WOMEN'S DIAGNOSTIC IMAGING SERVICES
Women's Imaging Services

Diagnostic imaging is playing a more vital role in the health care needs of women. Mountain States Health Alliance offers a range of testing and diagnostic services for women in convenient and private settings. Our state-of-the-art diagnostic equipment and highly trained and caring staff assist radiologists in obtaining diagnostic information that will enable your personal physician to make decisions regarding your care. Our diagnostic facilities for women include:

Tennessee Imaging Facilities
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Women's Health and Imaging Center

Virginia Imaging Facilities
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Johnston Memorial Hospital, Women’s Center
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

Mountain States Imaging
Facilities & Services Offered

These facilities are professionally staffed with multispecialty, board-certified radiologists, registered technologists and registered nurses. Our trained professionals offer referring physicians and patients premier services utilizing top-quality imaging equipment with a focus on a Patient-Centered Care environment.

Tennessee

Franklin Woods Community Hospital
Phone: 423-302-1000
• MRI of the breast
• MRI-guided breast biopsy

Indian Path Medical Center*
Phone: 423-857-6202
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• MRI of the breast
• MRI-guided breast biopsy
• Stereotactic breast biopsy
• Ultrasound – general
• Ultrasound-guided biopsy

Women’s Health and Imaging Center*
Phone: 423-979-3888
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy
• Ultrasound – general
• Ultrasound-guided biopsy

Virginia

Dickenson Community Hospital
Phone: 276-926-0319
• Bone density test – DXA
• Mammography
• Ultrasound – general

Johnston Memorial Hospital
Phone: 276-258-2700
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy

Russell County Medical Center
Phone: 276-679-9002
• Bone density testing – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy

Johnson City Medical Center
Phone: 423-431-6111
• MRI of the breast
• MRI-guided breast biopsy

Johnson County Community Hospital
Phone: 423-727-1128
• Mammography with CAD
• Bone density test – DXA

Johnston Memorial Hospital
Women’s Center
Phone: 276-258-2700
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy
• Ultrasound-guided biopsy

Smyth County Community Hospital
Phone: 276-378-1000
• Bone density testing – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy

Women’s Health and Imaging Center*
Phone: 423-979-3888
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• Stereotactic breast biopsy
• Ultrasound – general
• Ultrasound-guided biopsy

Norton Community Hospital
Phone: 276-679-9002
• Bone density testing – DXA
• Breast ultrasound
• Digital mammography with CAD
• MRI of the breast
• MRI-guided breast biopsy
• Stereotactic breast biopsy
• Ultrasound – general
• Ultrasound-guided biopsy

Sycamore Shoals Hospital
Phone: 423-542-1395, option #6
• Bone density test – DXA
• Breast ultrasound
• Digital mammography with CAD
• Ultrasound-guided biopsy

*These facilities are Breast Imaging Centers of Excellence
Digital Mammography

Digital (computerized) mammography is similar to standard mammography in that X-rays are used to produce detailed images of the breast. Digital mammography uses essentially the same mammography system as conventional mammography, but the system is equipped with a digital receptor and a computer instead of a film cassette.

Digital Mammogram

From the patient’s perspective, a digital mammogram is the same as a standard film-based mammogram in that breast compression and radiation are necessary to create clear images of the breast. The time needed to position the patient is the same for each method. However, conventional film mammography requires several minutes to develop the film while digital mammography provides the image on the computer monitor in less than a minute after the exposure/data acquisition. Thus, digital mammography provides a shorter exam for the woman and may allow mammography facilities to conduct more mammograms in a day.

Digital mammography can also be manipulated to correct for under- or over-exposure after the exam is completed to help the radiologist more clearly see certain areas of the breast. The technologist can review the image just seconds after the exposure, thus decreasing procedure time.

Computer-Aided Detection (CAD)

Computer-aided detection (CAD) systems use a digitized mammographic image that can be obtained from either a conventional film mammogram or a digital mammogram. The computer software then searches for abnormal areas of density, mass or calcification that may indicate the presence of cancer. The CAD system highlights these areas on the images, alerting the radiologist to the need for further analysis.
MRI of the Breast & Guided Breast Biopsy

Magnetic resonance imaging (MRI) is a noninvasive, usually painless test that helps physicians diagnose and treat medical conditions. MRI uses a magnetic field and a computer to produce detailed pictures of organs, soft tissues, bone and other internal body structures.

What are the Advantages?
Detailed MRI images allow physicians to better evaluate parts of the body and certain diseases. MRI of the breast offers valuable information about conditions that cannot be obtained by mammography or ultrasound. You must have a mammogram within 6 months prior to your MRI, unless it is for evaluation of breast implant rupture only.

Before the Procedure
- You may be asked to wear a gown.
- Some MRIs may require an IV injection of contrast.
- Women should always tell their physician/technologist if there is any possibility that they are pregnant.
- If you have claustrophobia or anxiety, you may want to ask your doctor for a prescription sedative. If you take one, you will need someone to drive you home.
- Jewelry and other accessories should be left at home.
- Bring all prior mammograms, breast ultrasounds and breast MRIs performed at a non-MSHA facility.

In most cases, MRI is safe for patients with metal implants. However, people with internal defibrillators, cochlear implants or aneurysm clamps cannot be scanned and should not enter the MRI area. Tell the technologist if you have one of these devices:
- Artificial heart valves
- Implanted drug infusion ports
- Infusion catheter
- Intrauterine device (IUD)
- Implanted electronic device, including a pacemaker
- Artificial limbs or metallic joint prostheses
- Implanted nerve stimulators
- Metal pins, screws, plates or surgical staples

In general, metal objects used in orthopedic surgery pose no risk. However, a recently placed artificial joint may require a different imaging procedure. If there is any question, an X-ray may be taken to detect metal objects.

The Procedure
For an MRI of the breast, you will lie face down with your breasts hanging into cushioned openings surrounded by a coil. If contrast material is used, it will be injected into the IV line after a few scans. Additional images will be taken after the injection. When the exam is done, you may be asked to wait until the technologist checks the images in case more are needed. The session lasts 30 minutes to an hour and the total exam is usually completed in an hour and a half. You may need to remain still, change positions or hold your breath.

After the Procedure
A radiologist, a physician trained to supervise and interpret radiology exams, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.
Stereotactic Breast Biopsy

Stereotactic breast biopsy is a way of obtaining a sample of tissue from a questionable area in the breast using a special type of needle instead of surgery. A computer precisely determines where the needle travels to obtain the best sample of tissue.

What are the Advantages?

- Usually pain-free
- Local anesthesia
- No scarring. The breast appearance is not affected, and there is no scar tissue to distort future mammograms.
- Few complications are reported. The most common is a post-biopsy hematoma (a black-and-blue area from a collection of blood under the skin).
- The cost of a stereotactic procedure is typically lower than that of an open-surgery biopsy.

Stereotactic breast biopsy would be considered only AFTER a mammogram shows a suspicious area of breast tissue. The procedure is often ideal for a breast lesion that requires biopsy but is too small to be felt. It is especially useful when the doctor suspects that the lesion is harmless but needs to verify that fact. If the lump is large enough to be felt, it is usually biopsied with a small needle or completely removed. Your doctor will decide the best approach for you.

The Procedure

While lying face down, your breast is suspended through an opening in the table. With your breast compressed, the physician will localize the lesion with computerized guidance. Several samples from the same area may be required depending on the type of lesion biopsied. The compression immobilizes the breast, and a local anesthetic is used at the biopsy site. Most patients are able to return to home and/or work after 1-2 hours. Most women say they don’t feel anything except pressure. Since the needle creates a very small puncture in the breast, no stitches are required afterward.

After the Procedure

After the exam, there will be some bleeding where the needle was placed. This will be bandaged to relieve swelling or bruising. If needed, you may take a non-aspirin pain reliever like Tylenol (2 tablets) every 4-6 hours to help alleviate any discomfort. It is normal if you have some bruising, which should resolve in 5-7 days.
Ultrasound

Ultrasound is used to investigate an abnormality detected by mammography or during a physician-performed breast exam. It can quickly determine whether a lump is a cyst (sac containing fluid) or a dense mass. Ultrasound scans are pictures created from sound waves and require no radiation. High-frequency transducers are used to examine breast tissue.

What are the Advantages?
Ultrasound waves are not known to affect adults, children or unborn children. There is no discomfort in the examination, although there may be mild pressure from the transducer.

Before the Procedure
At the time you make your appointment, you will receive specific instructions. Wear comfortable clothes. You will be asked to undress from the waist up and change into a hospital gown. The lights in the room will be dimmed so the pictures on the television screen can be seen more clearly.

The Procedure
A gel is applied to the area of the patient’s body to be examined in order to allow the transducer to direct inaudible sound waves into the body. The transducer is pressed firmly against the skin and swept back and forth several times across the area of interest. As the sound emits echoes through the body’s fluids and tissues, the transducer records tiny changes in the pitch and direction of the sound. The computer instantly measures and converts these changes to images for display or recording. You may need to remain still, change positions or hold your breath during the procedure.

After the Procedure
When the scan is completed, the sonographer will remove the gel from your skin and you will be allowed to dress. Although the sonographer performing the scan can see the pictures on the screen, they must be interpreted by a physician. A report will be prepared and sent to your physician. Your doctor will be able to discuss the results with you in detail.
The Silent Disease
Osteoporosis and related bone disorders affect 27 million American women, 75 percent of whom don’t even know they have it. While some bone loss can be expected as part of the normal aging process, osteoporosis is a dangerous disease. It occurs when bones become porous, brittle and likely to break. Half of women past menopause have or are at high risk of developing osteoporosis.

The good news is that testing is quick, easy and painless, and there are many different treatments available that can reduce the risk of fractures.

Bone Densitometry
Bone densitometry measures the density of bone material to determine if there is an increased risk of fracture or osteoporosis. The bone densitometer uses small amounts of X-rays to measure the amount of bone material in the spine, hip or whole body. Test results will be compared to that of a young person, when bone is at its strongest, and to the bone density of people your own age. This gives the physician a basis to determine if you are at risk of osteoporosis fractures. There are several ways to reduce your chance of fractures, and your physician can discuss these with you.

Are You At Risk?
Your chances of developing osteoporosis are greater if you are female and answer “yes” to any of the following questions:

Are you:
• Light-skinned
• Thin or small framed
• Approaching or past menopause
• Milk intolerant or have a low calcium intake
• A cigarette smoker or drink alcohol in excess
• Taking thyroid medication or steroid-based drugs for asthma, arthritis or cancer

Do you have:
• A family history of osteoporosis
• Chronic intestinal disorders
• A sedentary lifestyle

For More Information
For more information about osteoporosis, treatment options and bone testing, ask your physician or call the National Osteoporosis Foundation at 1-800-231-4222.
The American Cancer Society recommends a monthly breast self-exam for women age 20 and older. It’s important to continue breast self-exams (BSEs) throughout your life, even during pregnancy, after menopause, or following any type of breast surgery or implants.

Why Should I Examine My Breasts?
A woman knows best how her breasts normally look and feel and is therefore able to detect changes early. The majority of lumps that can be felt are found by women themselves. This exam takes only a few minutes each month, and can help save your life by finding breast cancer early, when it is most curable.

When is the Best Time for Me to Examine My Breasts?
Breast self-exams should be performed once a month, 5-7 days after your menstrual period ends. This allows a woman to examine her breasts when they are least tender or swollen. If you have reached menopause, have had a hysterectomy or are pregnant, choose a day that is easy to remember and do a self-exam on that day monthly thereafter. If you are taking birth control pills, perform the exam the first day of your new packet.

What Should I Do If I Find a Lump or Other Change In My Breast?
Call your personal physician for an evaluation and medical opinion. Remember: Most breast lumps are harmless, but all need medical evaluation. Have your self-exam technique checked by your physician at the time of your regular check-up. If your doctor does not examine your breasts during a routine physical, ask for this to be done. Also, ask your physician to point out areas that may require special attention during your monthly self-exam. Although breast cancer cannot be prevented, survival is better when it is detected early and properly treated. Let monthly breast self-exams become a habit.

When Do I Need a Mammogram?
Many women have regular pap smears and checkups yet are unaware they may need a mammogram. According to the American Cancer Society, women age 40 and older should get an annual screening mammogram even if they appear to show no breast symptoms. This is a general guideline. Your doctor may advise a different schedule depending on your personal or family health history.

Most women who get breast cancer have no risk factors except age. As a woman gets older, her risk increases. Women who may have an increased risk:
• Have a sister, mother or daughter who has had breast cancer.
• Have had previous breast cancer.
• Have never had children or have their first child after age 30.
• Began menstruating at an early age or went through menopause late.
Breast Self-Examination

While Lying Down

- To examine the right breast, place your right arm over your head (this distributes breast tissue evenly). Place a folded towel or pillow beneath the shoulder.
- With your left hand, use the flat part of your fingers to press gently but firmly in small circular motions around entire breast and inward toward the nipple.
- Many women feel a firm ridge of tissue underneath their breasts. This is usually normal and commonly feels the same on both sides. Some women have naturally lumpy breasts and should record the areas of thickening.
- Examine the area between the breast and armpit, as well as the armpit itself.
- Depress your nipple. Normally the area behind the nipple feels hollow and soft. This area should feel similar in both breasts.
- Repeat this procedure on your left breast, using your right hand.

In Front of a Mirror

1. Relax arms at sides.
2. Place hands on hips and press down on hip bones.
3. Clasp hands behind head with elbows pulled back.
4. Place hands on waist and bend forward so breasts hang.

In each position, look for:
- Nipple change (inverted, flattened, crusty appearance)
- Nipple discharge
- Puckering or dimpling
- Change in breast shape, contour or size
- Scaling, redness, rash, sores or unusual texture
- Anything that is unusual or causes you concern

In the Tub or Shower

- Continue to use the same circular motions. The soap and water will allow your hands to glide more smoothly over your skin. Check for lumps or unusual thickenings.
- With the right arm raised, use the flat pads of your fingers from your left hand and reach up high and deep. Feel the area between the breast and the armpit, as well as the armpit itself. Repeat on opposite side.
- Check the area above and below your collarbone for thickness, lumps and swelling.

For the Mastectomy Patient

Continue monthly self-exams for the remaining breast. Look in the mirror for redness, scaliness or rash. Pay particular attention to the scar line. Feel between each rib and over the breast bone for thickness, lumps and swelling. Remember to feel under both arms and above and below collarbones.
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mountain states health alliance
Bringing Loving Care to Health Care

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