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USAAA 2007 International Conference

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Autism- you'll never see it the same way again

Do you have a concern that your brain is not working right? Are you having trouble remembering things? Can't function at work, can't control your feelings, having headaches months after a concussion or are worried about autism or dementia in you or a loved one. Wouldn't you want to get a brain scan and find out the facts for yourself?

After all, who would have a fracture treated without first getting an x-ray or a scan to see exactly what it looks like? Makes sense, doesn't it.

I'm Dr. Michael Uszler and I do brain SPECT scans on children and adults to help them literally see for themselves how their brain is working.

Are you concerned about:
-Autism, ADHD, Cerebral Palsy, anxiety, mood disorders, concussions, brain injury and stroke?
-Alzheimer's, dementia, memory decrease, and "mild cognitive impairment?
-Why your present therapy does not seem to be helping you?
-Your symptoms are not associated with your present diagnosis?
-Having two problems, anxiety and depression, head injury and depression, anxiety and post traumatic stress disorder?

Functional brain imaging using SPECT scanning helps adults and children see the degree and extent of how your brain is not working properly and guides you to therapies so that you can do something about them immediately.

Before and after therapy Brain SPECT scans show the effectiveness of:

1. Hyperbaric Oxygen therapy treatment for: Autism Spectrum Disorders, Cerebral Palsy, stroke and depression, or lack of mental clarity after a concussion or environmental toxins or recreational drug use.
2. Medications for anxiety, depression, ADHD, bipolar disorder, OCD and post traumatic stress disorder.

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Autism is an actual brain cell function disorder, not a psychiatric disorder. As such it is a medical condition, which has areas of the brain under function or over function. You can see this for yourself on a brain SPECT scan. This way we look inside of the "world of autism."

As a metaphorical example, if you were standing outside of a house from which a lot of noise is coming, would you stay outside the house and guess what the noise is about or would you walk inside to directly observe what the cause of the noise is?

Our medical imaging tools look inside at how the parts of the brain are working in autistic individuals. Rather than "guesstimating" only from behavioral observation, we look directly inside the brain and combine the information from both internal and external methods. This evaluation helps you to decide the appropriate therapy path.

Brain SPECT scanning done before and after therapies shows you the effectiveness of medication, hyperbaric oxygen, speech, physical, occupational and behavioral therapies.

Brain SPECT imaging is the appropriate, effective imaging to use rather than MRI or CT (CAT) scanning because these methods do not evaluate the functional abnormalities of Autism Spectrum Disorder.

Brain function imaging technology is known as SPECT and PET. Both have the advantage of showing the functional state of different brain regions throughout the entire brain. SPECT imaging is more widely available, and thus there is much more experience in using it to evaluate the brain function of autistic individuals.

Scanning of your the entire brain is important because:

* By external observation in any one individual we still don't know the interrelated function of the entire brain and which areas are working too fast or too slow,
* Functional abnormalities, such as lack of speaking or of social interaction, are not confined to only one discrete area of the brain,
* There is usually more than one brain area that is not working right in an ASD individual.

For example, autism and seizures, hyperactive behavior, anxiety or mood disorders, obsessive and compulsive-like tendencies and cognitive inflexibility, and behavioral dysfunction, movement, visual perception and memory dysfunction may be seen.

A brain Spect will show you the combinations as part of the overall brain function in you or your child.

Examples of this are:

1. Lack of speaking can result from abnormal function of the brain area responsible for speaking or the area of understanding speech, or of both.
2. Autism Spectrum Disorders usually show different combinations of temporal lobe and cerebellum under function, along with over function of other brain areas which likely accounts for seizures, mood disorders and/or anxiety,
3. Children and adults frequently show combinations of anxiety and/or depression or PTSD, along with attention deficit hyperactive disorder or the effects of toxic substances or head trauma.

For instance: how much brain injury occurs as a result of head-banging behavior? Wouldn't you want to know that? It could have a big effect on the choice of therapy!

Brain SPECT function imaging can give an indication of that, whereas anatomic imaging does not. Usually the concussive head trauma causes brain cell dysfunction without resulting in anatomic disruption to the degree that it could be seen using CT or MRI.

Brain SPECT scan findings can give evidence of thought and feeling disorders in Autistic individuals, who usually cannot understand or express these thoughts and feelings.

Anxiety, mood disorders and obsessive/compulsive-like tendencies are often present in autistic individuals. Brain SPECT scanning can show you patterns of their occurance so that you can improve them by using appropriate medications.

As a result, you can lessen the stress of the entire family by better understanding the feelings of the autistic individual.

F.A.Q.

What is radiation?

A basic definition of radiation is energy expressed in the form of waves or particles—for example, sunshine.

Naturally occurring radiation includes cosmic rays, sunshine, electromagnetic radiation from electronic devices and radioactivity, to name a few. The air around and above us protects us from this naturally occurring radiation. For example, one transcontinental jet airplane flight at 30,000 feet will result in a several-fold increased radiation exposure when compared to spending the same amount of time at sea level.

What is the effect of radiation?

Depending on the amount and type of radiation, either no change or small or large amounts of change can occur in chemical or living substances.

Examples

Sunshine falling on a piece of paper results in no change, but when focused through a magnifying glass can cause the paper to burn. Sunshine falling on human skin is helpful in the production of vitamin D. Extensive sun exposure can cause skin damage, such as "aging" or skin cancer.

Radioactivity of certain types and in small amounts can be safely used in medical diagnosis. Larger amounts of radioactivity or medical X-radiation can be used to treat cancer, but will temporarily damage some surrounding tissue. Large amounts of different types of nuclear material can also be used to generate electrical power or can be used in military weapons.

What is radioactivity?

A chemical element such as calcium naturally exists with some of its atoms changing and spontaneously giving off energy in the form of waves or particles. Of the more than 100 elements, at least half have one isotopic form that is naturally radioactive. Some of these include the calcium and phosphorus that are normally present in our bodies. Thus all living beings unavoidably have some radioactivity in their bodies all throughout life.

Radioisotopes exist outside of the human body and can also be man-made in a form that is safe to administer to a human being for medical diagnosis and treatment.

What is brain SPECT?

Spect is a type of radioisotope imaging that uses intravenously injected amounts of radioactivity that are so small in quantity that they can be used to measure a function in the human body without changing or disturbing the function being measured. Its two primary applications are studies of the heart and of the brain.

Are there any risks of the brain SPECT?

The radioactivity used does result in the person's whole body receiving a higher than usual radiation dose similar to the increased radiation received during a commercial airplane flight. Neither case results in permanent, deleterious effects on the human body.

The chemical substance combined with the radioactive test tracer for the brain SPECT injection is so small that it does not disturb the body function, and it also does not cause a medical drug-like effect such as X-ray contrast materials can.

Thus there are no after effects of the brain SPECT scan. However, if the patient cannot remain motionless for the scan, there can be medical effects of sedatives used to quiet a person for the scanning procedure.

How is brain SPECT scanning done?

An intravenous line is placed in an arm vein and the person is asked to rest quietly in a dimly lit room for 10 minutes. At that point the brain SPECT tracer substance is placed in the intravenous line so that the person is not distressed by a needle stick. Because the scan is about how the brain has blood flow and function, anything such as reaction to a needle stick could have an effect on the resulting scan. The person can then move around for about 45 minutes before the scan is done.

When returning for the scan, the person lies on the scan table with his or her head placed in a head-holding device. The scanning camera has two or three large imaging lenses that rotate completely around the person's head, resulting in a three-dimensional volume of data that includes all the blood flow and function information inside of the person's head. The person than leaves the scan area with no side effects. The computer brain-imaging data is computer processed in order to derive the brain scan pictures that the doctor reviews to make a diagnosis of any blood flow and/or functional abnormality. A key additional processing and analysis step used by our site (and not by all others) is an quantitative (mathematical) analysis of brain function. This data is compared with a normal pattern database so as to increase the spect scan test sensitivity to observe more diffuse and/or more subtle deviations from normal. Brain SPECT scanning of children, especially those with brain injury, requires additional preparation and handling. Most children under the age of ten cannot remain motionless for the 25-30 minute brain scanning procedure. Those children who cannot remain motionless require sedation.

Various types of sedation may be employed. We use the safest and most effective method—Anesthesiologist-monitored intravenous sedation. We request information from the child's pediatrician so that every bit of healthcare information is available for the child's well-being. The tracer materials have no allergic reaction associated with them, but as information on any known allergic reaction is always important in a medical environment.