

## Top 5 Dementia Myths Debunked

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Guest: Dr. Anil Nair

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### Dementia Is More Than Memory Loss with Age

This transcript was edited from the original audio for clarity and readability and may not exactly match the [audio version](#) of the program.

#### **Announcer:**

Welcome to this HealthTalk show. Before we begin, we remind you that the opinions expressed on this show are solely the views of our guests. They are not necessarily those of HealthTalk or any outside organization, and, as always, please consult your own physician for the medical advice most appropriate for you. Now, here's your host.

#### **Rick:**

Hello and welcome to our show. I'm Rick Turner. There are several myths floating around about [dementia and Alzheimer's disease](#). What is Alzheimer's? Who gets it? What causes it? What doesn't cause it? During our show, we will explore some of these common myths.

Joining us is Dr. Anil Nair. Dr. Nair is an assistant professor of neurology at Boston University Alzheimer's Disease Center. His research interests are in early detection, treatment and prevention of Alzheimer's disease with special emphasis on mild cognitive impairment and genetics, as well as [Lewy body dementia](#). He is the primary investigator for several research studies of treatments and other aspects of Alzheimer's, including prevention and genetic risk assessment.

There are certainly a lot of myths and fears surrounding dementia and Alzheimer's disease. One of the most common fears is that any kind of memory loss, especially in older age, must mean some type of dementia is setting in. Dr. Nair, how true is this?

**Dr. Nair:**

This is certainly not true. We have trillions of neurons in our brain. During the process of normal aging, we do lose some of these cells. This process, which is a relatively normal process of aging, leads to difficulties with naming and multi-tasking. People may not be able to remember a particular object's name or a person who they have recently met. Usually, this comes back to them as time goes by, and it is usually not a concern.

We have patients who come for an office visit and they are very concerned that they have Alzheimer's disease. In these situations, typically the patient is much more concerned than his family is. In real memory loss, the family is more concerned than the patient.

**Rick:**

When someone does experience these types of symptoms and they are over 50, when should they be concerned?

**Dr. Nair:**

Things we worry about are loss of short-term memory or if people repeat questions over and over again. Patients themselves may deny this, and it is hard for family members, especially children, to confront them and say, "No, Dad, you have memory loss," and Dad is convinced that there is no memory loss. Often, that is the time to make an office visit with the patient.

**Rick:**

Another related myth is that Alzheimer's itself is exclusively an old person's disease. In reality, aren't there people being diagnosed with the disease in their 40s and 50s?

**Dr. Nair:**

Certainly. The youngest person that I know of who had the disease is in his 20s, but that person had [Down syndrome](#), so that tends to make it happen earlier. But Alzheimer's disease as we know it can also be diagnosed at less than 65 years of age. As a matter of fact, in the 1900s Dr. Alzheimer himself reported one case with an onset of illness in his 50s. I would qualify this to say that younger patients are also more likely to have a familial or more dominant variety of Alzheimer's disease.

**Rick:**

How common is it for someone to be diagnosed with Alzheimer's disease in their 40s?

**Dr. Nair:**

It would be relatively rare. I would guess it would be less than 10 percent of all the cases. I should also say that the familial Alzheimer's disease tends to be less than 2 percent of the total (number of patients diagnosed with Alzheimer's disease).

**Rick:**

Another common belief is that Alzheimer's disease is not a fatal disease. How do you respond to that, Dr. Nair?

**Dr. Nair:**

It does not directly kill anybody. It is not a terminal illness. But epidemiological studies have shown that once a patient is diagnosed with Alzheimer's disease, they tend to live less long than their peers who do not have the disease.

Take, for example, a person who is 55 years old. If he has the diagnosis of Alzheimer's disease, his median survival time is actually decreased by about 11 years. For an 85-year-old, there's a decrease in the survival time of only about five years. So younger people who are diagnosed with Alzheimer's disease may have a larger drop in their survival compared to the older people.

Part of the reason for this is that once you are really demented you will be more likely to develop nutritional problems, pneumonia or other problems related to medication use. In such cases, it's unclear how it increases the mortality but it does.

**Rick:**

So then Alzheimer's itself is not going to kill you. But once diagnosed, your life expectancy is shortened.

**Dr. Nair:**

That's correct.

## **Does Aluminum, Aspartame or Mercury Cause Dementia?**

### **Rick:**

Years ago, people began to believe that there was a causative link between aluminum and Alzheimer's disease. The thought was that cooking with aluminum pans or drinking out of aluminum cans, the use of anti-perspirants and antacids which contain aluminum, could cause Alzheimer's. Do we know if there's any truth to that?

### **Dr. Nair:**

I was about to say this theory has been soundly disproved. In fact, this is a very old theory, and aluminum is widely used. For example, aluminum hydroxide is used as an antacid. It's also used in water purification. Aluminum chlorohydrate is in anti-perspirant, and aluminum sulfate is used as a food additive. It's also used in vaccines. It's been used pretty extensively in the healthcare and the food industry. There is some evidence that if you consume it in large amounts, there is neurotoxicity. For example, if you take more than one gram of aluminum for many, many years, then it potentially can cause trouble, but it's never really been soundly proven that way.

### **Rick:**

How would someone consume that much?

### **Dr. Nair:**

The most common way to consume that much is through consuming aluminum hydroxide antacid. One tablet of aluminum hydroxide antacid contains somewhere between 1,000 milligrams (one gram) of aluminum and 1.5 grams of aluminum – a large dose. If you are cooking with aluminum pans, typically you don't get much. You need a very highly acidic or a very highly basic solution – like Indian food – to actually leach out aluminum from cooking.

In the 1970s, people thought that aluminum is a cause of Alzheimer's disease. Some brain plaques have been found that contain that metal. One reason why the brain plaques may have that aluminum is that Abeta (amyloid beta protein) – the bad protein in Alzheimer's disease – is a very highly chelating agent, and it tends to attract all kinds of heavy metals. [Medical editor's note: A chelating agent is an organic compound that is capable of bonding with metals such as aluminum.]

A lot of epidemiological studies related to aluminum have been inconclusive and somewhat contradictory.

Other epidemiological studies have measured how much aluminum is added to water to purify it to see if that had something to do with dementia. Many of these studies have been from Europe and showed some powerful evidence between aluminum in water and increased dementia. But when they tried to replicate those studies, they couldn't find any cause. We don't really know if the water for that particular area had more likelihood of having Alzheimer's dementia. So it is at best unclear, but there is no real direct cause.

**Rick:**

Do you recommend to your patients that they cut back on their antacid use or anything like that?

**Dr. Nair:**

I typically don't. I don't believe in this hypothesis because of lack of evidence.

**Rick:**

Another common fear is that aspartame and other artificial sweeteners can cause dementia. In fact, some scientists are concerned about the possible long-term effects of aspartame on brain cells. Should we be worried about artificial sweeteners when it comes to dementia?

**Dr. Nair:**

This is again a very controversial field. There are some Web sites targeting aspartame. One even said aspartame killed Anna Nicole Smith.

The FDA (Food and Drug Administration) approved aspartame for use in 1981. But because of the complaints, they went back and reviewed this again. In 1987, the U.S. General Accounting Office investigated the FDA approval process of aspartame originally and confirmed that the agency had acted properly. To this date, however, the FDA continues to review complaints alleging adverse reactions to products containing aspartame. I believe a lot of this is coming from a series of chain e-mails, which are sent by some of these Web site people, and typically they grab the browser's attention with headlines like "Did This Kill Anna Nicole Smith" or whatever the current big news is. They use

that to spread misinformation about aspartame. It's very one-sided, but I really don't think there is any evidence that aspartame has any effect on Alzheimer's dementia.

What they say is that aspartame is causing damage through its conversion in the body to methanol. So a can of aspartame-sweetened soft drink, for example, can give you about 20 milligrams of methanol. However, what people don't recognize is that if you drink a can of orange or apple juice, you get 40 milligrams of methanol converted in the body. If you drink a beer, you get about 100 milligrams of methanol.

There is also concern that phenylalanine from aspartame-containing juices or soft drinks can cause problems. But if you eat an egg, you get 300 milligrams of phenylalanine. Whereas, a can of soft drink with aspartame has 100 milligrams. And a hamburger has almost 900 milligrams of phenylalanine. So as long as you don't have a deficiency of an enzyme in the body which prevents you from converting phenylalanine to a normal process of the body, I don't think there is any trouble taking aspartame.

In fact, there was so much controversy that the FDA did long-term monitoring and found that possibly it is protective against cancer to use aspartame because you are not using the sugars. You tend to not have as much death in the group who does not use sugar, maybe that's because they are not using unhealthy foods.

As far as Alzheimer's disease is concerned, there is definitely no difficulty from using aspartame.

**Rick:**

Alzheimer's is a scary disease. At the time of diagnosis, it may seem like Alzheimer's is an automatic death sentence. While Alzheimer's disease is a fatal disease, many people with Alzheimer's continue to live very active and fulfilling lives for a long time. Dr. Nair, can you comment on this?

**Dr. Nair:**

Very clearly, Alzheimer's disease is a scary disease. I agree with that statement. The number of people affected by Alzheimer's is growing at a very rapid rate, almost epidemic proportions, increasing the financial

and personal burden on world economies, healthcare systems and families.

There are currently about 26 million people worldwide with Alzheimer's disease, and estimates are that this will quadruple to 100 million by 2050, and about 40 percent of these patients will be late stage and needing some form of nursing home care.

So obviously, this is a very worrisome situation. We currently have 5 million people with Alzheimer's disease in the U.S. and could have about 20 million people with Alzheimer's disease by 2020 or 2024. So that's a very scary disease in epidemic proportions. The disease is a bad disease and bad diagnosis to have.

However, it is also being diagnosed much earlier. There is some treatment available which at least delays the disease for about six to 18 months. So even though it is not a cure, there's still something that we can do. We can also help the patients with their behavioral problems by using medications or using behavioral techniques. A lot of things have changed since the early '80s when a diagnosis was considered almost a "death sentence."

And I also want to submit that in the last five years there have been a lot of advances that have led to new drugs being evaluated, and hopefully we are going to have a cure in the next few years.

**Rick:**

There are a lot of other myths about Alzheimer's floating around. One of them is the risk of mercury consumption. The fear is that mercury in vaccinations, dental fillings, even the fish we eat can cause Alzheimer's. Is there an established link between mercury and Alzheimer's disease or other forms of dementia?

**Dr. Nair:**

This is again a very commonly held belief without adequate proof. Some earlier studies have shown that higher mercury concentrations are found in the brains of deceased and in the blood of many patients with Alzheimer's disease. Experimental studies have also found that even the smallest amount of mercury – but no other metals – in low concentrations are able to cause nerve cell changes typical of Alzheimer's disease.

It's not clear how mercury influences the genetics of Alzheimer's disease. But in a large study, about 200,000 people in the New Zealand defense force were followed between 1977 and 1997. When these people were tested for association with mercury from dental amalgams (fillings) or other sources of mercury, they did not find any cases of Alzheimer's disease in this group. In fact, they couldn't say it was increased because in this relatively young group there wasn't any Alzheimer's disease developing. So that's a very large study that is against this idea that mercury is possibly a direct cause of Alzheimer's disease.

There is also another study from the University of Kentucky College of Dentistry. They performed a study with 68 subjects with Alzheimer's disease and 33 control subjects without Alzheimer's disease. In the people who had died of Alzheimer's disease, they looked at their charts to see if they had dental fillings which contained mercury. They did not find any differences between the brain-mercury levels or where the fillings were in the teeth between the patients who had Alzheimer's (and those who didn't). They concluded that mercury in dental amalgam restoration does not appear to be a neurotoxic factor in the emergence of Alzheimer's disease.

These are two large studies, which do not find mercury as a cause of Alzheimer's disease, but we could use some more data on that.

**Rick:**

Dr. Nair, do you think that Alzheimer's is just a normal part of the aging process? In other words, if all of us lived to be 90 or 100 years old, would we all eventually get it?

**Dr. Nair:**

Even though Dr. Alzheimer found changes of Alzheimer's disease and described the clinical features of the disease, it really remained unrecognized clinically until the '80s. It doesn't mean it was not around, it just means that people were not good at diagnosing it. Throughout the '60s and '70s, people considered memory changes like Alzheimer's disease to be senile dementia. In many cultures, even to this date, it is considered senility or senile dementia.

But I just recently saw a gentleman who is 95 years old, and he is doing very well and without difficulties, so it doesn't look like everyone

who is older will get memory difficulties. It is always a small subset of the people who are really old who actually end up getting Alzheimer's disease or some type of dementia, who have memory difficulties. In other words, if you are not sick, you should not lose your memory.

Part of this is also because physicians were often afraid to make a diagnosis that was considered a "death sentence" before we had any kind of treatment. They would say, "This is not Alzheimer's disease, this is just normal," and this led to gross under-reporting of the disease in the past.

At the same time, we should consider that the estimate of prevalence of Alzheimer's disease at age 85 is about 25 percent. As people grow older, they will have more Alzheimer's disease. But that does not mean that 75 percent of the people who do not have the disease have senility or vice versa.

### **Other Dementia Myths: Head Injuries, Seizures, Medications and Gender**

#### **Rick:**

How about head injuries, if someone has a bad head injury, is that going to make it more likely for them to develop Alzheimer's?

#### **Dr. Nair:**

We have always considered head injuries as a known risk factor for Alzheimer's disease, particularly repeated injuries or injuries which happened when you were younger. Our data is still not adequate to say that issue is settled one way or another. About 40 years ago, the first report came out from Britain describing memory problems in a sample of boxers. The relationship between brain injury and Alzheimer's disease was investigated by many groups. Large epidemiological studies link those associations all the way from the 1980s. But an equal amount of negative studies are also published.

Recently, there have been reports that some injured brains had neuropathological changes, which are remarkably similar to Alzheimer's disease, but the interpretation of these findings remains uncertain at this point, in my opinion. I would tell my patients that head injury is a known risk factor today.

**Rick:**

What if there is no family history of dementia? Does that mean I have no risk of developing Alzheimer's?

**Dr. Nair:**

It doesn't completely eliminate it. If you do not have family history, it does not mean you will never get Alzheimer's disease, but your risk is about four times less. If you have a family history of Alzheimer's disease, the odds of developing the disease go up more than four times the odds of not having family history of the disease.

**Rick:**

What about men versus women, is it true that men are at higher risk for developing Alzheimer's?

**Dr. Nair:**

It is generally recognized that the prevalence of Alzheimer's disease is higher in women, but whether incidence is increased in women remains a controversial issue. Incidence is new disease and prevalence is the total number with the disease at any one time. So if men who get Alzheimer's disease are more likely to die given a shorter duration of the disease in men, even if men get it more often, you would have more women having it at one time. So it is possible that women have a slightly higher incidence.

There was a study done in 1998 which found there was no significant gender difference overall, but Alzheimer's disease is more prevalent in women. In other words, there are more women who have the disease at any one point in time.

**Rick:**

One final myth is that the person with Alzheimer's has no idea what is going on around them. Do you think that is true, Dr. Nair?

**Dr. Nair:**

I would not agree with the way the statement is presented. In individuals with Alzheimer's disease, especially in the early and middle stages of the disease, they have difficulties predominantly with short-term memory. Their judgment and ability to be cognizant of their surroundings are often intact. They tend to know the right thing to do.

They are usually pleasant people, they are not violent or harmful to other people, and their judgment is relatively intact.

But in the later stages, when memory difficulties become much more severe, sometimes this can create trouble. There are times in the disease when people have no idea what is happening around them, and many patients end up needing full-time care.

**Rick:**

We have some e-mail questions coming in, and I'd like to get to them.

Our first one is from Sarasota, Florida. This listener writes, "Could miscellaneous medical conditions, such as seizures from epilepsy, contribute not only to dead brain cells but to some form of dementia?" Dr. Nair?

**Dr. Nair:**

One of my co-residents did a large study on this specific topic. She found that there is evidence of memory difficulties in patients that had seizure disorder, especially among the group who had seizure surgery. It's been very well-established that patients who have seizures, whether because of the medications they use or from the seizures per se, have some degree of memory difficulties. But this typically doesn't change with time, and it has a very different pattern of memory loss than Alzheimer's disease memory loss. I wouldn't say that Alzheimer's disease is due to seizures or causal in any way.

**Rick:**

Is there any sort of relationship, a positive correlation between any other type of medical condition and Alzheimer's?

**Dr. Nair:**

Definitely. The risk factors for Alzheimer's disease include diabetes, high blood pressure and any kind of vascular problems, like heart attack. So some of the same things that cause your increased risk for stroke or heart attack increase your risk for Alzheimer's disease in addition to head injury. And, of course, age itself is a risk factor.

**Rick:**

Sure. Virginia from North Carolina writes, "Can a large dosage of prednisone cause dementia? My husband was given 60 milligrams of prednisone, and after that his mind and memory were gone."

**Dr. Nair:**

I would say no. [Medical editor's note: Prednisone can cause a variety of psychiatric symptoms, including dementia, that are reversible on drug discontinuation. Dr. Nair is saying that prednisone does not cause Alzheimer's disease, which is a permanent, non-reversible condition.]

**Rick:**

Pat from Carmichael, California asks, "Can the medication called Zyprexa (olanzapine) cause dementia?"

**Dr. Nair:**

Zyprexa is one of the medications that can be used for controlling behavior. It is what we consider an anti-psychotic, and these are medications which are used in a lot of conditions including severe end stage Alzheimer's disease when behavior becomes uncontrollable, and this is a way to sedate the patient.

These drugs make the patient very sleepy. These are drugs we generally do not use in the early and middle stages of Alzheimer's, but we are forced sometimes to use them to eliminate very serious problem behaviors during end stage Alzheimer's.

These drugs also have a lot of side effects. But even with that, there is so much difficulty from the Alzheimer's disease itself, sometimes families and physicians have no choice but to use some difficult medications.

**Rick:**

Are there others that some of our listeners might recognize that would fall in that category?

**Dr. Nair:**

Yes, there is Seroquel (quetiapine), Zyprexa and other drugs that we use. And quite a few of those anti-psychotic medications are the same medications we use in cases of [schizophrenia](#) and [mania](#). There was a large study that looked at the side effects of these medications in

dementia patients, and they found that the patients who took these medications were more likely to die than the people who did not take them. It may also be the fact that those are the patients who have more problems and violent behaviors.

## **Family History and Genetics May Increase Alzheimer's Risk**

### **Rick:**

The next question comes from Ruth in Boca Raton, Florida. Ruth says, "My father had dementia, is it inherited?"

### **Dr. Nair:**

There are two kinds of genes. One set of genes are called deterministic genes, which means that if you have that particular gene, you will get the disease. There are three deterministic mutations in Alzheimer's disease that contribute to less than 2 percent of the total cases of the disease as a whole. If you have those mutations, your chance of getting Alzheimer's disease is about 50 percent throughout your life. But that kind of a mutation is very rare. And there is a lot of interest in that, so it is very likely many of these groups of families that are recognized by their physicians as "familial Alzheimer's disease." I would say that if her dad had a diagnosis when he was older than 60 years of age, it's less likely that she would have a deterministic mutation that would lead to this kind of disease. The majority of the people – 98 percent – have a kind of mutation called the susceptibility gene, which basically means it is not one gene but many genes that actually contribute, along with many other factors, to cause Alzheimer's disease.

So if I were Ruth, I would keep a very healthy lifestyle, control diabetes if I had it, decrease cholesterol, have an active exercise schedule and keep my weight down. Those are really the things I would do.

The only risk factor that is proven in sporadic Alzheimer's disease is APOE-e4 [apolipoprotein E-e4], the gene that contributes 33 percent of the risk of developing the disease.

### **Rick:**

We have a related e-mail from Linda in Miami, Florida. She says, "My mother passed away in 1983 from Alzheimer's at the age of 68. I was

told that as a result of that I am at a 25 percent greater risk of getting Alzheimer's disease based on my genes. What are your thoughts on this?"

**Dr. Nair:**

I would think that probably is correct. It depends, again, on her makeup of her APOE. If you had a person in the family with the disease and you were an APOE-e4, then those numbers would probably be correct for her. But again, the chance is small that she would be in the less than 2 percent of the population who are unfortunate enough to get both genes together.

**Rick:**

Luann from Gurney, Illinois, writes, "My dad was diagnosed with Alzheimer's, my mom was diagnosed with dementia, I have [multiple sclerosis](#) (MS), my nephew has [Asperger syndrome](#). Are these diseases genetic, and what are my chances of getting Alzheimer's?"

**Dr. Nair:**

That is a tough question, and personally I think it is unfair for me to predict your chances of getting Alzheimer's disease over the telephone. I would say that having multiple sclerosis does not increase the risk of Alzheimer's disease, however, Asperger syndrome is less clear. There are some children diagnosed with Asperger syndrome who have a variant of [Down syndrome](#) who have an increased risk of Alzheimer's disease. But how that translates to the individual who is related to the child, I am not really certain.

**Rick:**

We have a question from Ruth in Boca Raton, Florida, "Does Aricept (donepezil) reverse Alzheimer's?"

**Dr. Nair:**

That's a very interesting question. We don't know that. We know for certain that it does not cure Alzheimer's disease. It does slow the disease down.

It may be better to explain the kinds of medications used in treatment – one is a cure. A cure is when you give medication to a patient, and it takes the disease from its current stage and puts it back to a prior

state of normalcy. In other words, it reverses and treats the disease completely.

The second one is a disease-modifying agent, which actually changes the course of the disease. So if you have a very severe disease, it would give you a milder version. It doesn't stop the disease, but it will slow it down.

The third will hide the disease for a couple of years, and then the disease would reach the same point it should have otherwise reached, but often with benefits.

So a medication like Aricept (donepezil) or Razadyne (galantamine) and Exelon (rivastigmine) are all medications which are in the same group of symptomatic therapy – they tend to slow the disease down by about six to 18 months and delay the need for nursing homes. During that time, the patients are not worsening, and there is a little more quality time families tend to have with the patient.

**Rick:**

Riley in Lubbock, Texas, writes, "What areas of the brain are affected first by vascular dementia? What is the life expectancy in years after a diagnosis with treatment using the current meds?"

**Dr. Nair:**

If you are 65 years and you had a diagnosis of Alzheimer's disease, your life expectancy decreases by about 11 years. Whereas, if you are 85 years, your life expectancy decreases by four or five years.

As far as the other question is concerned, it really depends which vessel is involved in vascular dementia. Typically, vascular dementia patients will have more difficulties with naming and memory. They tend to be similar to Alzheimer's disease, but there are distinct features. For example, there will be a step-point progression, that is, every time someone had a mini-stroke or a stroke they would have more difficulties with cognition. It tends to be more definable. If you do an [MRI scan](#), it is somewhat easier to differentiate them from Alzheimer's disease.

**Rick:**

We have an e-mail from Lodi, California. This person wants to know if a history of migraine headaches influence susceptibility to Alzheimer's.

**Dr. Nair:**

As far as I've seen, there's no data linking both directly. There have been two studies that said participants with migraines had more chance of having familial Alzheimer's. I'm not really sure that there's anything more known about that.

**Rick:**

We have a question from Joyce in Dover, Tennessee. She writes, "My husband has advanced third stage Alzheimer's dementia. Could you please tell me what I need to expect at the end?"

**Dr. Nair:**

The question itself is a poignant one. It's something that we often struggle with because at some point there is a possibility that patients with Alzheimer's dementia may progress to a point where they will not have the ability to communicate, etc.

Typically, the features that are associated with late stage disease are inability to communicate, to recognize people, places or objects, or to participate actively in personal care activities. They will need help with that. Then they cannot walk, their muscles get stiff and become contracted. They may lose their ability to swallow, which often leads to malnutrition and even death. Other issues include seizures, weight loss, sleeping or exhibiting problem behaviors like needing to sit up all night, incontinence, etc. That is a large list, and unfortunately we do not have adequate treatment to reverse or make late stage Alzheimer's become more moderate.

**Rick:**

Dr. Nair, what final thoughts you would like to leave us with at the end of this program?

**Dr. Nair:**

I would love for this disease to be cured. I think that spending money appropriately on healthcare and research is the most appropriate way to get results. And if there's any way we can increase funding from the

government level toward Alzheimer's disease research, I would think that this disease can be conquered in the next decade.

**Rick:**

If we didn't get to your question on the program, I apologize, please check out our [Ask the Doctor](#) page. Thanks to all of you for listening. From all of us here at HealthTalk, I'm Rick Turner.