

YOUR BRAIN ON DRUGS!

“Can I Smoke Crack On My Break?”

Understanding & Effectively Dealing With Workplace Violence & Employee Substance Abuse

by

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BRAIN FACTS:

- ❖ Your brain is involved in **EVERYTHING** you do. So, when your brain works right...**YOU** work right. However, when your brain **DOES NOT** physically work right...**YOU DO NOT WORK RIGHT.**
- ❖ It determines **HOW** you think, feel, act and interact with others.
- ❖ It determines **WHO** you are as a parent, friend, child and human.
- ❖ Your brain comprises about 2% of your body's weight, but it uses **20%-30%** of the calories you burn.
- ❖ The brain is fragile. It has the consistency of “soft butter.”
- ❖ The brain is the most complex organ in the entire universe. It is made up of over 100 billion nerve cells...and each cell is surrounded by trillions of supportive “glial” nerve cells...and each of these nerve cells is surrounded by over 20,000 individual connections...

As you examine these various scans, you will see how idiotic it is to say:

“WHAT I DO ON MY OWN TIME IS MY BUSINESS!”

What Is “SPECT” Imaging?

What is SPECT? It is an acronym for Single Photon Emission Computerized Tomography. It is a sophisticated nuclear medicine study that looks directly at cerebral blood flow and indirectly at brain activity (or metabolism). In a SPECT study, a small dose of a radioactive isotope is injected into the patient’s blood, which is then absorbed into the brain.

The patient then lies on a table for 14-16 minutes while a SPECT “gamma” camera rotates slowly around his head. The camera has special crystals that detect where the compound (signaled by the radioisotope acting like a beacon of light in the brain) has gone. A supercomputer then reconstructs 3-D images of brain activity levels. The elegant brain snapshots that result offer a sophisticated blood flow/metabolism brain map. With these maps, physicians have been able to identify certain patterns of brain activity that correlate with psychiatric and neurological illnesses.

The brain SPECT studies of today, with their higher resolution, can see into the deeper areas of the brain with far greater clarity and show what CAT scans and MRIs cannot – how the brain actually functions.



In short, a SPECT Scan looks at brain blood flow and brain activity in order to determine which areas of the brain:

- ❖ Work well
- ❖ Do not work hard enough and
- ❖ Work too hard

SPECT Imaging can therefore pinpoint exactly where the problems are in the brain without guessing. Since we know certain parts of the brain control certain functions, psychiatrists can more easily diagnosis what conditions an individual has and thus help prescribe treatment.



Dr. Daniel G. Amen, MD

Founder and CEO of Amen Clinics, Inc.

For more information on brain SPECT scans, go to www.amenclinic.com.

For more SPECT scans, go to www.brainplace.com.

The Amen Clinic is the foremost pioneer in this area of nuclear medicine. The Amen Clinic's database of SPECT brain scans is the largest in the world.

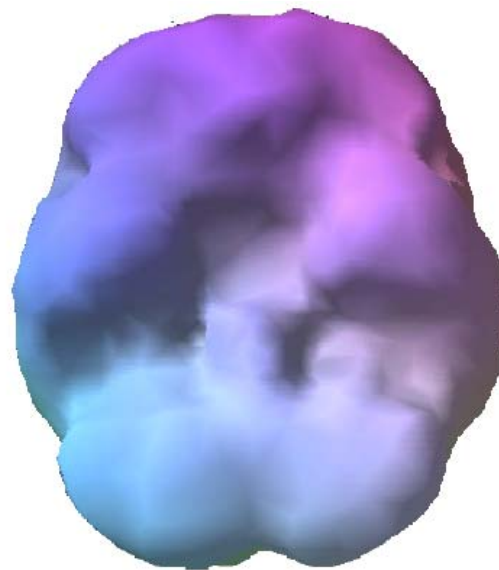
What Does A “Normal” Brain Look Like?

SURFACE BLOOD FLOW SCANS



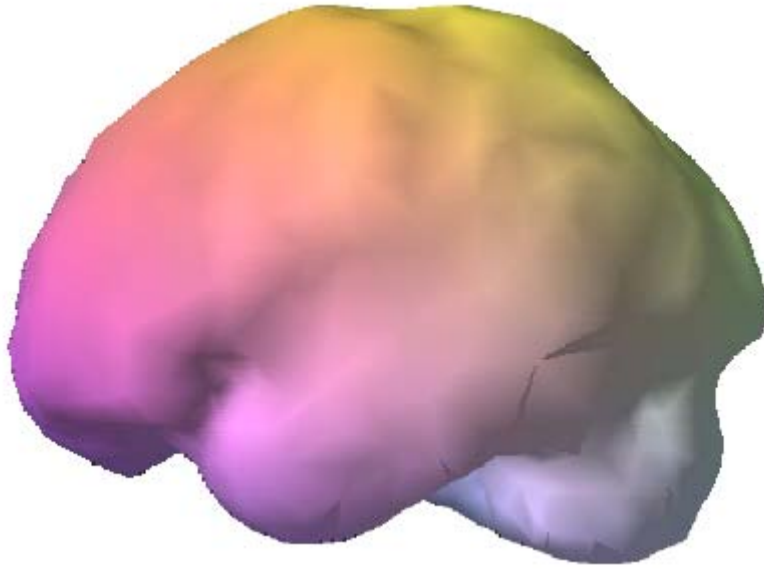
(FOREHEAD)

TOP SURFACE BLOOD FLOW VIEW



(BASE OF HEAD)

UNDER SURFACE BLOOD FLOW VIEW



LEFT SIDE VIEW BLOOD FLOW SCAN

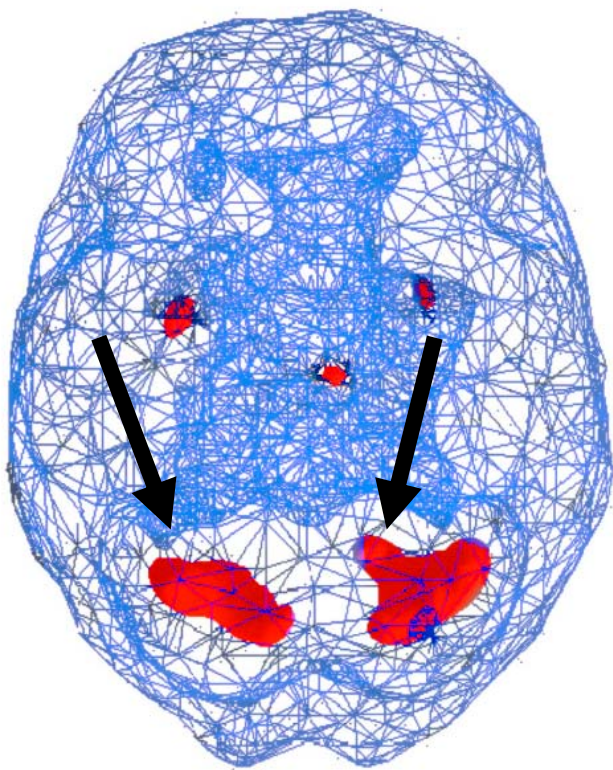
These are three “surface” SPECT scans indicating blood flow to the brain. The one on the left is looking down on the brain with the forehead at the bottom of the picture. The one on the right is a view looking up into the brain... like as if you were looking at someone lying down in bed up through the bottom of their chin. The third scan is from the left side of the person’s head.

This is how blood flow in a brain **SHOULD** look. Notice how full these scans look. The top view is rounded and full looking. The one on the right is also full and reveals the natural curvatures of the brain.

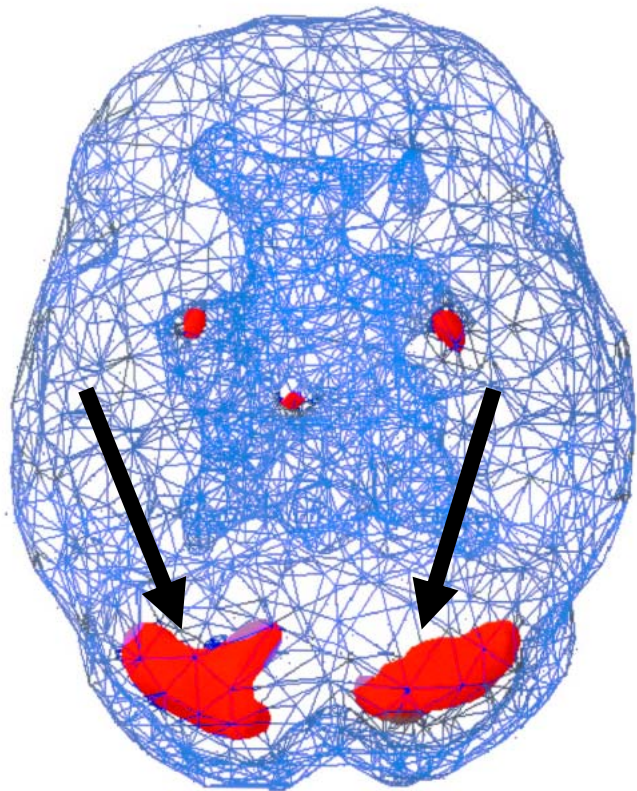
From a **VERY** basic perspective, looking at “blood flow” SPECT images tells us the degree of “cognitive” ability in the brain. If blood flow is reduced into certain areas of the brain, as revealed by these blood flow scans, then problems arise in one’s reasoning ability, decision making and so on.

Where there is reduced blood flow, the brain looks like it has “holes” in it. There are not really holes in the brain, in most cases. The image simply reveals a lessened degree of blood flow, so reduced ability to reason will be the results.

ACTIVITY SCANS

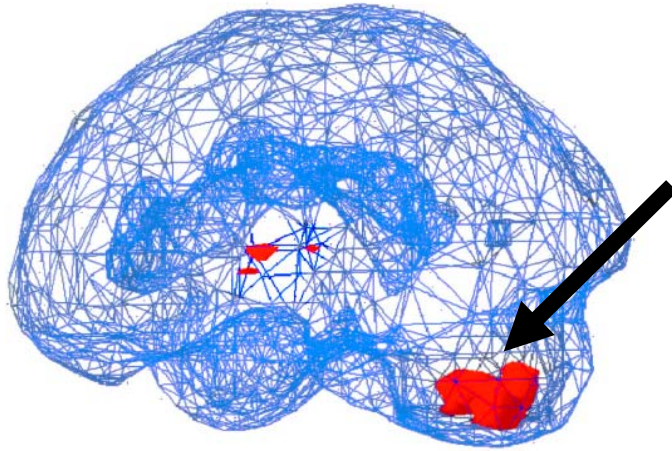


TOP VIEW ACTIVITY SCAN



UNDERVIEW ACTIVITY SCAN

(BASE OF HEAD)



LEFT SIDE VIEW ACTIVITY SCAN

These are three “activity” SPECT Scans indicating metabolic activity in the brain. The one on the left is looking down on the brain with the forehead at the bottom of the picture. The one on the right is a view looking up into the brain... like as if you were looking at someone lying down in bed up through the bottom of their chin. The third scan is from the left side of the person’s head.

These scans show how a “normal” brain’s activity level **SHOULD** look at rest. The darkened areas, or “red” spots, are 15% “hotter.”

These scans show a nice “cool” blue or gray color. The back of the head is “lit up” in red. This is the **cerebellum**. The cerebellum integrates information from the brain that indicates your position and movement and uses this information to coordinate limb movements. This area is a hotter area since your body movements and coordination is constantly “running.”

“Metabolic Activity Scans” differ from “Blood Flow” scans. In Activity Scans, we are looking at how “irritated” the brain is in certain areas. In a “normal” Activity Scan, the base of the skull (back of the head) should be glowing “red,” which means this part of the brain is running about 15% hotter. Since the cerebellum, or back of the head, runs our coordination and many of our “automatic” functions, you want this portion to be “running” all the time. How

Do YOU Have A “Normal” Brain?

**Dr. Amen has offered to give a “FREE SPECT SCAN” To
Anyone Who Thinks They Have A “NORMAL” Brain.**

**So far, only
24 brains out of 600
have been found to be “NORMAL.”**

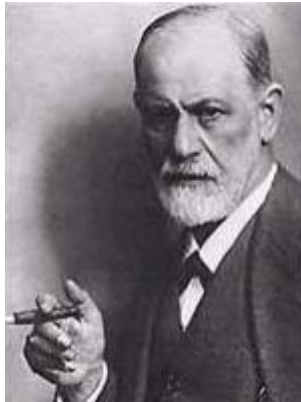
PSYCHIATRISTS

**Are The ONLY Medical Professionals
Who Typically NEVER SEE The Organ They Are TREATING**

How Do We Diagnose Mental Disorders?

Psychiatrists Listen To The Patients’ Symptoms...

WE GUESS!

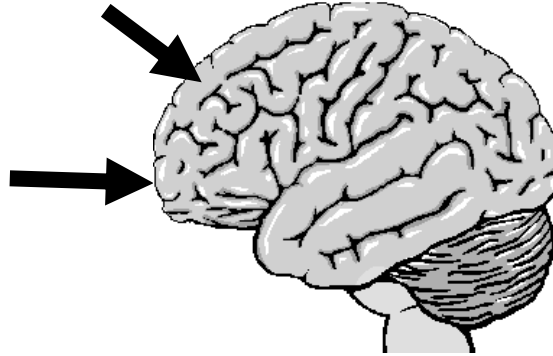


Eventually...Maybe...We’ll GUESS RIGHT!

FUNCTIONAL AREAS OF THE BRAIN

In order to understand the brain, one must understand how it works. In short, there are 5 major brain systems that relate to behavior.

The Frontal Lobes



The frontal lobes control such functions as our attention span, ability to focus, decision making, judgment, organization, ability to control impulses, etc. Commonly, these functions are referred to as “Executive Functions.” This is the part of the brain that makes us human and it comprises 30% of the human brain. In short, the frontal lobes determines our...

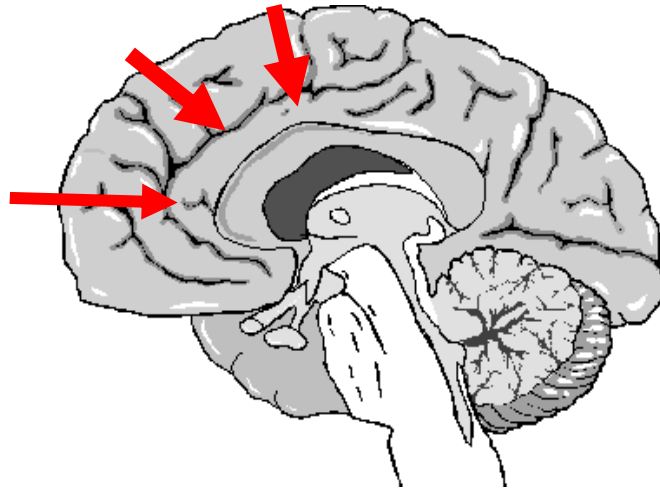
FUNCTIONS

attention span
perseverance
judgment
impulse control
organization
self-monitoring and supervision
problem solving
critical thinking
forward thinking
learning from experience
ability to feel and express emotions
influences the limbic system
empathy and insight into others

PROBLEMS

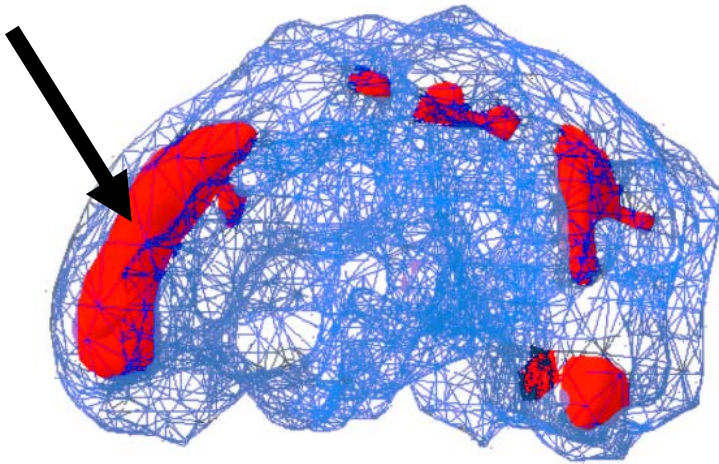
short attention span
distractibility
poor judgment
impulse control problems
hyperactivity and disorganized
chronic lateness, poor time management
disorganization
procrastination
unavailability of emotions
misperceptions
poor judgment
trouble learning from experience
short term memory problems
social and test anxiety

The Anterior Cingulate Gyrus

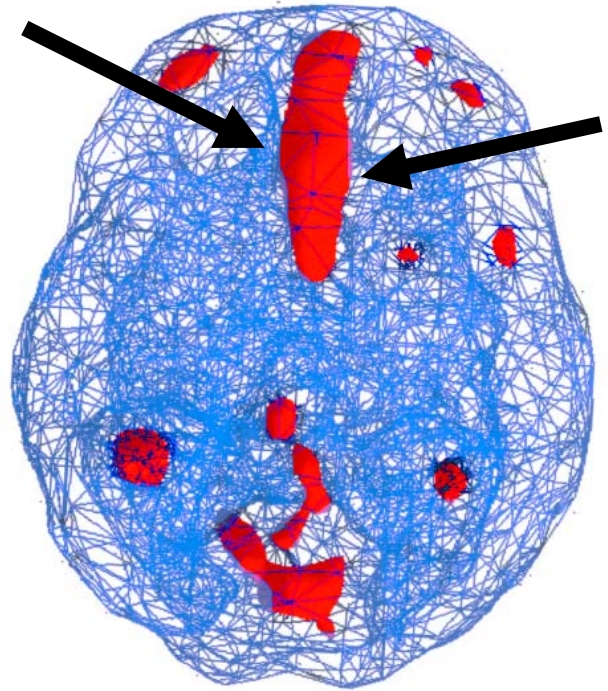


(The “Stick Shift”)

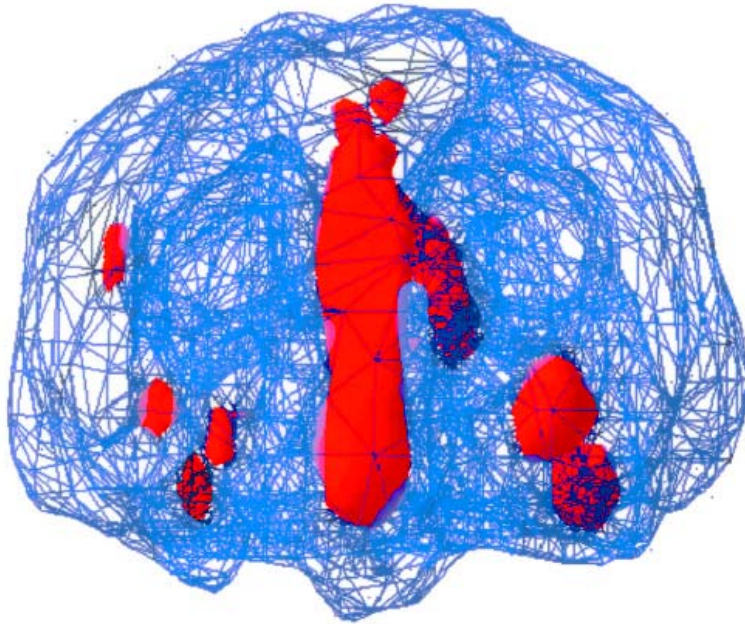
(FOREHEAD is at the TOP of the Scan)



LEFT SIDE VIEW



TOP VIEW



FRONT FOREHEAD VIEW

FUNCTIONS

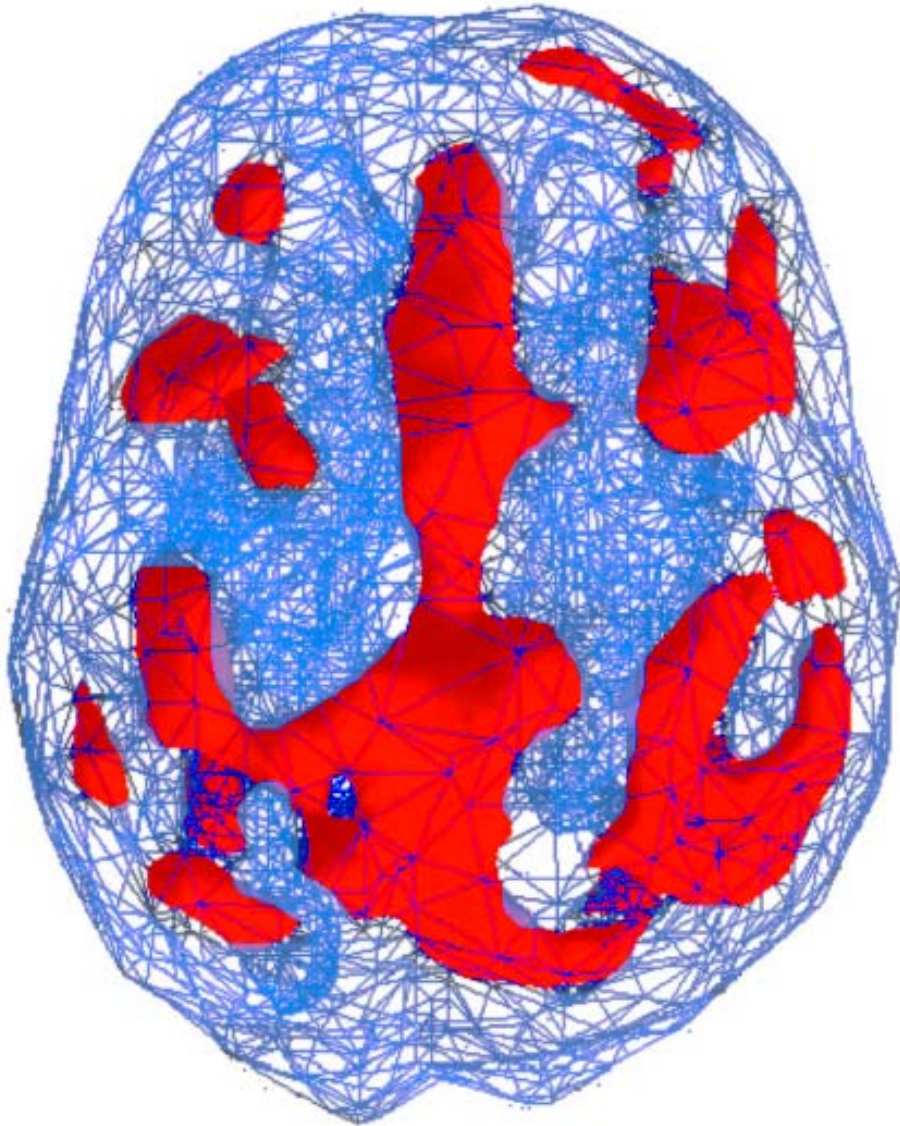
allows shifting of attention
cognitive flexibility
adaptability
helps the mind move from idea to idea
gives the ability to see options
helps you go with the flow
cooperation

PROBLEMS

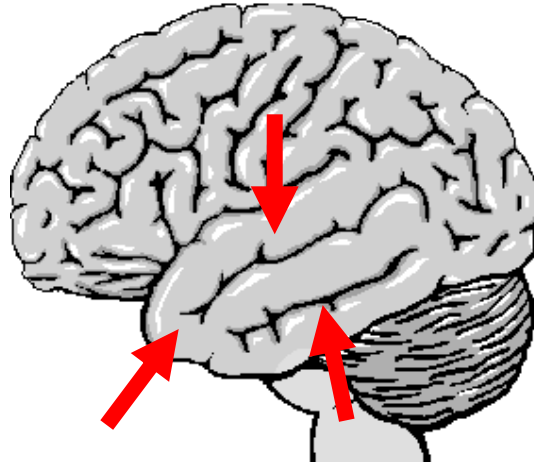
worrying
holds onto hurts from the past
stuck on thoughts (obsessions)
stuck on behaviors (compulsions)
oppositional behavior, argumentative
uncooperative, tendency to say no
addictive behaviors
(substance abuse, eating disorders, chronic pain)
cognitive inflexibility
obsessive compulsive disorder
OCD spectrum disorders
eating disorders, road rage

PMS!

(FOREHEAD is at the TOP of the Scan)



The Temporal Lobes (“Sideburns”)



Dominate Side (usually left)

understanding and processing language
intermediate term memory
long term memory
auditory learning
retrieval of words
complex memories
visual and auditory processing
emotional stability

Non-Dominate Side (usually right)

recognizing facial expression
decoding vocal intonation
rhythm
music
visual learning

PROBLEMS

Dominate Side (usually left)

aggression, internally or externally driven
dark or violent thoughts
sensitivity to slights, mild paranoia
word finding problems
auditory processing problems
reading difficulties
emotional instability

Non-Dominate Side (usually right)

difficulty recognizing facial expression
difficulty decoding vocal intonation
implicated in social skill struggles

PROBLEMS

Either One or Both Temporal Lobes

memory problems, amnesia

headaches or abdominal pain without a clear explanation

anxiety or fear for no particular reason

abnormal sensory perceptions, visual or auditory distortions

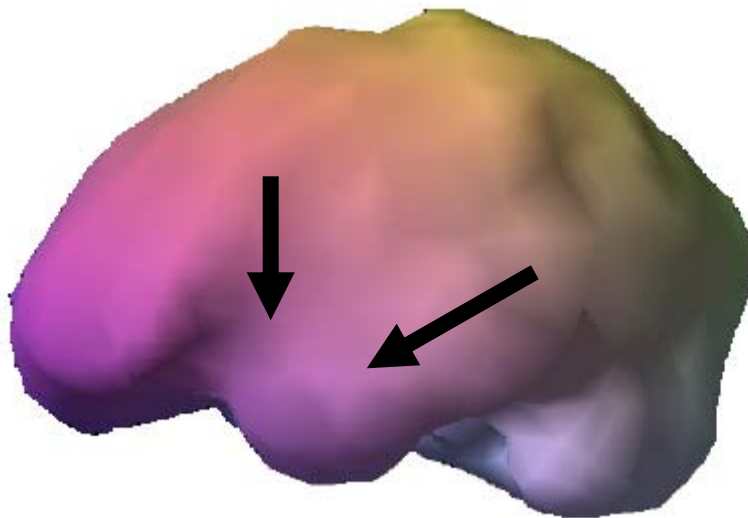
feelings of déjà vu or jamais vu

periods of spaciness or confusion

religious or moral preoccupation

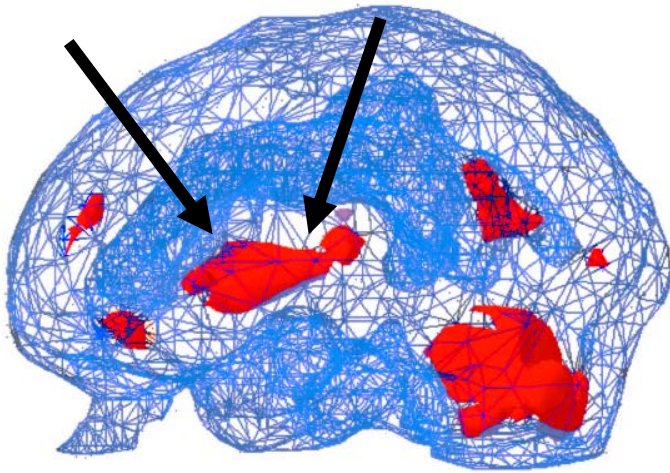
hypergraphia, excessive writing

seizures



SIDE SURFACE SHOT VIEW OF HEALTHY BLOOD FLOW TO A LEFT TEMPORAL LOBE

The Basal Ganglia System

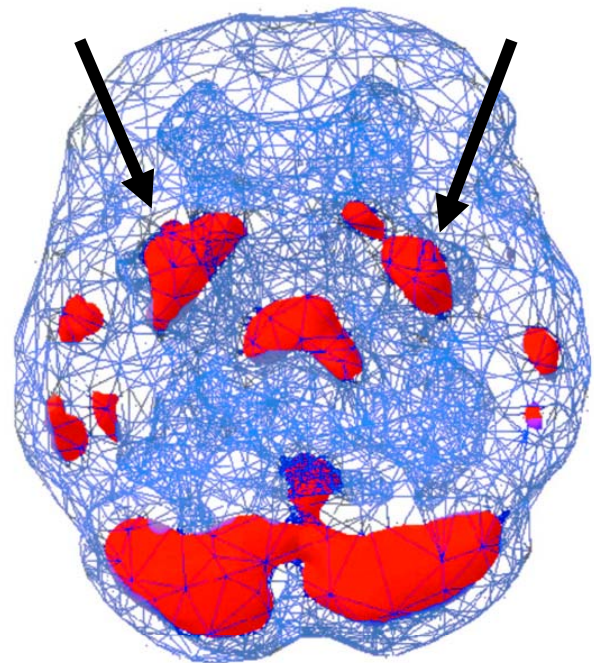


Left Side Activity Shot

LEFT BASAL GANGLIA
AWARENESS OF OUTSIDE WORLD

FUNCTIONS

integrates feeling and movement
shifts and smoothes fine motor behavior
suppression of unwanted motor behaviors
sets the body's idle or anxiety level
enhances motivation
pleasure/ecstasy



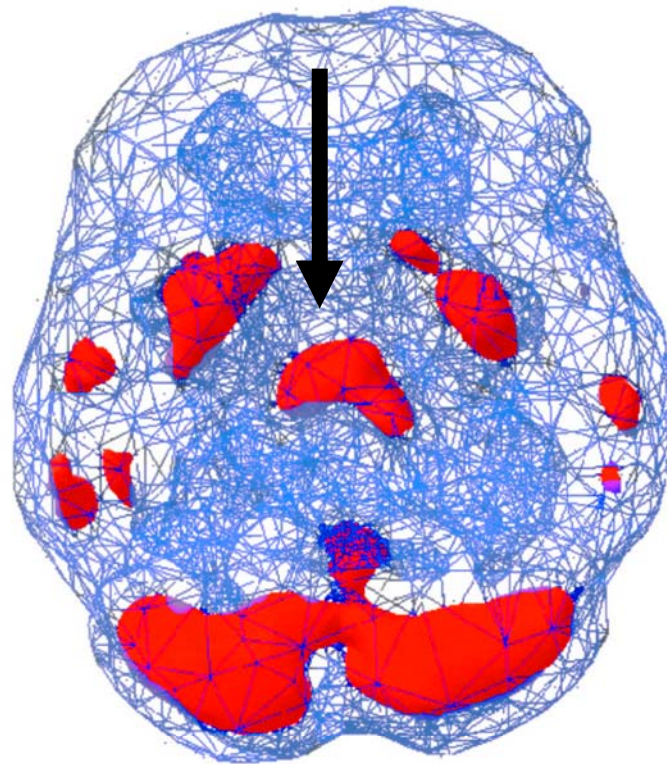
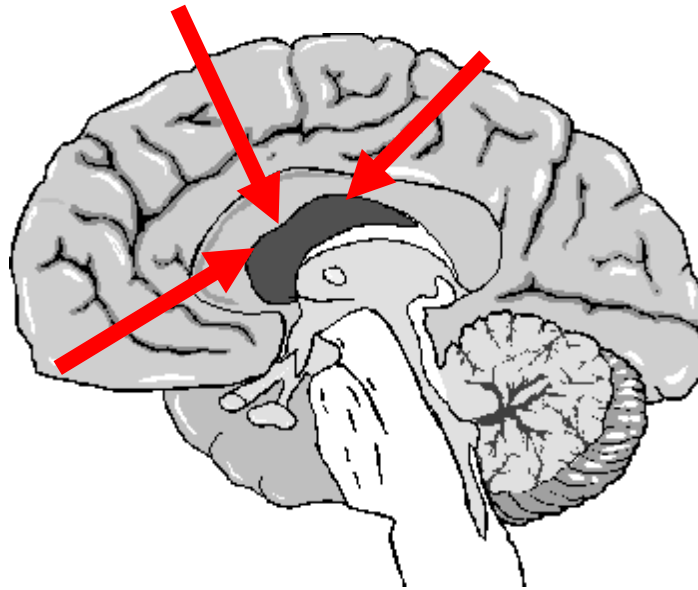
Underside Activity Shot
(FOREHEAD at top of scan)

RIGHT BASAL GANGLIA
AWARENESS OF SELF

PROBLEMS

anxiety, nervousness
panic attacks
physical sensations of anxiety
tendency to predict the worst
conflict avoidance
Gilles de la Tourette's Syndrome/tics
muscle tension, soreness
tremors
fine motor problems
headaches
low or excessive motivation

The Deep Limbic System



**Underside Activity Shot
(FOREHEAD at top of scan)**

The Deep Limbic System

FUNCTIONS

sets the emotional tone of the mind
filters external events with internal
perspective (emotional coloring)
tags events as internally important
stores highly charged emotional memories
modulates motivation
controls appetite and sleep cycles
modulates libido
promotes bonding
directly processes the sense of smell

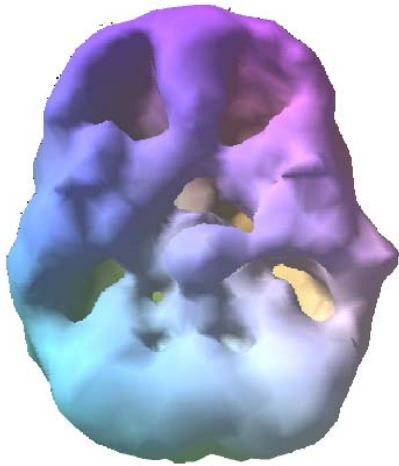
PROBLEMS

moodiness, irritability, depression

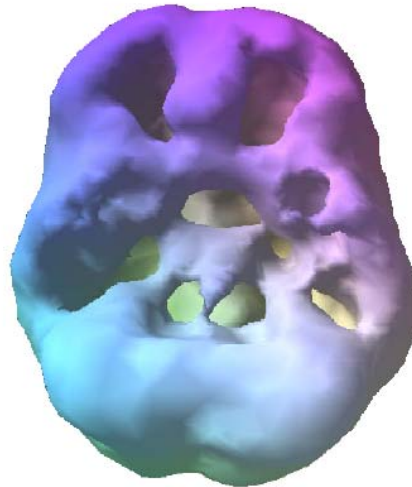
increased negative thinking
perceive events in a negative way
decreased motivation
flood of negative emotions
appetite and sleep problems
decreased/increased sexual responsiveness
social isolation

ALCOHOL AND DRUG ABUSE

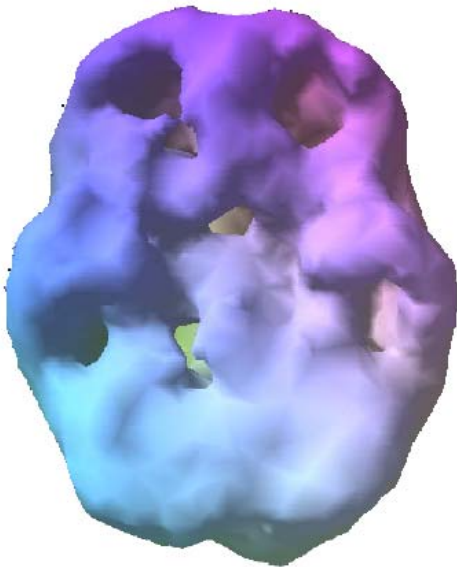
Marijuana



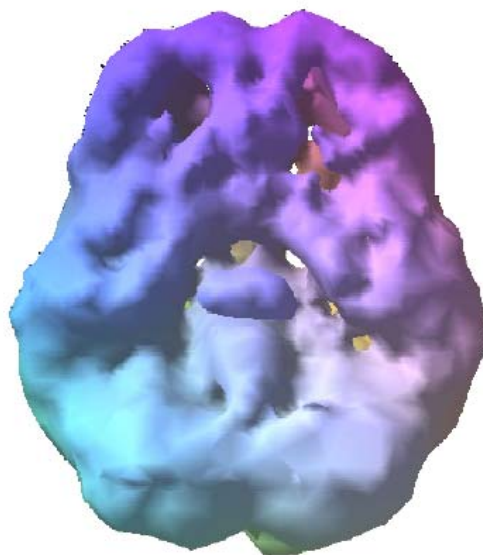
18 yr. old:
3 year history of 4 x week use



16 yr. old:
2 year history of daily abuse

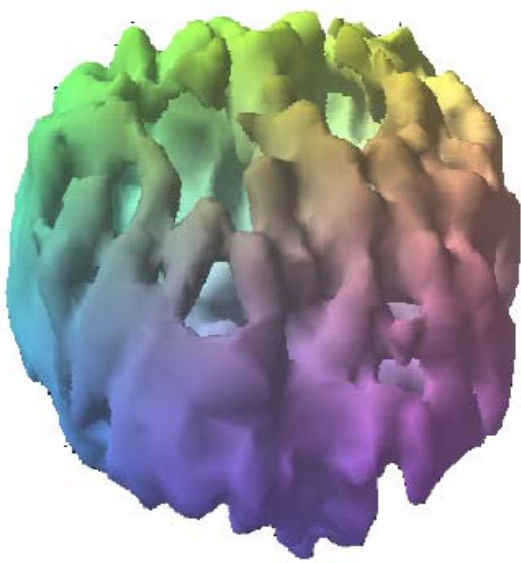


38 yr. old:
12 years of daily use

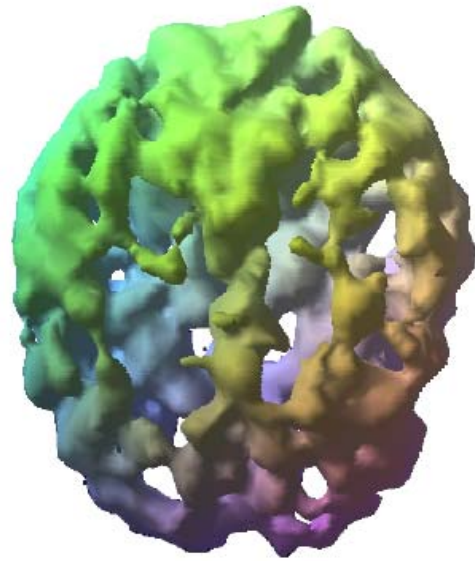


28 yr. old:
10 years of mostly weekend use

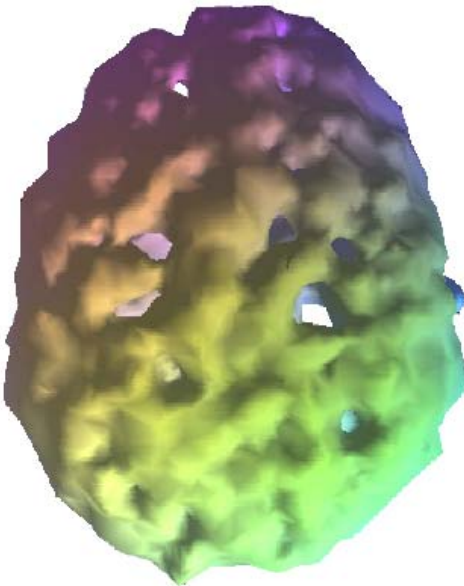
Heroin & Methadone



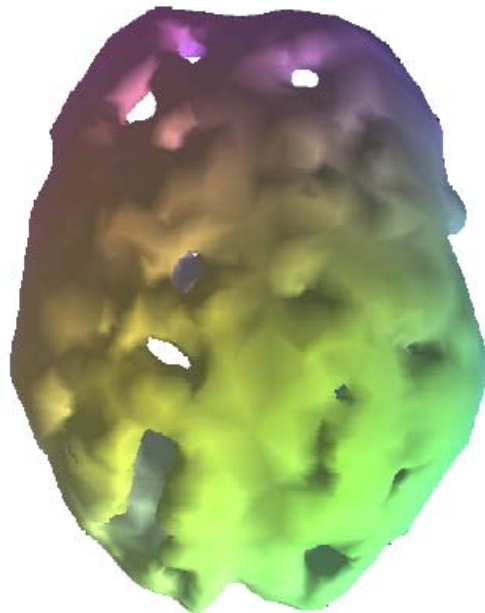
39 yr. old:
25 year history of frequent heroin use



40 yr. old:
7 years on methodone



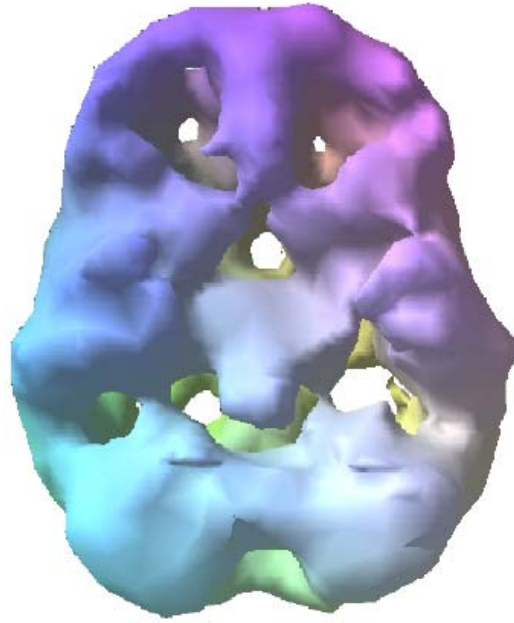
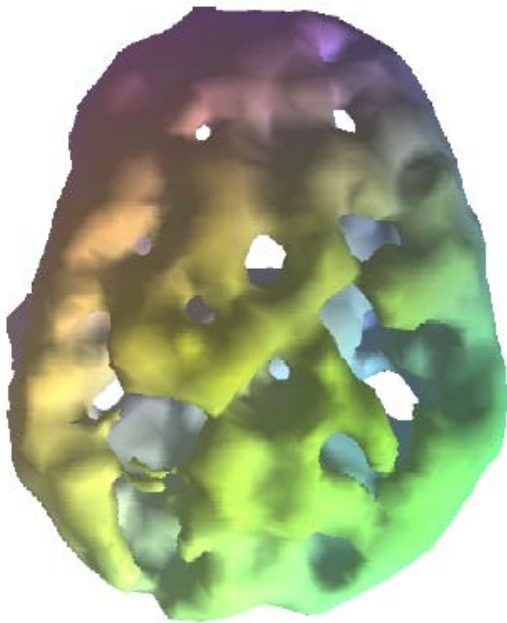
28 yr. old:
8 yr. history of frequent methodone use



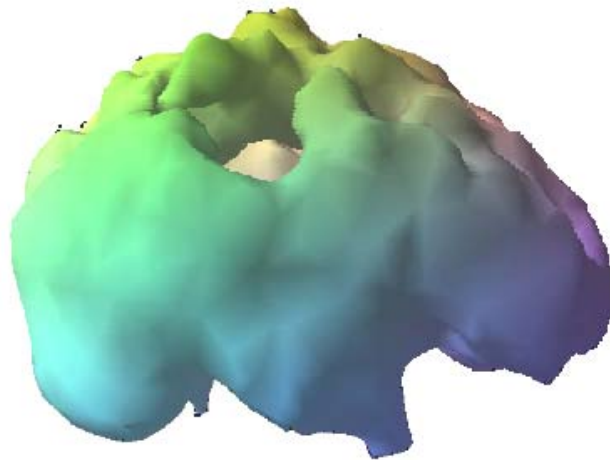
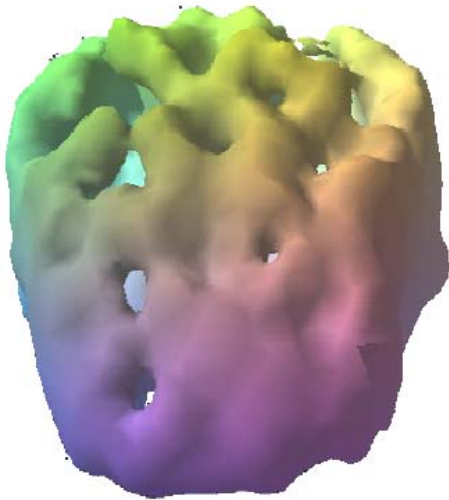
36 yr. old:
10 years of frequent methodone use

Alcohol

38 yr. old: 17 years of heavy weekend use



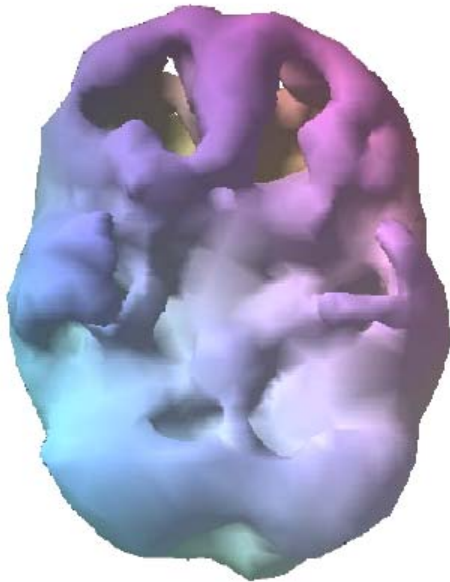
TOP SURFACE BLOOD FLOW VIEW UNDER SURFACE BLOOD FLOW VIEW



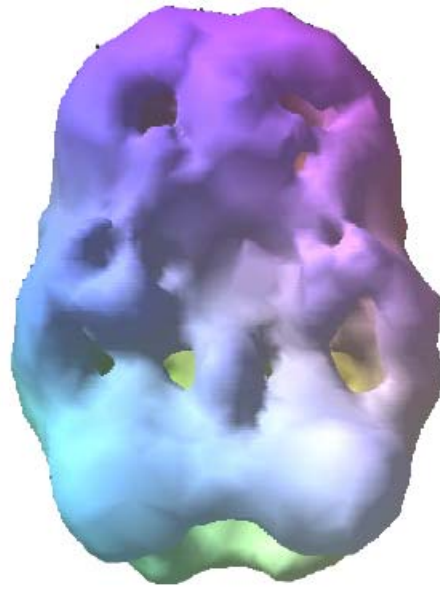
FRONT SURFACE BLOOD FLOW VIEW

RIGHT SIDE SURFACE BLOOD FLOW VIEW

Alcohol



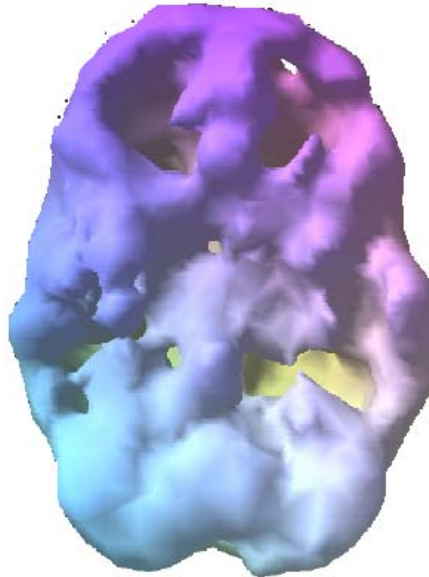
44 yr. old: 18 yrs. of daily use of alcohol



45 yr. old: 25 years of daily alcohol use

Heavy Nicotine & Caffeine Abuse

45 y/o -- 27 year history of heavy use: 3 packs of cigarettes and 3 pots of coffee daily





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CEO Magazine's 2008 Human Resources "Superstar"

Nationally Certified Emotional Intelligence Instructor

2008, 2007, 2006 and 2003 SHRM National Diversity Conference Presenter

- ❖ **PREVENTING Employee Problems from happening and**
- ❖ **Training Managers and Employees ON-SITE in over 40 topics and**

Scott travels the country presenting his revolutionary "**Tolerance, Emotional Intelligence & Diversity for White Guys ... And Other Human Beings,**" which focuses on the **BASIC SKILLS** needed to combat workplace bullying and harassment. Scott's program teaches the importance of becoming an Emotionally Intelligent Communicator, which leads to a more tolerant workforce between managers and employees, men and women, odd people and "more odd" people and so on.

Scott's clients include the Ohio Department of Administrative Services, The Ohio State University, Area Agency on Aging, Skyline Chili, The Ohio Supreme Court, Heinz Frozen Foods, Boeing, Honeywell, International Truck & Engine, MTD Products (Cub Cadet, Troy-Bilt & Bolens Lawn Products), Honda of North America, Utah State Workforce Development, etc.

Scott's academic background and awards include:

- Masters degree in Labor and Human Resources: The Ohio State University
- Capital University College of Law (Class Valedictorian (1st out of 233))
- The Human Resource Association of Central Ohio's Linda Kerns Award for Outstanding Creativity in the Field of Human Resource Management and the Ohio State Human Resource Council's David Prize for Creativity in Human Resource Management

Solving Employee Problems BEFORE They Happen!