**Diagnosing Coronary Artery Disease**

**D-SPECT Next Generation Technology in Nuclear Cardiology now at NCH Heart Institute**

Heart disease is the leading cause of death in both men and women. Coronary artery disease (CAD), narrowing of the arteries that supply blood to the heart muscle by cholesterol plaques, is the most common type of heart disease. CAD causes approximately 370,000 deaths annually in the United States but also leads to non fatal heart attacks, angina pectoris, a pressure or tightness in the chest and cardiomyopathy, a weakness of the heart.

There are a variety of tests that can diagnose CAD, including nuclear myocardial perfusion imaging but ‘Single Photon Emission Computed Tomography’ (SPECT) has been the “work horse” of nuclear cardiology for many years. During this test, a small amount of a radioisotope, or tracer, is injected to evaluate the blood flow to and function of the heart muscle. This is performed at rest and during a stress test, and the two pictures are compared. In the past, the SPECT “camera” has utilized sodium iodide detector technology to capture the pictures of the heart.

However, new technology, the D-SPECT, provides the latest innovations for advanced imaging in nuclear cardiology. The D-SPECT utilizes cadmium-zinc-telluride (CZT) detectors. This cardiac imaging system has 10 times the sensitivity (detection) and 2 times the resolution (clarity) than the older technology, providing the most accurate SPECT perfusion images for diagnosing CAD. In addition, the D-SPECT can be equipped to precisely quantify myocardial blood flow. This is particularly beneficial for patients with severe multi-vessel CAD. These enhancements provide the cardiologists with the most advanced tools to diagnose CAD leading to the best treatment strategy for their patients.

This D-SPECT is very patient friendly. In essence, the patient sits comfortably, the camera is placed over the chest, and the chair can be adjusted easily from an upright to a semi-upright to a lying down position. The combination of the ability to adjust the patient’s position easily with the enhanced sensitivity of the D-SPECT detectors results in minimal artifacts (artificial shadows) from the bone or abdominal tissue. This leads to pristine images of the heart. In addition, the enhanced sensitivity allows for lower doses of the radioisotope to be used during the test.

Dr. David Stone, Medical Director of Nuclear Cardiology at NCH, states, “The D-SPECT is more accurate, more comfortable, faster and allows a lower dose to the patient. We are very excited to bring this advanced nuclear cardiac imaging for the detection and management of CAD to the community.”

**For more information contact the NCH Heart Institute at (239) 624-4200.**

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**Learning to Talk: Methods to Encourage Speech in Infants and Toddlers**

A child’s first words can be difficult to understand, sounding more like gibberish than language. But it doesn’t take long for language to take root - and most toddlers are able to make themselves understood by the age of 2 with a basic vocabulary of about 80 words. For some children, however, communication difficulties continue well beyond the age of 2. These “late talkers” speak very few words for their age, if any at all.

Late talkers show early signs of communication difficulties by about 18 months, when most children will start expressing themselves using about 10 well-chosen words. “Language is about interaction,” says Kristin Grabowski, speech pathologist at NCH Outpatient Rehabilitation. “Parents need to model lots of language when playing with their children.”

She, along with her colleague, NCH speech pathologist Maureen Casey-Coe, recommends that parents incorporate “functional play” into their everyday lives to encourage communication, beginning as early as infancy. “Face an infant in front of you and play peek-a-boo. With toddlers, sit on the floor and pretend with them,” says Grabowski, who recommends always using appropriate speech when interacting with babies and toddlers. “Never use nonsense words,” she advises. “Always speak at or one level above your child's ability. If a child is making sounds, use syllables, if making syllables, use words, expand words into phrases. Encourage the child to imitate you.”

Casey-Coe suggests that parents, family members and caretakers identify five “power words” such as eat, drink, cup, spoon and shoes that are used repeatedly, and then use those words as the foundation for simple instructions, such as, “Go get your shoes.” Casey-Coe says that she likes using baby sign language to reinforce power words and to decrease a child's frustration. “Show excitement too,” she suggested. “Say ‘vroom!’ when the car moves.”

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**Tips to encourage Communication**

- Name objects around you regularly, don’t stress articulation of a word, but always model correct speech.
- Make your child use words, or signs to get what he wants; never anticipate.
- Make funny noises and exaggerate for emphasis.
- Keep talking.

For more information, contact NCH Outpatient Rehabilitation at (239) 624-1900 or visit www.NCHMD.org. The NCH Outpatient Rehabilitation Services Southeast is located at 8360 Sierra Meadows Blvd., Suite 100B, in East Naples.