

Primary prevention recommendations to reduce the risk of cognitive decline

Neurovascular Risk Management



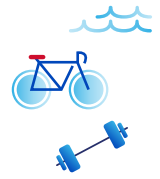
RECOMMENDATION

For adults (ages 45+) with established hypertension or Type II diabetes, clinicians should manage their conditions according to guidelines with appropriate medications to help reduce the risk of cognitive decline, and clinicians should encourage optimal brain health in the same way they encourage cardiovascular health through other modifiable risk factors (or lifestyle interventions) such as physical activity, diet, and sleep to reduce the risk of cognitive decline.

CONSIDERATIONS FOR IMPLEMENTATION

- Follow USPSTF recommendations to screen for high blood pressure in adults aged 18 years or older (Grade: A) (USPSTF, 2015); for statin use for primary prevention of cardiovascular disease (Grade: B) (USPSTF, 2016); and for screening for abnormal blood glucose and Type II diabetes (Grade: B) (USPSTF, 2015)
- Follow ACC/AHA hypertension guidelines for a target systolic blood pressure < 130 (Flack & Adekola, 2020; ACC/AHA, 2018)
- If just beginning to have these conversations with your patients, consider handouts like this to help them remember that brain health equals heart health:
[English](#) | [Spanish](#) | [French](#) | [Arabic](#) | [Chinese](#)
- [AHA's "Life's Simple 7"](#) tools highlight key areas for optimal brain health related cardiovascular care (AHA/ASA, 2017). Sharing patient facing tools might help them achieve desired goals
- Be extra vigilant to look for neurovascular risk factors in women and persons from race and ethnicity groups who are at greater risk for developing ADRD
 - [Targetbp.org](#) includes tools and resources designed to help improve blood pressure control in clinical care settings with a focus on accurate blood pressure measurement to achieve blood pressure control.

Physical Activity



RECOMMENDATION

Clinicians should conduct a physical activity assessment, at least annually, using a practical and validated tool(s) to identify adults (age 45+) who are sedentary or not meeting recommended levels of physical activity (ACC/AHA, 2019)(150 minutes [2 ½ hours] per week of moderate intensity) (HHS, 2018) and who can decrease their risk of cognitive decline or worsening health.

CONSIDERATIONS FOR IMPLEMENTATION

- Examples of validated physical assessment tools to evaluate an individual's level of physical activity (AHA, 2018):
 - Rapid Assessment of Physical Activity
 - Physical Activity Vital Sign (PAVS)
 - Exercise Vital Sign (EVS)
 - Speedy Nutrition and Physical Activity Assessment (SNAP)
 - General Practice Physical Activity Questionnaire (GPPAQ)
 - Stanford Brief Activity Survey (SBAS)
- Additional tools can be found at:
<https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000559>

RECOMMENDATION

For individuals not meeting recommended levels of physical activity, develop a plan using a safe, gradual approach that starts with *moderate-intensity physical activity*¹ that fits within a person's lifestyle (e.g., walking, gardening, dancing, calisthenics) and is culturally acceptable.

CONSIDERATIONS FOR IMPLEMENTATION

- If a completed assessment identifies someone who is not meeting recommended levels of physical activity, help individuals choose smaller goals to start
 - The ultimate goal should be to reach 150 minutes of aerobic, moderate-intensity physical activity per week (or 30 minutes on most days of the week) (HHS, 2018).
 - When patients cannot do the recommended amounts of physical activity due to disability or chronic health conditions, they should be as physically active as their abilities and conditions allow.
- Goals should be updated or revised based on an individual's progress (or lack of progress)
- The benefits of physical activity communicated to patients should include its effects on memory/brain health
- Suggesting physical activities that can be done with family, friends, or peers is often more successful
- Refer to any local/community resources that offer free, low-cost physical activity programs when possible
- When available, connect individuals with a resource to be a support in between or during visits
- [Resources to share with older adults](#)
- If an individual is comfortable using digital devices, consider recommending a digital device (e.g., Apple watch, Fitbit) or free app to motivate or help them monitor their activity
- For individuals meeting physical activity recommendations, continued encouragement and recognition or praise should be given for maintenance.

¹ *Moderate-intensity physical activity* is defined as activity that requires 3.0 to less than 6.0 metabolic equivalents (METs); such as walking briskly or with purpose (3 to 4 mph), mopping, vacuuming, or raking a yard. Levels of "moderate" or "vigorous" activity are different for every individual depending on their fitness level, which is why elevated heart rate is a good indicator of optimal activity.

Sleep



RECOMMENDATION

Clinicians should routinely (if possible, at each visit) assess sleep quantity and quality in patients 45 years old and older using a validated tool and whether they take any medications to sleep.

CONSIDERATIONS FOR IMPLEMENTATION

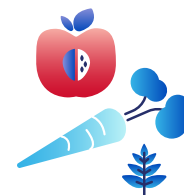
- Example of a validated tool to assess sleep quality:
→ [Pittsburgh Sleep Questionnaire](#)
- An individual may have a sleep disorder if they experience one or more of the following (AARP, 2017):
 - trouble falling or staying asleep three times a week for at least three months
 - frequent snoring
 - persistent daytime sleepiness
 - leg discomfort before sleep
 - acting out your dreams during sleep
 - grinding your teeth or waking with a headache or aching jaws

RECOMMENDATION

For individuals getting insufficient or poor-quality sleep, clinicians should encourage getting 7-8 hours of sleep in a 24-hour period, including naps. Those with severe sleep complaints which may indicate sleep apnea (e.g., snoring with stops of breathing or excessive daytime sleepiness), should be referred to a sleep clinic for diagnosis and treatment.

CONSIDERATIONS FOR IMPLEMENTATION

- [Share tips and information on napping for those who need additional sleep](#)
- Share tips for optimal sleep environments, such as:
 - Make the room as dark and quiet as possible
 - Avoid using your bed for work
 - Don't text in bed. Keep electronic media out of the bedroom
 - Keep your room on the cooler side
 - Stop watching TV at least an hour before bedtime
 - Make the room as soothing to senses as possible with colors and scents
 - Buy a comfortable mattress with sufficient back support—the firmer the better for most people
 - Use a hypoallergenic pillow and wash bedclothes frequently enough to eliminate dust
- Ask patients about their medications and if they may be affecting nighttime sleep or contributing to daytime sleepiness
 - Consider changing the timing of when medications are taken to minimize their impact on sleep quality



Nutrition

RECOMMENDATION

Clinicians should assess dietary eating patterns and habits, at least annually with patients age 45+.

CONSIDERATIONS FOR IMPLEMENTATION

- Helpful question to assess the quality of one's diet include:
 - Are you concerned about your diet?
 - Do you think you get enough fruits and vegetables in your diet?
How many servings do have per day?
 - How many times per week do you eat butter, cheese, red meat, or fried foods?
In what quantities?
 - How many meals per day (or per week) are processed food?

RECOMMENDATION

For individuals who indicate a less than optimal diet, clinicians should counsel patients about the value of a healthy diet and should broach the topic of culturally acceptable dietary interventions that directly and indirectly impact brain health at each annual encounter to suggest beneficial nutritional modifications.

CONSIDERATIONS FOR IMPLEMENTATION

- Modifications through shared decision-making and collaborative health care should focus on **decreasing the intake** of high-fat dairy products (e.g., butter, cheese), red meat, fried foods, and processed foods or sweets.
- Equally great effort should be made to motivate patients to **increase relative intake** of leafy green and cruciferous vegetables, berries, beans, high-fiber nuts and whole grains, and non-red meats like fish or chicken.
- Note for patients that diet changes may be accompanied by temporary abdominal discomfort that could occur for up to a month due to "your body changing to process the new foods"; this can be minimized by introducing incremental changes to the diet.
- The following resources for brain-healthy diets can be shared with patients to help them introduce diet modifications:
 - [MIND diet handout](#) | [DASH diet info.](#) | [Mediterranean diet info.](#)
- Determining underlying motivations as well as potential barriers to diet change is important and should be addressed to prevent "relapse."
- Access to healthy foods should be discussed with patients.
- Objective measures (including vitals like heart rate and blood pressure), physical measures (like waist circumference and BMI), and lab values (specifically, lipid panel and hemoglobin A1C) should be tracked from recorded patient data to help ensure individuals maintain healthy weight.
 - Additional trending for CMP and CBC-ions, minerals, and H&H can also be considered
- If you have prescribed supplements to your patients, they should continue taking them. But you should relay to your patients that foods provide a much more diverse nutrient and bioactive profile than supplements and should be prioritized.
- Correct nutrient or ion abnormalities as needed
- Monitor for unplanned or unexpected weight loss, which often precedes dementia
- Patients might benefit from referral to a dietitian, particularly if patient nutritional needs are complicated

Social Activity



RECOMMENDATION

Clinicians should annually, or after major life events (e.g., death of loved one, changed living arrangements), perform an assessment using one or more validated tool(s) (e.g., the UCLA Loneliness Scale for assessing loneliness, or the Berkman-Syme Social Network Index for assessing social isolation) to identify adults 45+ years experiencing loneliness² or social isolation.³

CONSIDERATIONS FOR IMPLEMENTATION

- Don't assume you know who is or is not lonely; Think about how and why someone may be lonely or isolated and focus your advice on the mechanism.
- Examples of validated tools to assess social activity:
 - UCLA Loneliness Scale for assessing loneliness
 - Berkman-Syme Social Network Index for assessing social isolation

- 2 *Loneliness*: the perception of social isolation or the subjective feeling of being lonely (National Academies of Sciences, 2020).
- 3 *Social isolation*: the objective lack of (or limited) social contact with others (National Academies of Sciences, 2020).

RECOMMENDATION

For those identified with elevated risk of social isolation or loneliness, clinicians should suggest strategies for enhancing their *social connection*⁴ and activity and check-in with them via phone or virtual meeting every few months to offer guidance or additional resources, as needed, to help prevent further declines in social activity.

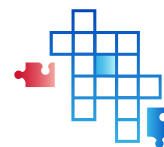
CONSIDERATIONS FOR IMPLEMENTATION

- Ask the patient what he or she thinks would be a solution to their loneliness or social isolation and familiarize yourself with some of the community programs and resources in your area. For older adults, the Area Agencies on Aging and the AARP Connect 2 Affect are good places to start.
- Examples to suggest may include:
 - Meeting new people by joining clubs or organizations, such as a book club, a local sports team, a civic organization, or a political or religious group.
 - Volunteering, for instance, at a pet shelter, the library, hospital, school, or senior center.
 - Staying connected to family and friends (even during times of social distancing) by phone and video conferencing should be encouraged, recognizing that limited mobile/internet access may impact some individual's ability to maintain virtual social connections
- Explain to patients that all forms of relationships and support can be meaningful in building a sense of connection and serve as a protective factor to brain health. The more supported and connected a person feels, the better they can handle stress and build stress resilience.
- Use Dr. Carson's support mapping exercise as an awareness activity
- Try to document results of loneliness and social isolation screenings in your electronic health records

4 *Social connection* is related to *social support*, which is having people who can provide help and assistance in times of need. There are many types of social connection, ranging from intimate relationships (in which a person can share deep concerns and aspirations) with a romantic partner, close family member, or best friend, to casual encounters with grocery store clerks or online friends – and all forms serve as a protective factor to brain health. There are also different types of social support (National Academies of Sciences, 2020):

- *Emotional support*, in which people offer a shoulder to cry on
- *Instrumental support*, in which people offer concrete help such as babysitting one's children or cooking a meal for a sick person, and
- *Informational support*, in which people offer useful information, such as legal help or therapy

Cognitive Stimulation



RECOMMENDATION

During each scheduled visit, but at least annually, clinicians should ask patients (aged 45+) about their level of *cognitive stimulation or activity*,⁵ which may include learning new skills or other stimulating activities they practice

CONSIDERATIONS FOR IMPLEMENTATION

- When assessing for levels of cognitive activity or stimulation, clinicians could inquire about:
 - New skills being learned (e.g., cooking, dancing, language, crafting)
 - What or how frequently they read (non-fiction vs fiction)
 - Whether they watch documentaries or news
 - Making music or art
 - Playing strategy games (e.g., chess or dominoes)
 - Practicing mindfulness or being exposed to nature

5 *Cognitive stimulation therapy* refers to “participation in a range of activities aimed at improving cognitive and social functioning”, while cognitive training refers to “guided practice of specific standardized tasks designed to enhance particular cognitive functions” (WHO, 2019), primarily as an intervention to prevent or delay cognitive decline or dementia (AHRQ, 2017); *Cognitive activity* is described as “mentally stimulating activities...such as reading, playing chess, etc.” (Yu et al., 2020)

RECOMMENDATION

For individuals who indicate low levels of cognitive stimulation or activity, suggestions for cognitive stimulation should be made.

CONSIDERATIONS FOR IMPLEMENTATION

- Include non-judgmental communications and not “blaming” individuals for being cognitively inactive
- Consider individual and cultural preferences when suggesting activities and discuss different options with each individual to encourage a variety of activities
- [Share this handout with patients](#) for tips regarding best stimulation activities to target
- For those who may benefit, consider cognitive training programs (e.g., CogniFit, BrainHQ) (Sikkes et al., 2020; Medicare.org, 2020; Strenziok et al., 2014)
- For patients that engage in regular cognitive stimulation or activities, continued encouragement and recognition or praise should be given for maintenance.