru radiologists for interpretation. After the films are read they are returned to Altru Clinic-Cavalier and stored in the radiology file room.

Radiology results can be retrieved by physicians through PACS. Hard copy results are also sent by courier for filing in the patients medical record and a copy is posted on the x-ray file jacket.

Location
Altru Clinic - Cavalier

Hours of Service
8 a.m. to 5 p.m. Monday through Friday

Staff
The x-ray operators at Cavalier are licensed through the North Dakota Department of Health and radiology services are inspected and certified by North Dakota Department of Health.

Procedures
• Routine Radiographs

Contact Information
• To schedule an appointment ................................................................. (701) 265-8338
• Supervisor, Rich Lofgren ................................................................. (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Crookston

Diagnostic Radiology at Altru Clinic - Crookston, Minnesota is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Clinic - Crookston provides all radiography services in a digital imaging format using computer radiography (CR) and a picture archiving and communication system (PACS). CR is very similar to conventional x-ray except, in place of a film, an imaging plate is used. The CR image is captured on a highly sensitive imaging plate, read by laser beam, digitized by computer, and reconstructed with enhanced diagnostic information. The digitized image data is then stored in PACS and is available for review on computer, by any Altru health care provider. Interpretation of images at the Crookston location in provided through contract with an independent radiologist.

Radiology results can be retrieved by internal physicians through PACS or Affinity. External physicians receive reports by fax and/or mail.

Location
Altru Clinic - Crookston, lower level

Hours of Service
8 a.m. to 5 p.m. Monday through Friday

Staff
All technologists are registered/licensed through the American Registry of Radiologic Technologist. The radiology services are inspected and certified by the Minnesota Health Department.

Procedures
- Routine Radiographs
- Bone Density (DEXA) Scans

Contact Information
- To schedule an appointment ............................................................ (218) 281-9131
- Supervisor, Rich Lofgren ............................................................... (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Drayton

Diagnostic radiology at Altru Clinic - Drayton, North Dakota, is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Clinic - Drayton provides radiography services using conventional x-ray film and wet film processing. The films are sent by courier from Drayton to Altru Clinic - Main, where they are scanned into the Picture Archiving and Communication System (PACS) and then routed to Altru's radiologists for interpretation. After the films have been read they are returned to Altru Clinic - Drayton and stored in radiology.

Radiology results can be retrieved by physicians through PACS or Affinity. Physicians also receive reports by fax and/or mail.

Location
Altru Clinic - Drayton

Hours of Service
8 a.m. - 4 p.m. Monday through Friday

Staff
The x-ray technologist is registered/licensed with the American Registry of Radiologic Technologists and radiology services are inspected and certified by the North Dakota Department of Health.

Procedures
• Routine Radiographs

Contact Information
• To schedule an appointment .................................................................(701) 454-3311
• Supervisor, Rich Lofgren ...................................................................(701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Fertile

Diagnostic radiology at Altru Clinic - Fertile, Minnesota, is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Clinic - Fertile provides radiography services using conventional x-ray film and wet film processing. The films are sent by courier from Fertile to the Main Clinic, where they are scanned in to a picture archiving and communication system (PACS) and then routed to the radiologist. After the films have been read they are return to Altru Clinic - Crookston and are stored there in the Medical Records area.

Radiology results can be retrieved by physicians through PACS. Physicians also receive reports by fax and/or mail from the radiologist.

Location
Altru Clinic - Fertile

Hours of Service
8 a.m. to 4 p.m. Monday through Friday

Staff
The x-ray operator is licensed through the Minnesota Department Health (MDH) and radiology services are inspected and certified by MDH biannually.

Procedures
- Routine Radiographs

Contact Information
- To make an appointment ................................................................. (218) 945-6064
- Supervisor, Rich Lofgren ............................................................... (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Red Lake Falls

Diagnostic radiology at Altru Clinic - Red Lake Falls, Minnesota, is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Clinic - Red Lake Falls provides radiography services using conventional x-ray film and wet film processing. The films are sent by courier from Red Lake Falls to the Main Clinic, where they are scanned into a picture archiving and communication system (PACS) and then routed to the radiologist. After the films have been read they are return to Altru Clinic - Crookston and are stored there in the Medical Records area.

Radiology results can be retrieved by physicians through PACS. Physicians also receive reports by fax and/or mail from the radiologist.

Location
Altru Clinic - Red Lake Falls

Hours of Service
8 a.m. - 4 p.m. Monday through Friday

Staff
The x-ray operator is licensed through the Minnesota Department Health (MDH) and radiology services are inspected and certified by MDH biannually.

Procedures
• Routine Radiographs

Contact Information
• To make an appointment ................................................................. (218) 253-4343
• Supervisor, Rich Lofgren ................................................................. (701) 780-6154

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Diagnostic Radiology
Altru Clinic - Warroad

Diagnostic radiology at Altru Clinic - Warroad, Minnesota, is committed to providing high quality radiographs and outstanding patient care. Only routine diagnostic x-ray services are provided at this location.

Altru Clinic - Warroad provides radiography services using conventional x-ray film and wet film processing. Interpretation of x-rays is provided through contract with an independent radiologist group. After the films have been read they are return to Altru Clinic - Warroad and stored in the radiology department.

Radiology results are transcribed at Altru Clinic – Warroad. Preliminary results are distributed to providers until the final reports have been signed by the radiologist. Final radiology results are then distributed to the requesting provider, one copy is filed in the medical record and one in the x-ray folder.

Location:
Altru Clinic - Warroad

Hours of Service
8 a.m. - 5 p.m., Monday through Friday

Procedures
• Routine Radiographs

Contact Information
• To make an appointment call ................................................................. (218) 386-2020
• Supervisor, Rich Lofgren ................................................................. (701) 780-6154
Interventional Radiology

Interventional radiologists perform minimally invasive procedures using image guidance. Some of these procedures are done for purely diagnostic purposes (e.g., angiogram), while others are done for treatment purposes (e.g., angioplasty). Images are used to direct these procedures, which are usually done with needles or other tiny instruments like small tubes called catheters. The images provide road maps that allow interventional radiologists to guide these instruments through the body to the areas of interest.

What are the advantages of interventional radiology procedures?

The risks of interventional radiology procedures are less than the risks of open surgery. Most procedures can be performed on an outpatient basis or require a shortened hospital stay.

General anesthesia is usually not required. The risks, pain and recovery time of treatments performed through interventional radiology are significantly reduced. Procedures can be less expensive than surgery.

Service Location
Altru Hospital, main level

Hours of Service
7:30 a.m. - 4 p.m. Monday through Friday.
On-call 24 hours a day for emergent cases.

Staff

Interventional Radiologists
Daniel Schmelka, Jr., M.D
Randall Smith, M.D
Teri Lalonde, NP

Neuro-Radiologists
Shawn Shreiner, M.D
Gerald Smyser, M.D

North Dakota and Minnesota Board of Nursing licensed registered nurses
American Registry of Radiologic Technologists (ARRT) certified technologists

Procedures
• Abscess drainage
• Angiogram (renal, lower extremity, carotid/cerebral, mesenteric, pulmonary)
  - Arterial angioplasty and stenting
  - Arterial thrombolysis
• Biopsy (thorax, abdomen/pelvis, thyroid and other soft tissue)
• Cholangiography
  - Biliary drain placement
  - Bile duct stenting
  - Biliary stone removal
• Cholecystostomy tube placement
• Feeding tube placement
• NG/NJ
  - Percutaneous gastrostomy
  - Percutaneous GJ tube
• Uterine Fibroid Embolization
• Kyphoplasty/vertebroplasty
• Varicose vein treatment
  - laser ablation
  - microphlebectomy
• Thoracentesis
• Paracentesis
• Chest tube placement
• DVT /PE treatment (including thrombolysis/mechanical thrombectomy)
• Vena Cava Filter (permanent and retrievable)
• Carotid Stenting
• Endovascular AAA repair
• Endovascular thoracic aneurysm repair
• Retrieval intravascular foreign bodies
• Central venous catheters (tunneled lines, tunneled ports, temporary lines, PICC) and removal
• Regional Cancer Therapies
  - Radiofrequency Ablation liver tumors/mets
  - Chemoembolization of liver tumors/mets
  - Yttrium-90 microspheres infusion of liver tumor/mets
• Transjugular Intrahepatic Portosystemic Shunts (TIPS)
  - Refractory ascities treatment
  - Hepatic hydrothorax treatment
  - Refractory variceal bleeding treatment
• Nephrostomy tube placement and antegrade ureteral stent placement
• Venography
  - venous angioplasty and stenting
• Dialysis access management
  - declot graft and fistula
  - dialysis catheter placement and maintenance
• CTA and MRA
• Embolization of arterial bleeds
  - traumatic source
  - spleen/liver

We can provide clinical evaluations, hospital admissions and post-discharge management for these patients

Contact Information
• To make an appointment .......................................................... (701) 780-1707
• Patient Care Coordinator, Jamie Upton ......................................................... (701)780-1708
• Technologist ........................................................................................................ (701) 780-1720
• Supervisor, Teri Holden ................................................................................ (701) 780-1595

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Nuclear Medicine

Nuclear medicine is an imaging procedure that uses the injection of “radiopharmaceuticals” to study the function of organs in the body. Almost all organs can be imaged by the injection or oral ingestion of these chemicals, but bone, heart and lung scans are the most commonly scanned organs.

Location
Altru Hospital

Hours of Service
6 a.m. to 4:30 p.m. Monday through Friday
Technologist on call other weekday hours and weekends

Staff
Board-certified full-time technologists

Equipment
• Three Dual-head Siemens E-cams, variable-head
• Single-head Siemens Orbiter
• GE Discovery STE PET/CT Scanner, installed November 2007
• Siemens E-Soft Acquisition, Processing, and Viewing stations
• Amicas PACS

Diagnostic Procedures
• Myocardial Perfusion Studies with Wall Motion and Ejection Fraction
• MUGA Scans for Ejection Fraction and Wall Motion
• Bone Scans
• Gastric Emptying Scans
• Gall Bladder Scans with and without CCK for Ejection Fraction
• Thyroid Scans
• Lung Scans, both for PE and Quantitative
• WBC Scans for infection
• Liver Scans
• Renal Scans
• Parathyroid Scans
• Cystograms
• I131 Whole Body Scans
• Myelocysternography
• Sentinel Node and Lymphoscintigraphy
• PET/CT scans for Oncology

Therapeutic Procedures
• Thyroid Therapy for hyperthyroidism and carcinoma
• Sir-sphere Therapy for Liver Metastases
• Quadramet Therapy for bony metastases

Contact
• To schedule an appointment or for prep questions.................................................................(701) 780-5328
• Supervisor, Kerry Nikle ..........................................................................................................(701) 780-5493
PET/CT

Nuclear Medicine is also pleased to provide PET/CT scanning for Oncology in the lower level of Altru Cancer Center. We have a state-of-the-art PET/CT scanner installed in November, 2007 to perform scans for approved cancer types with pre-authorization including 4D Respiratory gating for lung tumors. Altru Health System is also a participant in the National Oncologic PET Registry which enables us to provide PET/CT scans on non-approved cancer types for Medicare patients.

Hours of Operation
At this time, we offer PET/CT scans in the mornings on Monday, Tuesday, and Thursday.

Diabetic patients require special instructions and will be contacted by Nuclear Medicine staff prior to the day of the exam. Blood sugar level must be <150 mg/dl at the time of the radioactive tracer injection.

Altru's Nuclear Medicine Department is also an internship site for Southeast Technical Institute Nuclear Medicine Training Program for two students per year. This is a seven-month rotation.

Contact Information
• To schedule an appointment, call (Call for prep instructions) .................................................. (701) 780-5328
• Department number (procedural questions)............................................................................. (701) 780-5807
• PET/CT Department............................................................................................................... (701) 780-5446
• Supervisor, Kerry Nikle ........................................................................................................... (701) 780-5493

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.
Computed Tomography

Computed tomography (CT) scans provide a vast improvement over simple x-rays in giving physicians images from inside the body for diagnosing injury and disease. A CT scan uses digital technology with a rotating x-ray device to create detailed, cross-sectional images of the body's organs and tissues. Organs and systems examined include the lungs, liver, kidneys, pancreas, pelvis, extremities, brain, spine and blood vessels. For many patients, CT scans can be performed on an outpatient basis. Altru offers two state-of-the-art multi-slice scanners – the GE Light Speed Pro16® (16-slice) CT scanner and an 8-slice Helical CT scanner.

Using a computer to fuse multiple images or “slices” of the specific body part being studied, CT scans build detailed pictures of the body’s internal organs and structures. Altru’s scanners takes 16 or eight slices (depending on the CT scanner used) simultaneously. This advancement in scanning provides numerous advancements to patients.

With Altru’s newest scanner, the 16-slice CT, images can be generated in less than two minutes helping physicians diagnose and treat patients more quickly. This not only increases efficiency, but also lessens the patient’s discomfort because they spend less time being scanned. Also, improved resolution of images is achieved due to decreased patient motion.

Location
Altru Hospital, main level

Hours of Service
In-house coverage
Sunday 11 p.m. - Friday 11 p.m.
Saturday and Sunday 7 a.m. - 7 p.m.

On-Call coverage
Friday 11 p.m.- Saturday 7 a.m.
Saturday 7 p.m.-Sunday 7 a.m.
Sunday 7 p.m.-Sunday 11 p.m.

Staff
All technologists are registered/licensed through the American Registry of Radiologic Technologist.

Procedures
• Computed Tomography (CT) – Abdomen
• Computed Tomography (CT) – Angiography
• Computed Tomography (CT) – Body
• Computed Tomography (CT) – Chest
• Computed Tomography (CT) – Head
• Computed Tomography (CT) – Spine
• Pediatric CT (Computed Tomography)

Contact Information
• To schedule an appointment ................................................................................................... (701) 780-5933
• CT Workcore Area .................................................................................................................. (701) 780-5804
• Supervisor, Karen Shadle.......................................................................................................... (701) 780-5889

Instructions for any patient preparations that may be need for an exam will be provided at the time of scheduling.
Magnetic Resonance Imaging (MRI)

Neuroradiology is the x-ray study of the nervous system. Specialized scans of the head and spinal cord are done with a Magnetic Resonance Imaging (MRI) machine. Altru Health System has offered MRI services since 1987. An MRI is a machine that uses computer-controlled radio waves and a large magnet to generate images of the body's internal organs and tissues. After the machine creates a magnetic field around the patient's body, it sends radio waves into the body. The MRI then measures the response of the body's cells to these radio waves with a computer and creates an image based on the cell's response. MRI is a non-invasive procedure with no known side effects.

MRI examinations are used in diagnosing many types of medical conditions, most commonly neurological disorders, musculoskeletal problems and cancer. It can also be used to identify strokes, degenerative diseases, inflammation, infections or other organ abnormalities. In many situations, an MRI examination eliminates the need for other diagnostic procedures.

Location
Altu Hospital, main level

Hours of Service
In-house coverage
6 a.m.-10 p.m. Monday through Friday
On-call coverage after hours.

Staff
All technologists are registered/licensed through the American Registry of Radiologic Technologist.

Equipment
• Two High Field GE 1.5 Tesla Magnets

Procedures
• Magnetic Resonance Angiography (MRA)
• Magnetic Resonance Imaging (MRI) - Body
• Magnetic Resonance Imaging (MRI) - Head
• Magnetic Resonance Imaging (MRI) - Musculoskeletal
• Magnetic Resonance Imaging (MRI) - Spine

Contact Information
• To make an appointment ................................................................. (701) 780-5889
• Supervisor, Karen Shadle ............................................................... (701) 780-5328
• MRI Workcore Area ................................................................. (701) 780-1531

Instructions for any patient preparations that may be needed for an exam will be provided at the time of scheduling.