

## Patient Preparation

- Depending on the body part to be examined, your physician may provide specific instructions on how to prepare for the exam. You should follow these closely.
- Before you examination, a nuclear medicine technologist will explain the procedure to you and answer any questions you might have. A nuclear medicine technologist is a skilled medical professional who has received specialized education in these areas of anatomy, radiation protection, patient care, radiation exposure, radiopharmaceuticals and nuclear medicine procedures.
- Tell the technologist if you have any allergies and if you are undergoing radiation therapy because these factors may require adjustments in how the examination is performed.
- Be sure to tell the technologist if you are pregnant or are breastfeeding. Nuclear medicine test usually are not recommended for women who are pregnant or breastfeeding.

Thank you for choosing Alliance Community Hospital to perform your Nuclear Medicine examination. We realize you may have questions regarding your upcoming exam and hope this information will help explain the procedure to you.

If you have any further questions, feel free to call our Imaging Department at 330-596-7700.

To schedule an exam, call Centralized Scheduling at 330-596-7187.

To access Imaging exam instructions on the web, go to the Patient Services page on the ACH web site at [www.achosp.org](http://www.achosp.org) and click on the Imaging link.



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## Nuclear Medicine



## What is Nuclear Medicine?

Nuclear medicine is unique because it shows how organs and tissues are working. For example, nuclear medicine allows physicians to see how a kidney is functioning, not just what it looks like. Most other diagnostic imaging tests, such as x-ray exams, reveal only anatomical structure.

There are more than 100 different nuclear medicine examinations to assess organ function. A thyroid uptake study shows how well the thyroid gland is working. A cardiac stress-rest test shows blood flow to the heart and helps your physician detect coronary artery disease. Bone scans can detect fractures, tumors and infections.



## How Does It Work?

A nuclear medicine procedure is sometimes described as an "inside-out" x-ray because it records radiation emitting

from the patient's body rather than radiation that is directed through the patient's body. Nuclear medicine procedures use small amounts of radioactive materials, called radiopharmaceutical, that are attracted to specific organs, bones or tissues. As the radiopharmaceutical travels through the body, it produces radioactive emissions. A special type of camera detects these emissions in the organ, bone or tissue being imaged and then records the information on a computer screen or on film.

## During the Examination



For most nuclear medicine examinations, you are positioned on a scanning table underneath a scintillation or gamma camera. A radiopharmaceutical is administered by injecting it into a vein, taking it by mouth or inhaling it in aerosol form. It travels through your bloodstream to a specific area of the body where it accumulates in the organs or tissues to be imaged. The camera then detects and records the radioactive emission from your body.

For some nuclear medicines studies, imaging takes place immediately. For others, images are taken an hour, two hours or even several days after administration of the radiopharmaceutical. In some cases, you are permitted to leave the hospital and return later for the imaging procedure.

Most nuclear medicine procedures require several different images from different angles, and the technologist may ask you to change position during the examination. You will need to lie still during each scan.

## Postexamination Information

After the examination, your scans will be reviewed by a radiologist or nuclear medicine physician, specialists in interpreting diagnostic medical images. Your personal physician will receive a report of the findings. Your physician then will advise you of the results and discuss what further procedures, if any, are needed.



In most cases, the radiation that you are exposed to during a nuclear medicine procedure is equal or less than a standard x-ray of the same body area. In general, the radiopharmaceutical administered during the examination will be eliminated naturally from your body in one or two days. Drinking fluids will help clear some kinds of radiopharmaceuticals from your system more quickly. You usually do not need to avoid contact with other people during this time, although your physician may recommend simple acts, such as flushing the toilet twice after using it, to reduce the small chance of radiation exposures to others in your household.