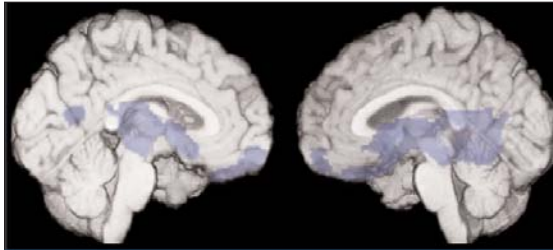




Banner Good Samaritan® Medical Center



1111 E. McDowell Road
Phoenix Arizona, 85006
Phone: (602) 239-4229
Monday-Friday, 7 a.m.–5 p.m.
www.BannerHealth.com

Positron Emission Tomography Center

Positron Emission Tomography, or PET, is an increasingly important imaging technique that helps doctors to diagnose end-stage cancer and gain unique, valuable information about heart disease and brain disorders. PET also plays a major role in research at Banner Good Samaritan, particularly in solving the mysteries of Alzheimer's disease.

Banner Good Samaritan opened the first PET facility in Arizona in 1991, one of a handful in the country at the time. The experience and expertise of the staff — developed in helping thousands of patients with complex health issues — is simply unmatched in the state.

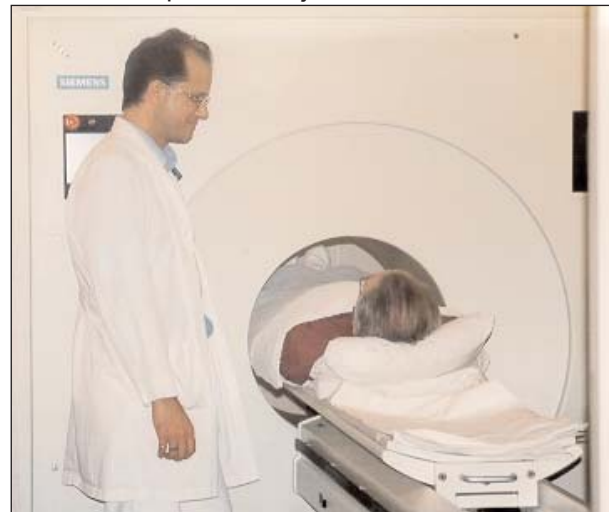
The PET scanner is very different from such diagnostic imaging procedures as computerized axial tomography (CT) scans, magnetic resonance imaging, ultrasound and X-ray, which show the physical structure of bones, organs and tissues inside the body. PET can display where certain chemical processes are taking place and therefore show the various organs at work in the body.

Information obtained from PET procedures is important to physicians because the detailed pictures can tell them if organs and tissues are healthy or diseased. PET can therefore provide unique and valuable information to the physician.

Cancer specialists now routinely use PET technology to more accurately determine the location, extent and growth rate of malignant tumors (particularly brain tumors). PET helps heart specialists identify appropriate patients for interventional cardiology procedures, such as coronary bypass surgery or a balloon angioplasty. Neurosurgeons often rely on PET to help “map” a complex brain surgery.

How PET Works

The body relies on glucose for energy. Before a PET scan, a patient is injected with a harmless



TOP, PET is playing a major role in research on the causes of Alzheimer's disease and soon will assist physicians in developing medications to slow the progress of the disease. ABOVE, Banner Good Samaritan technicians make a patient's visit to the PET scanner comfortable.

radioactive glucose/water solution, called a “tracer.” Once the tracer is inside the body, the patient is positioned into the PET scanner. As the body processes the tracer compound, positrons begin to collide with electrons, causing gamma rays to be emitted. These gamma rays are detected and measured by the PET scanner. A computer uses the measurements to create pictures of the various organs at work within the body. The images allow physicians to differentiate healthy tissue from unhealthy tissue.

The PET scanner itself does not produce any radiation. It merely picks up signals from the tracers already in your body.

What to Expect

You may be asked some questions before your PET study. If you are pregnant or breast feeding, a PET study may not be appropriate for you. Although the amount of radiation you will receive is about the same as you would receive in a computerized tomography (CT) scan, we prefer not to expose a fetus or young infant to unnecessary radiation. The technician will also need to know if you are diabetic and which prescribed medications you are taking.

Prior to your PET scan, our staff will discuss your

particular procedure with you in detail so you will know exactly what to expect. Every effort is made to make patients as comfortable as possible.

Your visit should last 2½ to 3 hours, although you will not be in the scanner the entire time. To make your visit more comfortable, wear loose, comfortable clothing to your appointment and feel free to bring a friend or family member. At some point, your visitor will have to wait in the waiting room, however we will allow them to be with you as much as possible.

Before your scan begins, an intravenous line will be placed into a vein in your arm for the injection of the tracer. Once inside the scanner, you will be asked to lie very still for extended periods of time.

Once your scan is complete, you will be encouraged to drink fluids and urinate frequently to help flush the tracer solution from your body.

In Focus

Help Solve the Mysteries of Alzheimer’s Disease

Alzheimer’s disease is the most common forms of memory and thinking problems in older people. It afflicts 10 percent of everyone over the age of 65 and almost half of everyone over the age of 85. By the time today’s young adults grow old, the number of individuals over the age of 65 will quadruple, and Alzheimer’s will become an even greater issue for these individuals, those who love them and the communities in which they live.

The Arizona Alzheimer’s Research Center, a multi-institutional research center based at Banner Good Samaritan, was recently awarded a grant from the National Institute of Aging for the study of Alzheimer’s disease. The consortium’s primary goals are to help in the understanding, early detection, and prevention of Alzheimer’s and to reach out to Arizona’s underserved and understudied minority populations. In another study from the National Institute of Health, we are reaching out to individuals from various ethnic backgrounds who have an immediate family member (such as a parent) with a history of memory and thinking problems. The research may involve getting a blood test, participating in cognitive testing and/or brain imaging studies.

For more information regarding research and other Alzheimer’s disease resources that are available in our state, please contact (602) 239-5087.