MEMORY LOSS

Prevent and Treat with Lifestyle Changes

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Introduction

About Me

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Hello, I’m Dr. Amarish Dave’. I’m a board certified neurologist in private practice with offices in Crystal Lake and Woodstock, Illinois. I care for patients and counsel families on a variety issues related to memory loss and dementia, such as Alzheimer’s Disease, which is the most common form of dementia. I’ve written this book after seeing that I was able to make a difference in the lives of many of my patients and their families by taking a comprehensive approach to memory problems and dementia. Unfortunately, I’ve also realized that many patients don’t always receive the same type of care elsewhere. As a physician we are limited in helping only those patients we see in the office, but there are thousands more who can benefit from the information contained in this book, and I hope you and your family will find this to be true.

The purpose of this book is twofold. First, for those that don’t have dementia or significant memory problems, there are a variety of lifestyle changes that can greatly reduce the risk for developing dementia down the road. So, you can’t totally prevent dementia, but you can reduce your risk significantly with the right nutritional and lifestyle choices, and proper medical care. Secondly, for those who already have memory problems or are caring for family members with dementia, this book is also designed to provide a comprehensive, but easily understandable approach to getting the best medical care and combining that with the right lifestyle and environmental factors to achieve the best quality of life.

This book is not a substitute for seeing your physician, but should be used together with your doctor to improve your memory or the medical care a loved one is receiving, and reduce your own risk for developing dementia.
Chapter 1

Types of Memory Loss

Not all people just because they have a memory problem start out with Alzheimer’s dementia, which is the most common cause of severe memory loss. Most people who have memory problems start out with something called mild cognitive impairment (MCI). Mild cognitive impairment may affect as many as 20% of people over the age of 65. Mild cognitive impairment is reserved for people who usually have difficulty remembering things, often other family members notice problems first, however, their judgment remains good and activities of daily living are usually ok. Approximately 10-15% of these patients each year will go on to develop dementia. Dementia affects approximately 4-5 million Americans over the age of 65. Dementia involves memory loss like MCI, but also involves other more serious problems. Individuals with dementia can’t remember short-term events, their judgment is frequently impaired and often personality changes occur. Patients can become combative or paranoid as the disease progresses. I’ve had spouses tell me that their husband thinks that they are cheating on them, stealing their money and even poisoning them.

Of the types of Dementias, Alzheimer’s is the most common type affecting about 4-5 million Americans over the age of 65. For the diagnosis, a neurologist usually evaluates patients and a variety of tests are ordered, including an MRI of the brain, which is like a fancy X-ray, blood work and a comprehensive neurologic exam. During the exam and history, patients and their families usually report problems with short-term memory loss, inability to do things they used to do, like balancing a checkbook, keeping appointments, forgetting conversations. On the MRI of the brain, frequently atrophy, or shrinkage, is found in the brain. The shrinkage occurs throughout the brain. Blood tests are done to rule out other problems that can cause memory loss that we’ll discuss a little bit later.

The next most common type of dementia is Vascular Dementia. This is dementia caused by excessive amount of mini strokes or blockage of the tiny blood vessels in the brain. On the MRI the brain may show atrophy like Alzheimer’s, however, it also shows evidence of many, many silent mini strokes.
Cumulatively, these silent strokes cause damage to the brain and lead to memory problems. In addition, patients frequently have more abrupt problems with confusion, memory that can be traced back to stroke episodes. Although many of the mini strokes seen on the MRI may be silent, big deteriorations in memory can occur that represent more severe strokes. Often problems with speech and walking problems can accompany the problems with memory because the stroke has effected areas of the brain that are important for these other functions. Reducing the risk for future stroke is one way doctors treat these patients because not only is it obviously important to prevent strokes, but also by doing so, you can also help reduce further progression of the dementia.

The third most common type of dementia is called Lewy Body Dementia (LBD). Lewy body dementia refers to the presence of something called Lewy bodies in the brain of patients with this type of dementia. Lewy bodies cannot be seen on MRI, but rather seen under a microscope of patients when brain tissue is studied. The diagnosis is not made by brain biopsy however, but rather the unique way patients often present to their families and doctors. Early on, patients tend to have significant personality changes. There can be wild swings of depression and happiness, or there can be aggression and hallucinations. I had one patient who was complaining of mild memory problems but his wife noticed that he started to be more introverted and used to be very outgoing, then he started having hallucinations. One of the most frequent was of a man in a piano who was racing down his street every time he would look out of the window of their house. In addition, there is some overlap between Lewy Body Dementia and Parkinson’s disease, which is a disease that involves movement and tremors. So, it’s not a surprise that patients with LBD also can have some symptoms that look like Parkinson’s disease in addition to Alzheimer’s disease. The important reason for doctors to get the diagnosis is right, is that patients with LBD can be very sensitive to certain types of medications such as medications used for mood problems, or agitation.

There is another type of dementia which is uncommon, but frequently considered, and that is Normal Pressure Hydrocephalus (NPH). In my experience this disease is often over diagnosed. I know that some specialists disagree. NPH essentially is an increased accumulation of cerebrospinal fluid around the brain. The pressure in the brain stays normal. However, as a result of this increased fluid, patients develop a slowly progressive memory problem, as well as difficulty walking, personality changes and problems controlling their bladder. Doctors call this wet, wobbly and wild to refer to the bladder incontinence, imbalanced walking, and changes in personality. The MRI of patients with NPH has a very characteristic appearance of large ventricles. Ventricles are cavities in the brain where the spinal fluid flows through. These ventricles become very large. The key is there is very little shrinkage of the
surrounding brain that you see in the other dementias. For those patients who are diagnosed with NPH, the treatment can be a cure. The treatment is to place a shunt, or basically plumbing to drain the fluid from the brain. The shunt stays in permanently. I remember a patient I had years ago who presented with the classic symptoms of NPH, with the most prominent symptom was that he couldn’t walk well. He loved to play golf and he could no longer even walk a few holes. After making the diagnosis, we sent him to a neurosurgeon to have this shunt placed and he was back on the golf course in 1 month and had stabilization of his memory problems. For families, it is always very wishful that the dementia is caused by NPH, because unlike the other dementias, this can actually be cured. This is why I think it is often considered, but actually remains still uncommon relative to the other dementias. An MRI of the brain and clinical history can often make a clear distinction between this diagnosis and the other types of dementia.

To summarize dementia affects about 4-5 million people over the age of 65. There are 3 common dementias each with their own unique characteristics.

1) Alzheimer’s dementia that impacts memory, judgment as initial symptoms.
2) Vascular dementia that is associated with both mini strokes that may be silent strokes, and other significant strokes that can result in paralysis, slurred speech among other stroke like symptoms.
3) Lewy Body dementia that often is associated by personality changes early on and also may have some symptoms of tremors like Parkinson’s patients.
4) Lastly, there is Normal pressure hydrocephalus that has very specific MRI findings on the brain and result in problems with memory, walking, personality changes and bladder problems. What’s common to all of these are the memory loss, judgment problems, and frequently personality changes as well.
Chapter 2

Lifestyle Risk Factors

Why do people get dementia? The vast majority of dementia is NOT genetically pre-determined. Despite the temptation to think that because your mother had Alzheimer’s you will get it, the reality is that except for a small number of people who develop dementia before the age of 50, most people are not destined to get dementia because of genetics. They may have a increased risk, but that's not the a guarantee. Therefore, there are other risk factors that contribute to ones risk. The **good news** is that many of these risk factors are modifiable by us, and **therefore we can reduce our own risk of developing dementia by lifestyle changes!**

Let's take a look at some studies on things that impact our risk for developing dementia.

As mentioned above, vascular dementia is the second most common type of dementia. It results from the accumulation of multiple strokes. Therefore the same things that increased our risk for stroke also can increase our risk for vascular dementia. Uncontrolled high blood pressure or poorly controlled diabetes and high cholesterol all increase the risk for vascular dementia. Also, smoking cigarettes increases your risk for dementia. A study by Dr. Ott, published in the Neurology journal, studied men and women who smoke cigarettes. It studied over 9000 people. **Those who smoke cigarettes had faster rates of memory loss than nonsmokers, almost 5 X FASTER!**

Also, obesity also increases your risk for dementia. In particular belly fat. A study of over 6000 individuals by Kaiser Permanente in California showed that people in their 40s who had belly fat that was in the highest ¼ of people had over 3X increased risk of dementia when studied 36 years later. It is not clear why the belly fat is so important. However, some researchers think that the belly fat is involved in hormone processing and other chemicals that may be toxic for the brain. **The good news again here is that lifestyle changes in midlife can have a significant impact on reducing ones risk for dementia later in life.**

Stretch your Muscles, Stretch your brain. Use it or lose it, is an old age that is true when it comes to your brain. Low levels of education is an independent risk factor for developing dementia. **On the flip side, highly educated people had an 80% lower risk of developing dementia, as shown in the CAIDE study**
published in the Neurology journal. One theory is that people with higher education have more reserve to withstand the declines in memory processing that occurs with aging. Although, you can’t go back and choose a different career or higher degree of education, you can continually learn new information both in formal and informal settings. Taking a class on a subject of interest later in life is a great way to use your brain and ‘stretch’ the neurons in your brain to help reduce your risk for dementia.

You gotta have friends! Friendships are not only often critical to our happiness, but it turns they are also critical to lowering our risk for developing dementia. Studies show that those with a limited social network and few social interactions have a 60% increased risk of dementia or memory loss. It makes sense of course, since it is through these social interactions that we are forced to communicate, think, laugh, and plan activities that are all healthy for our brain. So, it is not only important for those in mid life who want to preserve their memory, but also for those already suffering from mild cognitive impairment, remember that MCI is the pre-dementia state. And about 10-15 % will progress to actual dementia every year, so for these individuals making sure there is adequate social interaction is critical to reducing that 10-15% number of developing dementia by increasing social interaction.

Nutritional factors also play a critical role in dementia. Everything from certain key vitamins to foods. We’ll delve into this in more detail in later chapters. But recent studies indicate that unexpected weight loss is a critical factor that points to risk for dementia. It is unclear if the weight loss is caused by the dementia or the poor nutritional status serves as a catalyst to the symptoms of memory loss emerging in patients. A recent French study indicates that higher consumption of certain fish, nuts, fruits can reduce your risk for developing dementia. It is thought that these foods are rich in Omega 3 fatty acids which are critical for brain health. We will talk in much more depth about memory loss, dementia and nutrition in the next chapters. Stay tuned. But clearly, nutrition plays an important role in modifying the risks for dementia and memory loss.
To Summarize the Common Risk Factors for Developing Mild cognitive impairment and Dementia:

1) A study of over 6000 individuals by Kaiser Permanente in California showed that people in their 40s who had belly fat that was in the highest ¼ of people had over 3X increased risk of dementia when studied 36 years later.

2) Those who smoke cigarettes had faster rates of memory loss than nonsmokers, almost 5 X FASTER! High blood pressure, poorly controlled diabetes can also increase your risk for vascular dementia.

3) A low level of education is an independent risk factor for developing dementia.

4) Studies show that those with a limited social network and few social interactions have a 60% increased risk of dementia or memory loss.
Chapter 3

Medical Risk Factors for Memory Loss and contributing factors to Dementia

Losing one's mind is hard enough, without having other medical problems piling onto the problem! In addition to the lifestyle factors mentioned in the previous chapter, there are a variety of medical problems that can also cause memory problems and add to the memory problems that people with mild cognitive impairment or dementia have.

One we already touched on and that is the same risk factors for stroke and heart attacks. High blood pressure, diabetes, obesity and smoking all have been shown in studies to increase your risk for developing dementia and worsening memory problems. The good news again is that you can change these risk factors with the help of your physician.

In addition, as we age, sleep problems also become increasingly prevalent. Sleep is critical to making new memories and solidifying old ones. A team of researchers at Princeton University have demonstrated that sleep deprivation leads to the accumulation of toxins in a part of the brain called the hippocampus, which is a critical area of the brain for memory. These toxins prevent cells from growing in this area. The hypothesis is that as a result of sleep deprivation, the process of registering and storing memories that occurs during sleep is impaired and as a result over time, memory loss occurs. This has tremendous implications especially for those who already have memory problems. Sleep problems can occur for a variety of reasons and close consultation with your physician to address the underlying causes of the sleep problem are a critical factor in reducing ones risk for developing dementia and also slowing down the progression of memory loss in those patients who already suffer from dementia. It turns out that a bad nights sleep not only can affect memory and concentration for the next day, but actually years down the road your risk of developing dementia can increase!

A gland called the thyroid gland is also critical to preserving memory. The thyroid gland secretes the thyroid hormone. Slow thyroid glands can cause a decrease in memory. The thyroid hormone is
critical for metabolism and also for brain health. One of the most common and first tests for individuals seeking medical attention for memory problems is to have the thyroid checked. A key issue however, is that don’t just settle for a ‘normal’ thyroid, you want your thyroid at the optimal level. When you get the blood test, there will be a range of normal for your thyroid hormone. Discuss with your doctor if it would be ok to take the medication so that your thyroid levels are not just ‘normal’ but toward the higher end of normal. That way you will be functioning more at an optimal level for your metabolism and memory, not just at an acceptable level.

Mood and memory go hand in hand. Many of the symptoms of depression, lack of interest in things, poor concentration, forgetfulness, weight loss, sleep problems, and personality changes can mimic the symptoms of dementia and mild cognitive impairment that we have discussed. As you recall, patients with mild cognitive impairment can have forgetfulness about daily tasks, well so do patients with depression. Patients with dementia can have problems with sleep, well so do people with depression. Patients with memory problems can seem to lack interest in activities, well so do people with depression. On the flip side, patients with MCI or dementia, also frequently suffer from depression as well which makes the symptoms of memory loss seem even worse than they are, if left untreated. In a research published in the journal of Gerontology, there was increased incidence of depression in patients who were later diagnosed as dementia. It’s is likely that early on patients know they are having problems with their memory and this leads to depression. The key to improving quality of life is effectively treating the depression to improve the memory problems associated with the dementia. The depression can be treated with a variety of medications and environmental changes also such as increased social interaction. I will never forget one patient who first came to see me at age 89 with his daughter for dementia. He had been previously diagnosed with dementia and on the appropriate medications, however, he was still having difficulty concentrating and had no motivation to do anything during the day leading his daughter to feel that he was just giving up and wasting away. After further exam and questioning it became clear that in addition to the dementia, this patient was suffering from depression. After 6 weeks of treatment with an antidepressant medication the patient had improved significantly. His daughter said that her father had come back to her. He was a loving grandfather, interested in his great grandchildren, and his memory problems though still present, seemed much less severe. A year later he passed away, and I remember receiving a thank you card from her stating that she was so grateful that the final year of her father’s life was improved because his depression was treated effectively. Not all patients with depression and dementia have such dramatic improvement in their symptoms, but clearly aggressive treatment of depression in patients with memory loss is vital to improving their quality of life.
To Summarize:

5) It turns out that a bad nights sleep not only can affect memory and concentration for the next day, but actually years down the road your risk of developing dementia can increase!

6) Slow thyroid glands can cause a decrease in memory. The thyroid hormone is critical for metabolism and also for brain health.

7) Patients with MCI or dementia, also frequently suffer from depression as well which makes the symptoms of memory loss seem even worse than they are.
Chapter 4

My Medications, Friend or Foe?

Medications can save our lives, but also have the potential to be ‘poisonous’ to our bodies. Nothing could be more true especially for those with memory problems. One of the key chemicals involved with memory is called acetylcholine. Acetylcholine is not something you can just eat in your diet, it’s a chemical that is found throughout your body and critical for the cells in your brain to talk to each other. The medications we use for dementia and MCI actually are intended to increase acetylcholine in the brain by preventing the brain from getting rid of it. You could call these drugs Pro-Cholinergic. Well, unfortunately many prescribed medications and over the counter medications have as a part of their chemical function to block acetylcholine, and have so called ANTI-cholinergic side effects. That is they block the very chemical that is so critical to memory and thinking! That is not to say that every drug that has memory loss as a potential side effect should not be taken. Often, many drugs are well tolerated despite this caution and important for other medical reasons. However, there are some drugs that pose such problems that physicians should consider switching to alternatives when possible, especially in patients with dementia and memory problems.

It is not just prescribed medications either. As we talked about before, sleep is a big problem for millions of people, and one of the most common OTC medications for this is Tylenol PM. Well, the PM part of the Tylenol has Benadryl as its active chemical and Benadryl has major anti-cholinergic side effects and when taken chronically Tylenol PM can mimic symptoms of dementia and MCI. I had a patient in her late 50s and came to me for memory problems. She said she felt she was in a fog, her mother had Alzheimer’s disease and she was concerned she was also getting it. In addition, she complained of back pain. She had not listed her OTC medications on her medication list, but upon further questioning about her back pain she said she has been taking Tylenol PM every night, and sometimes 2 at night for the past year. I convinced her to stop the Tylenol PM and within 1 month, she felt like her old self again. She in fact looked somewhat dumbfounded when she came back to see me because she couldn’t believe the Tylenol PM did that to her. Of course we addressed the back pain with different medications that didn’t have these anti-cholinergic side effects. If she had stayed on the Tylenol PM, and not told her physicians,
she may been diagnosed with mild cognitive impairment and put on additional medications, when all that was necessary was for her to actually eliminate a medication!

Another commonly prescribed medication is ditropan or detrol for bladder problems. A recent study of over 800 people indicated that those who took these medications had a 50% faster rate of decline in memory than those who didn’t. These medications, like Tylenol PM, have anti-cholinergic side effects also, and are now recommended to be used in caution in the elderly and those with complaints of memory loss.

There are other over the counter cold medications that also frequently have ‘anti-cholinergic’ side effects. Many cold medications have anticholinergic side effects for example. I would recommend that for those who have memory problems to ask their pharmacist before taking any over the counter medications, and learn the phrase, **“Are there anti-cholinergic side effects?”**

There are also many, many more prescription medications that can have major anticholinergic side effects. Many antidepressant medications such as Elavil otherwise known as amitriptyline and other anxiety medications like lorazepam and klonopin all can have a negative effect on memory. **The best thing to do is take in all of your medications, over the counter, and prescribed to your doctor and pharmacist, and ask are there any anti-cholinergic side effects, and if so is there a safer alternative.**

Cholesterol medications have long been hypothesized to be helpful for preventing dementia. The theory goes that there is something called amyloid plaque in the brains of Alzheimer’s patients, and the cholesterol medications help to reduce this plaque and also may reduce inflammation associated with these plaques. Studies on this have been mixed. More controversial anecdotal reports have pointed to Lipitor and other medications in the same class as actually causing memory loss. There are group of attorneys and patients who have actually filed a class action lawsuit regarding this, and the results on this are pending. Most physicians, view these medications as indicated for patients who have risk factors for stroke and heart attack, and what minimal association there may be for memory problems is far outweighed by the benefits. Of course, as always patients should discuss this in detail with their physicians if they have memory loss and are on these medications.
To Summarize:

1) The most important Phrase to memorize and ask your doctor and pharmacist is, “Are there anticholinergic side effects to the medications I’m on?”

2) Tylenol PM can mimic the symptoms of dementia.
Chapter 5

Medications used to treat Dementia and MCI

After a complete neurologic evaluation and medications that can cause memory loss have been modified as possible from a patient's medication list, medications used to treat memory loss and dementia are often recommended by physicians. All of these medications have in common that they are designed to slow down the progression of memory loss, not reverse it. Although in my experience, some patients subjectively state that they feel more alert and think more clearly after starting them. However, they are designed to slow down the progression of memory loss and patients should always realize that if their memory problems are the same 6 months after starting the medications, that is what is expected and not a reason to think the medications are failing.

The first medication that we’ll talk about is Aricept, or donepezil is the generic name. It was approved by the FDA in 1996 for mild to moderate dementia. Like the other medications for dementia, it has been shown to slow the progression of dementia. Follow up data also show that it can help with some of the behavioral problems such as agitation often associated with dementia. Doctors also prescribe this medication for patients with MCI. There is some data to suggest that patients with MCI, who typically about 10-15% of them progress each year to dementia, progress at a slower rate when on Aricept. Therefore, it is used to delay the onset of dementia for patients with MCI. Aricept is part of the class of medications called cholinesterase inhibitors. Remember, we talked about acetylcholine as a critical chemical in the brain that is important for memory. Well, this medication helps to keep the levels of acetylcholine in the brain high. This is again the reason why every patient with memory loss such know the phrase, “Are there anticholinergic side effects with this medication?” since you don’t want to be taking Aricept to increase acetylcholine while you are taking another medication that decreases acetylcholine! Some of the common side effects of Aricept include nausea, vomiting, dizziness and fatigue. Most patients tolerate the medication well however. It is started at a 5 mg dose and increased up to 10 mg after one month. Aricept is given once a day which also makes it easy to remember to take. Aricept is also metabolized by the liver and liver function should be monitored while on Aricept.
Razadyne, galantamine is the generic name, is another medication in the cholinesterase category like Aricept that has been approved by the FDA for dementia. Razadyne comes in both an extended release version where patients take it once a day, and also a regular form where it is taken twice a day. Razadyne also comes in an oral solution which is helpful for patients who can’t swallow pills. Because Razadyne is in the same class of medications as Aricept, the side effects are also similar: nausea, vomiting, dizziness and fatigue are some of the common side effects and it is also metabolized by the liver and cleared by the kidneys so both of these things should be monitored by the physician prescribing the medication.

The third medication in this class of cholinesterase inhibitors is Exelon, rivastigmine is the generic name. Exelon is approved for dementia and also approved for dementia associated with Parkinson’s disease. Like the other medications it has been shown to slow the progression of memory loss in patients with MCI and dementia. Unique to Exelon is that it also comes in a patch which is helpful for people who can’t tolerate oral pills. Like the other medications some of the common side effects are nausea, vomiting, dizziness. The patch is helpful for patients who can’t remember to take the medications or for caregivers who find it easier to just apply the patch each day. The pills are usually started at 1.5mg twice a day and increased up gradually to 3mg twice a day. The patch comes in a 4.6mg/ patch and a 9.5mg/patch, each used up per day.

In addition to medications in the cholinesterase category, Aricept, razadyne and Exelon, the FDA has approved a newer medication in a different category of called Namenda, or memantine is the chemical name. Unlike the other drugs, Namenda works by helping a critical chemical in the brain called glutamate, work better. One of the benefits of Namenda is that since it works differently it can be used together with the other medications already mentioned. There are potential side effects as with any medication, including hypertension and dizziness, but overall in clinical trials it has been shown to be well tolerated. It is usually started at a 5 mg once a day dose and gradually increased upward to 10mg twice a day. The drug is partially excreted by the kidneys and therefore patients with kidney disease may need to be on a different dose. Discuss it with your doctor. This medication also may be helpful for some of the agitation that accompanies the later stages of dementia, such as paranoia and hallucinations.

There are always new drugs being developed for dementia, perhaps the most exciting in development is a vaccine for Alzheimer’s dementia the one that affects 75% of all patients with dementia. A vaccine basically alerts
your immune system to fight off foreign invaders in your body. We’ve all had vaccines as a child and some may get a flu shot. These vaccines inject killed viruses into our system so that when the real thing comes along, our body knows how to fight it because it develops something called antibodies, which is our bodies own defense against infections. The Alzheimer’s vaccine is designed to attack the amyloid plaque that is found in patients with Alzheimer’s Dementia. This plaque that accumulates in the brain is thought to be a critical part of the problem that causes memory loss and it tied to the reduction in acetylcholine. The first trial of the vaccine was stopped because 6% of patients developed a life threatening inflammation of the brain, called encephalitis. However, future trials are scheduled with modifications to the vaccine. The good news is that for those who receive the vaccine there has been promising initial data that the vaccine can clear the brain of these damaging amyloid plaques. Someday, dementia of the Alzheimer’s type may be a thing of the past!

To Summarize:

1) All of these medications have in common that they are designed to slow down the progression of memory loss, not reverse it.

2) The 3 medications used for dementia that increase acetylcholine in the brain are Aricept, Exelon and razadyne.

3) Namenda can be used for more advanced cases of dementia together with the other medications and also may help with agitation associated with dementia.

4) A vaccine for Alzheimer’s Dementia is being developed and may someday make Alzheimer’s dementia a thing of the past.
Chapter 6

Key Foods, Exercise and Nutrients for Preservation and Treatment of Memory Loss

Memory loss plagues millions of people in America and the search for food and alternative remedies that can help with memory are always desired over medications when possible. Unfortunately there are also a lot of bogus claims and misleading advertising about alternative therapies. However, there is data to suggest that some non-medical therapies can be helpful both for those individuals who have a healthy memory and want to keep it that way, as well as for treatments for those with mild to even more advanced memory loss.

One of the most common alternative therapies used for memory loss in Gingko Balboa. The data on Gingko is controversial and at times conflicting. It is thought that Gingko Balboa helps improve blood flow and also reduce what is called oxidative damage. In short that means damage to nerve cells in the brain that are involved with memory. Gingko is extracted from a tree found in China. Some studies have shown some benefits to Gingko Balboa in short term memory testing, other studies, one published by the JAMA show no benefit. A comprehensive review by the Cochrane Collaboration found that the evidence is unconvincing and inconsistent that Gingko Balboa is helpful for memory loss. However, they also acknowledge that some smaller studies, though not well designed, did show some benefit. The take home if you are going to try Gingko as a supplement to your memory treatments, discuss it first with your physician and have them review any potential side effects.

Folic acid, on the other hand is a key nutrient that has been found to help significantly with memory loss. Folic acid is important for the development and maintenance of new cells. There was a study published in the British Medical Journal, Lancet, that found that patients who took 800ug of folic acid daily had improved mental ability and memory. It is important to note that this dose of folic acid is twice the FDA approved amount. Folic acid is found in a number of food sources including green leafy vegetables such as spinach and lettuces. Also, many foods like cereals are fortified with folic acid. Folic acid is also found to be helpful in reducing something called Homocysteine which is an important marker for a variety of diseases and
suggestive of inflammation in cells. It is important to note that in patients who take folic acid, they should also be aware, that although rare, folic acid supplementation can mask the anemia that can occur in patients who have Vitamin B12 deficiency. Therefore you should have your Vitamin B12 checked before starting high doses of folic acid. Vitamin B12 is also a vitally important vitamin for memory which we’ll discuss next.

In all my patients whom I’ve treated for memory problems, dementia and the depression, and fatigue often associated with these problems, the simplest and most effective non-medication treatment I’ve found is aggressive treatment of Vitamin B12 deficiency. Vitamin B12 is a critical vitamin for the entire nervous system. It is important for the neurons from your brain to nerves in your toes and fingers. **The key I’ve found that is so important is that the lab values for Vitamin B12 are misleading and unfortunately result in massive under treatment of patients.** Typically B12 levels are in a range from 200-1100 pg range from most labs. When the B12 level comes back in this range most often physicians tend to ignore them since they are ‘normal’. However, I started treating some of my patients with what I suspected were symptoms for Vitamin B12 deficiency even though their levels were in only the low end of the range, typically less than 400, and started to find an incredible response to memory problems, mood and energy level when I got their range up to around 800 to 1000. Over time, **I’ve created a protocol in my clinic where anyone with a level less than 650 gets a series of weekly shots of Vitamin B12 1000mcg for 4 weeks, and then we check a level, and typically switch them over to monthly shots.** Usually, doctors are skeptical if only some patients respond because there is something called the placebo effect. That means, even if you gave just a shot of water about 30% of patients would feel better because mentally they think they are getting something to help their memory. Well, in our office, after giving several hundred B12 shots, our data suggests that over 75-85% of patients receiving B12 shots notice significant improvements in their memory, energy level, and mood. Other symptoms like dizziness, poor sleep quality and symptoms of tingling also tend to improve at a similar rate. The beauty about B12 shots is that they are cheap, have few side effects, and are covered by insurance. If they don’t work, usually no harm is done and the cost of the trial is minimal. On the other hand, patients unfortunately frequently find they have a ‘normal’ B12 level and are given other diagnosis or no diagnosis, ordered expensive tests, tried on a variety of medications and still don’t feel better. I always counsel that there is a difference between being normal and optimal. Optimal is at your best and that’s where you want to be. Therefore, I’d recommend for patients with memory problems, depression, and fatigue to have their B12 level.
checked, if they are less than 650, discuss with their physician if treatment for B12 with weekly shots of 1000mcg would be safe as a trial, and then have the B12 level rechecked one week after the 4th shot with a goal of the B12 being over 800.

Antioxidants are compounds that are designed to offset the damage that occurs in brain cells in patients with dementia. Antioxidants include Vitamin E and Vitamin C. There are many others. Data on Vitamin E and C have been inconclusive in terms of their impact on dementia and memory loss. There have been however very few if any well designed studies. There have been some epidemiologic studies that do support that Vitamin C and Beta Carotene may have some benefit in preserving memory. There are potential side effects even with vitamins and always discuss with your physician the dosing of these vitamins. However, for most people a once a day dose of anti-oxidants may be beneficial at warding off memory problems.

As we’ve talked about, acetylcholine is one of the important chemicals in the brain that is important for memory loss. You can’t just take acetylcholine in a pill because it gets broken down before it gets to your brain. Therefore it would be great if you could take a chemical that you can take that once ingested gets converted into acetylcholine. Well, there are supplements lecithin, choline and phosphatidylcholine that you can buy that proprot this benefit. As with most supplements there are no good clinical trials that show that this is in fact true. One study has shown some short term benefit in memory and behavior, but others have failed to show any benefit. At this time, it seems unlikely that these supplements have any meaningful impact reducing your risk for dementia.

Part of the disease of Alzheimer’s dementia is inflammation in the brain and it has been theorized that anti-inflammatory medications like aspirin and ibuprofen may help with the inflammation and reduce the risk of developing dementia. One large study of patients who had been taking aspirin for at least 2 years did show a 60% reduction in developing dementia. However, like all of the anti-inflammatory medications, there can be serious side effects such as bleeding and they can also interferact with other medications. Always discuss first with your physician whether or not these medications are safe and appropriate for you. However, if deemed safe by your physician, an aspirin a day may be helpful as reducing your risk of developing dementia.

Wine in moderation has shown some benefit in reducing the risk of developing dementia. A study in Denmark found that individuals who drank wine weekly or monthly were about 2 times less likely to develop dementia. Additional data has been even more exciting. A study by Italian researchers has suggested that those who drink red wine, just ½ a glass per day, have reduced rate of converting from
Mild Cognitive impairment to dementia. Remember about 10-15% of patients develop dementia each year who start out with MCI, so anything that could reduce that conversion rate would be terrific. The theory is that red wine in particular has something called flavinoids and reservatrol, both chemicals that may have a protective effect on brain cells. Excessive alcohol intake on the other hand is toxic to brain cells and can cause memory loss. Therefore most experts don’t advocate drinking because some people think if a little is good, than more is better. Well, with alcohol and your brain that is not the case. The message is, a glass of red wine a day should be considered as a part of your memory preservation plan, if it is ok’d by your physician. Reservatrol is available as a supplement. However, many researchers believe that there is more to the story than just reservatrol when it comes to the benefits of red wine and taking just the compound by itself without the other known and unknown compounds in red wine, may not be beneficial.

In addition to nutrients and foods that help to preserve memory function, basic aerobic exercise also is very useful studies show. The interesting data that came from one study of men and women over the age of 65 demonstrated that those who exercised for 15-30 minutes, 3X a week, were less likely to develop Alzheimer’s Disease. Some studies have also shown that aerobic exercise also has short term benefits of improving memory, processing information, and concentration. However, the long term data is what is most exciting. Again, here we have a modifiable risk factor for millions of people who can cut their risk of dementia later in life by simply going for a 15-30 minute walk 3X a week! There are some theories that aerobic exercises is actually healthy for brain cells. Of course this makes sense, since we know that aerobic exercise is good for your heart, skin, and emotional state. The same chemical processes that occur after exercise that are beneficial for the rest of your body would seem logical to have the same healthy benefits on your brain.

I have to say in my clinical practice, I ask patients routinely who are in their elderly years and seem quite healthy, and although there are many variables, routine exercise seems a part of their life. The message than is to get an ok from your doctor, and then start moving!

What about brain exercises? Not just exercises for your body, but exercises for your brain. Do these prove helpful for retaining memory and cutting your risk of dementia later in life? Crossword puzzles, brain teasers, learning a new skill or new information, do these really help your brain? Well the data on this is encouraging. A recent study published in the journal of the American medical association studies
nearly 3000 individuals. One group was left alone and the others were assigned to specific memory tasks. The remarkable thing was that the group that were assigned to the memory tasks training over 5 to 6 weeks, just over a month, had about a 25% improvement in their memory, but also, almost 9 out of 10 had faster processing speeds on mental tasks, they could think faster! Now here is the exciting part, they followed up on these patients 5 years later, and guess what, the same group that got the ‘mental exercises’ still showed the improvement. Incredible. 1 month of mental exercises and 5 years or more of improvement. Almost like a brain boot camp and than your brain is ready to perform at a higher level in the future. Now that’s a return on your time spent.

To Summarize:

1) The evidence is unconvincing and inconsistent that Gingko Balboa is helpful for memory loss. However, they also acknowledge that some smaller studies, though not well designed, did show some benefit.

2) There was a study published in the British Medical Journal, Lancet, that found that patients who took 800ug of folic acid daily had improved mental ability and memory.

3) Our data suggests that over 75-85% of patients receiving B12 shots for levels less than 650pcg, still in the normal range, notice significant improvements in their memory, energy level, and mood.

4) There have been some epidemiologic studies that do support that Vitamin C and Beta Carotene may have some benefit in preserving memory.

5) It seems unlikely that choline, lecithin, or phosphadtylcholine supplements have any meaningful impact reducing your risk for dementia.

6) However, if deemed safe by your physician, an aspirin a day may be helpful as reducing your risk of developing dementia.

7) Just ½ a glass of wine per day reduced the rate of converting from Mild Cognitive impairment to dementia.

8) Those who exercise for 15-30 minutes, 3X a week, are less likely to develop Alzheimer’s disease.

9) 1 month of mental exercises led to 5 years or more memory improvement and thinking faster!
A Smell and a Touch for More Advanced Dementia

For those who have mild memory problems and want to improve or stabilize their memory many of the as previously discussed supplements and foods may be helpful. However, for caregivers taking care of patients with more advanced cases of dementia these remedies are unlikely to make a big difference. Many patients with advanced cases of dementia suffer from agitation, paranoid behavior, and sleep problems. There are medications that are used for these problems as well, however, sometimes non-medical interventions can also help.

As all of us have probably experienced, a smell can sometimes take us back to a familiar time or place. If its fresh cut grass, a certain food, or the salty smell of ocean front air. The reason is that the centers of the brain that are involved with smell are also very closely linked and connected to the areas of the brain involved with memory. For many patients with moderate or severe dementia agitation is a serious problem. Therefore there has been much speculation as to whether familiar smells, or aromatic smells can be helpful in reducing agitation in demented patients. Well, a comprehensive review of the few studies that are out there did show a benefit for aroma therapy for people with dementia. Aroma therapy seemed to help reduce agitation and some of the paranoid and hallucinations that accompany more advanced stages of dementia. This of course is encouraging since sometimes the medications are of little benefit and alternative options like aroma therapy that have no side effects can offer some help for families and caregivers. So, try a new scent in the room of your loved one and see if there is an improvement in sleep quality and agitation.

For anyone who has ever received a massage, the relaxing effects of it are obvious. Well, apparently the same is true for patients with dementia, even advanced cases of dementia. One of the biggest problems for patients with moderate to severe dementia is agitation as I’ve mentioned. Frequently patients also
suffer from hallucinations, unwillingness to eat or take medications, sleep disturbances, and even aggressive behavior. A variety of medications are used with varying success. Some unfortunately simply cause sedation. Agitation associated with dementia is one of the biggest challenges for caregivers, both home caregivers and for those professionals in institutional settings such as nursing homes and hospitals. A review of clinical trials reviewing whether or not massage therapy for agitation associated with dementia demonstrates that massage therapy can be helpful in patients. It doesn’t have to be a professional massage, but sometimes simple touch therapy can prove equally beneficial. Although many of the trials don’t have the stringent criteria that many drug trials abide by, the Cochrane Review found that massage and touch therapy can serve as complementary to medical therapy for agitation associated with dementia.

To Summarize:

1)  Aroma therapy seemed to help reduce agitation and some of the paranoid and hallucinations that accompany more advanced stages of dementia.

2)  Massage and touch therapy can serve as complementary to medical therapy for agitation associated with dementia.
Chapter 8

7 Step Plan for Memory Improvements and Improving the quality of your Brain Care

Your Brain, Your Life.

Let’s face it, although philosophically we think of our heart as the most important organ in our body, to me our brain makes up who we are, our memories, emotions, the way we think and act. So, we should do everything we can to preserve this most vital organ in our body. Unfortunately, most people don’t realize that much of what happens to our memory as we age is modifiable. No you can’t totally eliminate your risk of dementia, but you can make lifestyle changes that can markedly reduce your risk of developing memory loss and dementia. For anyone who has seen a demented person, and how sad it is for them and their families, the motivation to do whatever you can to avoid that is clear. The best way to reduce your risk for developing memory loss and dementia is a combination of medical and lifestyle changes.

STEP 1

Get a physical and some basic lab tests done. Your brain can’t be healthy if your body isn’t. Even if memory problems haven’t set in, if you have uncontrolled high blood pressure or diabetes, or have high cholesterol that puts you at risk for strokes, your brain is under stress, and it will often manifest as problems with your memory. So step one is to see your doctor and address these basic medical problems with medications if necessary. Also, have your thyroid, vitamin B12, and Folate levels checked. As we reviewed, abnormalities in any of these tests can result in memory problems. See if it’s ok with your doctor if your thyroid is treated so that it is functioning in the higher range, not just ‘ok’. You want to be at your best. In terms of your B12, as I’ve said, I treat patients for suboptimal B12 levels if their levels are less than 650 pg/ml. The normal by most labs is anything above 200. See if it’s ok
with your doctor if you can get weekly B12 shots of 1000mcg for one month, and see what happens with your memory. You and your doctor might be shocked! I know a lot of my patients are! Last, folate, after your B12 level is checked, start taking 800ug of folic acid daily, studies have shown that this level is helpful for reducing your risk of dementia.

STEP 2

Aerobic Exercise. Now I know that exercise has been advised for just about every medical problem around, but as far as your brain is concerned it is essential. Now you don’t have to go out and buy a treadmill or exercise bike, but see if your doctor gives you the ok to go for vigorous 30 minute walks 3-4 days/week. Aerobic exercise has both short term and long term benefits on your memory and cuts your risk of developing dementia. Also, as we’ve discussed, mid-abdominal fat, or belly fat, in mid life increase your risk of dementia later in life. So, the walking should help to get rid some of that belly fat if you have any, and that would further cut down on the risk of developing dementia.

STEP 3

Mental Exercises are essential. Studies suggest crossword puzzles are fine and certainly learning a new task or skill is even better, they both exercise your brain and can reduce your risk of memory loss. However, if you have problems with specific tasks, for example, you have been forgetting what’s on your grocery list, make a game up for that to challenge your memory. For example, make a list of 20 items for grocery shopping. Write them down, repeat them to yourself 3 X. Turn the list over and come back to it 10 minutes later, and see how many you can remember. If you do this daily I’ll bet after as little as a week later, you’ll be surprised at how much your memory has improved on this task and it will translate into you remembering your grocery list better when you actually go shopping. You can of course modify the memory quiz for any task that you do regularly that you would like to be able to remember better.
STEP 4

Medication Review. The most important phrase every patient must learn to ask their doctor if they are suffering memory complaints is, “Do any of my medications have anti-cholinergic side effects?” If so, are there alternatives with less anticholinergic side effects. Many medications have anti-cholinergic side effects, but often there are alternatives that your doctor may be able to prescribe. Remember, acetylcholine is a critical chemical for memory function, medications that block its function, can cause memory problems.

STEP 5

Sleep. Sleep is critical for brain health and also for solidifying memories. Poor quality sleep can have an impact not just on how you perform the next day, but long term it can have a negative impact on your memory. If your sleep quality is poor, talk with your doctor to see if there are tests that can be done to help diagnose the problem and lead to a solution.

STEP 6

A glass of wine a day. It’s hard to ignore the data, but red wine in particular has chemicals, resveratrol and flavinoids that are helpful for maintaining good memory function. Alcohol has its share of side effects also, and so talk it over with your doctor and see if it’s appropriate for you to start drinking a glass of red wine a day. To add to the regimen, have some fish a couple times a week and nuts such as almonds and cashews, although they are high in fat, they have good fat, and studies have shown that diets with fish, nuts, and wine, can be helpful in reducing your risk of dementia.
Stay socially active. You don’t have to be a social butterfly, but studies clearly show those who have regular social interaction have improved memory and cut their risk of developing dementia. So, join a group, set regular lunch dates, or whatever activity you can get involved with to build a strong social network.

There are of course other things you can do to improve your memory function. Many people advocate gingko biloba or other herbal therapies. Although the data is mixed, under the supervision of your physician you can try some of these things, but I would bet that if you follow the above 7 steps, you will find that your memory problems in the short term will improve, and long term you will be cutting your risk for developing dementia. Give it a try, amaze your friends with your improved memory playing bridge, remembering lists, performing better at work and remembering where your keys are, and then tell your friends about your amazing 7 step program!
Chapter 9

Plan for Caregivers.

Dementia is one of the most challenging and heart breaking medical problems for caregivers. As a neurologist, I see the problem on a daily basis. Family members whose hearts break when their loved one doesn’t remember their name, or even worse, the loving mother or father they once knew has become paranoid and combative. Although there are no treatments currently that will reverse the dementia, there certainly are options that can help slow down the problem and often improve the quality of life for both the patient and caregiver. For starters patients will be started on the appropriate medications for dementia that we’ve talked about, Aricept, razadyne, Exelon and namenda. In addition to these medications, there are additional steps you and your doctor can take to improve the quality of life for your loved one suffering with dementia.

STEP 1

Get a physical. At this stage of the dementing illness, although high blood pressure and cholesterol certainly still need treatment, the main issue for the physician is to make sure there are no other additional medical problems that may be worsening the existing dementia. Similar to what we have already discussed previously, a check of thyroid function and B12 levels are critical. The same criteria for treatment applies, anything less than 650pg/ml should be treated with weekly shots for one month. I have seen patients in my own office come back with their children who are surprised to find their mom or dad with Alzheimer’s has more energy, is more interactive with family and caregivers, and generally more pleasant to be around. B12 is a simple treatment, it’s cheap and usually free of major side effects. See if aggressive treatment of Vitamin B12 is ok with your loved ones doctor. Again, you may be surprised at how much better you both feel after only 1 month!
Do any of the medications she/he is on have anti-cholinergic side effects? This is the most important question to ask when going to the doctor for review of dementia. There are so many medications that the elderly get put on that have anti-cholinergic side effects. Everything from Tylenol PM for sleep and arthritis that acts up at night, to bladder incontinence medications, to some anti-depressants. Even many cold medications that are over the counter. So, ask the doctor, and see if there are any safer alternatives.

Exercise. Although independent exercise of course is not usually feasible at the middle and later stages of dementia, simple walking with assistance is usually possible and can be helpful for improving mood and can help improve alertness.

Sleep. So many elderly people suffer from sleep problems and dementia itself interferes with sleep quality. However, there are medications that can be used for sleep and if sleep is a problem talk with the doctor. Just as a bad nights sleep can make any of us crabby, if you have dementia, a poor nights sleep can cause agitation, paranoia, and increased problems with concentration.

Massage and candles. It sounds like a ticket to go the spa. Well, it’s not far from it. But considering the costs of medications and their side effects, studies have shown that both a gentle massage and aroma therapy can have a calming effect on patients who have dementia and agitation. A simple light massage before bedtime may be very helpful at improving quality of sleep and that can lead to improved cognitive function the next day. Aroma therapy also has been shown to have similar effects. Not always possible in institutions, but for patients who have home care, a scented room can help with agitation. It’s an inexpensive complementary therapy to medications.
Conclusion

It’s my sincere hope that after reading this book, you have learned at least a few important facts that will lead to either improved memory and reduced risk of developing dementia for yourself, and improved quality of medical care if you have someone in your family suffering from dementia. The good news is that although memory loss and dementia are serious and common problems in the elderly, there are many things we can do today to cut our own risk. The power is in our hands. If you can incorporate at least a few lessons learned into your lifestyle or include them into the care of a loved one suffering from dementia, reading this book will benefit your family for years to come!

If you need to make an appointment for a neurological evaluation, a referral is not required. You may call my office directly at 815 337 7100 or visit my website at www.neurologistcare.com.