

Walking to Wellness



Exercise for Physical and Emotional Health Second Edition

Facilitator Manual

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This manual can be downloaded at <https://www.mirecc.va.gov/visn16/walking-to-wellness-manuals.asp>.

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Introduction

Purpose and Uses of *Walking to Wellness*.

Most adults in the United States today do not spend enough time exercising to get optimal benefits. People with anxiety and depression symptoms tend to be even less active than people who do not experience these emotional symptoms. Although substantial scientific evidence shows that exercise can help manage anxiety and depression, few intervention materials are especially designed to help people use exercise for emotional health. We hope the materials in *Walking to Wellness* will encourage more people to use exercise to help manage their emotional symptoms, as well as improve their physical health.

The materials developed for *Walking to Wellness* are organized into three modules: (1) A basic workbook with information and worksheets to support a *Walking to Wellness* program; (2) Mindful Walking, which explains how to integrate mindfulness into physical activity; and (3) a Caregiver Walking Together module with information and suggestions to help caregivers walk with someone who has dementia or other cognitive impairment. This facilitator's manual includes current scientific information about exercise and mental health relevant to these topics that can help you be well informed when you talk with your clients. In addition to the sections on scientific background, the facilitator manual also includes suggestions for using them with individuals and groups.

The information and worksheets in *Walking to Wellness* are designed to be used as an adjunct to other interventions in wellness promotion, primary care, MH, and various clinical settings for managing chronic conditions. *Walking to Wellness* can be used along with medication, psychotherapy, supportive counseling for persons seeking treatment for mental health symptoms, or for other wellness education. You can incorporate the *Walking to Wellness* tip sheets into individual counseling or group sessions that include other topics, such as nutrition or cognitive behavioral strategies for stress management. The materials can also be used for a group with a focus on exercise and physical activity promotion. This kind of group could be enriched by including a co-leader or presentation by an exercise professional who teaches the group members about safe and healthy exercise appropriate to their health conditions.

Almost Everyone Can Benefit From *Walking to Wellness*.

Almost every adult can experience better physical and mental health if he or she engages in regular exercise. In this program we consider any physical activity that is done to improve or maintain health to be "exercise." Exercise does not need to be strenuous. The kind of exercise we encourage should also not be painful. We especially recommend

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walking because walking is safe and available for almost everyone. Some people can use other kinds of exercise to achieve the goals of this program.

Walking to Wellness was designed to be used by adults experiencing mild-to-moderate stress, anxiety, and/or depression symptoms. The materials are written for someone who can walk for at least 10 minutes, but could be adapted for clients who need to start with very brief walks because of their health conditions. Some clients will use these materials on their own for self-help, perhaps because they will not have an opportunity to meet with you again. We believe many clients who are struggling with anxiety or depression symptoms will be more successful if they try the activities with a group of other participants or in the context of some kind of supportive individual counseling with a facilitator or therapist. This collection of information and recommendations is not designed for persons who have severe symptoms or who have medical conditions that make increased physical activity or walking unsafe.

Walking to Wellness is not an exercise or fitness training program to be substituted for therapy provided by exercise or rehabilitation specialists. In a medical setting, it is appropriate to have concurrence from a client's medical provider stating that it is safe for that person to engage in light or moderate walking and providing specific limitations to physical activity that you and the client need to consider. In our clinics, we request a medical record note from the client's primary care provider. Primary care providers are usually very pleased to learn that participants are interested in starting a regular exercise program, and they can help reinforce and support participation and acknowledge progress.

Scientific Background

This section provides a summary of results from scientific studies about exercise and interventions that can help people become and stay physically active. This information can help you understand and explain the rationale for the information in the Walking to Wellness collection of activities. For a much more comprehensive but very readable description of the scientific evidence for the benefits of physical activity and evidence-based motivational strategies to encourage people of all ages to be more active, we encourage you to review Physical Activity Guidelines for Americans (2nd Edition (U.S. Department of Health and Human Services. 2018). This important resource can be downloaded from the government website without cost. We have summarized some of the information from the Guidelines in this section as well as included newer and complementary references that are relevant to the Walking to Wellness program.

Exercise Can Help Treat and Prevent Many Common Health Problems.

As detailed in the 2018 Physical Activity Guidelines, the benefits of exercise on physical health, including decreased risk of cardiovascular disease, stroke, type 2 diabetes, cancer at multiple sites, and osteoporosis are now widely recognized. Additional benefits for older adults include reduced risk of falls and protecting physical and cognitive function. Many other scientific reviews also support the value of exercise as part of recovery plans for mental illness, treatment for depression, and improved quality of life in varied patient populations. Recent reviews and meta-analyses support the conclusion that physical activity reduces risk of future depression and can be used as an intervention for mild to moderate depression (e.g., Kram et al., 2016; Schurch et al., 2016; Pearce et al, 2022). Although the smaller number of trials of exercise for anxiety outcomes requires more cautious conclusions (Bartley et al., 2013), controlled studies have shown that exercise reduces anxiety sensitivity and anxiety symptoms in disorders including PTSD (Kandola et al. 2018; Bjorkman & Ekblom, 2021). Exercise also reduces reactivity to stressful stimuli (Hamer, 2012) and hastens emotional recovery from stress (Bernstein & McNally, 2017). In persons with hip and knee osteoarthritis, physical activity reduces pain and improves function, with no evidence for causing more rapid progress of the arthritis when step counts are less than 10,000 per day (Kraus et al., 2019).

Exercise Benefits Occur Across A Wide Dose Range Achievable by Almost All Adults.

Although the public health exercise recommendations for moderate-intensity aerobic exercise for at least 10 minutes at a time, accumulating to at least 150 minutes total each week (Haskell et al., 2007) also seem optimal for MH (Rethorst & Trivedi, 2013;

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Herring et al., 2012; Dunn et al., 2005; Stathopoulou et al., 2006), exercise of lower intensity and duration also has meaningful physical and MH benefits. “Incidental” short bursts of moderately intense activity of less than 10 minutes are positively associated with cardiorespiratory fitness (McGuire & Ross, 2011). Exercising for just 10 minutes improves vigor, fatigue, and overall mood (Hansen et al., 2001). Easy-paced regular walking protects cognition in aging women (Weuve et al., 2004). Exercise at only 50% of public health recommended levels produces significant improvement in QoL (Martin et al., 2009); and even low levels of activity that do not meet recommended guidelines can prevent future depression (Mammen & Faulkner, 2013).

Scientific research has also confirmed the importance of reducing and interrupting sedentary behavior (U.S. Department of Health and Human Services, 2018). A recently published summary of research on this topic concluded that frequent, short, interruptions of sedentary behavior provide significant benefits (Buffey, 2022). Standing for a few minutes instead of sitting or reclining improved postprandial glucose levels; however light intensity walking was even more effective and also improved insulin levels. The evidence seems clear: meeting public health guidelines is the ideal for optimal health benefits, but every step and every minute counts. The simplest answer to what is the best physical activity for a person is “whatever they are willing to do” (Salmon, 2020).

There are Many Biological and Psychosocial Mechanisms for Exercise Effects on MH.

Potential physiologic mechanisms that are especially relevant to MH include favorable effects of exercise on inflammation, serotonin metabolism, the hypothalamic-pituitary-adrenal axis, the autonomic nervous system, endogenous endorphins, and neurotropic factors that could augment learning and extinction processes in cognitive-behavioral therapy (Micheli et al., 2018; Crombie et al., 2021). Another theoretical mechanism for exercise in MH is behavioral activation, increasing opportunities for positive interactions with the environment, and positive reinforcement (Zeiss et al., 1979). Some effects take weeks or months, but most people want to feel better quickly. The Ways to Wellness exercise intervention is also informed by research yielding insights into why people “feel better” after a single bout of exercise, such as a brisk walk (Ekkekakis et al., 2011; Wichers et al., 2012; Salmon, 2020). Studies examining the determinants of the increase in positive affect that can last several hours after exercising have identified that self-regulated pace and intensity (rather than prescribed) seem best; pleasant environments

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and cognitive processes during the experience also may be important (Ekkekakis et al., 2011; Barton et al., 2012; Thompson et al., 2011; Legrand & Thatcher, 2011; Petruzzello, 2012). Psychosocial mechanisms that can operate within a single exercise bout, as well as across time, include building self-efficacy and a sense of mastery from meeting a desired goal and persisting despite discomfort, inconvenience, and other challenges (Asmundson et al., 2013).

Pedometers and Exercise Tracking Devices

There are many kinds of personal health devices, including relatively low-tech pedometers and increasingly sophisticated electronic trackers, that connect with computers and smart phones. You may wonder if you should recommend that clients use a pedometer or other exercise.

On the positive side, tracking devices provide interesting and potentially useful feedback to clients. The newer technology and its associated internet connections can also help them connect with friends who are physically active through social media. Recording steps can help clients and you objectively measure activity and determine whether goals are being met. More advanced devices provide additional feedback, for example, flights of stairs climbed (or equivalent from hills and mountain trails), and heart rate. Some can even be used to track location in real time. Many also provide estimates of kilocalories expended through exercise, but, for many reasons, these estimates are very often unreliable.

On the negative side, the automatic programming for commercially available devices is typically designed for very active and healthy young adults. The automated feedback produced by these devices may be set up to push your clients to greater effort than is appropriate for their physical health and/or motivational status. The automated reminders or built in sensors that detect fast versus slow walking, for example, may suggest to them that their slow walking is not enough for health benefit, when in fact it may be just right for them. Unusual gaits or slow steps may not be detected at all. Automated messages through computer and smart phone connections may also prompt clients to make social comparisons that can undermine the sense of mastery and confidence of less able or less motivated clients.

Intervention Components

The information in the next section summarizes the contents of the *Walking for Wellness* intervention materials, with *suggestions* for integrating into individual and group meetings with clients. An initial encounter with a client will require about 30 minutes if you discuss the materials, but only a few minutes if you simply provide the workbook or selected materials with a recommendation to read and consider using them. Follow-up individual encounters can be in person or by telephone and may require only 5 to 15 minutes, but they can be much more detailed if the exercise assignments are being used to help integrate learning from other kinds of therapy. For group meetings, at least 50 minutes will probably allow enough time to discuss the information and allow interaction.

Getting Ready and Starting to Walk for Wellness.

“Benefits of Exercise” Tip Sheet and Worksheet

The first tip sheet, *Benefits of Exercise*, is designed to guide a conversation that helps clients appreciate how regular walking could be helpful to them. Specifying expected effects they value can help clients build motivation to start an exercise program. In an individual meeting, allow at least 5-10 minutes to review the tip sheet and talk about which effects of exercise would be valued most by that client immediately and in the future. Encourage the client to write down at least 2 immediate and 2 long-term benefits; a worksheet is provided: “Walking to Wellness: Benefits for Me.”

We suggest you specifically ask clients to consider what *emotional* benefits they hope to gain from exercise. At least 1 research study found that people who expected emotional benefits reported greater improvements in affect following an exercise session. In a group meeting, allow at least 10-20 minutes to review *Benefits of Exercise*. If there is time, you could ask clients if they have heard of other benefits of exercise not mentioned on the tip sheet. Ask clients to write down what they are thinking and then share with other group members what would be most important for them.

“Before Exercise” Tip Sheet

“Before Exercise” continues with building motivation. Review the points on the tip sheet and explain these might be helpful for clients to review when they don’t feel like keeping the commitment to walk for wellness. After reviewing the suggestions on the tip sheet, you can ask the client or group members if they can think of additional ways to get motivated to exercise when they don’t feel like doing it. Anticipating barriers and planning for solutions are important to all kinds of successful goal achievement.

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“During Exercise” Tip Sheet

In individual meetings, allow at least 5 minutes to discuss the basic guidelines of healthy exercise summarized in “During Exercise.” You will need more time if the client is less familiar with this information or if there are special considerations such as pacing for chronic pain. Be sure to emphasize the safety points.

Especially for clients not familiar with mindfulness practices, *point out the potential emotional value of not using exercise time to try to solve or perseverate about problems.* This could be a very different approach from what many people have learned or practiced and this be *very important to achieving the most emotional benefits from exercise.*

In a group, allow at least 10 to 15 minutes to discuss health exercise guidelines. You might stimulate discussion by asking if anyone has heard the phrase “no pain, no gain” as advice for exercise. This can be an opening to discuss how exercising for personal wellness is different from exercising by athletes for competition and training to meet demands of military and occupational service.

“Initial Action Plan” Worksheet

Encourage clients to visualize and develop a plan with very specific components and to record this plan using the *Initial Action Plan* form provided. In a group, having some members share their plans can stimulate ideas for others and help identify plans that are too vague.

“Personal Log”

As clients get ready to start their *Walking to Wellness*, encourage them to record their activities, successes as well as challenges, during the next week using the “Personal Log” worksheet. If they will be using activity trackers such as pedometers or other technology, information from these devices can also be recorded on the worksheets. Some clients may prefer to use digital logs offered on wellness websites or as part of smartphone apps, and you can decide if this is acceptable for the purposes of your work together.

If time permits before the encounter ends, consider a 10-minute walk with the client to practice the recommendations on the tip sheet during your initial meeting. Using a Personal Log form, note the date and record feeling states before exercise. Do not spend time talking about the reasons for feelings or try to change them. Then walk for least 10 minutes, including a 2-to-3 minute warm up, about 5-6 minutes of brisk walking

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if tolerated by the client, and then a 2-to-3 minute slowing down. You can talk during the walk but do not use the time to discuss difficult issues. Note that current research evidence suggests it will be best to walk at a pace that keeps affect in the positive feeling range. (Remember this is not a fitness training program.) During vigorous exercise, physiological processes typically provide a time out from negative cognitive processes and emotions such as worry, sadness, or anger. During moderate exercise, such as walking, however, it may be necessary to gently but purposefully guide thoughts away from these concerns to get the most emotional benefit from the exercise. Many people who are successful in establishing and maintaining regular exercise choose to focus on environmental points of interest or non-painful body sensations such as breathing, listen to music, or engage in social conversations with a friend or family member.

After the walk, re-assess feeling states. Again, do not try to analyze the feeling states, just observe them and record them, along with some information about the walk. The desired outcome is a more positive feeling state after exercising, but this will not always happen (It is quite possible that there are also biological differences in peoples' affective response to exercise, just as there are differences in the physical responses.) If the feeling state doesn't improve, you can comment this is not unexpected. Keeping a log about exercise experiences can help each individual learn to exercise in ways that more reliably produce a positive change in feelings. If the pre-exercise emotional state is fairly positive, there may be little room for improvement. Completing the first entry of the Personal Log after this walk with the client is a good model for encouraging completion after walking at home during the coming week.

In a group, you may need at least 15-20 minutes to do a brief walk together. You will also need a space that can accommodate the group and to be sure that the members are all physically capable of walking for at least 10 minutes. Ask group members to privately record their feeling states before you start, then model starting at a slower pace, easing into a brisk pace if appropriate for the group members, then slowing down before stopping. Ask group members to re-assess their feeling states. If there is time you may want to ask members to share whether they noticed any changes. This can be a nice opportunity to reinforce any positive changes reported by group members.

Moving and Feeling.

It will be helpful to allow at least one week to pass before beginning the next section. It's important for the client to have experience with the materials and thinking about their walking and post-exercise experiences. Encounters with clients during this time

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several purposes. For individuals, these activities can easily be done by telephone and will typically require less than 10 minutes for most clients. Ask clients to review their “Personal Log” information with you to find out what they tried and their emotional responses to the exercise. As with any new intervention, you will be hoping to elicit reports of at least some success that you can reinforce and use as a platform for building new positive experiences. Research on self-management suggests that people who fail to initiate self-monitoring during the first couple of weeks in an intervention program are much less likely to have successful outcomes. For this reason, be prepared to problem-solve with clients who did not initiate any walking or other physical activity for wellness, or who failed to record any of their reported activity, using clinical strategies you believe would be most effective, considering all aspects of the current situation. Some suggested responses to less than positive responses to early exercise experiences are discussed below.

If you are satisfied clients have at least started to engage in the recommended activities, you are ready to move on to the Moving and Feeling section of *Walking to Wellness*.

“After Exercise” Tip Sheet

So as not to overload clients in the initial encounter, the information in “After Exercise” is recommended for discussion in the second encounter (in person or by telephone). We also believe discussing the “After Exercise” tip sheet at this time could be more meaningful because clients will now have some (recent) experience with walking for wellness. Because of the variability in people’s response to exercise, especially with beginners, be prepared for both positive and negative reports. For clients who noticed increases in positive feeling states after at least some of their exercise, you will be able to reinforce their success and remind them to use the log to document what is working for them. For those who did not perceive any positive responses or disliked the sensations of exercise, and who perceive this as a potential barrier to continuing to walk for exercise, problem-solving can include reviewing all the tips for “Before Exercise” and “During Exercise.”

People can have very different responses to exercise and some don’t enjoy it very much. Starting exercise for wellness can be especially challenging at lower levels of fitness when movement may be awkward and uncomfortable and clients have not yet become accustomed to the natural physiological sensations of warming up, reaching a sustainable level of rhythmic movement, and then cooling down. For clients experiencing pain, a less demanding pace or effort may be needed; remind them to

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follow their healthcare providers' recommendations for pain management. If pain is moderate-severe and continues, you may need to suggest more consultation.

For those who found the walking just another chore to be completed or even unpleasant, it may be helpful to review their valued outcomes of doing the exercise. Discuss with them whether these outcomes make it worthwhile to continue doing the activity even if it is not immediately enjoyable? Also problem-solve for the possibility that clients are using some or all of their exercise time to ruminate on unhappy thoughts or problems they are struggling to solve. You can explain this is like poisoning the well of potential emotional benefits. Point out the tip in "During Exercise" to relax the mind while working the body. Some clients may need to consider stronger distraction or mindfulness strategies. This may be an important difference between exercise for emotional wellness as compared with exercise for improving physical fitness.

In a group meeting, allow at least 20-30 minutes to discuss efforts and experiences that members are willing to share. A second group walk provides another opportunity to model and practice the skills of self-assessment of feelings before the walk, warming up to a moderate effort, maintaining the effort for a few minutes, and then slowing or cooling down before stopping and re-assessing the feeling state. It can be helpful to review markers of moderate effort, including a feeling of a bit of breathlessness, possibly feeling some perspiration, a perception of effort being "moderately hard" and being able to hold a conversation but being unable to sing.

Personal Plan.

After reviewing the events and reactions from the previous week, encourage identification of specific learning experiences as prompted on the "Personal Plan" form, then writing down a new plan for the next week. The sections of this worksheet prompt clients to think about what they want to achieve, reviewing what they have learned and specifying how they plan to achieve their goal. They may record a goal that is an action statement, such as walking for wellness at least 4 days during the week, or they might write down a longer term objective, such as to practice walking for wellness and bringing thoughts back to the moment if starting to think about upsetting things. The action plan section prompts making plans that are specific and achievable. Providing clients with multiple copies of the "Personal Plan" and "Personal Log" worksheets can help facilitate self-monitoring, which is extremely valuable for the success of this and other wellness interventions.

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What's Next.

Follow-up encounters, scheduled at intervals that allow time for implementation of current goals, for may be by telephone or in person. These encounters could be part of individual or group meetings that also include other topics. If Walking to Wellness is being implemented as the primary focus of the encounters, we believe an optimal schedule would allow at least one week between encounters and include at least 3 to 4 encounters.

For clients who have initiated at least some walking for wellness and kept personal logs, there may be enough information to begin assessing patterns of adherence and response to the exercise. The personal logs will provide information for discussion in individual or group meetings. What have they noticed? Client- or patient-centered conversations based on the personal logs can lead to discussions of not only the exercise, but also other events in their lives. Decisions to follow up on the many possible topics beyond the exercise will depend on the purpose of the encounters and the role of the walking promotion in the context of other treatment. You may want to ask clients if they have tried taking a walk specifically for the purpose of improving their mood or as a substitute for less desirable coping behaviors that they want to replace.

Many other resources provide suggestions about motivation for exercise and managing challenges to adherence to exercise intervention goals. The Physical Activities Guidelines for Americans 2nd edition mentioned previously is a great basic resource for facilitators and for clients who are interested. The Guidelines booklet includes a section on other valuable resources, including websites for the U.S. government Centers for Disease Control and Prevention and the National Institute on Aging (good information not just for the elderly!). These have a variety of excellent user-friendly materials including videos displaying exercises.

After 2 or 3 weeks (or encounters), you will be able to assess how well individual or group clients are doing with the *Walking to Wellness* materials. Clients who report they have not been able to initiate any walking or who have recorded only one or two days of activities in their personal logs after two weeks probably need alternative or more intensive strategies for promoting exercise and/or for managing their emotional symptoms. Those who are doing well and ready for more information and willing to try something new may be ready for the “Mindful Walking” module as the next step in *Walking to Wellness*. Caregivers who have completed the basic workbook will be well prepared to utilize the information in the Caregiving Walking Together module.

Mindful Walking to Wellness

Integrate Mindfulness Into Walking Activities.

As may be seen across information in the *Walking to Wellness* materials, walking has clear health benefits. Extensive reviews show that walking programs can be successfully delivered by a range of interventionists in a variety of settings resulting in both mental and physical benefits for people across a range of ages and backgrounds (King et al., 2019).

Mindfulness is an approach that is widely practiced and taught in a variety of settings with different types of adaptations and practices, including sitting mindfulness meditation, breathing techniques, body scan techniques and mindful movements (Kabat-Zinn, 2013; Salmon, 2020). A meta-analysis of many studies of mindfulness meditation interventions that evaluated psychological outcomes in nonclinical samples found that the strongest effects for Mindfulness Based Stress Reduction were for reduced experience of stress, reduction in negative emotions and anxiety, and greater well-being (Eberth & Sedlmeier, 2012). Another meta-analysis across studies found that meditation interventions mediated physiological markers of the stress response, including cardiovascular and hormonal reactivity, in a wide range of mindfulness practitioners (Pascoe et al., 2017).

The basic approach of mindfulness is to learn to transition from rushing through the day without noticing what is occurring in the moment or moving from worrying and focusing on thoughts related to things that occurred in the past or might occur in the future, to a nonjudgmental focus on awareness of one's thoughts and sensations in the present. Some approaches to mindfulness view this approach in terms of considering this as moving between the "Thinking Mind" and the "Observing Mind" (Rogers & Maytan, 2019).

For example, a Thinking mind might constantly be thinking ahead and planning or worrying about what has or what might happen and focusing on evaluating and judging events rather than slowing down to observe and enjoy what is going on at present. An Observing mind might be non-evaluative and judgmental – aware of thoughts or feelings that occur and then transitioning the focus to observe these thoughts and sensations, such as those with the breath or movements or other sensations, while keeping a distance from concerns about them (Rogers & Maytan, 2019).

Noticing and increasing awareness of senses, thoughts and feelings and behaviors at the present time, without judgement, with practice, can enhance one's sense of well-being and possibly improve navigation of these events and their relationships with others over

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time. Through these actions, mindfulness can improve wellness.

Mindful Walking Combines the Benefits of Both Walking and Mindfulness Approaches to Wellness.

Mindful walking is an approach to using movement to promote mindfulness in general and to enhance a client's focus on and awareness of their body and the sensations during movement and relationship to their surroundings to bring attention to the present, rather than focusing on thoughts and worries about the past or future or spacing out without attending to what is going on at the present time. When mindfulness approaches are combined with walking movements, the benefits of both walking and mindfulness can be obtained. Mindful walking is widely used in structured meditation programs available to the public, for example in Mindfulness-based Stress Reduction (Kabat-Zinn, 2013) and with young-adult programs such as Koru Mindfulness (Rogers & Maytan, 2019).

Mindful Walking Aims To Increase Attention on the Body and Movement and the Environment.

Mindful walking is an approach to activity that aims to increase attentional focus on the body and the sensations of the movement and may also consider your experience of your environment. In mindful walking, the movement is deliberate, with awareness of the body and the sensations experienced while walking. The goal is not moving to get to a particular destination, rather, the mindful walking session is a journey in which the act of walking itself is noticed and observed so that full awareness is brought to the activity of walking, rather than on other distractions and Thinking Mind events such as planning, ruminating, or worrying.

Many people have the experience of viewing walking as a time to work through problems, or they may also consider walking only as a means of getting where they need to be, as quickly as possible. Instead, the experience of mindful walking is meant to be slow and intentionally focused on the activity itself. Mindful walking may be done outside, imbedded in nature settings such as the woods or indoors.

Mindful walking may be a slower-paced movement than traditional walking, allowing observation and savoring of the components of walking and sensations associated with this movement. This might mean deliberately focusing on the heel of the foot striking the ground followed by the roll of the foot downward to the ball and then toe or an intentional focus on the breath, or aspects of walking such as noticing the crunch of

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leaves underfoot as their shoe comes in contact with the ground.

Encouraging Mindful Walking.

When encouraging mindful walking, keep in mind some basic information about walking for wellness, as noted in other *Walking to Wellness* materials, to encourage clients to begin learning and practicing mindful walking – even in brief sessions. For example, although the amount of walking may be very limited in a mindful walking session, research consistently shows that “every minute counts.” Many studies have demonstrated that the greatest health benefits for exercise are observed when comparing no exercise to at least some activity (Physical Activity and Health Advisory Committee, 2018) and that even brief physical activity sessions can improve mood (Hansen et al., 2001) and physical health (Buffey, 2022).

It Can Be Done in Various Locations.

Walking in Nature. The concept of Forest Bathing (Shinrin-Yoku) was introduced by the Japanese Forestry Agency in 1982, as an approach to helping promote relaxation and stress reduction in people living in cities and urban areas (Timko Olson et al., 2020). In this method, participants practiced walking slowly and mindfully in the forest and focusing on their sensations in the present moment. Scientific studies of walking and relaxing in forest settings over several decades show cardiovascular, metabolic, and other stress-response-related physical health benefits as well as enhanced emotional well-being. Proponents of activity in nature settings have hypothesized that exposure to nature may have a buffering effect on the stress response and promote well-being (Timko Olson et al., 2020). A recent review examining the potential relationships between mindfulness and response to activity in nature (Timko Olson et al., 2020) revealed that some studies have found that mindfulness influenced the relationships between exposure to nature and psychological well-being highlighting the potential benefits of combining mindfulness with walking in nature.

Walking in Urban Settings or Indoors. Mindful walking interventions have been successfully delivered in widely disseminated programs such as Mindfulness-Based Stress Reduction (Kabat-Zinn, 2013) and Koru Mindfulness (Rogers & Maytan, 2019), with good skill acquisition and positive outcomes with home-based practice. Studies comparing mindful walking in nature with mindful walking in the built environment outdoors and in indoor settings have also shown physical and psychological benefits (Timko Olson et al., 2020), and individual studies with clinical populations show good

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adherence to mindful walking practice in indoor settings, as noted in the studies described below.

Many Benefits of Mindful Walking Are Known.

Research Shows Benefits of Physical and Mental Well-Being of Mindful Walking for a Range of People in a Range of Settings.

Controlled studies examining the effects of mindfulness walking programs are relatively new, but the evidence base is now expanding. Studies have been conducted with healthy community and patient populations and with age groups ranging from young to older adults. Studies show that programs teaching mindfulness walking skills are both feasible and effective and are beginning to show some challenges for some participants attempting to learn and stick with mindful walking. Mindful walking intervention studies have shown group effects for reduced perceived stress, improved quality of life, reinforcement of previously learned mindfulness skills, increased positive emotions, and decreased negative emotions. Mindful walking has also shown benefits in specific groups of people. A summary of some examples of groups of people that have benefited from mindful walking is below and the specific studies are further described in the next section of this Facilitator Guide.

A Range of People Benefit From Participation in Mindful Walking.

Studies of mindful walking have shown benefits for young adults as well as midlife and older adults living with health conditions. For example, a mindful walking program with college students who reported sleep difficulties during the Covid-19 pandemic resulted in improvements in sleep quality and mood, with no differences between doing the mindful walking in nature or urban settings (Ma et al., 2022). A small study of older adults with type 2 diabetes found that participating in both traditional and mindful walking programs resulted in improved glucose and vascular function and that mindful walking led to greater reductions in blood pressure and blood glucose control over time (Gainey et al., 2016). Mindful walking has also been shown to result in improved gait in persons with prehypertension attempting to improve activity and feasible in patients with knee osteoarthritis (Kumar, 2017; Kumar et al., 2022). A well-controlled study found that mindful walking was comparable to balance training in adherence and balance-related outcomes in older adults with a history of falls (Phoobangkerdphol et al., 2022). These studies suggest that the focused attention and slower pace can offer benefits for a wide variety of people and may have benefits for some people with physical limitations.

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It is important to note that not all studies have shown clear health-related improvements following mindful walking intervention programs. A recent study with patients with low back pain comparing mindful walking with a no-intervention control condition (Rotter et al., 2022) found that participants were able to participate in mindful walking; however, the intervention did not result in any significant improvements in pain, function, or perceived stress relative to the control condition. This highlights the need for continued research about potential benefits and challenges of mindful walking with back pain.

Mindful Walking Intervention Programs Impact Mental and Physical Well-Being.

A qualitative study of a randomized community-based mindful walking intervention program assessed 38 participant's (average age was 49.3) reactions to and experiences with a 4-week mindful walking intervention and evaluated use of a Fitbit tracking device in conjunction with mindful walking in 17 participants and a control condition of use of a Fitbit device only in 21 participants (Jones et al., 2021). Participants reported value in the use of mindful walking to increase their activity and the majority provided positive feedback regarding both the mindfulness intervention and use of the fitbit. Qualitative feedback included reports that mindfulness walking helped them to focus on the present, helped coping with stressful emotions, feel more relaxed with less pressure and was an overall positive experience. Two participants in the mindful walking condition reported difficulty engaging with the mindfulness component with one indicating that they stopped trying after two weeks and the other reporting that it took them until the last class to fully engage and try the approach. A third participant reported previously being unable to attempt still meditations during previous attempts at mindfulness activities but was successful at mindful walking.

A randomized study evaluated the impact of mindful walking on distress in 74 adults ranging in age from 18 to 65 years who reported moderate to high levels of perceived stress and were not engaged in walking or mindfulness activities (Teut et al., 2013). Participants were randomly assigned to a waiting list or mindful walking consisting of 8 sessions over 4 weeks consisting of walking and mindful walking periods. Participants in the walking condition had significantly reduced distress scores and improved reported QoL compared to the control group after the walking period.

A small study in the Netherlands explored using mindful walking in nature as an approach for maintaining skills in mindfulness and improving psychological functioning in individuals who had previously participated in mindfulness stress reduction or

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mindfulness cognitive therapy courses (Gotink et al., 2016). Participants engaged in mindful walking on a riverbank in walking retreats for periods over a single or multiple days and researchers compared their respective retreat periods with a control condition phase of doing something else for a week before the mindful walking condition. Average age of the mindful walking retreat groups was 55.1, 52.5 and 57.9 years. Participants carried smartphones that randomly presented items asking about experiencing mindfulness, positive emotions, and negative emotions at multiple random times throughout the day during the mindful walking and control time periods. Participants also completed surveys about their stress, anxiety, depressive symptoms and dwelling on thoughts (rumination) and mindfulness skills. The study suggests that the walking activity, mindfulness, and emotions interacted, as walking improved both mindfulness and positive emotion and that mindfulness and positive emotion enhanced one another, while less negative emotion was observed with increases in mindfulness.

A study of college students in the United Kingdom who were on lockdown during the COVID-19 pandemic examined mindful walking in nature as a means of influencing sleep quality and mood during the pandemic (Ma, 2022). Participants were 104 students (90% female) reporting sleep difficulties. Participants were randomly assigned to conditions promoting 35 minutes of daily walking in nature or in a control condition of walking in an urban setting. Self-reported outcome measures indicated that both study walking groups had increases in trait mindfulness, as well as improved ratings of mood and sleep quality. No additional sleep or mood benefits were observed in the nature condition relative to the urban walking condition.

A small, randomized study of 23 adults with type 2 diabetes compared a 12-week long exercise program consisting of a Buddhist walking meditation with 12 participants to traditional walking with 11 participants on their blood glucose control and vascular functioning (Gainey et al., 2016). Participants ranged in age from 50-75 years. Both groups were monitored walking on a treadmill for 30 minutes 3 times per week. The Buddhist walking meditation entailed focusing on the voice sounds “Budd” and “Dha” and foot movements during the walking activity. Both walking conditions resulted in improved oxygen uptake and fasting blood glucose levels and blood flow-mediated dilation. Only the mindful walking group participants showed improvements in systolic and diastolic blood pressure and HbA1-c, blood cortisol level and arterial stiffness measures.

A study focused on encouraging people with prehypertension to increase their activity, examined the impact of using mindfulness practices to improve running form. These

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investigators found that by increasing body awareness, engaging the core, reducing stride length, and relaxing the upper body after 3 months, participants had improved biomechanics with less loading on their knees and reduced pressure on their joints. A study by this investigative team with a sample of mindful walking instructors over age 40 showed that a slowed and purposeful mindful walking technique could be evaluated using detailed measures of gait and biomechanics and knee loading. The mindful walking was compared to regular walking conditions and exhibited lower peak adduction and flexion movements, had reduced time of foot contact with the ground and reduced flexion range of motion than regular walking. The researchers inferred that these changes in stance time, step length and cadence were consistent with the mindfulness walking technique approach and lead to reduced knee loading (Kumar, 2017).

A series of feasibility studies by this same research team integrated Tai-Chi inspired approaches to movement into a rehabilitation program with adults with knee osteoarthritis attempting to increase their walking while avoiding further damage to their joints (Kumar et al., 2022). Study procedures used detailed sensor evaluations of movement biomechanics following participation in a mindful walking program or a self-management control group that was matched for attention, with walking in the lab setting for the first 6 months and walking at home for the second 6 months. The mindfulness walking program was feasible to deliver and the participants viewed it as helpful and enjoyable, however due to the COVID-19 pandemic, the sample size for the follow up outcome measures was very small. Researchers learned that 12 months later, mindful walking participants who were contacted had continued to practice mindful walking 1 to 2 days per week (Kumar et al., 2022).

A recent small, randomized study compared walking meditation with balance training to assess their relative benefits for improving balance in older adults with a history of falling (Phoobangkerdphol et al., 2022). In this study, walking meditation or modified meditation while standing and moving versus a structured balance training program, each for 20 to 30 minutes 5 to 7 days per week for 24 weeks were examined. Participants ranged in age from 60 – 85 and they participated in dynamic and static balance assessments at baseline and 6 and 9 months. Findings indicated that both conditions had good levels of adherence without serious adverse events and that the walking meditation was comparable to balance training with no significant group differences in the balance outcome measures. The researchers concluded that walking meditation could be considered an alternative approach to improving balance abilities in older adults.

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A recent German study evaluated the impact of mindful walking on pain ratings and perceived stress levels in adults living with chronic low back pain (Rotter et al., 2022). Participants were 55 adults aged 18-65 with chronic pain who attended an outpatient integrative medicine clinic. Participants were randomized to either to 8 weekly mindful walking program sessions or a no-intervention control condition and their pain intensity was rated using a visual analog scale along with a validated pain function scale and the Perceived Stress Scale. Participants were adherent to mindful walking session attendance, but home-based mindful walking between sessions was not assessed. Following the 8-week program, adverse events were observed. However, there were no significant differences between the mindful walking program and no-intervention control groups in back pain, back function, or perceived stress.

More studies need to evaluate the specific components of mindful walking that impact improvements in mental well-being and for which populations mindful walking is most beneficial.

You Can Use These Recommendations for Teaching Mindful Walking.

Mindful walking instruction in Mindfulness Based Stress Reduction programs (Kabat-Zinn, 2013) and guidance for mindfulness meditation instructors, such as for Koru Mindfulness (Rogers & Maytan, 2019) and Berkeley's Sciences for the Greater Good in Education Program (Greater Good in Education, n.d.) recommend demonstrating mindful walking and describing the mindfulness attentional focus approach. You may access instructional resources from the citations for these programs.

Using this educational approach, you might begin by modeling a calm and relaxed manner; slowing down movements; and taking slow, deep inhales and exhales; and inviting clients to slow their movements as well and notice their movements and breath. You may describe the purpose of mindful attention on the present moment and the benefits of nonjudgmental attention.

It may be helpful to describe the slow and deliberate approach to mindful movement, including walking mindfully. You may demonstrate slow and deliberate walking and comment on aspects of walking that may be noticed and focused on such as awareness of the sequence of movements of legs and feet such as the foot being lifted off the ground and forward, the heel touching the ground, the footstep rolling forward from heel to ball to toes and the movement continuing with the other leg, noticing the shift from side to side. You might encourage awareness of the muscles in the feet and legs and the movement and sensations in other parts of the body, such as arms swinging

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back and forth.

The point of this practice and description is to assist the client in learning to focus the attention on aspects of walking and related movement and sensations that might typically not be a part of awareness. To further gain skills in focusing on the present experience of walking, the focus might also be on aspects of the environment that impact the senses, such as hearing the crunch of leaves or sensing carpet under their feet, smelling flowers or grasses, and/or feeling the breeze or sun on their face.

A helpful part of mindful walking instruction is to remind clients that it is typical for people to have a wandering mind during walking and that they may find themselves thinking about past events, planning, or engaging in negative thinking. Remind the client that this is a common experience and normalize that experience and that the mindful walking approach is to simply notice that the mind is wandering, without judgment, and return to focusing on the sensations of walking and / or the breath or other movement-related sensations and external surroundings.

If a client reports tending to focus on physical discomfort, encourage focusing on other aspects of walking such as noticing the movement of different muscles or more external sensations such as the sounds of the feet touching the ground; differences in sounds or sensations when walking on pavement; grass or dried leaves; and/or observing leaves on trees around them, clouds in the sky, etc.

Encouraging clients to share what they notice in their attempts to practice mindful walking and acknowledging that it may take time to get used to slowing down the pace of the movements and bring a wandering mind back to the movements may be particularly useful. The personal logs in the *Walking to Wellness* basic workbook can be used for this purpose. Some clients may be interested in looking at mindfulness apps that include mindful walking that are available for smartphones.

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Walking Together Can Be Helpful For Caregivers and Persons With Dementia or Cognitive Impairment.

The information provided here summarizes additional scientific background and references that may assist you in providing accurate educational information in using *Walking to Wellness* with caregivers of persons who have cognitive impairments or dementia.

The Physical Activity Guidelines for Americans (Physical Activity and Health Advisory Committee, 2018) describes the many ways that regular exercise can help sustain and improve peoples' mental and physical health. In ideal situations, caregivers can be encouraged to take a break and exercise on their own several days a week so they can choose an activity and intensity of exercise that they enjoy to achieve these benefits. To do this, they must be able to have someone else take over the caregiving while they engage in exercise.

However, taking exercise breaks is most likely not possible every day, and not at all for some caregivers. In this second edition to *Walking to Wellness*, we added a new module designed to encourage caregivers who would like to try to be physically active by walking with a person who has dementia or cognitive impairment. This module is about walking for physical and emotional health, but at the same time, it is about walking in a way that can support the daily relationship of the caregiver and care recipient.

In designing this module, we considered that gaining understanding of some changes in cognitive and physical abilities that often accompany cognitive impairment and learning about research findings related to walking and dementia could help caregivers develop realistic expectations, overcome some barriers, and manage challenges that might otherwise prevent them from engaging in healthy and enjoyable activity with their care recipient. Please note that other resources can provide more detailed information about the changes in thinking, remembering, problem solving and behaving that create challenges for both the person with impairment and the caregiver, and that no 2 caregiver-care recipient dyads are alike in their abilities and limitations. Guidance for caregiving should not be limited to the materials in this module. Other resources, including videos for exercise with persons who have dementia are available on internet websites. You should review these types of resources carefully to ensure they are appropriate and evidence based before recommending them to clients.

Caregivers who have already read and worked through the explanations and Tip Sheets of the other *Walking to Wellness* modules will have been introduced to the many

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benefits of walking. They may find the practices described in those materials provide additional benefits, but doing other modules first is not a requirement for understanding and practicing the suggestions in this module.

Potential Benefits of Walking Together

Most caregivers will already know that regular walking is good for physical and MH in people who do not have cognitive impairments. The Physical Activity Guidelines for Americans (Physical Activity and Health Advisory Committee, 2018) is a rich source of information that summarizes these benefits and the scientific evidence that supports them. (The materials in other components of *Walking to Wellness* summarize some of this information with particular attention to MH.) In general, regular activity, including walking, helps people live longer and healthier lives, with less risk of or improved management of heart disease, stroke, diabetes, high blood pressure and osteoporosis, and reducing the risk of falls that can cause debilitating injuries. Exercise also makes people stronger and increases endurance so that it takes less effort to perform both activities of daily living and other kinds of activities. People who exercise regularly are less likely to become depressed and anxious, and some evidence suggests that the exercise helps to maintain brain health. Benefits (and risks) of walking for caregivers and care recipients will depend a lot on their own physical and MH status. **You should always determine whether a qualified health care provider (such as the primary care provider) has recommended any limitations for safe exercise when promoting increased physical activity for caregivers and care recipients.**

Most health education information about exercise emphasizes the general public health goal of achieving about 150 minutes per week of moderate intensity exercise. This goal may not be feasible for caregivers. When encouraging walking together for caregivers and care recipients, you can help them feel okay about setting much more modest goals. Although the amount of walking that is possible may be very limited for some dyads, you can encourage them to do what *is* possible. Research consistently shows that “every minute counts” and “every step counts”. A recent study of aging men and women showed that those who took more steps per day, measured with an accelerometer, were less likely to be diagnosed with or die of cancer or cardiovascular disease during a 7-year follow-up period (Del Pozo Cruz et al., 2022). Furthermore, the associations of more steps associated with a lower risk of cancer or cardiovascular disease was apparent *even at the lowest level of steps, with no minimum for the effect to be observed*, and increased up to at least 10,000 steps per day (which was reached by only a small percent

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of the study sample). This is consistent with many other studies that have demonstrated that the greatest health benefits for exercise are often observed when comparing people who get almost no exercise to those who do at least some activity (Physical Activity and Health Advisory Committee, 2018), and that even brief exercise can improve mood (Hansen et al., 2001) and physical health (Buffey, 2022).

Persons with dementia or cognitive impairment may be physically quite healthy, such that the caregiver's concerns and desire for improvement focus primarily on the impaired cognition and its impact on their daily lives. To avoid disappointment and frustration, it is important for caregivers and those who support them to be realistic about potential cognitive benefits that can be expected from aerobic exercise like walking. Results from some studies on effects of physical exercise have suggested that exercise can improve cognitive functioning or daily life functioning in persons with dementia (Jia et al., 2019), but results from other studies have been disappointing and failed to demonstrate differences at follow-up between participants with dementia who were randomized to exercise versus a control condition (Forbes et al., 2015; Lamb et al., 2018; Toots et al., 2017).

Although scores on research measures of cognitive performance may not improve, interview studies show that both caregivers and care recipients often perceive benefits from exercise in function and QoL (Sampaio et al., 2021; Odzakovic et al., 2020). Caregivers and care recipients say they feel better and especially enjoy getting outdoors. Regarding health benefits, exercise is one of the few interventions that can improve sleep in persons with cognitive impairment and dementia (Blackman et al., 2021; Memon et al., 2020). This is important because disturbed sleep in the person who is impaired can be exhausting for caregivers.

One common adverse effects of too little physical activity for many older people is constipation, which can seriously impact QoL. Increased activity (as well as diet and hydration changes if appropriate) is a first line recommendation of gastroenterologists (Deb et al., 2020; De Giorgio et al., 2015) and may benefit both care provider and care recipient.

Walking speed and ability to maneuver around obstacles often decline along with cognitive function; therefore, be cautious about predicting physical function changes as a result of regular walking (Knapstad et al., 2019; Pieruccini-Faria et al., 2019). Nevertheless, some studies have found that exercise can improve physical strength, mobility, and endurance for persons with dementia--changes that could translate to reduced risk of falls (Lam et al., 2018; Del Din et al., 2020).

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As noted above, if you want to encourage caregivers to use exercise as a means of reducing their own stress, you should recognize that, at the time this module was prepared, there was as yet little research on this topic to guide them. One recent study found significant improvements in depression symptoms and perceived caregiving burden in a program where attendance was good and participants exercised at the higher end of objectively monitored moderate intensity (Hives et al., 2021). The authors of this study suggested that the more intense exercise they used (to achieve the primary biological goals of the study) may be necessary for the level of benefit observed. However, other research suggests that psychological benefits may in part depend on the person's ability to self-select an intensity that is not too hard, and also how they regulate emotions during and after the exercise experience (Ekkekakis et al., 2011; Salmon, 2020).

Avoiding long periods of sedentary behavior is another reason for the importance of caregivers' finding ways to be physically active even for brief duration and at low intensities. Public health experts are encouraging everyone to avoid sitting for prolonged periods of time and to "get up and move" (Physical Activity and Health Advisory Committee, 2018). A very recent summary of several research studies concluded that interrupting long periods of sitting after meals by standing helped improve glucose levels, but brief periods of light intensity walking around were even better (Buffey, 2022).

More research studies are needed to understand the benefits that can be achieved when caregivers and care recipients walk together as part of a daily routine. Caregivers who practice a mindful and positive approach as recommended in the *Walking to Wellness* Tip Sheets may enjoy additional benefits.

One particularly useful resource that can help you support caregivers in achieving successful interactions while walking and living with care recipients with dementia and cognitive impairments is Susan McCurry and Claudia Drossel's *Treating Dementia in Context* (McCurry & Drossel, 2011). This book explains the cognitive changes common in persons with dementia and how caregivers and health professional can problem-solve behavioral challenges. It encourages caregivers to interact with the care recipient in ways that maintain respect and a positive connection and gives examples of how to accomplish this. The algorithm POLITE described in this book (McCurry & Drossel, 2011) is a helpful way of summarizing how to do this. On page 26, we present the algorithm with examples for *Caregiver Walking to Wellness*.

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LETTER	SOLUTION	EXAMPLE
P	Patience	Slow down the pace. Allow enough time for the care recipient to respond to prompts to get ready. Expect to walk at a slower pace.
O	Organization	The care provider will most likely have to plan when and where to walk and help the care recipient get ready. Provide plenty of visual and verbal reminders to help the care recipient know “what to do next”. Avoid situations where they have to sit and have nothing to do.
L	Laughter	Smile and laugh often with care recipients; they will often match your mood and this will make the time happier even if verbal communication is limited.
I	Individualization	What works for 1 person or on 1 day may not work for another.
T	Tone of Voice	Convey respect and warmth. Explore together what will work. Don’t act like you always know what’s best.
E	Eye Contact	Frequent eye contact and nodding your head can help engage the person even if they are not able to talk to you.

And always remember, “Little things can make a big difference”.

In closing, we acknowledge that walking together will not be easy for many caregivers and care recipients. Caregivers should be encouraged to experiment with different approaches, from very brief activity breaks several times a day to extended walking for 30 minutes or more when this is feasible for both partners. Just walking outdoors into the sunlight for a few moments and taking a few steps can reset a stressful day. Regardless of what the caregiver can do and wants to try, finding social support is critical. Families, neighbors, and community organizations may be able to help.

Researchers have reported that it is feasible to establish exercise groups for persons with dementia who are living at home (Taraldsen et al., 2020). In this kind of group, “building relationships” was a predominant theme in the perceptions of those involved in the group. Caregivers should explore and fully use all sources of support they can find.

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