

Healthy Aging and Remembering It: Connecting Diet with Cognition



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Healthy Aging and Remembering It: Connecting Diet with Cognition – Lesson Plan

Learning Objectives

1. Understand the differences between normal and abnormal aging as it pertains to cognition.
2. Learn how you can reduce the risk of cognitive decline as you age.
3. Identify foods that can help reduce the risk of cognitive decline.

Materials (available from <http://teea.tamu.edu>)

- *Healthy Aging and Remembering It* PowerPoint (with notes pages)
- Handout on the MIND diet
- Recipe for Strawberry Spinach salad
- Evaluation instrument
- References



**HEALTHY AGING AND REMEMBERING IT
(CONNECTING DIET WITH COGNITION)**



SAY: Welcome to our program on healthy aging and remembering it. Today we are going to talk about brain health as we age and what we can do to help reduce our risk of memory loss.

IN THIS SESSION

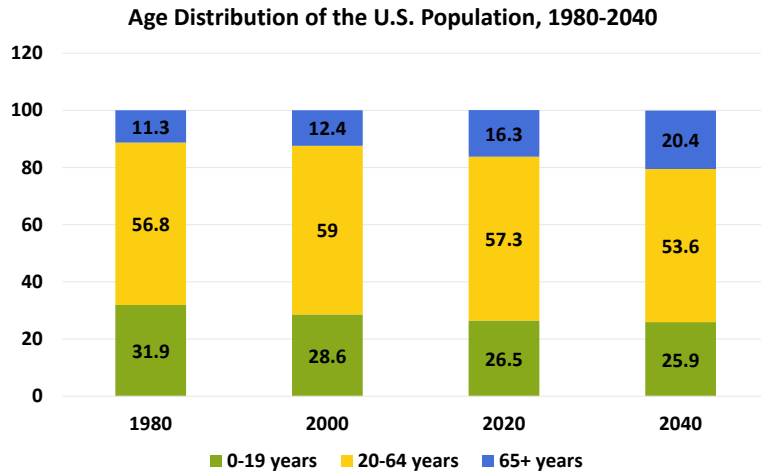
- Trends in aging
- How aging impacts cognition
 - What's normal and what's not
- How diet can impact our brain health (cognition)



SAY: Today we will learn about some trends in aging, how aging impacts our cognition, and how diet may impact our brain health. We will feature some eating styles and foods that may help keep our brain health the best it can be.

OUR COUNTRY IS GETTING OLDER

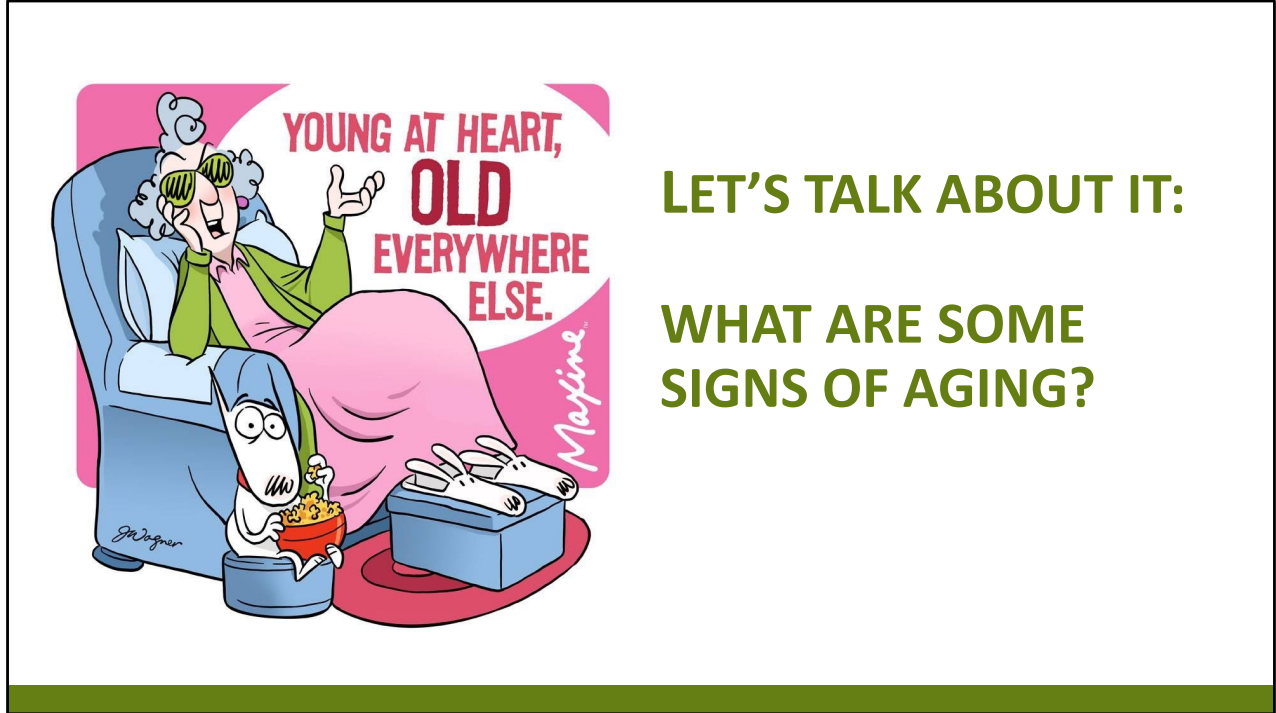
- 1 in 7 people in the U.S. is 65 years of age or older



Texas ranks 3rd in the number of people ≥ 65 years

SAY: You may not realize it but our country is getting older. In fact, an estimated 1 out of 7 people are 65 years of age or older. By 2040, 1 in 5 individuals will be 65 years or older.

In Texas, our state ranks #3 with respect to the number of people who are 65 years or older.



LET'S TALK ABOUT IT:

WHAT ARE SOME SIGNS OF AGING?

SAY: If you think about it, we are aging as we speak! What are some common signs of aging or getting older?

DO: Allow audience members to offer their thoughts about the signs of getting older.

Some possible signs of aging/getting older might include:

Aches and pains in joints and muscles

Constipation

Onset of chronic diseases such as heart disease

Bones might become less dense/brittle (osteoporosis)

Memory isn't as sharp as it used to be

SAY: Let's focus a little bit on memory and how that changes as we age.

NORMAL COGNITIVE CHANGES ASSOCIATED WITH AGING

- Some of our memories may fade
- May take longer to find the right words or recall the names of people or objects
 - The words are “there” and the name of the person is there
- Problem solving may take longer **if it is a new problem**
 - Solving a problem we have always had to solve is not a problem
- Speed at which we process information may slow
 - May take longer to complete some tasks

SAY: As we age, we may notice that our memory is not what it once was. With aging comes changes in cognition that are often normal. For example, it may take a little long to recall recent events; some memories may fade.

It may also take someone longer to remember a person’s name or find the right word when having a conversation. You **know** the person – you just can’t place their name.

Problem solving can take a little longer if it is a new problem. If it is a problem you have always had to solve, that shouldn’t be an issue. Another normal part of aging is that the speed at which we process information slows down. As a result, it may take us a little longer to complete certain tasks.

Note to Educator: Cognition is often defined as a group of mental processes that include awareness, perception, reasoning, and judgement.

NORMAL AGING OR SOMETHING ELSE?

Normal part of Aging	Not a Normal Part of Aging
Forget someone's name but remember it later	Ask for the same information over and over; have to rely on a memory aid or family members for things that you used to do on your own.
Occasionally need help programming the clock on the microwave	Forget how to get to the grocery store; losing interest of previous hobbies.
Make a mistake balancing your bank account	No longer keeping track of monthly bills; not remembering family/relatives.
Having problems finding the right word in a conversation	Stopping in the middle of a conversation and not being able to continue; calling things by the wrong name repetitively.

SAY: Some parts of aging are not normal. This chart shows some examples of normal aging as well as examples of aging that is not considered normal.

For example, have you ever had someone come up to talk to you and you knew them but couldn't remember their name? And then later on you remembered it? That is not uncommon and is considered normal. However asking for the same information over or the need to rely on family members or a memory aid to help you remember things, is not considered a normal part of aging.

Maybe you need help programing the clock on your microwave or stove. That can be normal. What is not considered normal is forgetting directions to the grocery store.

Other signs of aging not considered normal are not being able to keep track of monthly bills (forget to do it or forget how to do it) or calling objects by the wrong name.

MILD COGNITIVE IMPAIRMENT

Normal cognitive aging → **Mild Cognitive impairment** → Dementia

- Signs of mild cognitive impairment
 - Forget important events; Lose train of thought
 - Become overwhelmed with making decisions or understanding instructions
 - Difficulty navigating familiar environments
 - Begin to show impulsiveness and/or poor judgement
- May be linked with chronic diseases, lack of exercise, medications, lack of sleep and being socially isolated
- Risk of developing dementia is significantly increased

SAY: As we age, some people experience mild cognitive decline which may include problems with memory, language, thinking and making sound judgements. Signs of mild cognitive impairment include forgetfulness, forgetting important events like social engagements or appointments. Some people with mild cognitive impairment become overwhelmed with making decisions or understanding instructions. Others have difficulty navigating around familiar environments and even becoming impulsive or demonstrate poor judgement.

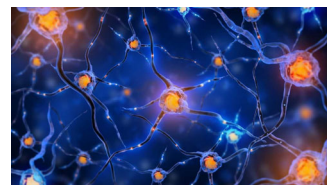
A person with mild cognitive impairment may still be able to function but the signs and symptoms will often be noticed by family and friends.

This condition can be linked to chronic diseases such as diabetes, hypertension or heart disease. This why if you have these conditions, you want to make sure they are treated and the condition is under control. A lack of physical activity, low level of education and being socially isolated are also believed to be risk factors for mild cognitive impairment.

If someone has mild cognitive impairment, the risk of developing dementia is significantly increased.

DEMENTIA

- Loss of cognitive function **beyond what is normal aging**
 - Ability to think, remember, and reason is impacted
 - Can impact language, visual perception, problem solving, and ability to focus
 - May impact ability to control emotions; personality may change
 - Impacts a person's daily life and activities
 - Different types of dementia (Alzheimer's is most common)
 - Common as we age but it is **NOT** a normal part of aging



SAY: Dementia is often defined as a loss of cognitive function that is beyond what is considered normal aging. This occurs when brain cells are no longer able to communicate with each other, resulting in their decline. With dementia, the ability to think, remember and reason is impacted. For some people, dementia impacts language, visual perception, the ability to problem solve and/or focus. Dementia can also impact one's ability to control his/her emotions; as a result, the personality of someone with dementia may change.

Dementia may or may not be noticed by family and friends (depending on the severity) but it often does impact the person's daily activities.

There are several different types of dementia but Alzheimer's disease is the most common.

ALZHEIMER'S DISEASE

- 6.2 million Americans are living with Alzheimer's Disease
 - Projected to grow to 12.7 million people by 2050
 - Every 65 seconds, someone in the US develops Alzheimer's
- 72% of people with Alzheimer's disease are 75 years of age or older
- 6th leading cause of death in the United States
 - 1 in every 3 older Americans dies with some form of dementia
- Cost of Alzheimer's and other forms of dementia are estimated at \$355 billion



SAY: Let's take a closer look at Alzheimer's disease.

Nearly 6 million people in the United States live with this disease. That number is expected to double by 2050. The Alzheimer's Association estimates that every 65 seconds, someone in this country develops Alzheimer's disease. And, an estimated 1 in 3 older American's will likely die with some form of dementia.

Aside of the medical and social aspects of Alzheimer's disease, the financial cost of the disease is quite significant. Currently, Alzheimer's disease and all other forms of dementia carry an annual \$355 billion dollar price tag.

Note to educator: In 2020, Alzheimer's disease was the 7th leading cause of death. That was because the #3 cause of death was COVID-19. In past years, Alzheimer's disease has been the 6th leading cause of death in the US.

WHAT ARE THE RISK FACTORS FOR DEMENTIA AND COGNITIVE DECLINE?



SAY: Let's talk about the risk factors for cognitive decline and Alzheimer's disease and identify those that we can control and those that we might be able to address through food and other means.

UNCONTROLLABLE RISK FACTORS FOR DEMENTIA

- Age (especially after the age of 75)
- Family History
- Genetics
- Ethnicity (Latino & African-American)



SAY: There are some risk factors for Alzheimer's and other forms of dementia that we need to be aware of even though we can't control them. These include age, family history, genetics, and ethnicity.

RISK FACTORS THAT WE CAN CONTROL

MAY INCREASE RISK

- Traumatic brain injury
- Chronic disease
- History of depression
- Smoking
- Sleep disturbances

MAY DECREASE RISK

- Years of formal education
- Physical activity
- Cognitive training
- Healthy diet

SAY: With respect to cognitive decline and dementia, including Alzheimer’s disease, there are some factors that we can control. There is strong evidence that a traumatic brain injury, developing obesity and/or hypertension mid-life, smoking, and having diabetes increases our risk for cognitive decline. There is also evidence that depression and sleep problems may also increase our risk.

On the other hand, research suggests that the number of years of formal education may be linked with a reduce risk of developing cognitive decline. Being physically active can also decrease risk. There is also evidence that suggests following a healthy diet may reduce our risk. Cognitive training (which is using our brain to learn new things) may reduce our risk as well.

Note to Educator: The CDC defines a traumatic brain injury as one that is caused by a “bump, blow or jolt to the head or a penetrating head injury ***that disrupts the normal function of the brain.***”

Source: <https://www.cdc.gov/traumaticbraininjury/basics.html#12>



**LET'S TALK ABOUT IT:
HOW WOULD YOU DESCRIBE A
TYPICAL AMERICAN DIET?**

SAY: Let's talk about diet for a minute. If you could describe a typical American diet in a few words, what would those words be?

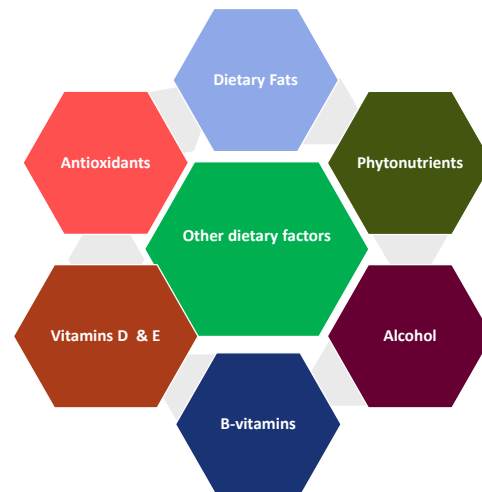
DO: Let the audience describe their idea of a typical American diet. Some words might be:

- “high in junk food”
- “lots of sugar and salt”
- “convenience foods”
- “not very healthy”

Be sure to repeat the audience responses so everyone can hear.

WHAT COMPONENTS OF A HEALTHY DIET MIGHT HELP PREVENT DEMENTIA?

- Antioxidants
 - Vitamins C & E
 - Beta carotene
 - Selenium and Zinc
- Phytonutrients
- Healthy fats
- B-vitamins
 - B12
 - Folic acid



SAY: Let's spend some time looking at how our diet may impact cognition and brain health. There are number of nutrition-related factors that are being investigated but today we will focus on these four areas. Research suggests that diets rich in antioxidants and phytonutrients (which are found in plant-based foods such as fruits, vegetables, whole grains, nuts and seeds) can help promote brain health and reduce the risk of cognitive decline as we age. Diets that include healthy fats such as those found in olive oil, avocados, and canola oil are better for us compared to diets that are high in saturated fat. Finally vitamins B12 and folic acid have been linked to an reduced risk of cognitive decline.

Note to Educators: These 4 dietary components have the most available research (with humans) at this time. The other factors listed in the graphic are under investigation but right now there is not enough good quality research available on those factors.

DASH DIET

- Designed to promote healthy blood pressure
- 8 to 10 servings of fruits and vegetables **per day**
- 2 to 3 servings of low-fat dairy
- Healthy fats
- 2300 mg sodium (~ 1 tsp of salt)
- 3-6 servings of nuts and seeds per week
- No more than 5 servings of sweets/week

BENEFITS

- Can promote a healthy blood pressure
- Recommended by the American Heart Association as a tool for managing hypertension
- May reduce risk for heart disease by as much as 20%



SAY: What type of diet is rich in antioxidants, phytonutrients, healthy fats, and B-vitamins? One type of diet is the DASH diet. DASH stands for Dietary Approaches to Stopping Hypertension. This diet is rich in vegetables and fruits (up to 10 servings a day!), and includes low-fat dairy foods and healthy fats. Sodium is limited to 2300 milligrams or less – which is equal to 1 teaspoon of salt. Nuts and seeds are also included (unsalted varieties!) and sweets and deserts are limited to 5 servings per week. This type of diet is also limited in fried foods.

Research has shown that this diet can help promote a healthy blood pressure. In fact, the American Heart Association recommends this type of diet as a tool for managing hypertension. This diet may also reduce the risk of heart disease by as much as 20%. This can lead to a decreased risk of stroke.

Keeping blood pressure at healthy levels can be good for preserving our cognition and reducing our risk for Alzheimer's and other forms of dementia as we age.

MEDITERRANEAN DIET

- Meals are plant-based
- Fish and seafood are consumed at least twice a week
- Moderate consumption of poultry, eggs, and low-fat dairy products
- Olive and canola oil instead of butter or margarine
- Sweets and processed foods are eaten less often
- Wine in moderation (if at all)

BENEFITS

- May reduce risk of diabetes, heart disease and inflammation
- Has been **associated** with a reduce risk of memory problems and dementia



SAY: Another type of diet that shows promise for healthy aging is the Mediterranean diet. Unlike the DASH diet, there are no set components to a Mediterranean diet. The diet is, however, very plant-based based so be ready to eat lots of fruits, vegetables, whole grains, nuts and seeds. Fish and seafood are eaten at least twice a week but poultry, eggs and low-fat dairy foods are also included. Olive and canola oils are used in place of butter and margarine and sweets and highly processed foods are eaten less often as well. Wine is okay in moderation, if at all. In other words, if you don't drink wine you don't have to do so in order to follow a Mediterranean diet.

There have been lots of research documenting the benefits of eating this type of diet including a reduce risk of diabetes, heart disease and inflammation. More recent research has found an association between following a Mediterranean diet with a reduce risk of memory problems and dementia.

Mediterranean-Dash Intervention for Neurodegenerative Delay) - **MIND** diet

- Combination of the DASH and Mediterranean diets
- Emphasis on whole grains, leafy vegetables, nuts and berries
- Early research found that individuals who follow this style of eating could reduce their risk of Alzheimer's by as much as 35%
 - Ongoing research and clinical trials
- Linked with a **reduced** risk for depression



SAY: The third type of diet that is gaining a lot of attention is the MIND diet. MIND stands for Mediterranean Dash Intervention for Neurodegenerative Delay. As you might guess, it is a combination of the DASH and Mediterranean diets.

Emphasis of the diet is on whole grains, leafy vegetables, nuts and berries. Early research conducted by Rush University found that those who followed this style of eating could reduce their risk of Alzheimer's disease by as much as 35%. The diet has also been linked with a lower risk for depression. Subsequent studies including clinical trials are underway so stay tuned.

Let's talk about the specifics of the MIND diet.

WHAT IS IN THE MIND DIET?



PER DAY

- ≥ 3 servings of whole grains
- 1 serving of dark leafy greens (salad)
- ≥ 1 serving of “other” vegetables
- Up to 1 $\frac{1}{2}$ tsp. butter/margarine
- 1 glass of wine/alcohol (optional)

PER WEEK

- ≥ 2 $\frac{1}{2}$ -cup servings of berries
- ≥ 1 serving of fish (at least one)
- 2 or more servings of poultry
- 4 servings of beans (1/2 cup = serving)
- 5 servings of nuts (1 ounce = serving)
- Up to 3 servings of red meat per week
- Up to 2 ounces of cheese per week
- No more than 5 servings of sweets
- ≤ 1 serving of fried/fast food

SAY: On a daily basis, the MIND diet includes at least 3 servings of whole grains, 1 serving of dark leafy greens, at least 1 serving of other vegetables (not fried), less than a tablespoon of butter or margarine and 1 glass of wine or alcohol (if at all).

On a weekly basis, berries are recommended at least twice a week. Fish and poultry are encouraged; red meat is limited to less than 4 times a week. Beans and legumes are recommended 3 times a week and a serving of nuts are recommended almost daily. Cheese consumption and fried or fast food is limited to no more than once a week. Sweets are also limited to less than 1 time a day.

Note to Educators: Other fruits are fine on the MIND diet but there is the push for berries (strawberries, blueberries, etc.) because of the studies linking berry consumption to brain health.

WHAT ABOUT EGGS?

If no underlying conditions, an egg a day is probably okay.

Individuals with heart disease or diabetes may want to limit egg yolks to 3 a week.

Watch what you eat with your eggs/how you prepare your eggs.



VS.



SAY: Eggs are a breakfast favorite. They are a great source of protein (something older adults need). Sometimes eggs are viewed unfavorably because they contain cholesterol. Research shows, however, that unless you have an underlying health problem eating an egg a day is okay. If someone has diabetes or heart disease, it may be a good idea to limit egg yolks to no more than 3 per week. Egg whites are okay.

Also – keep in mind that how you prepare your eggs and what you put in them are just as important as how many you eat. The plate on the left has 3 eggs loaded with bacon and cheese. A biscuit on the side completes the meal. The plate on the right has 2 eggs and 1 egg white with onions and peppers. It is topped with a very small amount of cheese. Served with a side of blueberries and a biscuit, this plate is definitely a healthier option.

FEEDING YOUR BRAIN – WHERE DO I START?

- Increase vegetable and fruit intake
 - Dark red, orange and green veggies
 - Include berries **at least** twice a week
- Choose healthy fats over saturated and trans fats
- Choose highly processed carbohydrates less often
- Progress, not perfection
- Don't wait until you are "older" to start

The secret to getting ahead is getting started.

~Mark Twain

SAY: When it comes to eating to prevent cognitive decline or dementia, where do we begin? The good news is that each of the three diets we discussed have similar characteristics. The MIND diet has been researched the most for its ability to promote healthy aging and possibly preventing cognitive decline. If you are not ready to adopt the MIND diet, consider making one of these changes to your usual diet:

1. Most of us don't get enough fruits and vegetables so increase your intake by 1 or 2 servings a day. Remember to eat that extra vegetable or fruit in place of a less healthy food.
2. Try to eat berries at least 2 times a week.
3. Choose healthy fats (mono-unsaturated, poly-unsaturated and omega-3 fats) over saturated and trans fats.
4. Try to eat highly processed foods less often.

Last, but not least, don't wait until you are "older" to start.

CAN DIETARY SUPPLEMENTS STOP COGNITIVE DECLINE?

- \$>3 billion dollars are spent each year globally
- Includes vitamins, minerals, herbs, and other substances
- No real evidence that they improve brain health or prevent cognitive decline
- Not regulated in the same manner as prescription medications
- Dietary supplements can interfere with prescription medications
- Dietary supplements may include excessive doses of vitamins or minerals.
- Be aware of claims that a supplement is “clinically proven”
- **If it sounds too good to be true, it probably is. Save your money!**



SAY: What about dietary supplements – can they help stop or prevent cognitive decline, dementia, or even Alzheimer’s disease?

Across the world, individuals spend more than \$3 billion dollars on supplements that are marketed for brain health. A 2019 study by AARP found that 25% of American adults over the age of 50 were taking supplements for brain health. Many of these supplements include vitamins, minerals, herbs and other substances.

Unfortunately, and despite all of the claims and advertisements that these supplements make, none of them have been proven to be effective. More concerning is that some supplements can interfere with prescription medications or even contain excessive amounts of vitamins and minerals. Even if a brain supplement says it is “clinically proven” the buyer needs to be aware. Dietary supplements are regulated differently than that of prescription medications. While they must be safe, supplements don’t have to be proven effective!

Bottom line – if it sounds too good to be true, it probably is.....

ASIDE FROM EATING A HEALTHY DIET, WHAT ELSE CAN WE DO?

- Get physical – be active
- Stop smoking
- Use it (your brain) or lose it
 - learn a new language, brain games, musical instrument
- Get diabetes, hypertension, and obesity under control
- Watch for depression and social isolation



SAY: So aside from diet, what else can we do to promote brain health and reduce our risk of cognitive decline as get older?

First – be physically active. The research showing the benefits of regular physical activity is very clear and not only is good for our brain but for the rest of our body. You don't have to run marathons to be physically active. Walking, swimming, yoga – it all counts. Just get off the sofa and move!

Next. Don't smoke.

Use your brain – learn a new language, take a class, do puzzles or brain games, play an instrument.

If you have diabetes, hypertension or obesity – work to get them under control.

Last but not least, watch out for signs of depression and social isolation. Try to maintain a social network of friends.

**Memory..... is the diary that we
all carry about with us.**

~Oscar Wilde

SAY: The author Oscar Wilde once said that memory is the diary that we all carry about us. Let's do everything we can to keep that diary alive and well by adopting healthy habits that not only are good for our brain but the rest of the body too.



FOR YOUR TASTE BUDS.....

Strawberry-Spinach
Salad with Blueberries
and Pecans

SAY: Optional recipe which has leafy green, berries, and pecans.
The berries can be fresh or frozen!

THANK YOU!



SAY: Thank you for joining us today.

DO: Distribute handout on the MIND diet and the recipe handout for the Strawberry Spinach salad.

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Making Up Your MIND-Diet

HOW MANY SERVINGS HAVE YOU HAD TODAY?

Place a check mark in each box as you eat a serving from each food group today!
Add a check mark on the blank for every extra serving of a food group you eat.



WHOLE GRAINS

Eat 3 or more servings per day

+ _____



DARK LEAFY GREENS

Eat at least 1 serving per day (in salad)

+ _____



OTHER VEGETABLES

Eat 1 or more servings per day

+ _____



BUTTER OR MARGARINE

No more than 1^{1/2} tablespoons per day



WINE/ALCOHOL

No more than 1 glass of wine/alcohol per day (optional)



CHECK YOURSELF!

Compare your intake to the goals listed underneath each food group.

HOW MANY SERVINGS HAVE YOU HAD THIS WEEK?

Place a check mark in each box as you eat a serving from each food group this week! Add a check mark on the blank for every extra serving of a food group you eat.

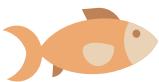


BERRIES

(FRESH OR FROZEN)

Eat 2 or more servings per week
(1/2 cup = 1 serving)

+ _____



FISH

Eat 1 or more servings per week

+ _____



POULTRY

Eat 2 or more servings per week

+ _____



BEANS

Eat 4 servings per week (1/2 cup = 1 serving)



NUTS

Eat 5 servings per week (1 ounce = 1 serving)



RED MEAT

Eat up to 3 servings per week



CHEESE

No more than 2 ounces per week



SWEETS

No more than 5 servings per week



FRIED OR FAST FOOD

No more than 1 serving per week

Strawberry, Spinach, and Blueberry Salad with Pecans and Feta

Calories per serving: 198 kcal

Total time: 15 min

Serves 6 servings

Ingredients:

- 3/4 cup pecans
- 5 oz spinach
- 5 oz leafy greens
- 1 lb fresh strawberries, hulled and sliced
- 6 oz blueberries
- 4 oz feta cheese, crumbled
- 1/3 small red onion, thinly sliced



Instructions:

1. In a salad bowl, toss together spinach and leafy greens.
2. Add strawberries, blueberries, and red onion.
3. Top with feta cheese and pecans and serve immediately.
4. Serve with your favorite vinaigrette. Additional calories may vary.



Please take a moment to provide feedback on this program.

1. Regarding the **overall program/teaching** (rate your response by circling a number):

Statement	Scale (1= Worst, 5 = Best)				
The value of the lesson was	1 not valuable	2	3	4	5 very valuable
The overall teaching was	1 poor	2	3	4	5 excellent
The teacher's knowledge of the lesson was	1 poor	2	3	4	5 excellent

2. Regarding **what you know and actions you plan to take** (circle your response):

- I learned new information today. YES NO
- I plan to use the information I learned today. YES NO
- I feel this information helps me understand why my eating habits are important YES NO
- I think I will be able to share why eating healthy is important as we age YES NO
- I know how to now know how I can make one healthy change in my diet to promote healthy aging. YES NO

3. This lesson was delivered by a(n) (check only one):

_____ TEEA Member. _____ Extension Agent/Specialist _____ Other Speaker.

4. Please tell us about yourself.

I am a _____ Woman. _____ Man.

I am in District: 1 2 3 4 5 6 7 8 9 10 11 12

I have been a member of TEEA for _____ years.

My age is _____ years-old.

5. Additional Comments.

Thank You For Completing This Form!

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