

Full transcript of neuropsychiatrist Daniel Amen's TEDx Talk: **Change Your Brain, Change Your Life** @ TEDxOrangeCoast conference. Dr. Amen is the author of the popular book *Change Your Brain, Change Your Life (Revised and Expanded): The Breakthrough Program for Conquering Anxiety, Depression, Obsessiveness, Lack of Focus, Anger, and Memory Problems*.

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Daniel Amen - Psychiatrist and Brain Specialist

Good afternoon. I am so excited to be here. I actually film all my shows here at the Orange County Performing Arts Center.

So, **innovation** is a brain function. It is dependent on the physical health of your brain.

So, did you know obviously, your brain is involved in everything you do: how you think, how you feel, how you act, how you get along with other people.



At the **Amen Clinics**, we have looked at over 63,000 brain scans over the last 20 years, and it is very clear to me that your brain is the organ of judgment, personality, character, and innovation.

And when your brain works right, you work right. And when your brain is troubled, you are much more likely to have trouble in your life.

So what you see on the screen are two brain SPECT scans. **SPECT** is the study that we do in our clinic. It's a very sophisticated brain imaging study that looks at blood flow and activity patterns. It looks at how your brain works.

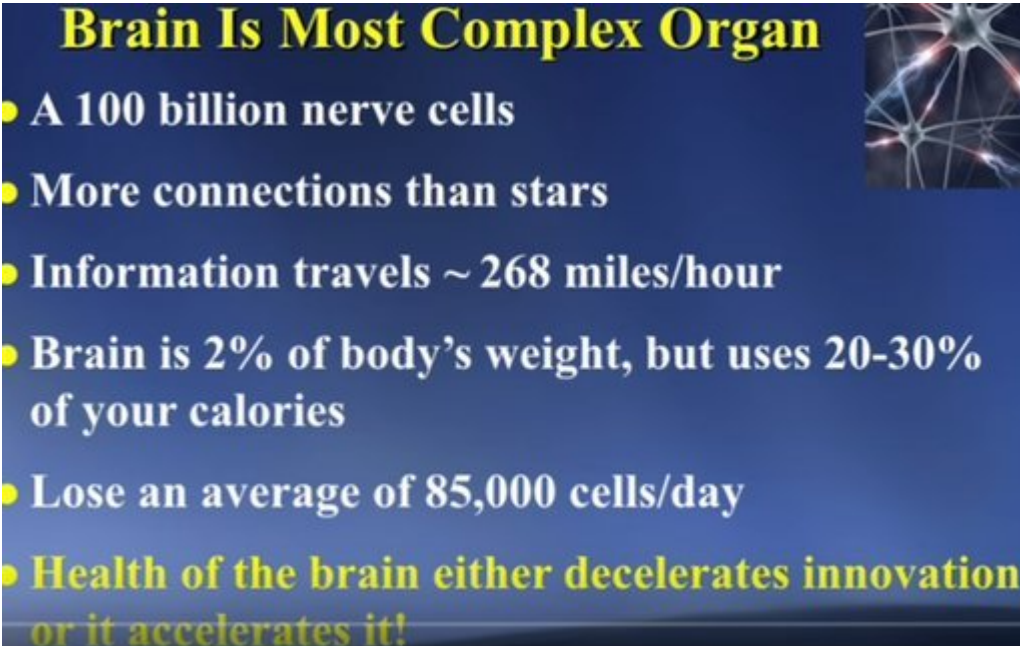
And it basically shows us **three things**: areas of the brain that work well, areas of the brain that are low in activity, and areas of the brain that are high in activity. So good activity, too little, or too much. And then our job becomes balancing it.

The image on your left is a healthy scan. It shows full, even, symmetrical activity. The color doesn't mean anything, it's the shape.

The image on the right is an alcoholic scan. Alcohol is directly toxic to brain function. I know many of you believe you have to have your two glasses of red wine a day because it's good for your heart. It's not good for your brain.


With a healthy brain, it's very clear to me you're happier, healthier, wealthier, you're wiser, you're more creative, more innovative.

When your brain is not healthy, for whatever reason — you had a brain injury, you have a terrible diet, you live in a toxic environment, you're sadder, sicker, poorer, not as smart. You're more rigid, and you're inflexible, which is the opposite of innovation.



Brain Is Most Complex Organ

- A 100 billion nerve cells
- More connections than stars
- Information travels ~ 268 miles/hour
- Brain is 2% of body's weight, but uses 20-30% of your calories
- Lose an average of 85,000 cells/day
- **Health of the brain either decelerates innovation or it accelerates it!**



I've said this, tens of thousands of times, and it always blows me away. Your brain is the **most complicated organ** in the universe. There is nothing as complex as the human brain, nothing.

It's estimated we have 100 billion nerve cells. And each nerve cell is connected to other nerve cells, not in a one-to-one connection, but up to

10,000 individual connections between cells. Which means you have more connection in your skull than there are stars in the Universe.

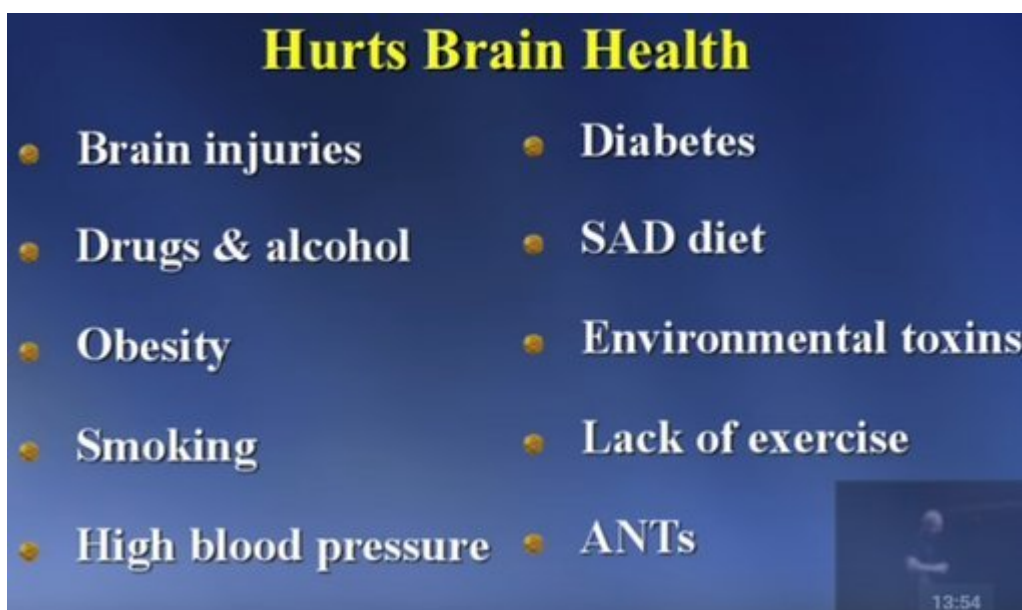
Information in your brain travels at about 268 miles an hour. Unless, of course, you're drunk. And even though your brain is only 2% of your body's weight, it uses 20% to 30% of the calories that you consume.

So, of the breakfast you had this morning, or the lunch you had this afternoon, almost a third of it goes to feed 2% of your body's weight. Your brain is the most expensive real estate in your body.

On average, you lose 85,000 brain cells a day. And what we've discovered at the Amen Clinics is you can accelerate the aging process with your behavior, or you can decelerate it. How exciting is that?

The health of your brain also decelerates innovation, or it accelerates it.

So what are the things that hurt your brain?



Brain injury should be obvious. I just finished the largest NFL study, brain

imaging study on retired NFL players. The NFL is no longer lying about brain injuries. They're taking it much more seriously. Do not let your kids play tackle football, or hit soccer balls with their head.

Come on, the brain is very soft, about the consistency of soft butter. And your skull is really hard, and it has many sharp, bony ridges. You have to protect it.

Drugs and alcohol should be obvious, but what our country has no clue yet, but is learning, is that obesity damages brain function.

There are now 10 studies. We just published a study in the Nature journal, "**Obesity**", that says as your weight goes up, the actual physical size and function of your brain goes down. Whoa! That should scare the fat off anyone.

I read that study, the first one that came out about three years ago, I dropped 25 pounds. I was serious, when it comes to the brain, size matters. You do not want a smaller brain.

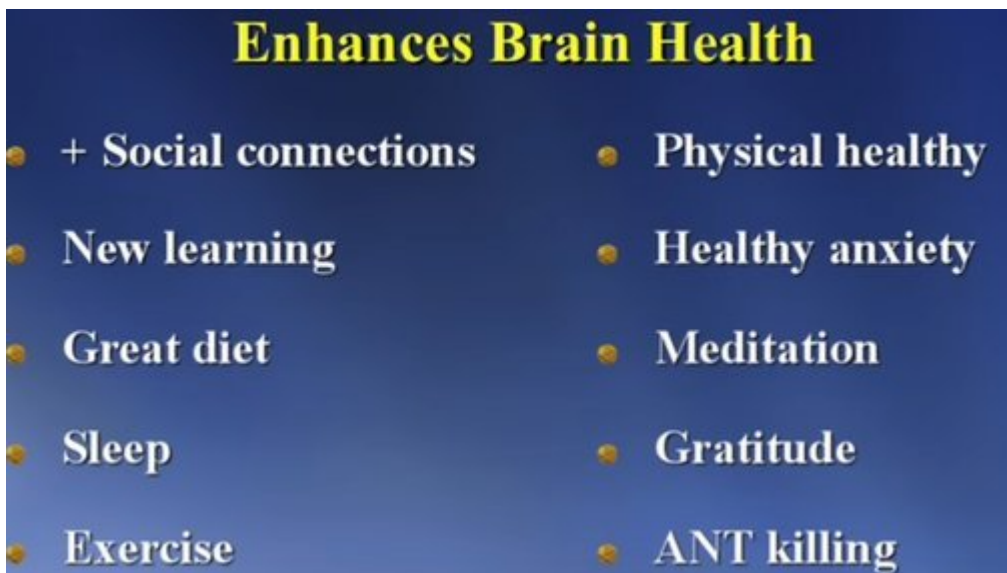
Smoking constricts blood flow to the brain. Like it prematurely ages your skin, it prematurely ages the brain.

High blood pressure, as your blood pressure goes up, the blood flow to your brain goes down. So you need to know your blood pressure on a regular basis, and if it's high, take it seriously.

ALSO READ: Lissa Rankin: The #1 Public Health Issue Doctors Aren't Talking About (Transcript)

Diabetes, standard American diet (SAD), environmental toxins, lack of exercise, and something I call ANTs - **Automatic Negative Thoughts**, the thoughts that come into your mind automatically and ruin your day. They are the seeds of anxiety disorders and depression.

So if this is true, it is, what are the things you can do to help your brain?



Positive social connections. Unbelievable, the people you spend time with determine your longevity. Isn't that interesting?

If you spend time with people who have healthy health habits, you pick those up, because people are contagious.

If you spend time with people who do not have healthy habits, you die early. Become very serious about who you spend your time with.

New learning, so TED is perfect for this. Whenever you learn something new, your brain makes a new connection. When you stop learning, your brain actually starts to disconnect itself.

Diet is absolutely essential. You are consuming the nutrients that are helping you, or the toxins that hurt you.

The SAD diet, the Standard American Diet, is not only associated with heart disease, cancer, and diabetes. It's associated with depression,

attentional problems, and Alzheimer's disease.

Food is medicine, or it is poison. **Sleep**, again it's absolutely essential.

Because you know, in 1900, we got, on average, nine hours of sleep at night. In 2011, we get six hours of sleep at night.

Less than seven hours of sleep, you get lower overall blood flow to the brain. Your brain cannot go through that kind of transition in such a short period of human history, without there being very serious consequences.

And as sleep goes down, weight goes up, because your cravings get out of control. So, being physically healthy is important.

But having anxiety is important. Did you know there are great studies with longevity, and the children who were the "Don't worry, be happy" children die early, because they didn't take their health seriously enough.

I hope I give you a little anxiety. You know, I'm a psychiatrist by training. I was teaching people to chill out, and what I came to realize, is I need to motivate them a little bit and just increase their fear, so that the double cheeseburgers are not calling their name.

Meditation fooled us. What we thought, you know, meditate, zone out, brain calms down. Absolutely not like that at all. When people meditate, it activates the front part of their brain which is the most human, thoughtful part of their brain.

You want the best antidepressant? It's not Prozac, it's **gratitude**. You write down three things you're grateful for every day. Within three weeks you'll notice a significant difference in your level of happiness.

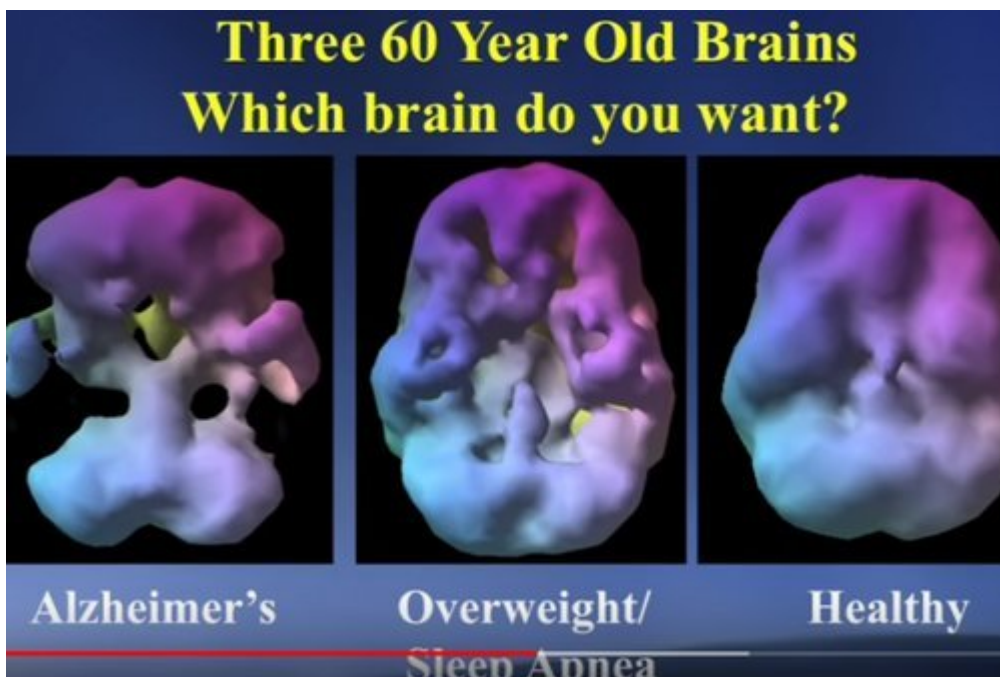
ANT-killing means don't believe every stupid thought you have. You go, "OK, Dr. Amen, you've been a psychiatrist for 30 years. Single most

important thing people can do?" Don't believe every stupid thought you have.

Have this little question, in your head, "Is it true?" So when you feel like your husband doesn't love you, is it true?

Because when you question your thoughts, you live in a more rational world.

Here are examples of three 60-year-old brains. One with Alzheimer's disease. One that is overweight, that has sleep apnea, which is a disaster for brain function. And a healthy scan. Which brain do you want?



I know which brain I want.

Here are five ways brain imaging will change everything you do.

The first thing, it will give you brain envy. So, I started doing scans in

1991. And I was 37 years old, and I scanned my own brain.

And I looked at it, compared to a lot of other scans, and I went, “Yuck, too many bumps, bumpy places.” And I’ve actually never drunk. I got drunk when I was 16, I had a hangover for five days. I went, “This is not for me.”

Never smoked, never did drugs. I’m like, “Why does my brain look so bad?”

But at the time, I had a lot of bad brain habits. I only slept four or five hours a night because I was driven. I was drinking diet soda like she was my best friend. And I carried more weight, was under chronic stress, and it showed.

And so, since I saw my scan, and developed brain envy, at 52, I scanned myself again, and it’s much younger. My brain looks better.

And you know, you can do that. That’s the cool thing about the brain. You’ve probably heard about **brain plasticity**.

But if you make good decisions today, we found this out with our NFL study, that you can start to improve your brain within two months. It’s like, how exciting is that?

And, with a better brain, everything in your life is better — from your body to your money, to your relationships, to the level of innovation.

The second thing is, since brain imaging, **I would never let my kids play tackle football**.

When does the brain finish developing? 25. Your brain, and in males, some people think it’s more like 28.

So the idea that you are an adult at 18, from a neuroscience perspective, is

just flat-out stupid. And the insurance companies know that.

When do your insurance rates change and stabilize? 25. Why? Because you're making better decisions. And the decisions you make are a brain function. So do not let your kids put their brains at risk.

ALSO READ: The Most Common Disease You've Never Heard Of:
Shannon Cohn at TEDxUniversityofMississippi (Transcript)

You'll take environmental toxins so much more seriously. This is one of the firefighters that we scanned recently. And you see this overall low activity. Those holes? He doesn't have physical holes in his brain. What he has is serious overall low activity.

You'll take your weight a whole bunch more seriously. And you'll think about the early detection and prevention of Alzheimer's disease.

Alzheimer's disease is expected to triple in the next 25 years. We cannot afford this. And how you prevent Alzheimer's disease, is you prevent all the illnesses that are associated with it, like heart disease, cancer, diabetes, depression, and high blood pressure.

So, how to create a brain-smart world to accelerate individuals?

This is my goal. And we see individuals and families at the Amen Clinics, but we're very interested in schools, in churches, businesses, and communities.

And, I love this. Andy came to see me about four months ago. First time, about ten years ago, when he was 53, and his brain just looked awful. And I got him to buy into the program of brain health. And, this is what his brain looked like ten years later. Isn't that cool?

And I want to talk about getting systems involved. So, I was working on

my new show. And while I was working on my show, I went to church.

And my wife said she'd drop Chloe off, our seven-year-old, at children's church, and I would go save us seats. And, it's at a very large church nearby, and it's not Saddleback.

And as I walked into church, I passed 500 donuts for sale. And I was just irritated.

And then I walked by bacon and sausage cooking on the grill. And I'm furious.

And right before I go into the sanctuary, they're cooking hundreds of hot dogs for something after church.

And as I sat down in the sanctuary, the minister started talking about the ice cream festival they had the night before. And, I'm nearly psychotic at this point.

And when my wife found me, I was typing on my phone, which she hates. And she gave me that look that only your wife can give you, that said, "Why the hell are you on this thing in church?"

And I showed her what I was writing: "Go to church, get donuts, sausage, bacon, hot dogs, ice cream. They have no idea. They're sending people to heaven early!" It's like, not the plan.

And I have no idea what the minister said the rest of that service. I just sat there, praying that God would use me to change churches. Because this isn't the plan.

No lie, two weeks later, Rick Warren calls me. He said, "Dr. Amen, we're doing this program called Decade of Destiny in the next ten years at

Saddleback. I want to get the congregation and myself healthy. Will you help me?”

I’m like, “Oh my God, God was paying attention.”



Often in my life I don’t feel like that, but I’m so excited. And so we have put together a program called **The Daniel Plan: God’s Prescription for your Health**, for the 30,000 members at Saddleback. And we give them the opportunity to sign up for the research part of the program.

We now have nearly 15,000 people in our research study. Saddleback, as we developed the Daniel Plan, is connected to 400,000 churches around the world.

Next year, after we’ve beta tested this year, we’re going to export it. I couldn’t be more excited about this. And we deliver the content through small groups.

Why? Because people get well in groups. They get well as families, they get well in support groups.

And after three months, the church has already lost 160,000 pounds. People report improved energy, focus, creativity, sleep, mood, reductions in asthma, stress, blood pressure, blood sugars, and many medications.

We have our own Daniel Plan menu, and I have my challenges. I am still trying to get them to kill the donuts at church. You might pray for me.

I couldn't be more excited to be part of what has the potential to change the world from the church up.

But you know, it also needs to happen from the school up. The food they serve your children is a scandal, and research suggests that it actually increases attentional and behavior problems.

There's three studies now in the journal **The Lancet** that said, "**put kids on elimination diet**," which basically means eliminate all the crap in their diet.

And within three months, 73% of them show greater than a 50% reduction in their symptoms. This isn't hard.

We need to change our society, though. From businesses up, from hospitals up. I went and visited my aunt in the hospital, I said, "I have to get you out of here, the food is going to kill you."

Brain health and innovation are intimately connected. Please help me create a brain healthy world.

Thank you.

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Daniel Amen: Change Your Brain, Change Your Life @
TEDxOrangeCoast (Transcript) | 14