

Smart Life Forum

SmartLifeForum.org

Presents

William Klindt, M.D.

How Brain SPECT Imaging Can Help Doctors and Patients

Thurs, Feb. 19, 2009, 7 PM

LOCATION: Cubberley
Community Center - Room H1
4000 Middlefield Rd
Palo Alto, CA

FUTURE SPEAKERS

March 19, Bernard Siegel – on
“*Latest Stem Cell Developments*”
April 16, Dave Steenblock, MD
May 21, Aubrey De Grey, PhD
June 18, Len Saputo, MD
July 16, James Wilson, ND
October 15, Gary Taubes

ANNOUNCEMENT: Dave Asprey succeeds Phil Jacklin as SLF President. Phil served 9 years in that position, and we thank him for his dedication. Best wishes for Dave as he takes on the challenge of leadership.

FMBR: Feb. 27 – At the February meeting, they will establish a live video link with the Institute of Biosensory Psychology in St. Petersburg, Russia and engage in an interactive discussion concerning recent advances in telekinesis and biosensory psychology, a very interesting branch of modern science that was born at this Institute. For more detail, see FMBR.org.

SHORT PRESENTATION: Jake Brzakovic, personal trainer, will discuss important rules for fitness, starting with mechanisms of dehydration and re-hydration. Subsequent talks will cover other fitness topics.

Meet Dr. William Klindt, M.D.

William Klindt, M.D. is founder and director of Silicon Valley Brain SPECT Imaging, Inc. He is a Board Certified Psychiatrist, specializing in Child and Adolescent Psychiatry and licensed in nuclear Brain SPECT Imaging.

He received an undergraduate degree from the University of California at Berkeley; his Medical School training in Tulsa, Oklahoma at Oral Roberts University School of Medicine; his Internship and Residency in General Psychiatry at the University of California, San Francisco Medical School, Fresno Affiliated Hospitals; and his Child and Adolescent Psychiatry Fellowship training at Stanford University School of Medicine.

Dr. Klindt is one of only a handful of Psychiatrists in the country to be licensed to perform Brain SPECT imaging.

The training to be licensed in the state of California to do Brain SPECT Imaging is a very rigorous and regulated process which requires over a thousand hours of supervised clinical and didactic experience.

In addition to his clinical practice, Dr. Klindt also speaks regionally and nationally on Brain SPECT Imaging and BSI's tremendous usefulness in clinical psychiatry. He presents at conferences, seminars, and to groups at schools, institutes, and universities. He has written up case reports, is in the process of producing a Brain SPECT Imaging atlas, and is actively engaged in research.

The Case for Brain Imaging

The brain is involved in everything we do. How we think, how we feel, how we act, and how well we get along with other people is related to the moment-by-moment functioning of the brain. When the brain works right, people tend to work right. When the brain is troubled, people tend to struggle being their best selves.

When you go to a doctor for medical help, what happens? An eye doctor will look at your eyes. A ears-nose-and-throat doctor will look into your ears, nose, and throat. And so-on for almost all other medical specialties. So, why are psychiatrists the only medical specialists that never actually look at the organ they treat?

If we agree that mental disorders and difficult behaviors may be related to functional problems in the brain and that *brain SPECT imaging* is a reliable measure of regional cerebral blood flow and thus activity patterns, then it follows that we should take advantage of this powerful tool when faced with complex situations or with patients unresponsive to treatment. How can we

fully evaluate the cause for mental illness unless we look at brain function? Otherwise we are left to deduce or guess or assume what may be going on in the brain.

What is SPECT?

SPECT is Single Photon Computerized Tomography. It is a technique that utilizes special medications called Radiopharmaceuticals that bind to the cells in the brain to provide a three-dimensional representation of the blood flow to the different regions of the brain. Utilizing this technology allows the physician to see the blood flow patterns of the internal, and external structures of the brain, which indicates the activity level of the different regions of the brain. This information is an essential tool to aid clinicians with the evaluation, diagnosis and treatment of psychiatric conditions.

How the SPECT Procedure is Done

The patient is placed in a quiet room and a small intravenous (IV) line is inserted into the patient's arm. An imaging solution is injected through the IV, and then the IV is removed. For the concentration study, the patient then takes a 20-minute computerized test of attention and focus. For the baseline or resting study, the patient is instructed to lay quietly for several minutes. Then the patient lies on the imaging table and the SPECT camera slowly rotates around the patient's head taking images of brain blood flow. (The patient is not placed inside a "tube.") The time on the table is approximately 16-18 minutes. The procedure takes approximately 60 minutes total.

Side Effects or Risks

The study does not involve a dye and people do not have allergic reactions to the isotope used in the study. The possibility exists, although, in a very SMALL percentage of patients, of mild facial redness, mild fever or brief increase in blood pressure. Patients leave the clinic able to resume normal activities. The amount of radiation exposure from a brain scan is approximately the same as one abdominal x-ray. Female patients should not have a SPECT scan done if pregnant.

Alternatives to a SPECT Scan Study

In Dr. Klindt's opinion, SPECT is the most clinically useful study of brain function. There are other studies, such as electroencephalogram (EEG), Positron Emission Tomography (PET) studies, and functional Magnetic Resonance Imaging (fMRI). PET studies and fMRI's are considerably more costly and they are performed mostly in research

settings. A standard MRI or CT Scan shows the anatomy of the brain only. SPECT shows how the brain is functioning - the blood flow to each area of the brain.

Insurance Coverage for SPECT

Reimbursement by insurance companies varies according to patients' plans. It is often a good idea to check with one's insurance company ahead of time to see what is a covered benefit. A fee and code schedule can be obtained from the clinician's office staff.

How SPECT Scans Help Doctors

A SPECT scan shows the underlying cerebral blood flow and consequently metabolic activity patterns of the brain. A scan can show:

- a. specific areas of the brain that are implicated with specific problems, such as the prefrontal cortex with executive function and the medial temporal lobes with getting information into long-term storage.
- b. unexpected findings that may be contributing to the problem(s), such as toxicity, potential areas of seizure activity, or past brain trauma.
- c. underlying potential seizure activity that may be contributing to the problem, more accurately seen by SPECT than standard EEG, especially in the areas of the medial temporal lobe.
- d. specific target areas for treatment, such as an overactive basal ganglia, anterior cingulate gyrus (seen in anxiety and OCD spectrum disorders) or an underactive temporal lobe (seen in seizure disorders and other disorders such as trauma).
- e. the specific effect of medication on the brain and subsequently how to adjust dosages. Often patients report that SSRIs are helpful but also cause demotivation or memory problems. SPECT studies can show when SSRIs are causing excessive decreased prefrontal or temporal lobe activity that clinical evaluation only hints at.
- f. how the brain functions on treatment (improved or worsened).

A SPECT scan helps provide real, demonstrable answers to refractory symptoms and, in addition, helps clinicians ask better and more targeted questions - about toxic exposure, brain injuries, anoxia, inflammation, or infection, that patients may have initially denied or forgotten.

A SPECT scan helps clinicians prevent mistakes or hurting patients by prescribing the wrong treatments, such as unnecessarily stimulating an already overactive brain or calming an underactive one.

A SPECT scan can help to evaluate those who may be at risk for dementia. The brain starts to change long before people show symptoms of dementia. One study reported that there has to be a loss of 30% in the hippocampus before symptoms occur. Using autopsy data in 54 patients, Bonte reported that brain SPECT had a positive predictive value for Alzheimer's disease of 92%.

SPECT scans can also help to differentiate between types of dementia. Alzheimer's disease, frontal temporal lobe dementia, Lewy body dementia, multi-infarct dementia early in the disease have their own patterns.

SPECT scans help clinicians understand why they use certain medications such as anticonvulsants to stabilize temporal lobe function or calm focal areas of marked hyperactivity, or stimulants to enhance decreased prefrontal perfusion or SSRIs to calm basal ganglia and anterior cingulate hyperactivity.

A SPECT scan can identify specific areas of the brain hurt by trauma to better target treatment and help deal with insurance, legal and rehabilitation issues.

A SPECT scan can often identify a specific cause or reason that contributes to recovering.

How SPECT Scans Help Patients

A SPECT scan allows patients to have a specific physical representation of their problems that is accurate and reliable.

A SPECT scan helps develop a deeper understanding of the problem and leads to decreased shame, guilt, stigma and self-loathing. They can increase self-forgiveness. Patients can see that their problems are, in part, a medical problem.

A SPECT scan helps to increase compliance because "pictures are powerful." These are very powerful influences in determining a patient's willingness and ability to accept and adhere to a treatment program as they realize that not taking medication for their problems of anxiety, depression, rage, ADD, etc. is similar to not wearing the "right" prescription for their eyes.

A SPECT scan helps families understand when things will not get better, such as having permanent brain damage from an injury, and this allows patients and

families to accept the condition and provide accordingly.

A SPECT scan helps substance abusers decrease denial and be motivated for treatment by seeing the damage they have done to their own specific brain. A SPECT scan can help motivate recovering alcoholics and addicts continue in sobriety as it becomes clear to patients that further use will cause increased brain scalloping and further damage.

A SPECT scan physically shows patients how treatments have impacted (improved or worsened) brain function.

A SPECT scan helps motivate verbally and physically abusive spouses to follow medication protocols by seeing they have a physical abnormality that may be contributing to their problems.

A SPECT scan is useful for the patient that is post-chemotherapy and suffering with "a chemotherapy toxic brain." It gives them insight into their cognitive struggles and also helps their doctors see what is physical and what might be emotional or traumatic sequelae of having cancer.

A SPECT scan allows patients to understand why specific treatments are indicated, which medications are helpful, and why certain medical interventions are chosen.

Conclusion

SPECT is used in a clinical environment to observe patterns of brain activity and guide physicians in re-balancing a brain whose activity patterns are clearly abnormal. A SPECT scan can guide doctors in the application of specific medications or other treatments such as supplements, neurofeedback, transcranial magnetic stimulation, and hyperbaric oxygen therapy.

SPECT is never the complete or final answer. It is part of the answer that, when used with a good clinical history and examination, gives doctors and patients more information for diagnosis and helps tailor treatments to the specific patient.

For More Information on SPECT

To learn more, visit www.braininspect.com, or search on the web for "brain imaging" or "SPECT imaging."

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