



# What Do We Know About Healthy Aging?



National Institute  
on Aging

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# What's Inside

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Many factors influence healthy aging. While some of these factors such as genetics, are not within our control, research shows there are many steps you can take to help manage your health, live as independently as possible, and maintain your quality of life as you age.

The National Institute on Aging (NIA), part of the National Institutes of Health (NIH), conducts and funds research to understand the nature of aging and to extend the healthy, active years of life. Scientists funded by NIA and other Institutes and Centers of NIH have made important scientific discoveries about the aging process, age-related diseases and conditions, and the needs of the growing older adult population.

In this booklet, you'll find information on healthy lifestyle habits that can help you live longer and better — and the science behind them. Read on to learn more about the research and the steps you can take to promote healthy aging, including taking care of your physical, mental, and cognitive health.





# Your Physical Health

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**W**hile scientists continue to actively research how to slow or prevent age-related declines in physical health, they've already discovered multiple ways to improve the chances of maintaining optimal health later in life. Taking care of your physical health involves staying active, making healthy food choices, getting enough sleep, limiting your alcohol intake, and proactively managing your health care. Small changes in each of these areas can go a long way to support healthy aging.

## **Get Moving: Exercise and Physical Activity**

One thing researchers know for sure is that physical activity is a cornerstone of healthy aging. Scientific evidence suggests that people who exercise regularly not only live longer, but also may live better — meaning they enjoy more years of life without pain or disability.

A study<sup>1</sup> of adults 40 and older found that taking 8,000 steps or more per day, compared to only taking 4,000 steps, was associated with a 51% lower risk of death from all causes over a 10-year period. You can increase the number of steps you get each day by doing activities that keep your body moving, such as gardening, walking the dog, and taking the stairs instead of the elevator.

Although it has many other benefits, exercise is an essential tool for maintaining a healthy weight. Adults with obesity have an increased risk of death, disability, and many diseases, such as type 2 diabetes and high blood pressure. However, thinner is not always healthier either. Being or becoming too thin as an older adult can weaken your immune system, increase the risk of bone fracture, and, in some cases, may be a symptom of disease. Both obesity and underweight conditions can lead to loss of muscle mass, which may cause a person to feel weak and easily worn out.

As people age, muscle function often declines. Older adults may not have the energy to do everyday activities and can lose their independence. However, exercise can help older adults maintain

## What Is the Baltimore Longitudinal Study of Aging?

NIA's Baltimore Longitudinal Study of Aging (BLSA) is America's longest-running scientific study of human aging. It began in 1958, when gerontology — the study of aging — was still very much in its infancy. Today, the BLSA is world-renowned, having generated thousands of scientific papers and made major contributions to our understanding of what it means to get older. The BLSA and other NIA-funded studies are the basis for the recommendations presented in this booklet.

To learn more about the BLSA, visit [www.blsa.nih.gov](http://www.blsa.nih.gov).



muscle mass as they age. In a 2019 investigation<sup>2</sup> of data from NIA's Baltimore Longitudinal Study of Aging, researchers found that moderate to vigorous physical activity is strongly associated with improved muscle function, regardless of age. This suggests that exercise may be able to reduce age-related decline in muscle function.

In addition to helping older adults live better, maintaining muscle mass can help them live longer. In another study,<sup>3</sup> researchers found that in adults older than 55, muscle mass was a better predictor of longevity than was weight or body mass index (BMI).

## What Can You Do?



Although many studies focus on the effects of physical activity on weight and BMI, research has found that even if you're not losing weight, exercise can still help you live longer and better.

There are many ways to get started.

- Try being physically active in short spurts throughout the day.
- Set aside specific times each week to exercise.
- Consider free or low-cost workouts, such as brisk walking or yoga.



As you become more active, you will start feeling energized and refreshed after exercising instead of exhausted. The key is to find ways to get motivated and get moving.

For more information about how to get started, visit [www.nia.nih.gov/exercise](http://www.nia.nih.gov/exercise).



## Eat Well: Make Smart Food Choices

Making smart food choices can help protect you from certain health problems as you age and may even help improve brain function. As with exercise, eating well is not just about your weight — it's about your overall health. But with so many different diets out there, choosing what to eat can be confusing.



One tool to help you know what to eat is the 2020-2025 *Dietary Guidelines for Americans*. These guidelines provide healthy eating recommendations for each stage of life. At any age, your healthy diet should include lots of fresh fruits and vegetables, whole grains, healthy fats, and lean proteins.

To access the 2020-2025 *Dietary Guidelines for Americans*, visit [www.dietaryguidelines.gov](http://www.dietaryguidelines.gov).

More information on healthy eating patterns comes from recent scientific studies. Much of the research shows that the Mediterranean-style eating pattern may have a positive impact on health. This dietary pattern focuses on fresh produce, whole grains, and healthy fats, with less dairy and more fish than a traditional American diet. A 2021 study<sup>4</sup> analyzing the eating patterns of more than 21,000 participants found that people closely following the Mediterranean-style pattern had a significantly lower risk of sudden cardiac death.

A low-salt diet called Dietary Approaches to Stop Hypertension (DASH) has also been shown to deliver significant health benefits. Studies testing the DASH diet found that it lowers blood pressure, helps people lose weight, and reduces the risk of type 2 diabetes and heart disease.

Yet another eating pattern that may support healthy aging is the MIND diet, which combines a Mediterranean-style eating pattern with DASH. Researchers have found<sup>5</sup> that people who closely follow the MIND diet have better overall cognition — the ability to clearly think, learn, and remember — compared to those with other eating styles.

## What Can You Do?



The Mediterranean, DASH, or MIND diets are just some examples of healthy eating patterns, but they're not the only ones. The Dietary Guidelines outline several healthy eating patterns for people to choose from. Try starting with small changes by adopting one or two aspects of a healthy eating pattern. Several studies have shown that incorporating even part of the Mediterranean-style eating pattern or MIND diet, for example, into your daily eating habits can improve health outcomes.

- **Fish.** One study<sup>6</sup> of 182 older adults with frequent migraines found that a diet lower in vegetable oil and higher in fatty fish could reduce migraine headaches.
- **Leafy greens.** A larger study<sup>7</sup> that followed almost 1,000 older adults over five years found that eating green leafy vegetables was associated with slower cognitive decline.



Even if you haven't thought much about healthy eating until recently, changing your diet now can still improve your well-being as an older adult. If you are concerned about what you eat, talk with your doctor about ways you can make better food choices.

Learn more about healthy eating at [www.nia.nih.gov/healthy-eating](http://www.nia.nih.gov/healthy-eating).

## Get a Good Night's Sleep

Getting enough sleep helps you stay healthy and alert. Even though older adults need the same seven to nine hours of sleep as all adults, they often don't get enough. Feeling sick or being in pain can make it harder to sleep, and some medicines can keep you awake. Not getting enough quality sleep can make a person irritable, depressed, forgetful, and more likely to have falls or other accidents.

Sleep quality matters for memory and mood. In one study<sup>8</sup> of adults older than 65, researchers found that those who had poor sleep quality had a harder time problem-solving and concentrating than those who got good quality sleep. Another study,<sup>9</sup> which looked at data from nearly 8,000 people, showed that those in their 50s and 60s who got six hours of sleep or less a night had a higher risk of developing dementia later in life. This increased risk may be because inadequate sleep is associated with the buildup of beta-amyloid,<sup>10</sup> a protein involved in Alzheimer's disease.



Poor sleep may also worsen depression symptoms in older adults. Emerging evidence<sup>11</sup> suggests that older adults who were diagnosed with depression in the past and don't get quality sleep, may be more likely to experience their depression symptoms again.

More generally, a 2021 study<sup>12</sup> found that older adults who didn't sleep well at night and napped often were at greater risk of dying within the next five years. Conversely, getting good sleep is associated with lower rates of insulin resistance, heart disease, and obesity.<sup>13</sup> Sleep can also improve your creativity and decision-making skills, and even your blood sugar levels.

## What Can You Do?



There are many things you can do to help you sleep better:

- Develop a relaxing bedtime routine.
- Try to fall asleep and get up at the same time each day.
- Avoid napping late in the day, as this may keep you awake at night.
- Exercise at regular times each day, but not too close to bedtime.



Research suggests that certain other activities, such as mindfulness meditation,<sup>14</sup> can also improve sleep quality.

Learn more about how to get a good night's sleep at [www.nia.nih.gov/sleep](http://www.nia.nih.gov/sleep).



# Quit Smoking

It doesn't matter how old you are or how long you've been smoking. Research confirms that even if you're 60 or older and have been smoking for decades, quitting will improve your health. Quitting smoking at any age will:

- Lower your risk of cancer, heart attack, stroke, and lung disease
- Improve your blood circulation
- Improve your sense of taste and smell
- Increase your ability to exercise
- Set a healthy example for others

One study<sup>15</sup> found that among men 55 to 74 years old and women 60 to 74 years old, current smokers were three times more likely to die within the six-year follow-up period than those who had never smoked.

## What Can You Do?



If you smoke, quit. Quitting smoking is good for your health and may add years to your life.

One study<sup>16</sup> of nearly 200,000 people demonstrated that older adults who quit smoking between the ages of 45 and 54 lived about six years longer compared to those who continued to smoke. Adults who quit between the ages of 55 to 64 lived about four years longer.



It's never too late to stop smoking and reap the benefits of breathing easier, having more energy, saving money, and improving your health. Quitting can be difficult, but many resources are available to help people stop smoking.

Need help quitting? Visit <https://smokefree.gov> for tips and support.

Read more about how to quit smoking as an older adult at [www.nia.nih.gov/quitting-smoking](http://www.nia.nih.gov/quitting-smoking).

## Limit Alcohol and Other Substances

Like all adults, older adults should avoid or limit alcohol consumption. In fact, aging can lead to social and physical changes that make older adults more susceptible to alcohol misuse and abuse and more vulnerable to the effects of alcohol. Alcohol dependence or heavy drinking affects every organ in the body, including the brain.

A comprehensive study<sup>17</sup> from the National Institute on Alcohol Abuse and Alcoholism shows that alcohol consumption among older adults, especially women, is on the rise. The researchers also found evidence that certain brain regions show signs of premature aging in alcohol-dependent men and women. In addition, heavy drinking for extended periods of time in older adults may contribute to poor heart health, as shown in this 2016 study.<sup>18</sup> These studies suggest that stopping or limiting the use of alcohol could improve heart health and prevent the accelerated aging seen with heavy alcohol use.

In addition to being cautious with alcohol, older adults and their caregivers should be aware of other substances that can be misused or abused. Because older adults are commonly prescribed opioids for pain and benzodiazepines for anxiety or trouble sleeping, they may be at risk for misuse and dependence on these substances. One study<sup>19</sup> of adults 50 and older showed that misuse of prescription opioids or benzodiazepines was associated with thoughts of suicide.



## What Can You Do?



Follow these tips to take the first steps to stop or limit drinking alcohol:

- Learn about the current U.S. guidelines for drinking and when to avoid alcohol altogether.
- Know how much you're drinking and the harm that drinking can cause.
- Talk with your doctor or a mental health professional if you or a loved one needs help with substance abuse or alcohol use.
- Find a support group for older adults with substance or alcohol abuse issues.



For more information on alcohol and your health, visit [www.rethinkingdrinking.niaaa.nih.gov](http://www.rethinkingdrinking.niaaa.nih.gov).

## Go to the Doctor Regularly

Going to the doctor for regular health screenings is essential for healthy aging. A 2021 study<sup>20</sup> found that regular check-ups help doctors catch chronic diseases early and can help patients reduce risk factors for disease, such as high blood pressure and cholesterol levels. People who went to the doctor regularly also reported improved quality of life and feelings of wellness.

In recent years, scientists have developed and improved upon laboratory, imaging, and similar biological tests that help uncover and monitor signs of age-related disease. Harmful changes in the cells and molecules of your body may occur years before you start to experience any symptoms of disease. Tests that detect these changes can help medical professionals diagnose and treat disease early, improving health outcomes.



## What Can You Do?



Visit the doctor at least yearly and possibly more often depending on your health. Why?

- You can't reap the benefits of medical advancements without regular trips to the doctor for physical exams and other tests.
- Regular screenings can uncover diseases and conditions you may not yet be aware of, such as diabetes, cancer, and cardiovascular disease.
- If you only seek medical attention when you're experiencing symptoms, you may lose the chance of having your doctor catch a disease in its earliest stages, when it would be most treatable. Regular check-ups can help ensure you could start treatment months or years earlier than would have been possible otherwise.

Get tips for how to make the most of your appointment with your doctor at [www.nia.nih.gov/prepare-doctors-appointment](http://www.nia.nih.gov/prepare-doctors-appointment).





# Your Mental Health

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**M**ental health, or mental wellness, is essential to your overall health and quality of life. It affects how we think, feel, act, make choices, and relate to others. Managing social isolation, loneliness, stress, depression, and mood through medical and self-care is key to healthy aging.

## Understand Social Isolation and Loneliness

As people age, changes such as hearing and vision loss, memory loss, disability, trouble getting around, and the loss of family and friends can make it difficult to maintain social connections. This lack of close relationships with family or friends makes older adults more likely to be socially isolated or to feel lonely.

Several recent studies show that older adults who are socially isolated or feel lonely are at higher risk for heart disease, depression, and cognitive decline. A 2021 study<sup>21</sup> of more than 11,000 adults older than age 70 found that loneliness was associated with a greater risk of heart disease. Another recent study<sup>22</sup> found that socially isolated older adults experienced more chronic lung conditions and depressive symptoms compared to older adults with social support.

Feeling lonely can also impact memory. A study<sup>23</sup> of more than 8,000 adults older than 65 found that loneliness was linked to faster cognitive decline.

Research also shows that being socially active can benefit older adults. A study<sup>24</sup> of more than 3,000 older adults found that making new social contacts was associated with improved self-reported physical and psychological well-being. Being social may also help you reach your exercise goals. A 2019 study<sup>25</sup> found that older adults who had regular contact with friends and family tended to be more physically active than those who didn't.

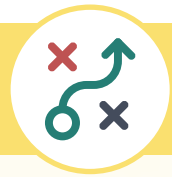
## What's the Difference Between Social Isolation and Loneliness?

Although they sound similar, social isolation and loneliness are different. Loneliness is the distressing feeling of being alone or separated, while social isolation is the lack of social contacts and having few people to interact with regularly. You can live alone and not feel lonely or socially isolated, and you can feel lonely while being with other people.





## What Can You Do?



Staying connected with others may help boost your mood and improve your overall well-being. Here are some steps you can take:

- Stay in touch with family and friends in person, over the phone, or online.
- Make time each day to maintain connections with others.
- Take a class to learn something new or hone a skill you already have while meeting new people.



Learn about loneliness and social isolation and get tips for how to stay connected at [www.nia.nih.gov/loneliness-and-social-isolation](http://www.nia.nih.gov/loneliness-and-social-isolation).



## Manage Your Stress

Stress is a natural part of life and comes in many forms. Sometimes stress arises from difficult events or circumstances. Positive changes, like the birth of a grandchild or a promotion, can cause stress too. Research shows that constant stress can change the brain,<sup>26</sup> affect memory, and increase the risk of developing Alzheimer's or related dementias.

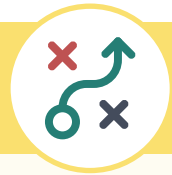
Older adults are at particular risk for developing stress and stress-related problems. A recent study<sup>27</sup> examined how levels of the stress hormone cortisol change over time. Researchers have found that cortisol levels in a person's body increase steadily after middle age, and that this age-related increase in stress may drive changes in the brain. A meta-analysis<sup>26</sup> funded by the National Institute of Mental Health supports the notion that stress and anxiety rewire the brain in ways that can impact memory, decision-making, and mood.

Finding ways to lower stress and increase emotional stability may support healthy aging. In an analysis<sup>28</sup> of data from the Baltimore Longitudinal Study of Aging, scientists followed 2,000 participants for more than five decades, monitoring their mood and health. The data reveal that individuals who were emotionally stable lived three years longer, on average, than those who had a tendency toward being in a negative or anxious emotional state. Long-term stress also may contribute to or worsen a range of health problems, including digestive disorders, headaches, and sleep disorders.





## What Can You Do?



Lowering your stress can help you stay physically and mentally healthy as you age. You can help manage stress by:

- Practicing meditation techniques
- Staying physically active
- Participating in activities you enjoy
- Keeping a journal to help identify and challenge negative and unhelpful thoughts
- Reading a good book, magazine, or newspaper
- Reaching out to friends and family



For more resources about managing stress, visit [www.nimh.nih.gov](http://www.nimh.nih.gov).

## Look Out for Depression and Changes in Overall Mood

Although depression is common in older adults, it can be difficult to recognize. For some older adults with depression, sadness is not their main symptom. Instead, they might feel numb or uninterested in activities and may not be as willing to talk about their feelings. Depression affects not only mental health, but also physical health.

A review<sup>29</sup> article funded by the National Heart, Lung, and Blood Institute summarizes hundreds of studies from around the world showing that depression increases the risk of heart disease and metabolic disorders, such as obesity and diabetes. Research has also shown that recurrent depression (which comes back after treatment or later in life) is a risk factor for dementia. In a study<sup>30</sup> of more than 1,000 older adults, scientists found a relationship between the number of depressive episodes and increased risk of developing Alzheimer's.

Although different than depression, which is a serious medical disorder, mood changes can also influence aging. A 2020 longitudinal study<sup>31</sup> demonstrated a link between positive mood and better cognitive control – the ability to control thoughts, emotions, and behavior. Further studies are necessary to determine whether changes that improve mood could improve cognition.

### What Is Depression?

Depression is a serious mood disorder. It can affect the way you feel, act, and think. An older adult who experienced depression as a younger person may be more likely to have depression again as an older adult. Depression is serious, and treatments are available to help. For most people, depression gets better with treatment.

The way you think about aging can also make a difference. Research shows that whether you hold negative or positive views about aging may impact health as you age. Negative beliefs about aging may increase undesirable health outcomes,<sup>32</sup> Alzheimer’s biomarkers,<sup>33</sup> and cellular aging.<sup>34</sup> On the other hand, positive beliefs about aging may decrease the risk of developing dementia<sup>35</sup> and obesity.<sup>36</sup>

## What Can You Do?



Know the common signs of depression in older adults:

- Deep sadness or numbness
- Lack of interest in once pleasurable activities
- Fatigue
- Irritability and restlessness
- Lack of sleep
- Loss of appetite



Depression, even when severe, can be treated. As soon as you begin noticing signs, it’s important to get evaluated by a health care professional.

If you think you or a loved one may have depression, get help.

- Make an appointment to see your doctor or health care provider.
- Get support from family and friends.
- Know the warning signs for suicide and how to get help.

If you are thinking of harming yourself or know someone who is, get help immediately — call the 24-hour **988 Suicide & Crisis Lifeline** by dialing **988** or **800-273-TALK (800-273-8255)**.

Learn more about depression at

[www.nia.nih.gov/depression-older-adults](http://www.nia.nih.gov/depression-older-adults).



## Participate in Activities You Enjoy

Your favorite activities are not only fun — they may also be good for your health. Research shows that people who participate in hobbies and social and leisure activities may be at lower risk for some health problems.

For example, one study<sup>37</sup> found that participation in a community choir program for older adults reduced loneliness and increased interest in life. Another study<sup>38</sup> showed that older adults who spent at least an hour each day reading or engaged in other hobbies had a decreased risk of dementia compared to those who spent less than 30 minutes a day on hobbies.

Research<sup>39</sup> on the impact of music, theater, dance, creative writing, and other participatory arts shows promise for improving older adults' quality of life and well-being, from better cognitive function, memory, and self-esteem to reduced stress and increased social interaction. Even hobbies as simple as taking care of a pet can improve your health. According to a 2020 study,<sup>40</sup> pet ownership (or regular contact with pets) was associated with better cognitive function, and in some cases, better physical function.





## What Can You Do?



Look for opportunities to participate in activities.

- Get out and about by gardening, going to a sporting event, trying a new restaurant, or visiting a museum.
- Learn a new skill, such as tai chi, cooking, or playing a musical instrument.
- Consider volunteering at a school, library, or hospital to become more active in your community.



Learn more about participating in activities you enjoy at [www.nia.nih.gov/participating-activities](http://www.nia.nih.gov/participating-activities).





# Your Cognitive Health

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**C**ognition – the ability to clearly think, learn, and remember – often changes as we age. Although some people develop Alzheimer’s or other types of dementia, many older adults experience more modest changes in memory and thinking. Research shows that eating healthy foods, staying active, and learning new skills may help keep older adults cognitively healthy.

## Boost Your Cognitive Health

If you think your daily choices don’t make a difference, data from an NIH study<sup>41</sup> with 3,000 participants show otherwise. Researchers scored participants on five healthy lifestyle factors, all of which have important health benefits:

- At least 150 minutes per week of moderate- to vigorous-intensity physical activity
- Not smoking
- Not drinking heavily
- A high-quality, Mediterranean-style diet
- Engagement in mentally stimulating activities, such as reading, writing letters, and playing games





The findings show that making these small, daily changes can add up to significant health benefits. Those who followed at least four of these healthy lifestyle behaviors had a 60% lower risk of developing Alzheimer's. Even practicing just two or three activities lowered the risk by 37%. While results from observational studies such as this one can't prove cause and effect, they point to how a combination of modifiable behaviors may reduce Alzheimer's risk and identify promising avenues to be tested in clinical trials. New clinical trials are also testing the benefits of tightly controlling blood pressure on healthy aging. These trials are based on a 2019 study,<sup>42</sup> with data supporting the idea that intensive blood pressure control may slow age-related brain damage and even mild cognitive impairment, changes that can increase the risk for Alzheimer's or a related dementia.

Researchers continue their work to understand how we might prevent Alzheimer's and other forms of age-related cognitive decline. NIA is currently funding more than 350 active clinical trials on Alzheimer's and related dementias, over 100 of which use nondrug interventions, such as exercise, diet, cognitive training, sleep, or combination therapies.





## What Can You Do?



We don't yet know for certain what, if anything, can prevent cognitive decline as you age, but there may be steps you can take to help reduce your risk, including:

- Control high blood pressure.
- Sleep well.
- Eat a healthy diet.
- Keep physically active.
- Stay connected with family and friends.



Learn more about these and other healthy lifestyle approaches to reduce your risk of dementia at [www.alzheimers.gov/can-i-prevent-dementia](http://www.alzheimers.gov/can-i-prevent-dementia).

## Learn a New Skill

Many brain training programs are marketed to the public to improve cognition. Although some computer- or smartphone-based cognitive training interventions show promise, so far there is no conclusive evidence that these applications are beneficial.

But there is some evidence that exercising your brain by learning a new skill can improve memory function. A study<sup>43</sup> of adults 60 and older showed that sustained engagement in new, cognitively demanding activities enhanced memory function. In particular, the new skills tested in this study were: 1) learning how to use computer software to edit photos and 2) learning how to quilt. However, these aren't the only skills that may help. Learning a new game, instrument, craft, or other skill can be fun and may have the added benefit of staving off memory loss as you age.







## What Can You Do?



Be wary of apps and computer programs that promise to boost your memory. Researchers are still exploring whether this type of training, and in what forms or amounts, can help prevent cognitive decline. On the other hand, there are several studies that suggest learning a new skill could help improve your memory and thinking. Here are some ideas of how to keep learning as you age:

- Take a cooking, art, dance, language, or computer class.
- Form or join a book or film club.
- Try yoga, tai chi, or another new physical activity.
- Learn (or relearn) how to play a musical instrument.
- Find free group tours and programs at museums.



To learn more about cognitive health, visit:  
[www.nia.nih.gov/cognitive-health](http://www.nia.nih.gov/cognitive-health).





# Next Steps

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**T**aking care of your physical, mental, and cognitive health is important for healthy aging. Even making small changes in your daily life can help you live longer and better.

## **In general, you can support your physical health by:**

- Staying active
- Eating well
- Sleeping well
- Going to the doctor regularly

## **Take care of your mental health by:**

- Interacting with family and friends
- Trying to stay positive
- Participating in activities you enjoy

## **Take steps to boost your cognitive health by:**

- Adopting healthy lifestyle behaviors that may reduce your risk for Alzheimer's and related dementias
- Learning a new skill

There is still a lot to learn, though, about how people age and what habits can best support healthy aging. Scientists are exploring these questions with studies that look at physical, mental, and cognitive health. You can be a part of scientific progress by joining a clinical trial or research study in person or online. All types of volunteers are needed, including caregivers, older adults with medical conditions, and those who are healthy.

## What Are Clinical Trials?

Clinical trials are research studies performed with people that are aimed at evaluating a medical, surgical, or behavioral intervention. They're the primary way that researchers find out if a new treatment, like a new drug, diet, or medical device (for example, a pacemaker), is safe and effective in people. Often a clinical trial is used to learn if a new treatment is more effective and/or has less harmful side effects than the standard treatment.

To explore all trials funded by NIH, visit <https://clinicaltrials.gov>. To find Alzheimer's and related dementias research studies, visit the Clinical Trials Finder at [Alzheimers.gov](https://alzheimers.gov). Every treatment available today is due to people like you who choose to participate in clinical research.

Learn more about clinical trials at [www.nia.nih.gov/health/clinical-trials](https://www.nia.nih.gov/health/clinical-trials).



# For More Information

## **National Institute on Aging Information Center**

800-222-2225 | 800-222-4225 (TTY)

[niaic@nia.nih.gov](mailto:niaic@nia.nih.gov)

[www.nia.nih.gov/health](http://www.nia.nih.gov/health)

<https://order.nia.nih.gov>

Visit the NIA Information Center to find more health and aging information, subscribe to email alerts, and order publications.

## **Alzheimer's and related Dementias Education and Referral (ADEAR) Center**

800-438-4380

[adear@nia.nih.gov](mailto:adear@nia.nih.gov)

[www.nia.nih.gov/alzheimers](http://www.nia.nih.gov/alzheimers)

The NIA ADEAR Center offers information and free print publications about Alzheimer's and related dementias for families, caregivers, and health professionals. ADEAR Center staff members answer telephone, email, and written requests and make referrals to local and national resources.

## **Alzheimers.gov**

[www.alzheimers.gov](http://www.alzheimers.gov)

Visit Alzheimers.gov for information and resources on Alzheimer's and related dementias from across the federal government.

## **MedlinePlus**

888-FIND-NLM (888-346-3656)

[www.medlineplus.gov](http://www.medlineplus.gov)

<https://medlineplus.gov/healthyaging.html>

<https://medlineplus.gov/olderadulthealth.html>

MedlinePlus is a service of the National Library of Medicine that offers online health information resources for patients, their families, and their friends.



# References

This booklet discusses scientific findings from the studies listed below. For more information about how to read academic articles, press releases, or news coverage of scientific studies, visit [www.nccih.nih.gov/health/know-science/make-sense-health-research](http://www.nccih.nih.gov/health/know-science/make-sense-health-research).

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