

# SIS Quarterly Practice Connections

A Supplement to *OT Practice*®

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## Health Management

The coronavirus pandemic has cast a spotlight on the value of health management in maintaining health and well-being. In the recently revised *Occupational Therapy Practice Framework: Domain and Process* (4th ed.; American Occupational Therapy Association, 2020), *health management* is added as a general occupation category focused on developing, managing, and maintaining routines that promote meaningful and productive participation. Attention to one's physical health, nutrition, and activity, as well as emotional and social wellness, has become increasingly valued by society and is paramount in our efforts to support healthy outcomes for our clients. In this issue of the *SIS Quarterly Practice Connections*, we examine the ways in which occupational therapy practitioners promote healthy habits and routines with our clients.

The Special Interest Section committee members invite you to share your comments and practice experiences at [sis@aota.org](mailto:sis@aota.org) or join the discussion on CommunOT™ at <https://CommunOT.aota.org>. We are interested to learn about the innovative ways in which you are promoting the occupation of health management in your practice and research.

**Patricia Laverdure, OTD, OTR/L, BCP, FAOTA**  
Special Interest Sections Council Chairperson

American Occupational Therapy Association. (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, 74(Suppl. 2), 7412410010. <https://doi.org/10.5014/ajot.2020.74S2001>

## Special Interest Section Guide

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| <b>CY</b> Children & Youth           | <b>RD</b> Rehabilitation & Disability       |
| <b>DD</b> Developmental Disabilities | <b>SIP</b> Sensory Integration & Processing |
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## Mission Statement

The *SIS Quarterly Practice Connections* focuses on the role and application of research and other evidence to occupation-centered practice in areas of interest to members. It reflects the applicability and value of collaboration across specialty areas and settings.

## Share Your Evidence Stories!

How are you using evidence to inform your practice? AOTA wants to know! Email [ebp@aota.org](mailto:ebp@aota.org) to share your stories.

## AJOT Call for Papers: Health Services Research and OT

This special issue of the *American Journal of Occupational Therapy (AJOT)* will highlight health services relevant to occupational therapy practice. This issue especially seeks findings from empirical studies, systematic reviews, or meta-analysis that can be used to inform occupational therapy practice or policymaking issues. Deadline for submissions is January 31, 2021. Early submission is strongly encouraged. Learn more at <https://bit.ly/3hIRfwU>.

## COVID-19 & OT: An Online CE Series

AOTA is hosting a series of webinars to equip occupational therapy practitioners, educators, and students to navigate through the evolving COVID-19 pandemic. Earn Continuing Education (CE) hours while staying informed. AOTA has lifted member-only access to these webinars. Visit [www.aota.org/Conference-Events/Coronavirus-COVID19.aspx](http://www.aota.org/Conference-Events/Coronavirus-COVID19.aspx) to learn more.

# → Children & Youth

## Documenting Occupational Therapy Intervention With Ayres' Sensory Integration

SIP

Michaelann Gabriele, OTD, OTR/L

Unique sensory processing patterns and challenges with sensory integration affect the daily occupations of a vast number of people, many of whom seek sensory integration treatment from occupational therapists (OTs). Treatment with Ayres' Sensory Integration® (ASI) must follow the fidelity measures as defined by Parham and colleagues (2011) and should be implemented by individuals with advanced training and education. Although professionals from other disciplines may use the language or basic tenets of ASI, OTs are uniquely qualified to use ASI in treatment to address the participation restrictions that result from challenges in sensory processing and integration.

OTs who use ASI work under medical and educational theories and models that address sensory integration challenges regardless of funding source; however, practitioners must document these practices within the unique guidelines of the fee-for-service or third-party private and public funders. Furthermore, to protect the integrity of ASI methods and ensure compensation for the skilled use of ASI, treatment must be documented with extra attention to language and measurement of outcomes.

## Best Practice

Best practice includes using evidence-based practices, from evaluation through outcomes measurement. Some funding sources, like many health insurance companies, specifically require that treatment methods have sufficient evidence to support their use. Similar language encourages, if not requires, evidence-based practice in educational practice documents (e.g., California Department of Education, 2012).

Although ASI is used with a range of diagnoses, most of the research has been done with children with autism spectrum disorder (ASD). A systematic review by Schaaf and colleagues (2018) found that for children with ASD, ASI has strong positive effects on participation and moderate effects on reducing assistance to complete ADLs. Although more research is needed, multiple published works support a therapist's decision to use ASI (i.e., Iwanaga et al., 2014; Pfeiffer et al., 2011; Schaaf et al., 2014, 2018). Additionally, a report on effective interventions for children and youth with autism included sensory integration as an evidence-based practice (Steinbrenner et al., 2020). OTs can confidently practice and document ASI interventions in cases where they have appropriately confirmed the condition, and considered current research and the unique needs of the client. In the event that a case is audited, these research articles, in conjunction with the therapist's documentation, can be cited to support the use of ASI.

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### Learn more about the *OT Practice Framework*

This course focuses on applying and articulating occupational therapy's unique domain as described in the 4th edition of the *Occupational Therapy Practice Framework: Domain and Process (OTPF-4)*, published in 2020. Information in the course is relevant in all practice settings and assists practitioners in articulating the valued and distinct contributions of occupational therapy. Information provided in the course is useful for practitioners, educators, students, fieldwork supervisors, and researchers in appreciating the diversity and unifying aspects of occupational therapy in individual, group, and population settings.

This course highlights content new to the *OTPF-4*, including the addition of health management as an area of occupation.

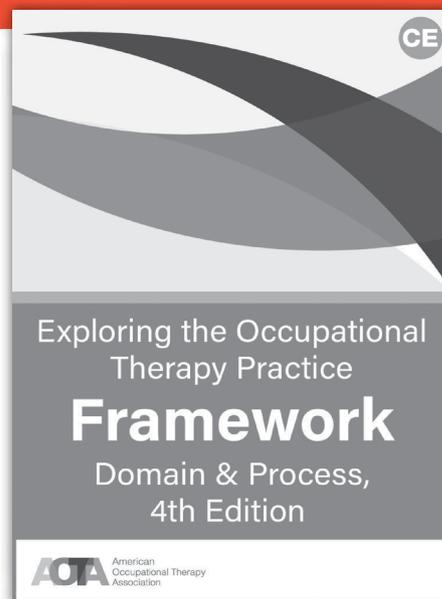
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## Welcome From the SIPSIS Chairperson

**Aimee Piller, PhD, OTR/L, BCP**

I am excited to serve the members of the Sensory Integration and Processing (SIPSIS) Special Interest Section as the new Chairperson. The new committee members are well-qualified individuals who will work to enhance practice in the area of sensory integration and processing. I am pleased to introduce our new committee members who will serve you over the next 3 years:

- ▶ Advocacy and Policy Coordinator: Lisa Johnson, OTD, MHS, OTRL, University of Findlay
- ▶ Communications Coordinator: Lauris Jones, COTA/L, CPAM, My Heroes Therapy
- ▶ Leadership and Management Coordinator: Lauren Andelin, OTD, OTR/L, Virginia Commonwealth University
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- ▶ Quarterly Editor: Jennifer Hight, MS, OTD, OTR/L, Eastern Kentucky University

- ▶ Research Coordinator: Elizabeth Kocher, MOT, OTR/L, Lorain County ESC
- ▶ Technology Coordinator: Jayna Niblock, PhD, OTD, OTR/L, BCP, Blank Pediatric Hospital
- ▶ Young Professionals Coordinator: Krysti Teng, MS, OTR/L, Center for Developing Kids

We hope to spend the next 3 years increasing professional engagement through networking and professional dialogue with all our members. We will work together in an effort to share knowledge and experiences to support member engagement and needs. Please join us and connect with us through SIPSIS community on CommunOT™ (<https://www.aota.org/SIPSIS-forum>).

If there is anything we can do to better serve you, the member, and meet your needs, please contact me at [aimee.piller@pillerchild-development.com](mailto:aimee.piller@pillerchild-development.com).

## Effective Documentation

Given that many children with documented difficulties processing or integrating sensory information could benefit from occupational therapy intervention with an ASI approach, and current research exists to support it, justifying this treatment in documentation should be straightforward. Unfortunately, some practitioners still encounter difficulty documenting and billing for these services. To be reimbursed, occupational therapy documentation must demonstrate skilled services by the provider and progress by the client.

Effective documentation should clearly and concisely describe what intervention the therapist provided and how the child responded—both pieces are critical for justifying intervention and compensation. Funders and auditors review session notes to understand what specialized methods the therapist used, and whether the client positively responded to the intervention. Therefore, for interventions using an ASI approach, the session notes should indicate what sensory experiences were provided to the client, the adaptive responses elicited, and the effect on functional skills and participation.

## Language

Obstacle courses, swings, climbing apparatuses, and tactile media are a few of the terms that commonly appear in session notes of an ASI intervention. Although these terms cue OTs to actual events of the session, they do not indicate methodology or clinical reasoning to an untrained reviewer. Session notes are most commonly reviewed by insurance auditors (typically health professionals, but not necessarily OTs) as well as lawyers without any health care background, so details about the skilled interventions and the client response must be specific and direct. Session notes can sometimes read like descriptions of play, but by returning to the language first defined by A. Jean Ayres (1979) and subsequently refined and expanded in research, OTs can communicate their specialized knowledge and role in documentation notes.

Documentation of ASI intervention should always reference (1) the specific sensory system(s) targeted; (2) the adaptive response(s) elicited; (3) an objective measurement of outcomes; and (4) the relationship of these outcomes to the client's functional goals. An ASI treatment note will include a combination of the sensory system terms (e.g., proprioceptive, vestibular, tactile input), descriptors of the quality and quantity of these inputs, and highly specified terms—registration, modulation, integration, and praxis, for example. Using this specific language links the therapist's work to a theoretical framework, indicating a clinical reasoning path rather than simply describing play. ASI terminology also cues the OT to the child's point in treatment, allowing future sessions to continue more efficiently (e.g., building on previously motivating play schemes or activities), but the emphasis of the note should be on the types of and response to sensory experiences provided.

## Measurement

The goal of ASI treatment is to use sensory experiences to elicit an adaptive response. In documentation, the adaptive response should be measured objectively whenever possible to demonstrate a client's progress and to link session activities to the client's goals. Using published assessments with strong reliability and validity to measure

## About the Sensory Integration & Processing SIS

The Sensory Integration & Processing Special Interest Section (SIPSIS) focuses on the research and development of sensory integration theory, assessment, and intervention as applied in occupational therapy practice. Sensory integration is used to enrich the occupational performance and participation of individuals with a variety of disabilities across the lifespan by focusing on the neurobiological, sensory, and praxis foundations of occupation.

- ▶ Meet the SIPSIS committee members at [www.aota.org/SIPSIS](http://www.aota.org/SIPSIS).
- ▶ Join the CommunOT™ discussion at [www.aota.org/SIPSIS-forum](http://www.aota.org/SIPSIS-forum).

outcomes supports the therapist's observations, and connecting the response to treatment and the occupational therapy goal(s) illustrates that the intervention is directly related to the child's plan of care.

As a session progresses, OTs must note, as objectively as possible, the sensory experiences provided and the child's adaptive response. For tactile stimuli, the therapist may manipulate the length of exposure time to the stimulus or the point of contact (e.g., one finger, one hand, head, face). The qualitative characteristics should be described as well (e.g., tactile media may be soft/hard, dry/wet). Hearing, taste, and smell can be measured in similar ways. Proprioceptive input can be challenging to quantify directly, but time duration and weight can sometimes be recorded, and qualitative descriptions may be used. Vestibular input can be described in terms of type and direction (rotary or linear; horizontal or vertical) as well as time. This ongoing documentation will illustrate the child's progress over time (see Table 1), which will then justify discharge or an updated plan of care.

## Billing

Services that are documented to demonstrate the OT's clinical reasoning and the child's progress toward goals should qualify for reimbursement under most funding sources. However, some private funders face additional billing challenges. For services provided through a child's health insurance, the session note is used in conjunction with CPT® codes, the billing codes set by the American Medical Association (2020), to request reimbursement. OTs have several CPT codes available to use when submitting charges for their intervention, including those listed in Table 2. CPT codes are deliberately vague to cover a wide variety of treatment interventions. Appropriate code selection should be based on the therapeutic intent of the intervention. Historically, the code for sensory integrative treatment (97533) is not authorized, or has very limited coverage, for pediatric outpatient therapy. Clients, OTs, and advocates are gathering the scientific evidence for ASI to petition insurance companies for coverage of that code. Getting the client involved in advocating with insurance companies can be a very effective tool in getting policies changed. As more evidence and research becomes available, OTs will likely see more consistent reimbursement and higher rates for treatments under this code.

For clients with funding that does not cover ASI, code 97533 should still be billed as appropriate and handled as self-pay. Any additional treatment must comply with the authorized codes. OTs can use their knowledge of ASI and the child's sensory needs (identified in the evaluation) to inform their choice of other methods/activities during treatment, but the intent of the service delivery must best be described by the authorized code(s) to bill the session correctly and avoid fraudulent claims.

## Documentation and Billing Example

Matteo is a 3-year-old boy with ASD. He receives occupational therapy services to address regulation and bilateral coordination needs.

*Subjective:* Mother reports Matteo's nap was interrupted and he is "grouchy" today.

*Objective:* Matteo initiated play on boat swing. Therapist provided fast, large excursions in simple arc for 10-second intervals x 3 before introducing rotary input and longer intervals. Matteo initially showed distress when input paused (crying, grunting, hitting swing). After input and with therapist facilitation, Matteo showed no distress to pauses, but vocalized "mo" and imitated hand gesture "more" with minimal prompting on 4/6 trials. Therapist introduced

Adaptive Response	Target Measures	Functional Goal Areas
Tolerance to sensory stimuli	<ul style="list-style-type: none"> <li>➤ Increased exposure time to stimulus</li> <li>➤ Increased proximity to stimulus</li> <li>➤ Increased intensity (e.g., stronger smell/flavor/ touch/sound, increased vestibular input through changes in speed and excursion)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Participation in home, school, and/or community settings</li> <li>➤ Engagement in self-care activities</li> <li>➤ Safety (decrease in elopement or violent behaviors)</li> </ul>
Emotional regulation	<ul style="list-style-type: none"> <li>➤ Decrease aversive reactions</li> <li>➤ Increase appropriate communication (e.g., ask for help, communicate "stop")</li> </ul>	<ul style="list-style-type: none"> <li>➤ Safety (decrease in elopement or violent behaviors)</li> <li>➤ Functional communication</li> <li>➤ Participation in home, school, and/or community activities</li> </ul>
Postural control	<ul style="list-style-type: none"> <li>➤ Increase time child remains upright (without leaning or falling)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Safety (decrease in falling)</li> <li>➤ Participation in table top activities, including feeding</li> </ul>
Feedback motor planning	<ul style="list-style-type: none"> <li>➤ Decrease prompting</li> <li>➤ Increase number of times child can self-correct a movement</li> </ul>	<ul style="list-style-type: none"> <li>➤ Decrease time needed for self-correction</li> <li>➤ Body awareness for safe navigation of spaces, self-care, and developmentally appropriate play</li> </ul>
Bilateral coordination	<ul style="list-style-type: none"> <li>➤ Increase number of times child crosses midline</li> <li>➤ Increase number of correct bilateral movements</li> <li>➤ Decrease prompting</li> </ul>	<ul style="list-style-type: none"> <li>➤ ADLs</li> <li>➤ Cutting food</li> <li>➤ Developing skills for future IADLs</li> </ul>
Feed-forward motor planning	<ul style="list-style-type: none"> <li>➤ Increase number of successful trials of an activity (e.g., kicking a moving ball)</li> <li>➤ Increase accuracy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Safe navigation in complex or dynamic environments</li> <li>➤ Advanced typing for success in school and work</li> <li>➤ Participation in sports (e.g., physical education, community activities)</li> </ul>

fine motor pegs for crossing midline. On first trial, Matteo crossed midline for 0/4 pegs. After increased vestibular input and therapist facilitation, Matteo crossed midline with 1 physical cue on 3/4, 2/4, and 4/4 pegs across 3 trials.

*Assessment:* Matteo demonstrated increased regulation with increased vestibular input, allowing for more successful social communication. He also showed improved participation in bilateral coordination activities following increased vestibular input, as noted

<b>Table 2.</b> CPT® Codes That May Be Appropriate for Use in Coordination With Ayres' Sensory Integration	
CPT 97530	<i>Therapeutic Activities:</i> functional and dynamic tasks used in treatment to improve function.
CPT 97112	<i>Neuromuscular Re-Education:</i> neuromuscular exercises that help achieve a variety of goals, including improved balance, coordination, posture, and proprioception.
CPT 97533	<i>Sensory Integrative Techniques:</i> the use of specific sensory integrative techniques to "enhance sensory processing and promote adaptive responses to environmental demands."
CPT 97535	<i>Self-care/home management training (e.g., activities of daily living (ADL) and compensatory training, meal preparation, safety procedures, and instructions in use of assistive technology devices/adaptive equipment).</i>
CPT 92526	<i>Treatment of Swallowing Dysfunction and/or Oral Function for Feeding.</i>
<i>Note:</i> OTs may use ASI theory to inform and adapt treatment activities and methods, but CPT codes may only be billed if the services accurately meet the code definition.	

by ability to bring hands to midline to sign "more" (Goal 1) and for crossing midline (Goal 2). Mother noted that Matteo has started imitating sign for "more" while riding in his wagon at home.

**Plan:** Use vestibular input on platform swing to increase challenge in postural control. Continue use of vestibular input to address regulation and bilateral coordination needs.

**Total Time:** 54 minutes

**Billing:** ASI should be billed as 97533. However, as discussed earlier, CPT coding is about intent. The portions of this session that involved bringing hands to midline and bilateral motor coordination if documented with motor learning (or other methodology) principles and language could be billed with CPT code of 97530 for the time spent on those interventions.

## Conclusion

Mounting evidence supports the efficacy of ASI to improve participation of children with documented assessment results of difficulty processing or integrating sensory information (Schaaf et al., 2018). For these services to be recognized and reimbursed by third-party payers, documentation of ASI needs to use the language of the theoretical framework, as well as clearly and objectively state the child's



From AOTA Press: *Clinician's Guide for Implementing Ayres Sensory Integration®: Promoting Participation for Children With Autism* (<https://bit.ly/2RqNyDU>)

adaptive response and its relation to the child's therapeutic goals. OTs who successfully document their clinical reasoning can defend their use of ASI based on both scientific findings and clinical evidence of the child's progress. With both scientific and clinical evidence to support ASI, OTs reinforce the important role of occupational therapy, the effectiveness of ASI, and the justification for reimbursement.

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# Teaching Healthy Habits to Children With Autism Spectrum Disorders

**CY** Deborah B. Schwind, DHSc, OTR/L, BCP, SCSS

Childhood obesity is increasing (Hales et al., 2017), especially for children with disabilities, (Bazyk & Winne, 2013) with less recess time and physical activity levels. Childhood obesity affects occupational participation (Pizzi & Vroman, 2013) and occupational performance, which persists into adulthood. Children with autism are 40% more likely to be obese than their typical peers (Lawson & Foster, 2016), affecting physical and mental health in childhood and adulthood (Kugel et al., 2017). For those with autism, secondary health issues arise with obesity and inactivity including high blood pressure, diabetes, heart disease, social isolation, loneliness, depression, and anxiety (Tyler et al., 2011) and furthermore, obesity can contribute to weight bias, affecting occupational engagement (American Occupational Therapy Association [AOTA], 2013). Weight management can be addressed by occupational therapy practitioners (OTPs) through engagement in meaningful occupations that address lifestyle and nutritional choices (AOTA, 2013).

One way to alter activity level, healthy eating, and health habits is through an activity-based or occupation-based garden program beginning in elementary school. Health management is an occupation identified as part of the *Occupational Therapy Practice Framework: Domain and Process* (4th ed.; AOTA, 2020) and encompasses healthy habits. Using the activities of the garden leads to healthy habits for students now, and in the future as adults, to address health management issues. Through interventions with an occupation-based focus such as gardening and related activities that stem from the garden, OTPs can alter *outcomes* related to occupational performance and well-being (AOTA, 2020). Gardening as a leisure activity improves mental and physical health. Through leisure activities students can escape the daunting demands and responsibilities they may face every day, while they reap health benefits (Neumayer & Wilding, 2004) including improved well-being, self-expression, self-renewal, self-enrichment, and self-actualization (Richardson, 2019). This article describes how a gardening program developed and implemented by an OT in the school system addressed healthier habits for students both mentally and physically for lifelong impact.

## Physical and Mental Health Through Gardening

Gardening is part of a yearlong school-based community-based instruction program where students in a self-contained autism program for grades 3–5 perform jobs within the school. Many of these students also have an intellectual disability, are nonverbal, and use augmentative and alternative communication (AAC) devices. Academic and social skills are taught in the classroom and then generalized to the school community through the gardening activities. During groups each week, the OT and the speech-language pathologist (SLP) introduce topics stemming from the garden, including healthy eating and exercise, and include peer buddies from general education classes. The garden creates healthy connections to physical and mental health topics with systematic teaching of IADL skills.

The outcomes (see Table 1) associated with this program are assessed through the individualized education plan (IEP) goals and progress notes; parent feedback on the generalization of these skills at home; and occupational observation, as well as feedback from other stakeholders. Goals in the IEP may be related to the occupational

<b>Occupational Performance</b>	Increased activity for students through occupations—planting, watering, washing crops, packaging crops, running Farmer’s Market, composting, cooking, feeding the birds
<b>Improvement</b>	Adapting materials for access; providing visuals; creating augmentative and alternative communication holders with PVC piping for use with various gardening-related tasks and jobs
<b>Enhancement</b>	Increased self-confidence because of increased independence in tasks; increased social skills and peer interaction because of the inclusive gardening program; increased personal expectations to perform jobs
<b>Prevention</b>	Education on taking care of oneself; exploring medical tools; understanding importance of exercise and healthy eating
<b>Health and Wellness</b>	Being part of community with physical, mental, and social connections; inclusivity; yoga for emotional regulation and mental health; social interactions in garden and other related activities for social skill development; empathy
<b>Quality of Life</b>	Active participation in community; valued for their contributions to the school garden; a sense of belonging in the school; self-confidence and hope among parents; students recognize they are being relied on to complete a school job and feel satisfaction
<b>Participation</b>	Active engagement in various occupations in the school building with personal satisfaction in achieving the specific gardening-related tasks and creating expectations
<b>Role Competence</b>	Increased level of independence with each gardening-related job over time; teaching the general education students about composting
<b>Well-Being</b>	Content with roles; helping others; being a contributor; developing self-determination skills through personal goal development; and developing personal preferences for jobs or how to perform the jobs
<b>Occupational Justice</b>	Social inclusion in gardening and school-based activities; presenting information to general education students on composting; empathy and understanding from general education students; students seen as valued members of community; students seen as contributors to school, and thus society

performance of specific tasks, role competence when performing these tasks including the level of independence with tasks, as well as participation through observational outcomes or feedback from others. Additional outcomes are measured anecdotally or through classroom- or curriculum-based informal assessments related to prevention, health, and wellness. Pre- and post-test activities using actual objects or digital activities are used to assess students’ knowledge, such as identifying healthy foods versus unhealthy foods. Some outcomes are related to the culmination of the experiences and may not be measurable (AOTA, 2020).

## Gardening and Farmer’s Market

Occupational performance and problem-solving skills are outcomes that are addressed as soon as school opens in the fall when the crops

are in full bloom and the students have watering responsibilities such as pulling and reeling in the hose or carrying buckets of water, to increase their activity levels. As they become more independent, they demonstrate role competence allowing for enhanced self-confidence. A constructivist approach that uses real-life experience and learning activities around plant needs leads to learning activities centered around our needs for health and wellness outcomes, including how to take care of our bodies, and our need for water, food, exercise, shelter, clothes, friendships, and sleep (Akpan & Beard, 2016). When harvesting begins, healthy eating is discussed in the OT-led groups using visuals and manipulatives and food samples from the garden to promote outcomes of prevention and health.

Students wash crops and package them in preparation to sell at a student-run Farmer's Market coordinated by the OT, enhancing competence in IADLs such as meal prep, shopping, and financial management (AOTA, 2020). The Farmer's Market encourages healthy eating and food exploration for improved nutritional choices. Food from the garden is sent home with students for family sharing. Simple cooking recipes are made in class from the crops and shared with parents through a quarterly newsletter created by the OT. Gardening, along with the Farmer's Market, provides exposure to careers and allows students to expand their role and expectations as a "worker" versus a consumer—developing leisure skills and career exploration as well as developing confidence and role competence.

The garden creates connections to social participation through interactions with typical peers who are part of some of the OT-led groups. Social participation can contribute to a sense of belonging (Levasseur et al., 2017) and well-being for occupational justice outcomes. Social skills are an area that continue to be problematic for many students with autism after they graduate, interfering with post-secondary success (Berg et al., 2017). Teamwork concepts are embedded throughout the school year in all activities. Scripts about how to ask for help, take turns, share, solve problems, and work next to someone (perhaps in the garden or in the Farmer's Market) are provided by the SLP. Role-playing activities created by the OT provide the students with ways to greet friends or customers.

### Healthy Minds and Bodies

In the winter, activities that stem from the garden focus on healthy minds and bodies, an important aspect of the health management occupation, by introducing other ways to take care of our bodies. The OT continues to lead groups (e.g., yoga, deep breathing) when the garden does not have crops, to address mental health and wellness needs. The deep breathing is used as a calming strategy for emotional regulation and coping skills (Weaver & Darragh, 2015) but also to learn about lungs. Students learn about body parts, and the school nurse visits for exploring medical instruments to promote preventive health measures. Students listen to their hearts and pump up the blood pressure cuff on themselves. The instruments become familiar to them so medical visits may be less overwhelming for improved preventive care. Students learn about visiting the physician and the dentist, and the expectations for each to improve health outcomes.

Emotions, self-regulation, calming techniques, and self-determination skills are taught in OT-led groups with peer buddies to promote well-being and quality of life. The OT discusses self-regulation and coping techniques with visuals, demonstrations, and role play opportunities. Learning personal preferences, likes, and dislikes are part of self-awareness and can contribute to personal goal development and self-determination (I'm Determined, 2019).

### Taking Care of Others

From taking care of ourselves, we transition to taking care of animals or pets, another important IADL (AOTA, 2020). Healthy food for birds is compared to healthy food for us. Bird feeders and birdhouses are in the garden. Feeding the birds is very calming for the students. It can lead to leisure skills in bird watching, provides a mental break from the rigors of the classroom, and provides physical activity outside the classroom. Sunflower seeds are harvested from the garden in the OT-led groups and are used to learn the job of filling the bird feeders for active engagement outdoors and to increase occupational performance and role competence.

The OT-led groups then transition to taking care of our Earth. Students use the composter in the garden all year long and learn about composting and recycling. The cafeteria collects compostable materials every day—lettuce heads, strawberry tops, or fruits and vegetables that have expired. Some students in the autism program have been able to teach the general education students about composting and take on the role of a competent expert through short presentations in the general education classroom. This role competence creates self-confidence and self-esteem for improved mental well-being.

### Conclusion

The school year ends by planting and watering. The tasks have become part of the daily routines and have become consistent rituals with expectations from staff. The students have learned to take care of themselves mentally and physically through healthy eating habits and exercise habits, as well as engaging in their community. It is the hope that there may be lifelong effects on their mental and physical health, including activity level, quality of life, leisure interests, and IADL skills from this program. The students become valued members of the school community through jobs associated with the garden and are seen as contributors, an occupational justice outcome. Expectations increase, more social interactions occur, and more inclusive opportunities arise. This could pave the way for a community in the future that is accepting and nurturing for the improved well-being of our students with disabilities beyond the school years. Planting these seeds of occupational justice early can reap tremendous mental and physical health benefits with decreased obesity and increased activity for our students leading to an improved quality of life.

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### About the Children & Youth SIS

The Children & Youth Special Interest Section (CYSIS) provides resources to support the practice, leadership, and advancement of practitioners serving youth, families, and teams in early intervention and school programs. It promotes the meaningful participation of youth and families in their everyday lives where they live, learn, and play.

- ▶ Meet the CYSIS committee members at [www.aota.org/CYSIS](http://www.aota.org/CYSIS).
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## Stay Informed With Practice Guidelines for Early Childhood

The Occupational Therapy Practice Guidelines for Early Childhood: 5–21 Years is now available in the *American Journal of Occupational Therapy* at <https://bit.ly/2Yjldd5>.

## Teaching Occupational Therapy's Role in Health and Wellness for Community-Based Older Adults

AE

Jeanine Stancanelli, OTD, MPH, OTR/L

The older adult population is growing, and the number of people age 65 and older is expected to rapidly increase in the coming years (United Nations, n.d.). As the population ages, society will be challenged with meeting the needs of this demographic and assisting them in maintaining their health, wellness, and quality of life. Remaining actively engaged as one ages can promote healthy aging and a better quality of life for older adults (Richardson et al., 2014). Older adults are increasingly open to engaging in health promotion, maintenance, and management programs to facilitate their ability to maintain healthy aging (e.g., promoting safety in the home through addressing falls or maintaining cognitive vitality; Berger et al., 2018). Assisting community-based older adults in remaining active members of their community and aging in place should be one of the primary focuses of occupational therapy intervention for this age group. Occupational therapy's unique focus on occupation provides a distinct skill set to assist older adults in aging in place and promote healthy aging in one's desired community (Scaffa & Reitz, 2020).

Developing and delivering programs to promote health, well-being, and social participation are within the scope occupational therapy practice (American Occupational Therapy Association [AOTA], 2020). Occupational therapy's role in health promotion can include preventing or reducing the incidence of disease, reducing health disparities among underrepresented racial and ethnic groups, preventing secondary conditions, or promoting engagement in healthy living practices (AOTA, 2020).

A systematic review of literature on the effectiveness of health promotion, management, and maintenance programs within occupational therapy supported using group intervention programs to improve occupational performance and quality of life for community-dwelling older adults (Berger et al, 2018). As the ever-growing older adult population is increasingly open to engaging in health promotion activities, occupational therapy educational programs will need to ensure that graduates are competent in creating and delivering health promotion and wellness programs to meet this need. The 2018 Accreditation Council for Occupational Therapy Education (ACOTE®) Standards B.4.10 and B.5.6 require programs to ensure that students have competence in providing intervention related to health and wellness as well as in planning, organizing, and marketing services addressing health and wellness. Given the standards, health promotion and wellness should be infused into education to ensure students are prepared to meet the needs of community-based older adult clients. This article will discuss a service-learning project used

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in the Master of Occupational Therapy program at Mercy College in Dobbs Ferry, NY. This project is as an example of an educational practice designed to facilitate student learning and entry-level competency in understanding, developing, and implementing health and wellness programs in the community. The primary objectives of this project are to expose students to occupational therapy's role in health promotion and wellness while developing skills in marketing the distinct role of occupational therapy in this area. Through this project, students gain skills in developing and leading a health promotion project to assist community-based, well older adults in healthy aging.

The Mercy College Occupational Therapy program curriculum follows a developmental model. During the first year of the program, students learn the foundations of occupational therapy, theory, and pediatric practice. The second year of the program focuses on management and the role of occupational therapy with the adult population. In the fall trimester of the second year, students explore neuro-rehabilitation. In the spring trimester, students learn about geriatrics and health promotion, including the diseases affecting older adults and healthy aging. The early part of the course provides an overview of the adult learner and the normal aging process. Systems affected by normal aging, such as changes in vision, musculoskeletal system, and processing speed are discussed with consideration of each system's effect on learning. Students compare and contrast typical and atypical aging and explore models for promoting healthy aging for community-based older adults. Students learn the occupations of well older adults through readings and discussions, and traditional stereotypes of older adults are confronted through video analysis and discussions. Students explore the role of habits, routines, life choices, and the environment on aging well. They also explore concepts of health promotion and models, such as the Health Belief Model (HBM; Merryman et al., 2020), to help them understand the barriers older adults may face in engaging in preventative behaviors. They then use this information to develop their health promotion program.

To assist in understanding the role of occupational therapy in health promotion and wellness, students complete a service-learning health promotion project with healthy community-based older adults. The first part of this project is to identify a community site in which to collaborate to offer the health promotion project. Groups of 2 to 3 students complete the project. Students are encouraged to look for sites in their own communities, thus increasing awareness of potential partners for older adults in their communities. Understanding available community resources may be useful for future career use.

## About the Academic Education SIS

The Academic Education Special Interest Section (AESIS) members share a common interest in the field of occupational therapy education and include program directors, fieldwork educators, academic fieldwork coordinators, and faculty. The AESIS has a Fieldwork Subsection for fieldwork educators and academic fieldwork coordinators, and a Faculty Subsection. The AESIS strives to share current evidence-based teaching and learning tools and strategies in order to facilitate best practices in occupational therapy and occupational therapy assistant education.

- Meet the AESIS committee members at [www.aota.org/AESIS](http://www.aota.org/AESIS).
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Explore evidence on Education of Occupational Therapists and Occupational Therapy Assistants in the Topics section of the *American Journal of Occupational Therapy* at <http://ajot.aota.org/topics.aspx>.

## Site Selection and Marketing

After the student group has identified a target community site, they speak with the community program representative, explaining the profession and the profession's role in wellness and prevention. If accepted, students complete a needs assessment with the community program representative to help understand the demographics as well as the needs and interests of the community participants. This information is used by the students to develop a list of possible wellness topics for the educational module at the site. The students, in collaboration with the community program representative, select a topic for the wellness module and schedule a target date for presenting the program to the target group of older adults. After completing these steps, students complete an Instructor-Student Learning Contract. The intent of this contract is to ensure that the students have secured a location in the community and identify the health promotion topic. In this contract, students assign and commit to individual responsibilities needed to complete the overall requirements of the health promotion project and identify resources needed and the student who will lead the design and procurement of needed resources. By having the student groups complete the learning contract, the instructor is able to ensure that all group members are activity participating and that the timeline is appropriate to ensure success of the program.

## Program Development

Students immerse themselves in an extensive review of the literature to understand the scope of the health behavior and identify the evidence to support the educational program and the assumption of the positive health behavior by community-based older adults participating in the program. They use the findings from the literature review to develop an evidence-based learning program. Students use the Ecology of Human Performance (EHP) model (Dunn et al., 1994) and the HBM as theoretical guides in developing the constructs of the program. The two models allow for in-depth understanding of the role of human behavior on health and occupational engagement.

The EHP model explores the how the relationship between the person and the environment influence behavior (Cole & Tufano, 2008; Dunn et al., 1994). Applying the EHP model to the health promotion program reminds the student to consider how context may affect health behaviors. The EHP model reminds the student to consider the environment not only from a physical perspective, but also from a cultural and social perspective (Cole & Tufano, 2008; Dunn et al., 1994). One reason this model was selected by the instructor as a guide for the project was for its well-articulated interventions. For this assignment, students consider the EHP model's five interventions of establish/restore, alter, adapt, prevent, or create during the development of their health program (see "Applying Principles of the EHP"). Having completed the needs assessment, students have an understanding of the social and cultural needs of the population and can consider the effect these factors may have.

The HBM guides students in understanding the relationship between health beliefs and health behaviors (Merryman et al., 2020). Perceived susceptibility, severity, benefits, and barriers regulate whether a person engages in a new health behavior (Merryman et al., 2020). For instance, if the needs assessment identified that a falls prevention/education program would be beneficial, students would be able to use the constructs of the HBM in developing the program. Using the evidence from the literature, program participants would be educated as to their susceptibility to falls because of age or other risk factors. Education could also address the severity of the issue by speaking about the health outcomes from falls such as fractures and the resulting severity of the injury (i.e., requires surgery). The HBM believes that by considering these constructs in the development of the program, participants will see the relevance of the program and be open to implementing the new health behavior.

Principles of active learning are used in the presentation, with special consideration to addressing the effects of normal aging, such as larger print handouts, repetition to assist in learning, and allowing additional processing time. Students are required to submit all presentation materials to the instructor 2 weeks before the presentation date. This requirement enables the instructor to provide feedback and approve the materials before the program begins. If changes or corrections in the material is required, students make the necessary corrections and return to the instructor for approval.

To monitor success of the program, outcome data is collected and analyzed. For this project, students must develop a process for collecting outcome data, such as a pretest and posttest or a simple qualitative tool. Analyzing outcome data provides an opportunity for student reflection on the program content, leadership style, and participant response.

## Presentation to Class

After delivering the health promotion module to the participants, the students present the program and its outcomes to their classmates. Using a digital story format, they show evidence to support program development, the program design, and the outcomes of the program. The instructor encourages students to analyze their program, and discuss what they learned from running the program and how the program could be improved for future presentations based on the outcome data. This dissemination enables the class to learn from fellow students and gain exposure to the role of occupational therapy in various health promotion projects.

## Conclusion

Occupational therapists need to meet the needs of the changing health care environment. With the expected growth of health care in the community and the expected increase in the older adult population, occupational therapy students need to be prepared to practice in the community and address health promotion and wellness needs of community-based older adults (AOTA, 2020). Educators are in a unique position to promote health promotion and wellness in their educational programs through developing creative service-learning projects. The health promotion project used in the Mercy College Occupational Therapy program could be adapted in many ways to meet the needs of the surrounding college community demographics.

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## Applying Principles of the Ecology of Human Performance

After researching and contacting local community sites for a health promotion program, occupational therapy students met with the program coordinator of a senior center interested in partnering with them. As part of the needs assessment, the students learned that the participants were age 65 and older, and lived independently in the New York City area. Many of the older adult consumers from the senior center resided alone in apartments. The program coordinator informed the students that the older adults who attend the senior center are fearful of falling and losing their independence. The students indicated that occupational therapy can assist in lessening this fear and reducing the risk of a fall through an evidence-based intervention developed for falls prevention for older adults. Students consider the EHP model's five interventions when developing their program (see Table 1).

<b>Establish/Restore</b>	Provide education in exercise program aimed at improving balance and mobility.
<b>Alter</b>	Discuss universal design supporting aging in place and different living environments that may meet the clients' abilities better now or in the future; discuss clothing options that may promote safety and independence and limit the chance of falling.
<b>Adapt</b>	Discuss ways to increase safety in the home through changes in physical environment and use of adaptive equipment.
<b>Prevent</b>	Help establish a holistic plan for home safety, including keeping home clutter free and a daily exercise/functional activity program.
<b>Create</b>	Educate on importance of creating new habits and routines to support mobility (e.g., participating in community exercise groups, walking the mall).

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## Health Promotion for Adults With Down Syndrome: What is Occupational Therapy's Role?

DD

Katherine V. O'Neill, OTD, OTR/L

Down syndrome (DS) is a genetic condition caused by trisomy of chromosome 21. It has been identified as the most common cause of intellectual disability, with a prevalence of more than 200,000 individuals in the United States (de Graaf et al., 2017). The number of individuals with DS aged 18–60 years has increased dramatically in the past few decades because of significant increases in life expectancy (Capone et al., 2018). Although the effects of living longer are generally positive, aging is associated with elevated risk for various health complications in adults with DS (see Table 1 on page 14). These complications often lead to additional challenges including limited participation in meaningful activities and reduced quality of life (Rofail et al., 2017). Therefore, health promotion interventions that are tailored to the unique needs of adults with DS are imperative. Occupational therapy practitioners (OTPs) are well-positioned to contribute to the development and implementation of such interventions because of advanced training in using meaningful occupations to enhance health and well-being (American Occupational Therapy Association [AOTA], 2020).

## Occupational Therapy's Role in Health Promotion

Despite evidence of occupational therapy's role in health promotion for certain populations such as community-dwelling older adults, occupational therapy literature related to health promoting interventions for adults with DS is sparse (Berger et al., 2018). Nevertheless, OTPs have a professional responsibility to enhance the health and quality of life of adults with DS and other developmental disabilities (Johnson et al., 2019). The following sections include recommendations that OTPs should consider when expanding their role in health promotion for adults with DS.

### Collaborate With Stakeholders

Research has indicated that health promotion interventions for adults with DS are most effective when multiple stakeholders are involved (Borthwick et al., 2019; Kuijken et al., 2020). For example, OTPs can address health promotion for adults with DS by serving as valuable members of interdisciplinary teams alongside health educators, public health officials, dietitians, and other health care providers (AOTA, 2020). In addition to collaborating with other health professionals, OTPs should also work with caregivers, as they play a key role in the daily lives of adults with DS (Borthwick et al., 2019). This may include training caregivers to support client health and self-determination by enabling clients to make choices within a range of healthy options, as well as educating caregivers on methods

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to maintain client participation in meaningful activities despite the presence of debilitating health complications.

### Establish Healthy Habits and Routines

Several health issues listed in Table 1 are considered preventable and can be addressed through health promotion interventions that encourage healthy lifestyle behaviors (Borthwick et al., 2019). Many existing health promotion interventions designed for adults with DS focus on increasing health-related knowledge; evidence suggests, however, that adults with DS are knowledgeable about healthy living, but have difficulty translating knowledge into action (Kuijken et al., 2020). Therefore, OTPs should help clients establish healthy habits and routines by incorporating the natural context into health promotion interventions. To illustrate, OTPs may provide clients with training in making healthy food choices as they practice grocery shopping and cooking in real-life environments throughout the community. OTPs may also develop programs such as occupation-based

groups to increase clients' physical activity levels, as adults with DS tend to benefit from peer modeling and social support.

### Facilitate Health Literacy

Inadequate *health literacy*, defined as “the ability of individuals to gather, interpret, and use information to make suitable health-related decisions,” (AOTA, 2016, p. 7112410065p1) has been cited as a major barrier to health and adopting healthy lifestyles for adults with DS (Scott & Havercamp, 2016). Health literacy problems limit clients' ability to comprehend instructions from health professionals, fill out health-related forms, communicate with health professionals, and navigate health care systems (AOTA, 2020). OTPs may assist in reducing health literacy barriers for adults with DS in various ways such as adapting health-related informational materials to match clients' cognitive abilities, developing role-play interventions for clients to improve communication with health professionals, and educating other health professionals to improve accessibility (see Table 2).

### Reduce Secondary Health Risks

Compared with the general population, adults with DS are less likely to receive preventative care, leading to increased risk of developing secondary health conditions (Havercamp & Scott, 2015). OTPs can play a critical role in reducing secondary health risks through client- and policy-level advocacy to eliminate disparities in health care access for this population (Johnson et al., 2019; Scott & Havercamp, 2016). Another avenue of occupational therapy involvement is through delivering preventative care services for early detection of impairments. Specifically, OTPs may conduct screenings at residential, vocational, and day treatment programs to identify clients experiencing functional decline, and then design appropriate interventions to address risk factors. This may include developing falls prevention programs for clients with osteoporosis, social support groups for clients with mental health concerns, and assistive technology or environmental modifications for clients with sensory loss.

Body Functions	Health Issues
Specific mental functions	<ul style="list-style-type: none"> <li>➤ Cognitive decline and memory loss associated with early-onset Alzheimer's disease</li> <li>➤ Mood and behavioral changes associated with depression</li> </ul>
Global mental functions	<ul style="list-style-type: none"> <li>➤ Sleep disturbances associated with obstructive sleep apnea</li> </ul>
Sensory functions	<ul style="list-style-type: none"> <li>➤ Diminished hearing associated with conductive and/or sensorineural hearing loss</li> <li>➤ Visual impairments associated with cataracts</li> </ul>
Functions of joints and bones	<ul style="list-style-type: none"> <li>➤ Increased risk of fractures associated with osteoporosis</li> <li>➤ Neck joint instability associated with cervical spine disease</li> <li>➤ Decreased joint mobility associated with osteoarthritis</li> </ul>
Muscle functions	<ul style="list-style-type: none"> <li>➤ Reduced muscle tension associated with hypotonia</li> </ul>
Cardiovascular system functions	<ul style="list-style-type: none"> <li>➤ Problems with cardiovascular functioning, endurance, and fatigue associated with congenital heart disease</li> </ul>
Digestive, metabolic, and endocrine system functions	<ul style="list-style-type: none"> <li>➤ Excess body fat accumulation and increased risk of related conditions (e.g., cardiovascular disease, Type 2 diabetes, and cancer) associated with obesity</li> <li>➤ Endocrine dysfunction associated with hypothyroidism</li> <li>➤ Digestive problems associated with celiac disease</li> <li>➤ Metabolic disturbances associated with diabetes mellitus</li> </ul>

Resource	Description
Everyday Words for Public Health Communication (Centers for Disease Control and Prevention, n.d.)	Website that provides users with plain language alternatives for commonly used medical terms and health-related jargon
My Medical Issues Table (Children's Hospital of Philadelphia [CHOP] Trisomy 21 Program, n.d.a.)	Blank table that can be filled out by the client to track diagnoses, health care providers, medications, and other related treatments
Preparing for a Doctor Visit (CHOP Trisomy 21 Program, n.d.b.)	Worksheet that can be used by the client to record health-related questions and concerns in preparation for a physician visit
Toolkit for Making Written Material Clear and Effective (Centers for Medicare & Medicaid Services, 2020)	Comprehensive set of guidelines to improve clarity and readability of written materials designed to communicate health-related information
Wong-Baker FACES® Pain Rating Scale (Wong-Baker FACES Foundation, n.d.)	Visual analog scale that can be used by clients to communicate the degree of pain they are experiencing

## Welcome From the DDSIS Chairperson

Rondalyn Whitney, PhD, OTR/L, FAOTA

Thank you for the opportunity to serve as Chairperson of the Developmental Disabilities Special Interest Section (DD SIS) Standing Committee. I'd like to begin by thanking the outgoing committee for their outstanding work on behalf of individuals with developmental disabilities. As outgoing Chairperson Dr. Anne Cronin said in her farewell, these have been and continue to be "tempestuous times." Our role is to steer the SIS toward the creation of safe harbors for those navigating barriers and onramps related to living with a developmental disability. Fortunately, I have the privilege to introduce the Standing Committee of the DDSIS and invite you to join me in recognizing the diverse and wide-ranging set of talents this group represents:

- ▶ Wendy Walsh, PhD, OTR/L: Advocacy and Policy Coordinator
- ▶ Emily Skaletski, MOT, OTR/L: Communications Coordinator
- ▶ Sapna Chakraborty, OTD, OTR/L: Leadership and Management Coordinator
- ▶ Lyvette Carrasquillo, OTD, OTR/L: Professional Development Coordinator
- ▶ Sandra Rogers, PhD, OTR/L: *Quarterly* Editor
- ▶ Alisa Jordan Sheth, PhD, OTR/L: Research Coordinator
- ▶ Karen E. Majeski, OTD, OTR/L: Technology Coordinator
- ▶ Benjamin Olson, OTD: Young Professionals Coordinator

We envision advancing a conversation for occupational therapy practitioners to be "*appropriate ambitious*" within practice,

focusing on interventions that produce outcomes of full participation rather than skill-based goals. Our priorities for the next 3 years will focus on critical periods of transition across the lifespan for individuals with developmental disabilities with a specific focus on

- ▶ Having an active voice across practice interests (e.g., Developmental Disabilities in work, school, sensory integration, rehabilitation, mental health)
- ▶ Addressing the erosion of occupational therapy practice in high school
- ▶ Advocating for the fundamental tenet that occupation is a human right
- ▶ Promoting assessments used within and outside of the profession of occupational therapy that identify barriers to participation rather than identify skills level abilities.

We hope to work collaboratively with members and stakeholders to curate a robust set of resources and evidence for effectiveness in occupational therapy practice and hope members will engage with the committee to assure the DDSIS becomes a highly recognized and energetically used resource for members and stakeholders. To that end, I invite your active engagement with us using AOTA's CommunOT™ site ([www.aota.org/DD SIS-forum](http://www.aota.org/DD SIS-forum))—join in for discussions and shared ideas. We look forward to working with you and the opportunity to advocate on your behalf. Please do not hesitate to contact any of us on the committee with ideas, comments and concerns. Specifically, you can reach me at [Rondalyn.whitney@hsc.wvu.edu](mailto:Rondalyn.whitney@hsc.wvu.edu).

### Case Example

Susan was a 24-year-old woman with DS and celiac disease, who lived in a private home with her family. Upon initial evaluation, Susan and her family reported concerns regarding her ability to manage her celiac disease on a day-to-day basis; although she was able to identify her condition and its sequelae (i.e., "gluten makes my stomach hurt really bad"), Susan relied on her parents to monitor her diet. The occupational therapist (OT) administered the Adolescent and Young Adult Activity Card Sort (Berg et al., 2015), an interview-based assessment tool that uses photographs to measure current and desired participation in meaningful activities, and then collaborated with Susan and her family to identify their goals. Susan and her family indicated they primarily wanted Susan to independently prepare a gluten-free meal using the microwave.

Over the course of intervention, Susan practiced identifying foods that contained gluten, shopping for gluten-free items, and substituting ingredients with gluten-free alternatives. For example, the OT helped Susan create a list of gluten-containing foods and ingredients to store on her smartphone. Susan referred back to this list when reading food labels to identify whether or not the item was gluten free. During another session, the OT partnered with an in-store dietician at Susan's local grocery store to educate her on the gluten-free options available and provide her with a detailed

map indicating where gluten-free items are stored. After 4 weeks of intervention, Susan was able to follow a recipe to prepare a quesadilla in the microwave, substituting gluten-free corn tortillas in place of the flour tortillas. She also developed the skills to self-advocate and obtain important health-related information after participating in role-play activities with the OT, during which she practiced asking for assistance in identifying and locating gluten-free items. Susan's parents reported that they felt more confident in her ability to adhere to her dietary restrictions and, as a result, encouraged her to increase her level of participation in meal planning and grocery shopping.

### Conclusion

Adults with DS are at greater risk for various health complications that can impede participation in daily life than the typical population. Unfortunately, the needs of this population have been largely neglected by many health professions, including occupational therapy (Capone et al., 2018; Johnson et al., 2019). As health professionals dedicated to the enhancement of health, participation, and quality of life, OTPs have a professional responsibility to become increasingly active in the development and implementation of health promotion interventions for adults with DS. OTPs can use their expertise to expand their role with this population by collaborating with stakeholders, assisting clients with establishing healthy habits and routines, facilitating health literacy, and reducing secondary health risks.



From AOTA Press: *Adults With Intellectual and Developmental Disabilities*  
(<https://bit.ly/2Ee6Lfs>)

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## About the Developmental Disabilities SIS

The Developmental Disabilities Special Interest Section (DD SIS) focuses on how occupational therapy assessment and intervention can facilitate the inclusion of individuals with developmental disabilities across the lifespan in home, school, work, and community life. The DD SIS provides a forum for practitioners, educators, students, and researchers to exchange information and strategies and to network by highlighting best practice, current trends, and research updates.

- ▶ Meet the DD SIS committee members at [www.aota.org/DD SIS](http://www.aota.org/DD SIS).
- ▶ Join the CommunOT™ discussion at [www.aota.org/DD SIS-forum](http://www.aota.org/DD SIS-forum).

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# Enhancing the Health and Well-Being of Veterans Through Community-Based Occupational Therapy Services

HCH

Marjorie E. Scaffa, PhD, OTR/L, FAOTA

According to the U.S. Bureau of Labor Statistics (2020), nearly 19 million men and women were Veterans in 2019, accounting for approximately 8% of the U.S. adult population. Approximately 38% of these Veterans served during World War II, the Korean War, and the Vietnam War, 39% served during the Gulf Wars (1990–present), and 22% served outside of designated wartime years. The ratio of men to women Veterans is 9:1. Approximately 25% of Veterans have an officially recognized service-connected disability. This article includes a description of the common physical and mental health problems of Veterans, a new community-based organization designed to address these needs, and the role of occupational therapy on the interprofessional team for this population. The information presented is applicable to Veterans being served by occupational therapists (OTs) in any setting.

Many veterans experience a multitude of health problems as a result of their military service, including musculoskeletal injuries and chronic pain, mental health issues, toxic chemical exposure, hearing impairment, and mild traumatic brain injuries (TBIs; Salamon, 2010). Yet, than 30% of Veterans have used the Department of Veterans Affairs (VA) health care benefits. According to Tanielian and Jaycox (2008), at least 20% of Iraq and Afghanistan Veterans have posttraumatic stress disorder (PTSD) and/or depression, and 50% of them do not seek treatment. The suicide rate for Veterans is 1.5 times that of the general adult population. On average, 17 Veterans die each day by suicide (U.S. Department of Veterans Affairs, 2019). Suicide rates among Veterans are affected by economic disparities, unemployment, homelessness, service-connected disability, social disconnectedness, and limited community participation (U.S. Department of Veterans Affairs, 2019).

The polytrauma triad (i.e., mild TBI, chronic pain, PTSD) has become the signature injury of the wars in Iraq and Afghanistan (Cifu et al., 2013). Even if service members return home without any physical injuries or diagnosable mental health disorders, they are likely to be coping with a variety of psychosocial stressors that interfere with community reintegration, including complicated grief, loss of military identity, and moral injury. Complicated grief is a prolonged, persistent, and impairing condition often in response to a traumatic death, particularly of a fellow service member (Scaffa et al., 2020). The “warrior” persona and associated values and behaviors do not easily translate to civilian life. Thus, to reintegrate into the community, Veterans must often shed their military identity, which has provided a sense of self-esteem and competence. In addition, Veterans are susceptible to moral injury, a state of inner turmoil that precipitates feelings of guilt, shame, anger, and remorse (Scaffa et al., 2020). Moral injury is caused by perpetrating—failing to prevent or bearing witness to acts during wartime that are antithetical to the service member’s values and moral beliefs (Scaffa et al., 2020). As a result, many Veterans experience difficulties in transitioning from active duty to civilian life, including marital conflict or divorce, problems in interpersonal relationships, loss of work, self-destructive behavior, substance abuse, and sleep disturbance (Scaffa et al., 2020). According to the Pew Research Center (2011), approximately 44%

of Veterans who have served since the 2001 terrorist attacks report that reentry into civilian life has been difficult for them.

## Veterans Recovery Resources

Veterans Recovery Resources (VRR) was established in 2017 in Mobile, Alabama, to serve the Veteran population on the Gulf Coast. VRR is a non-profit, community-based substance abuse and mental wellness program developed for Veterans, by Veterans. The concept for VRR grew out of the founder’s personal, lived experience of more than 30 years of mental health issues, addiction, multiple military deployments, physical injuries, and recovery. VRR’s mission is “to accelerate Veteran well-being by removing barriers to care for Veterans, their families, and caregivers suffering from substance abuse, posttraumatic stress, and other mental wellness issues” (VRR, 2018, para. 1). VRR offers a continuum of clinically based medical and behavioral health services, peer support programming, and community engagement activities to provide a Veteran-centered, holistic, and phase-based approach to well-being.

VRR uses an Integrated Care Model composed of:

- › primary medical care services,
- › occupational therapy and physical therapy,
- › individual and couples counseling,
- › peer support,
- › family support,
- › intensive outpatient services, and
- › community engagement.

The interprofessional clinical team, the majority of whom are Veterans, has expertise in addressing basic medical concerns along with chronic pain, substance abuse/dependence, and other common conditions (e.g., PTSD, depression, anxiety, mild TBI) among persons who have served in the U.S. military. VRR’s unique comprehensive treatment approach starts with a 360° holistic evaluation of the Veteran’s physical, mental, emotional, spiritual, and social well-being. A transdisciplinary, individualized plan is developed by the interprofessional team (of which the Veteran is a member) that prioritizes the Veteran’s goals in all aspects of their life, and is reviewed on a regular basis, at least every 90 days.

## The Role of Occupational Therapy

Reintegration into civilian life for Veterans poses many challenges. The most notable of these challenges are navigating VA programs, benefits, and services (60%), finding a job (55%), adjusting to civilian culture (41%), addressing financial concerns (40%), and applying military-learned skills to civilian life (39%; Zoli et al., 2015). In addition, some Veterans report experiencing civilian life as meaningless in comparison to combat missions. These feelings are intensified when they cannot find meaningful work that uses their skills and values their contribution to the team. Feelings of meaninglessness are a frequent precursor to depression and suicide (Ahern et al., 2015).

During deployment, the organization of and participation in daily occupations are dictated by the military. Long hours and little discretionary time are typical. Upon returning home, Veterans are expected to select and organize occupations into meaningful daily routines. During and after deployment, Veterans are at risk for occupational disruption, imbalance, and deprivation (Scaffa et al., 2020).

Although the services described here are being provided within a community-based Veterans’ organization, many Veterans are treated

by OTs outside of designated Veterans' organizations. We are hopeful that components of the VRR occupational therapy program may be generalizable to other treatment settings that serve Veterans. Occupational therapy services at VRR help Veterans adjust and organize their daily occupations and activities related to self-care, home management, community participation, education, work, and/or leisure into daily routines. Individual and group occupational therapy services are designed to prevent and minimize dysfunction, promote and develop a healthy lifestyle, and facilitate adaptation and recovery. To these ends, the occupational therapy program is predicated on the Model of Human Occupation (MOHO) and the Canadian Model of Occupational Performance and Engagement (CMOP-E). These approaches have extensive research evidence supporting their efficacy with a variety of populations (de las Heras de Pablo et al., 2017; Forsyth et al., 2019; Polatajko et al., 2007). Veterans have a large repertoire of skills; however, when they come home from deployment their habits, roles, and routines typically need to change. In addition, reintegration into their homes and communities may require Veterans to re-evaluate their values, interests, and goals. As a result, therapy focuses on the volitional and habituation subsystems of MOHO. The emphasis on engagement in the CMOP-E makes it a good choice for this population. Family, work, and community engagement are essential components of the Veteran's successful transition into civilian life.

In the fall of 2018, a part-time OT joined the VRR team. Initially, only clients who were referred for occupational therapy by a team member were formally evaluated. Now, each client who participates in the intensive outpatient program receives an occupational therapy evaluation, which consists of developing an occupational profile and administering the Canadian Occupational Performance Measure (Law et al., 2019), Revised Role Checklist (Scott, 2019), Modified Interest Checklist (Kielhofner & Neville, 1983), Occupational Self-Assessment—Short Form (Baron et al., 2006), and Community Reintegration for Service Members assessment (Resnick et al., 2009). Other assessment tools are used as needed and may include, but are not limited to, the Allen Cognitive Level Screen (Allen et al., 2007), Toggia Category Assessment (Toggia, 1994), Comprehensive Trailmaking Test (Reynolds, 2002), and Occupational Questionnaire (Smith et al., 1986).

The goals of the occupational therapy services at VRR are to enhance and promote quality of life, increase community engagement and occupational participation, and improve health management and maintenance skills and behaviors. A specific client's goals are set collaboratively with the Veteran and inform intervention choices. Intervention consists of individual and group therapy using an adaptation of the Lifestyle Redesign® model (Clark et al., 2015). Weekly sessions include a psychoeducation component, peer exchange, experiential activities, and homework for personal exploration. Session themes were identified through a review of the literature (Gerardi, 2017; Plach & Sells, 2013; Speicher et al., 2014), and gathering data from VRR participants. Topics include mental health awareness, goal setting, values clarification, parenting, pain management, sleep hygiene, emotional intelligence, mindfulness, coping strategies, leisure exploration, job search and acquisition, health management and maintenance, nutrition and meal planning, financial management, and volunteer exploration, among others. Due to the emergence of COVID-19, services have transitioned to virtual.

In addition to delivering direct services, the OT is also involved in clinical team meetings reviewing clients' needs and progress,

training and supervising peer support specialists and occupational therapy students, and consulting with family support services staff. The occupational therapy program is in the early stages of implementation; therefore, only anecdotal evidence regarding effectiveness is available at this time. It is anticipated that in the near future, a full-time OT will be hired. VRR is working toward delivering residential treatment services in addition to the existing outpatient services.

## Case Example

J.T. was a 27-year-old Marine Veteran who had two tours of duty in the Middle East. He had been home for a year and was unable to find work. He had a 4-year-old daughter, and his wife worked as a nurse at a local hospital. J.T. was diagnosed with major depressive disorder, PTSD, chronic back pain, and irritable bowel disease. His treatment team consisted of a physician assistant providing primary care services, a psychologist providing psychotherapy, a physical therapist addressing his chronic pain issues, and an OT addressing his reintegration into civilian life. Based on the occupational therapy evaluation, J.T.'s strengths included a strong work ethic, a supportive, extended family, a high level of physical fitness, and a willingness to engage in therapy. His challenges included decreased volition, a lack of routine, role changes, limited occupational participation, and military work skills that did not easily translate into civilian employment. At the time of admission, J.T. was unable to identify any goals for therapy.

J.T. had been participating in virtual group therapy with other Veterans and meeting with the OT individually every other week for the past 3 months. He had attended groups on values clarification, goal-setting, leisure exploration, job search, mindfulness, and pain management. Often these groups are co-led with the psychologist or physical therapist, depending on the topic. Individual meetings with the OT focused on applying what J.T. had learned in the group to his unique needs and situation. In addition, his wife was attending individual and group family support services. Although J.T. still has not acquired employment, other improvements have been noted in mood, volition, habits and routines, and leisure participation. Recently, he indicated a desire to explore educational options, enhance his parenting skills, and become more actively involved in home management activities. These have become his new goals in occupational therapy as he continues to search for employment.

## Conclusion

The ultimate goal of VRR is not simply to achieve medical and emotional stabilization. Instead, working in tandem with Veteran peers, VRR ultimately aims to restore belonging and meaning in life by establishing a vibrant community of service members, Veterans, and families who are pursuing a new mission together—promoting

## About the Home & Community Health SIS

The Home & Community Health Special Interest Section (HCHSIS) provides resources and support for occupational therapists and occupational therapy assistants who provide services in the home and community. Examples include home health, adult day services, senior housing, wellness programs, community mental health centers, home modification, and accessibility consultation. The HCHSIS also includes the Home Modification Network.

- Meet the HCHSIS committee members at [www.aota.org/HCHSIS](http://www.aota.org/HCHSIS).
- Join the CommunOT™ discussion at [www.aota.org/HCHSIS-forum](http://www.aota.org/HCHSIS-forum).

health and equity in their families, neighborhoods, and local communities across the Gulf Coast.

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## Evidence Supports Routine Interventions to Promote Sleep Quality in Older Adults

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# → Mental Health

## Mindfulness Workshops to Address Stress and Quality of Life in College Students

MH

**Bo Seo, DrOT, OTR/L; Anju Thomas, DrOT, OTR/L; Sarah Corcoran, OTD, OTR/L; and Nabila Enam, OTD, OTR/L**

Higher education institutions have reported that the percentage of college students who experience stress is steadily increasing every year, which can have a large-scale effect on occupational productivity and quality of life (Winerman, 2017). First-year college students, specifically, undergo a difficult transition as they enter a new environment and take on new responsibilities. Poorly managed stress can negatively affect physiological and psychological health (Pedrelli et al., 2015). Not having adequate skills to deal with this stress can lead college students to adopt maladaptive behaviors, such as substance abuse and binge eating (Dalton & Hammen, 2018), as well as affect their relationships, education, and occupational productivity (Jed Foundation, n.d.).

Health and wellness programs have been developed in various higher education institutions to support college students' success and well-being to help them learn, work, interact, and fulfill their goals (American College Health Association, 2019). Occupational thera-

pists can play a vital role in these health and wellness programs; they understand the value of occupation, have a unique outlook on wellness, and work to maximize participation in everyday life (American Occupational Therapy Association [AOTA], 2017). AOTA's *Vision 2025* includes maximizing the health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living (AOTA, 2017). Although it is within the occupational therapy scope of practice to lead wellness programming, there is limited literature indicating occupational therapy involvement in promoting wellness within higher education.

### Purpose of Program

At the University of the Sciences, the Assistant Dean of Health and Wellness conducted health surveys with first-year college students. The students identified sleep, social participation, and physical activity as their three main areas of concern. Based on these concerns, two occupational therapy doctoral students led a series of four occupation-based workshops based on mindfulness to reduce stress and improve the quality of life of first-year college students. During each workshop, the college students practiced mindfulness techniques at the start and end of each session. Students also explored how to integrate mindfulness strategies into everyday occupations, including ways to improve their sleep quality through mindfulness, how to communicate with others mindfully, and how to be more mindful during physical activity.

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*Edited by Paula Kramer, PhD, OTR, FAOTA, and Namrata Grampurohit, PhD, OTR/L*

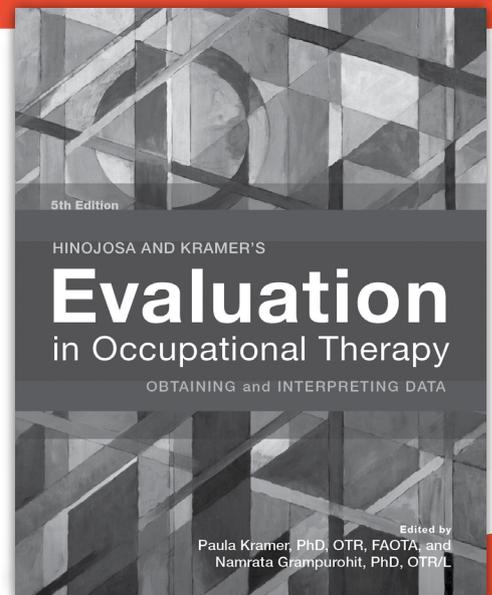
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*Mindfulness* is the “self-regulation of attention and non-judgmental awareness of the experience” (Metz et al., 2013, p. 254). Mindfulness requires training the mind to be aware of the physical, cognitive, and emotional aspects of the experience while also maintaining an open, accepting attitude toward the experience. Current literature supports the effectiveness of mindfulness in decreasing stress reactivity as well as increasing occupational balance and overall quality of life (Blair Kennedy & Resnick, 2015; Kanen et al., 2015; Li et al., 2018). Mindfulness has also shown to improve college students’ ability to concentrate, manage emotions, improve test scores, and sleep (Wang et al., 2018). Thus, mindfulness can have a positive effect on college students and support them to improve their occupational performance as a student as well as improve their overall quality of life.

## Theory

The Environment–Health–Occupation–Well-being model (Pizzi & Richards, 2017) guided the development of the workshops. This model emphasizes how participation in various meaningful occupations positively influences quality of life and explains how the relationship among environment, occupational engagement, and state of health affects the quality of life and well-being of an individual. An assumption of the model is that healthy behavior change can occur when an individual becomes aware of a need for such change (Pizzi & Richards, 2017). Therefore, college students are likely to change their lifestyle habits when they recognize the need to change. Based on this assumption, the focus of the first workshop was to increase college students’ awareness of their stress levels and the negative effect of stress on their quality of life.

Another assumption of the Environment–Health–Occupation–Well-being model is that individuals, communities, and populations strive to optimize their health and well-being (Pizzi & Richards, 2017). This assumption supports that students want to improve their health. Thus, it is essential to equip students with the proper tools and resources to support their well-being. Based on this assumption, the following three workshops introduced mindfulness as a stress management tool and educated students on how to integrate mindfulness into their everyday occupations of sleep, social activity, and physical activity. With the guidance of this model, a series of four workshops aimed to increase students’ awareness about the need for behavioral change and facilitate mindfulness practice into their everyday lives to improve their overall well-being and quality of life.

## Program Procedure

A series of four occupation-based mindfulness workshops took place during physical education classes for 240 first-year college students at the University of the Sciences, divided into 14 groups of 15 to 20 students each. These workshops were held once a week for 4 weeks and lasted approximately 40 to 45 minutes. Students began each workshop by participating in a 5-minute mindfulness breathing activity and ended each workshop with a 5-minute guided imagery exercise. During each workshop, the students learned how to integrate mindfulness into everyday occupations and how mindfulness can positively affect the performance of various occupations (see Table 1). To evaluate the effectiveness of the workshops, the students’ perceived level of stress and quality of life were measured before and after the series of workshops using the Perceived Stress Scale (Cohen et al., 1983) and Short Form Survey-36 (RAND Corporation, n.d.). The Research and Development (RAND) Corporation developed the Short Form Survey-36 as part of the Medical Outcomes Study.

## Outcomes

The findings from 240 first-year college students showed significant changes in perceived stress and in the subcategory of general health in Short Form Survey-36 from pre- and post-mindfulness workshops. The overall mean scores of the Perceived Stress Scale decreased from 19.43 ( $SD = 6.57$ ) at pre-test to 18.22 ( $SD = 6.45$ ) at post-test with p-value of .045 ( $\alpha < .05$ ), indicating a statistically significant decrease in participants’ perception of stress. Similarly, the overall mean scores of general health in Short Form Survey-36 increased from 64.09 ( $SD = 19.44$ ) at pre-test to 68.52 ( $SD = 22.01$ )

**Table 1.** Occupation-based Mindfulness Workshops Overview

<b>Session 1:</b> Introduction to Mindfulness	<ul style="list-style-type: none"> <li>➤ <b>Pre-test:</b> Perceived Stress Scale and Short Form Survey-36</li> <li>➤ Breathing activity</li> <li>➤ Introduction to stress and mindfulness</li> <li>➤ What is stress?             <ul style="list-style-type: none"> <li>➤ How does stress affect your body?</li> <li>➤ Negative outcomes of stress</li> <li>➤ Different ways to manage stress</li> <li>➤ Explore what mindfulness means</li> </ul> </li> <li>➤ Guided imagery</li> </ul>
<b>Session 2:</b> Mindfulness and Sleep	<ul style="list-style-type: none"> <li>➤ Breathing activity</li> <li>➤ Introductions to occupations             <ul style="list-style-type: none"> <li>➤ What are occupations?</li> <li>➤ How mindfulness can be linked to occupations</li> </ul> </li> <li>➤ Mindfulness and sleep             <ul style="list-style-type: none"> <li>➤ What is sleep?</li> <li>➤ Effect of sleep deprivation on daily functioning</li> <li>➤ How to improve sleep quality                 <ul style="list-style-type: none"> <li>➤ Good sleep hygiene practices</li> <li>➤ Mindfulness (i.e., mindful breathing before bedtime)</li> </ul> </li> </ul> </li> <li>➤ Guided imagery</li> </ul>
<b>Session 3:</b> Mindfulness and Social Activity	<ul style="list-style-type: none"> <li>➤ Breathing activity</li> <li>➤ Mindfulness and social support             <ul style="list-style-type: none"> <li>➤ Each participant identifies personal support systems</li> <li>➤ How to be mindful during social events/when talking to others</li> <li>➤ How to mindfully engage in self-care for improved relationships</li> </ul> </li> <li>➤ Guided imagery</li> </ul>
<b>Session 4:</b> Mindfulness and Physical Activity	<ul style="list-style-type: none"> <li>➤ Breathing activity             <ul style="list-style-type: none"> <li>➤ Mindfulness and physical activity                 <ul style="list-style-type: none"> <li>➤ Types of physical activity</li> <li>➤ Integrating mindfulness into physical activity                     <ul style="list-style-type: none"> <li>➤ How to exercise mindfully (e.g., yoga, walking meditation)</li> </ul> </li> </ul> </li> </ul> </li> <li>➤ Guided imagery</li> <li>➤ <b>Post-test:</b> Perceived Stress Scale and Short Form Survey-36</li> </ul>

at post-test with p-value of .023 ( $\alpha < .05$ ), indicating a statistically significant increase in participants' subjective measure of their health and quality of life. These findings are consistent with recent literature that showed the effectiveness of mindfulness in decreasing stress and psychosomatic complaints as well as increasing life satisfaction (Dvořáková et al., 2017).

## Conclusion

College students experience high levels of stress, which can lead to psychological and physical issues such as depression, anxiety, binge eating, substance abuse, and more (Dalton & Hammen, 2018; Deasy et al., 2014). The findings of this series of workshops suggest that mindfulness significantly reduces the perceived level of stress and significantly increases the general health of first-year college students. To the authors' knowledge, this program is the first to assess the effect of mindfulness among first-year college students through occupation-based workshops that incorporate mindfulness into everyday routines. The workshops support occupational therapy's distinct value in health promotion through participation in meaningful everyday occupations. The findings from this program support occupational therapy's role in higher education, including facilitating mindfulness groups, workshops, and wellness programs, and providing resources to improve the overall well-being of college students. Having occupational therapists address student stress in higher education will not only advance the profession but will also help address the considerable problem areas of students dealing with mental health issues, physical health issues, and more.

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## About the Mental Health SIS

The Mental Health Special Interest Section (MHSIS) supports and advocates for occupational therapy practitioners, educators, and researchers working with individuals, groups, or populations across the lifespan in settings ranging from hospitals to schools and community programs who are at risk for or are currently diagnosed with a mental health challenge. The MHSIS values the centrality of occupation in the intervention process to prevent further illness, and promote performance, participation, quality of life, well-being, role competence and occupational justice.

- ▶ Meet the MHSIS committee members at [www.aota.org/MHSIS](http://www.aota.org/MHSIS).
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## Evidence Supports Self-Management Programs for Health Management

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# → Productive Aging

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## Occupational Therapy Intervention for Preventing Prescription Opioid Use Disorder in Older Adults

PA

Chang Dae Lee, MSOT, OTR; and Gerald T. Voelbel, PhD

Older adults (those 65 years and older) are at risk for prescription opioid use disorder (POUD). This disorder refers to problematic patterns of prescription opioid use leading to clinically significant distress or impairment in social or occupational functioning, and it includes abuse of, misuse of, dependence on, and addiction to prescription opioids. Representing 23% of total opioid users, 14.2 million older adults used prescribed opioids in 2016 (Centers for Disease Control and Prevention [CDC], 2017). About 20% of older adults filled at least one opioid prescription and 7% filled four or more opioid prescriptions from 2015 to 2016 (Moriya & Miller, 2018). Between 2010 and 2015, the number of opioid-related (e.g., opioid abuse) inpatient stays increased from 80,500 to 124,300 (54.4%) and emergency department visits rose dramatically from 18,100 to 36,200 (100%) among older adults (Weiss et al., 2018). Although prescription opioids are effective for improving pain, leading to increased occupational participation, after POUD develops, the safety of older adults is threatened (e.g., falls, delirium, dependence, tolerance, addiction, death; Dowell et al.,

2016; Weiss et al., 2018). The statistics indicate preventative health management interventions for POUD are essential to improve the health outcomes and well-being of older adults.

Older adults are vulnerable to POUD because of risk factors including pain, cognitive impairment, and age-related changes. Older adults have a high rate of acute (i.e., injuries, surgeries) and chronic pain (including cancer-related pain, among others), and often use prescription opioids to control this pain (CDC, 2017; National Center for Health Statistics, 2017). These medical conditions often lead to short- or long-term opioid therapy (i.e., medical interventions for pain), putting older adults at risk for POUD.

Among older adults, 42.2% take more than five prescription medications and many older adults experience difficulty following proper medication instructions. Medication becomes more challenging to manage when a person experiences cognitive decline, which affects some older adults (National Center for Health Statistics, 2017). Not that all older adults experience cognitive decline, but a few examples of medication management difficulty include errors such as forgetting prescription regimens or confusing one regimen with another, resulting in an incorrect dose of prescribed opioids (Smith et al., 2017). A typical response to a forgotten dose is to double the dose at the next scheduled time (Kuerbis et al., 2014). Chronic use and overdosing of opioids can lead to addiction and, in worst-case scenarios, result in opioid-related overdose death (CDC, 2017).

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Age-related changes may also lead to *intentional opioid abuse*—nontherapeutic opioid use with the intent of altering one’s state of consciousness (Institute of Medicine, 2012; Lehmann & Fingerhood, 2018). Some of the risk factors aging older adults may experience that can lead to misuse include biological (e.g., health conditions, loss of physical/cognitive function), social (e.g., isolation, loss of spouse or friends, change in the living arrangement), and psychological (e.g., loneliness, depression; Kuerbis et al., 2014; Laidlaw & Pachana, 2009). These age-related changes can lead to POUD, and this process can be accelerated by current and previous instances of substance abuse (Gold et al., 2016; Webster, 2017).

## Occupational Therapy Interventions for Preventing POUD

Comprehensive POUD prevention is best delivered by an interdisciplinary health care team (including physicians, nurses, social workers, and occupational therapists [OTs]) for the optimal and safe use of prescription opioids in older adults (Dowell et al., 2016). As part of the team, OTs can contribute to reducing POUD by embedding skills for the safe use of medications in their treatments. OTs currently provide pain and medication management to older adult clients taking prescription opioids for POUD prevention (Dowell et al., 2016; Schwartz & Smith, 2017). OTs work with clients to manage pain without opioids and train them to safely participate in meaningful activities without pain (Rowe & Breeden, 2018). They provide medication management interventions such as health literacy; training clients in using assistive devices (e.g., pillboxes); and pairing existing habits with medication taking to form a routine (American Occupational Therapy Association [AOTA], 2017).

In addition to pain and medication management, occupational therapy practitioners can provide behavioral health interventions that are crucial to support POUD prevention. For example, the Aging Adaptation Intervention combines existing interventions—including stress coping and role re-establishment training—with training for preventing the transition to POUD (Bazyk, 2016; Wasmuth et al., 2016). Aging Adaptation Intervention can contribute to preventing opioid abuse and addiction by reducing stressors that trigger POUD, derived from age-related changes. It can also prevent and reduce later-life substance use disorder, including POUD, and facilitate healthy and successful aging (Lehmann & Fingerhood, 2018). Aging induces stressors and may negatively affect coping skills for other stressful events. OTs can train older adults to cope with stress by using techniques such as cognitive behavioral therapy, relaxation, meditation, and exercise (Bazyk, 2016). During training, older adults learn to recognize and understand when they are stressed and practice techniques to manage and express their stress in effective and healthful ways so they can participate in valued activities.

In addition to stress coping training, OTs can provide role re-establishment training if older adults have lost their social roles. Older adults often lose social roles because of disconnectedness, which can lead to isolation (Tanner, 2010). OTs can support older adults as they re-engage in meaningful social activities by removing physical and psychological barriers to participation and encouraging them to find or build a supportive social network (AOTA, 2012). Depending on the individual’s needs, OTs can determine appropriate adaptations and provide re-training and re-education. These interventions can help older adults drive safely or use alternative community mobility options (AOTA, 2012), for example. This re-engagement in social activities will facilitate re-establishing their roles as family members,

friends, and senior community figures, and the social connectedness will improve their self-esteem and quality of life.

For older adults with a substance use disorder (e.g., illicit drugs, marijuana, alcohol), OTs can reduce the risk of transitioning from the misuse of these substances to POUD. By providing client-centered interventions supporting resiliency, health promotion, and a wellness lifestyle, OTs can encourage older clients with a positive future and provide interventions to help them participate in meaningful and purposeful activities (AOTA, 2016; Wasmuth et al., 2016). This reduces the likelihood that older adults will seek comfort in substances, including opioids (Opp, n.d.).

## Case Example

Ryan was a 68-year-old man referred to outpatient occupational therapy for lumbar herniated disc pain after a car accident, with persistent pain for 6 months. He had difficulty performing ADLs because of the pain with prolonged standing and sitting, or sudden changes in position. Accordingly, he was prescribed opioids. To reduce the herniated disc pain, the OT initiated a health promotion intervention in which Ryan was educated and trained on essential techniques for body mechanics, joint protection, and posture (i.e., keep back straight when lifting, use large-muscle groups, avoid kyphotic posturing and bilateral leg and trunk extension) for protecting his trunk while performing ADLs.

Although Ryan had intact cognition, the OT trained him to use a pill organizer and smartphone alarm to ensure he adhered to his medication regimen as prescribed. To improve adherence to his regimen, the OT made a note of all his medications on each alarm. In addition to preventing misuse, the OT advised taking only prescribed opioids and taking them only when necessary to reduce pain.

During later visits, Ryan shared that he had a drinking problem, which became worse when he retired. He had experienced involuntary retirement at the age of 59 and was not financially and emotionally prepared for retirement. The unexpected retirement made him feel depressed and without purpose. His social interactions decreased and he did not have a hobby to fill his leisure time, which had increased dramatically after retirement. To combat loneliness and counter boredom, he started drinking. During the session, he showed his interest in participating in social activities and having new hobbies. Accordingly, the OT administered the Occupational Profile (AOTA, 2017), the Canadian Occupational Performance Measure (Law et al., 2005), and the Modified Interest Checklist (Kielhofner & Neville, 1983) for exploring and improving participation in meaningful personal and social activities.

The results of the assessments indicated that Ryan wanted to learn woodworking and sports—golf, bowling, and swimming—for socialization and fitness, and to continue gardening. Based on his

## About the Productive Aging SIS

The Productive Aging Special Interest Section (PASIS) provides resources and support for clinicians, researchers, educators, and students who are addressing the complex needs of older adults along the continuum of care. It highlights new and innovative intervention approaches for older adults with physical, psychosocial, and developmental needs, as well as relevant policy impacting current geriatric practice.

- ▶ Meet the PASIS committee members at [www.aota.org/PASIS](http://www.aota.org/PASIS).
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answers, the OT recommended joining woodworking clubs that were both in-person and online to work with his hands, build furniture and wood projects, and make friends with common interests. Among the sports, the OT suggested swimming, which was safe for the lower back. Additionally, the OT trained him to use essential technique positions for protecting his trunk and to take several short breaks to reduce the stress and strain on his lower back while gardening and woodworking.

Because Ryan's drinking problem surfaced after retirement, the OT provided stress coping interventions. The OT taught relaxation and meditation strategies, as well as techniques to reduce stress. The OT also encouraged Ryan's wife and family to provide positive psychological support. Because Ryan's drinking problem was closely related to the loss of his roles, the OT provided Aging Adaptation Intervention. Furthermore, the OT recommended that Ryan join a 12-step program or to attend counseling to address his drinking problem and to reduce the risk of transitioning to POU.

In this example, the OT's POU preventive health promotion intervention promoted Ryan's independence in daily living and safe medication use. The interventions contributed to a successful adaptation to late-life change, so that Ryan would not be dependent on alcohol or other substances, including prescription opioids, and was able to keep himself active with his valued hobbies and interests.

## Conclusion

With their unique combination of skills and perspectives, OTs should provide Aging Adaptation Intervention, in addition to pain and medication management, to prevent POU in older adult clients. These interventions should be provided to all clients who take prescribed opioids, regardless of condition or referral reason. This will reduce the risk of POU and increase the health outcomes of older clients taking prescribed opioids. As a part of screening clients, OTs should check for opioid use and consider it during evaluation and intervention.

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# AOTA Critically Appraised Topic Series: Older Adults with Low Vision

A Product of the American Occupational Therapy Association's Evidence-Based Practice Project

This Critically Appraised Topic (CAT) is one in a series of systematic reviews summarizing the evidence related to children and youth. For more information on the methodology and to read additional CATs in the series, visit <http://www.aota.org/Practice/Productive-Aging/Evidence-Based.aspx>.

## **Focused Question**

What is the evidence for the effectiveness of self-efficacy-related interventions within the scope of occupational therapy practice to maintain, restore, and improve performance and quality of life in leisure, social participation, work, education, and rest and sleep for older adults with low vision?

## **Clinical Scenario**

In the United States, approximately 3 million people have low vision, and this number is predicted to rise to 5 million people in 2030. Sixty-three percent of those with low vision are women (National Eye Institute, 2017). Low vision cannot be corrected by eyeglasses, medication, or surgery (National Eye Institute, 2010). As a result, the visual impairment affects the person's ability to complete the occupations of leisure, social participation, work, education, and rest and sleep. The purpose of this review is to assist occupational therapy practitioners in making evidence-based decisions on the use of self-efficacy to improve performance and quality of life in leisure, social participation, work, education, and rest and sleep for older adults with low vision.

## **Summary of Key Findings**

Four articles met the inclusion criteria for review and provided evidence for strategies for self-efficacy: three Level I randomized controlled trials (RCTs; Girdler, Boldy,

Dhaliwal, Crowley, & Packer, 2010; Rovner et al., 2013, 2014) and one Level III single-group pretest–posttest study (Alma, Groot-hoff, Melis-Dankers, Suurmeijer, & Van der Mei, 2013). These four studies provide mixed findings for the effectiveness of interventions focused on self-efficacy for people living with low vision. The use of these strategies resulted in increased participation, reduction of depressive symptoms, and increased adaption to vision loss.

Usual care in conjunction with an 8-week self-management program demonstrated a significant increase in participation in life situations, significant reduction of the symptoms of depression, increased mental health, and improved self-efficacy when compared with usual care in a Level I RCT (Girdler et al., 2010).

In a Level I RCT composed of participants with age-related macular degeneration, the researchers compared the use of problem-solving therapy with supportive therapy and found no significant differences between groups in improvement of vision function. There was improvement in vision-related quality of life and development of more adaptive coping strategies through problem-solving therapy, although the results were not significant (Rovner et al., 2013).

In a Level I RCT of participants with age-related macular degeneration and sub-syndromal depressive symptoms, behavior activation plus low-vision rehabilitation at 4 months prevented depression by enabling social engagement. However, behavior activation in addition to low-vision rehabilitation did not result in significant improvements in functional vision when compared

with supportive therapy and low-vision rehabilitation (Rovner et al., 2014).

The Level III pretest–posttest study examined the efficacy of a 20-week multidisciplinary group rehabilitation program (Visually Impaired Elderly Persons Participating) with weekly meetings, focused on four components (practical training; education, social interaction, counseling, and training in problem-solving skills; individual and group exercise setting; and a home-exercise program). The intervention did not demonstrate statistically significant improvements in psychosocial functioning. There were no significant improvements in adaption to vision loss, decreased feelings of helplessness, increased mental health, or decreased vision-specific fear of falling (Alma et al., 2013).

## **Bottom Line for Occupational Therapists**

This systematic review provides evidence that problem-solving techniques, action plans focused on grading tasks, and self-management can improve the self-efficacy of people living with vision loss. Use of these strategies in an occupational therapy plan of care can lead to increased participation in meaningful activities, decreased depressive symptoms, improved quality of life, improved adaptation to vision loss, and increased self-efficacy among people living with visual impairment.

**This work is based on the evidence-based literature review completed by Julie Ann Nastasi, ScD, OTD, OTR/L, SCLV, CLA, FAOTA, and Chelsea Blair, MS, OTR/L.**

References available at <https://bit.ly/3kFOQhL>.

## **Inform Your Practice With Evidence Connection on Productive Aging Article**

Chronic disease self-management and cognitive-behavioral sleep strategies are some of the ways that occupational therapists and occupational therapy assistants can support productive aging. This Evidence Connection on Productive Aging article demonstrates the application of research to clinical practice: <https://bit.ly/3l8SJfW>.

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## Occupational Therapy's Role in the Treatment of Pelvic Organ Prolapse

RD

**Julie Blacker, MS, OTR/L; Kelsey Mathias, OTR/L, BCB-PMD; Tiffany Lee, MA, OTR, BCB-PMD, PRPC; Hyland Peek, MOT, OTR/L; and Mara Podvey, PhD, OTR**

Occupational therapy practitioners (OTPs) advocate for population health and wellness outcomes (Hammell, 2015), including supporting women's health (Podvey & Kern, 2018). They can fill gaps in available services across the lifespan, from healthy transitions to motherhood to supporting older women experiencing occupational isolation and physical changes. This article describes the role of OTPs around pelvic organ prolapse (POP), a common condition in women with pelvic floor (PF) disorders.

### What is POP?

The PF consists of three layers of superficial and deep muscles, and a complex system of ligaments and pelvic bone structures (Vopni, 2014). The PF represents the bottom of the "core" muscles. Other muscles that comprise the core include the diaphragm, transverse abdominis, and multifidus muscles. The PF supports pelvic organs and allows force from different directions, offers stability and postural control, supports breathing, allows for sexual function and control of bladder and bowel sphincters, and provides drainage of blood

and lymphatic fluid (Saunders, 2017; Vopni, 2014). Risk factors for PF dysfunction include:

- ▶ Pregnancy and childbirth
- ▶ Aging and related conditions (e.g., decreased estrogen, elasticity)
- ▶ Health conditions (e.g., obesity, chronic constipation/cough, increased pelvic pressure, nerve/muscle diseases, joint/connective tissue disorders)
- ▶ Behaviors (e.g., smoking, repetitive heavy lifting, excessive caffeine consumption) (Howard & Makhoulf, 2016; Saunders, 2017; Vopni, 2014)

POP, a common type of PF dysfunction, is a weakening or disruption of the PF system, resulting in organs typically supported sagging into the vaginal canal (see Table 1 on page 28 for types of POP). POP is typically evaluated by a gynecologist, urogynecologist, or PF therapist with advanced training through pelvic exam in supine and standing positions. More than 50% of women who gave birth at least once will experience POP during their lifetime (Saunders, 2017; Vopni, 2014). Pain, discomfort, urinary/fecal incontinence, difficulty emptying bladder/bowels, constipation, emotional distress, and poor body image are some symptoms and reactions associated with POP.

POP frequently leads to activity limitations, which can considerably affect quality of life, including discomfort leaving home and decreased participation in work, self-care, leisure, sexual activity, and many activities associated with motherhood (Saunders, 2017).

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Type of Prolapse	Organs Involved
Cystocele	Bladder
Enterocoele	Small Intestine
Rectocele	Rectum
Hysterocele	Uterus
Vaginal Vault	Upper vaginal wall or uterus

Prolapse symptoms can interfere with one's ability to maintain a healthy lifestyle, remain independent, and participate in fulfilling relationships. POP is not an individual issue; disruption of occupations can affect entire family structures, workplaces, and communities.

Because of their sensitive nature, clients may be reluctant to discuss POP symptoms with anyone, so OTPs may identify potential POP symptoms as they develop a client's occupational profile, or during interventions for other issues. OTPs can explain that symptoms causing occupational disruption (e.g., incontinence, pelvic pain, difficulty with elimination) are common but not normal, and can be addressed after a pelvic evaluation by a qualified professional (e.g., gynecologist, urogynecologist) determines the degree and specific location of the POP, and the organs affected. Treatment options include surgical and non-surgical (e.g., therapeutic) interventions. Surgery relieves symptoms, but recurrence rate is as high as 30% (Chung & Kim, 2018). Alternatively, many women choose conservative treatment using a *pessary*, a device placed into the vagina temporarily supporting the pelvic organs and relieving symptoms for improvements in quality of life.

## Occupational Therapy's Role in POP Management

The high prevalence of POP means OTPs working with women will likely encounter clients with POP in traditional practice areas. All OTPs can improve POP outcomes by providing basic interventions, client education, and referrals. Occupational therapy is a natural fit for minimizing the effects of POP on daily occupations by incorporating interventions that promote healing and well-being, and prevent further harm. In addition to the physical management (explained later in this article), POP is an emotional, participation, and physical barrier. Understanding habits, routines, and lifestyles with POP is critical for promoting best outcomes for occupational performance and participation (Due et al., 2016). OTPs can create a global treatment plan considering all aspects of a client's life (Sabel & Gallagher, 2015) including addressing daily life implications, adaptations, psychological effects, social influences, sexual difficulties, and hygienic effects of prolapse.

Understanding habits, routines, and lifestyles supports promoting best outcomes for occupational performance and participation after POP. For example, new mothers may present with POP, but still need to care for their baby and other children while managing lift restrictions. Considering necessary occupations for individual clients is important while simultaneously promoting mental health and prevention of other comorbidities, including back pain and carpal tunnel syndrome. All OTPs can:

- Teach clients to correctly perform Kegel exercises, including contraction and release, to develop a strong, flexible PF that supports the pelvic organs (Evans, 2019)
- Provide education around diet (e.g., increase fiber/fluid intake) to decrease constipation and strain during voiding, reducing the

incidence and preventing worsening of POP (Due et al., 2016)

- Improve poor body mechanics and compensations that may exacerbate POP symptoms by means of ergonomic and core strength training (Vopni, 2014)
- Teach self-regulation techniques, including progressive muscle relaxation and mindfulness, to decrease anxiety while improving body awareness (Goodman et al., 2019)
- Use environmental modification strategies to reduce lifting, straining, or pulling, which can aggravate POP symptoms (Podvey & Kern, 2018)
- Train clients to decrease intra-abdominal pressure by breathing/exhaling with movement or effort (e.g., picking up a baby; Due et al., 2016)

## Advanced Evidence-Based Interventions for POP

Some occupational therapists (OTs) and physical therapists (PTs) may choose to complete advanced continuing education courses to become PFOTs or PFPTs who evaluate and treat clients specifically for PF dysfunction, including POP. Advanced education and certification in PF therapy are also available for interested PFOTs.

PFOTs use individualized PF therapy to reduce POP symptoms and increase quality of life by improving PF muscle strength and endurance, resting tone, awareness of muscle relaxation, and awareness of body posture during functional activities (Maxwell et al., 2017). PF therapy strategies vary depending upon the practitioner, their discipline, and their specific training. PFOTs can help clients make behavioral changes when participating in ADLs/IADLs by analyzing respiration and posture to ensure effective diaphragmatic breathing and coordination of PF muscles. PFOTs teach clients to engage the transverse abdominal muscles during movements, including ADL and IADL participation, decreasing concerns around prolapse.

Pelvic floor muscle training (PFMT) is an effective type of PF therapy that is more cost effective than surgery (Maxwell, et al., 2017). Clients receiving PFMT have fewer prolapse, vaginal, bladder, and rectal symptoms and report feeling improvements in their prolapse (Li et al., 2016). PFMT may include strengthening exercises and surface electromyography biofeedback, a form of strengthening and changing muscle function through biofeedback. When PFMT is combined with lifestyle modification (e.g., behavioral changes to reduce pressure on PF), clients perceived global improvements and reduction of prolapse symptoms (Due et al., 2016).

Other PF therapy interventions include splinting to evacuate bowels, an approach that involves applying pressure externally on the perineum or internally through the vagina, pushing against the rectum; double voiding; constipation management; effective lifting techniques

## About the Rehabilitation & Disability SIS

The Rehabilitation & Disability Special Interest Section (RDSIS) addresses the needs of practitioners who serve individuals with physical dysfunction resulting from a wide range of conditions. The RDSIS also includes the Hand Rehabilitation Subsection for those who address dysfunction of the hand and upper extremity, and the Driving/Driver Rehabilitation Network to educate and support therapists to provide pre-driving screens or driver assessments and training, or to serve as referral sources to appropriate agencies.

- Meet the RDSIS committee members at [www.aota.org/RDSIS](http://www.aota.org/RDSIS).
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including “the knack,” which is an elevation of the PF with movement to engage PF muscles; and avoidance of intra-abdominal pressure by breathing/exhaling with movement (Trowbridge and Fenner, 2005).

## Case Example

Mary was a 31-year-old stay-at-home mother of three who was referred to a PFOT for bladder prolapse, and urinary and fecal incontinence. Before her referral, Mary’s symptoms gradually worsened. Her fear of having her “bladder fall out” and having an incontinent episode in public had caused her to become homebound. Mary expressed concerns that her marriage would suffer because she was concerned about intercourse exacerbating her prolapse. She expressed feelings of hopelessness, low self-esteem, and difficulty balancing her roles as mother, wife, and homemaker. After discussing her concerns with the PFOT, Mary’s goals for treatment were to reduce episodes of urinary and fecal incontinence, improve self-efficacy with her life roles, and be able to complete ADLs and IADLs without increased POP symptoms. The PFOT addressed Mary’s fears by educating her on PF anatomy and risks associated with having a prolapse; the role of diet and fluids in urinary frequency, constipation, and straining; and proper toileting postures to reduce straining and assist with full elimination. The PFOT trained Mary to use good body mechanics when picking up her kids to reduce pelvic pressure. Mary learned to use lubricants, increase time with foreplay, and experiment with positions to engage in pain-free intercourse. She also learned how to breathe while allowing her ribs and belly to expand while inhaling. This technique helped relax her PF muscles and reduce symptoms of prolapse. The PFOT developed a PF strengthening program to address Mary’s urine and stool leakage. The PFOT taught Mary how to perform PF muscle contraction without using abdominal muscles, and relaxation using surface electromyography biofeedback. As Mary’s PF muscle control improved, the PFOT taught her to inhibit bladder urges, particularly when she was in the community, and how to relax her PF muscles during a bowel movement. Through therapy, Mary reported improved confidence in her own body as her bladder and bowel patterns became more regular and leakage reduced. She reported a reduction in prolapse symptoms and improved self-esteem as she regained control of life’s most basic functions. Mary’s participation in community activities resumed, including a weekly moms’ group, grocery shopping, and attending church. Mary reported full participation in her roles as mother, wife, and homemaker.

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## Resources for POP

- ▶ [www.pelvicorganprolapsesupport.org/](http://www.pelvicorganprolapsesupport.org/)
- ▶ <http://www.icsoffice.org>
- ▶ <https://www.voicesforpfd.org/resources/helpful-organizations/>
- ▶ <https://www.acog.org/patient-resources/faqs/gynecologic-problems/pelvic-support-problems>

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## Self-Management Interventions for ADLs Among Adults With Chronic Conditions

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## Chronic Conditions Management at the Workplace



Priya Parekh, OTD, OTR/L, CEAS; and Marissa Marchioni, OTD, OTR/L, CEAS

High quality workplace wellness programs are in essence health promotion programs designed to improve employee health through implementing lifestyle and behavior changes. According to the Centers for Disease Control and Prevention (CDC; 2016), workplace wellness is a coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite. The U.S. Bureau of Labor Statistics' 2016 report states there are 151 million working adults in the United States, and among those 133 million have a chronic condition. Chronic conditions are physical and mental conditions that last more than 1 year such as diabetes, heart disease, obesity, hypertension, anxiety, and arthritis, among others (CDC, 2019). The World Health Organization (2005) asserts that unhealthy diet, lack of physical activity, substance use disorders, and protracted stress are some of the risk factors for chronic conditions.

Chronic conditions have costs such as decreased productivity, increased health care use, and absenteeism (Schopp et al., 2015). *Absenteeism* is a term used when an employee is habitually and frequently absent from work (Collier, 2018). According to the CDC (2019), managing chronic conditions costs the health care system

\$3.3 trillion per year. Another study shows that absenteeism because of chronic conditions costs more than \$2 billion each year (Asay et al., 2016).

Health-related employer costs and productivity burdens have generated a pressing need for interventions to promote employee health and well-being (Schopp et al., 2015). With advances in best practices, many health conditions can be prevented through changing behaviors and lifestyle (Hooker et al., 2018). Research reveals that companies that implement health promotion programs can effectively improve employee risk factors like blood pressure, cholesterol levels, body weight, physical activity, stress, tobacco use, and nutritional intake (White et al., 2015).

The benefits of well-designed, comprehensive programs are clear in their identified return on investment. For example, the Rand Wellness Program Study examined 10-year data from a Fortune 100 employer and examined the aspects of the employer's wellness program. Interestingly, chronic condition management was responsible for generating \$136 in savings per employee per month and reducing hospital admissions by 30%; lifestyle management was responsible for generating \$6 in savings per employee, per month (Schaefer, 2015). Additionally, the National Institute for Occupational Safety and Health's (NIOSH's) Total Worker Health® program seminal research provides substantial evidence of the efficacy of multilevel worksite health promotion programs in terms of return on investment and health outcomes (NIOSH, 2012).

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## Role of Occupational Therapy in Workplace Wellness

Occupational therapists' (OTs') expertise in health promotion, wellness, and functional engagement in routines makes them well suited for workplace wellness. OTs play a critical role in this field through their holistic understanding of the dynamic relationships among people, their environment, and ADLs, and how these interactions influence one's health and well-being (American Occupational Therapy Association, 2015; Morris & Jenkins, 2018). OTs can collaborate with employers and employees to determine goals important for the company, perform ergonomic evaluations to increase safety and reduce concerns stemming from the physical environment, assess individual's abilities related to job demands and intervene as appropriate to improve work performance, and provide individual or group seminars regarding techniques to improve health and function with existing common health conditions (Canadian Association of Occupational Therapists, n.d.). Additionally, OTs can implement

lifestyle interventions to make employees healthier and improve their productivity by focusing on lifestyle areas like stress, sleep, physical fitness, eating routines, and social participation (Asay et al., 2016; see Table 1). Another intervention is the Hierarchy of Controls (NIOSH, 2015; see Table 2), which can be easier to implement through in-house OTs by addressing the needs of employees with chronic conditions while collaborating with senior management to change the work environment. OTs can also offer work wellness services in outpatient and other settings.

### Case Example

Jessica was a 35-year-old woman who worked as a project manager in a multi-national company. She was referred to occupational therapy after being diagnosed with Type 2 diabetes and anxiety disorder

Performance Area	Assessment Tools	Intervention
Self-regulation health management IADL	Beck depression inventory II (Beck et al., 1996) Generalized Anxiety Disorder 7 item scale (Spitzer et al., 2006) Perceived stress scale (Cohen et al., 1983)	<ul style="list-style-type: none"> <li>➤ Cognitive restructuring techniques</li> <li>➤ Sensory strategies</li> <li>➤ Mindfulness-based interventions</li> <li>➤ Behavioral adaptations</li> </ul>
Sleep	Epworth sleepiness scale (Johns, 1991)	<ul style="list-style-type: none"> <li>➤ Sleep hygiene techniques</li> <li>➤ Environmental modification</li> </ul>
Health management IADLs—physical fitness, healthy eating routines	Canadian Occupational Performance Measure (Law et al., 2014)	<ul style="list-style-type: none"> <li>➤ Time management techniques</li> <li>➤ Establishing eating routines</li> </ul>
Work	Work environment scale (Moos, 2008)	<ul style="list-style-type: none"> <li>➤ Flexible work schedules</li> <li>➤ Ergonomic consultation</li> <li>➤ Support groups</li> <li>➤ Education seminars</li> <li>➤ Work culture that supports wellness (i.e., resources available, walking meetings, movement breaks; NIOSH, 2012)</li> </ul>
Social participation	Social Profile (Donohue, 2013)	<ul style="list-style-type: none"> <li>➤ Communication strategies</li> <li>➤ Assertiveness training</li> <li>➤ Role play</li> </ul>

Models	Description	Ways to Use the Models
Health promotion model and chronic conditions model (Matke et al., 2014)	Using motivational interviewing to emphasize the importance of healthy eating, engagement in physical activity, stress, energy conservation, and sleep routines.	Analyze routines, behaviors, and habits.
Wellness model (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012)	Dynamic process of learning new life skills and making conscious choices toward a more balanced and healthier lifestyle.	Analyze which dimensions—physical, financial, emotional, social, environmental, intellectual, spiritual, and occupational—are affected and strategize to cope with the concerns.
Person–Environment–Occupation Model (Law et al., 1996)	Balancing all 3 components results in improved occupational performance, a healthy state of mind, and healthy body.	Analyze the interrelationship between the 3 factors to modify the respective components for better outcomes.
Hierarchy of Controls (NIOSH, 2015)	Comprised of 5 stages, going from least effective to most effective ways to intervene, which includes personal protective equipment, administrative controls, engineering controls, substitution, and elimination.	Example of the intervention: OT can encourage workers to take ergonomic breaks; collaborate with management to change meetings to “walking meetings”; post signs encouraging walking; substitute unhealthy food with healthy options and eliminate unhealthy food at office parties.
NIOSH Total Worker Health® program (NIOSH, 2012)	Emphasizes policies, programs, and practices to promote workers' health through illness prevention and health promotion programs.	Conduct seminars, analyze company's goals and work culture to implement different intervention models while adhering to management's expectations.

which was exacerbated by work-related stress. Jessica reported cognitive and emotional work demands, difficulty with time management, and decreased/absence of physical activity and leisure participation.

The OT completed Jessica's occupational profile to gain insights regarding routines and behaviors in the workplace, her physical environment, and to understand the work culture. Jessica's primary goals were to better manage her anxiety and diabetes by improving her time management, increasing participation in physical activity, and improving sleep. The OT administered the Canadian Occupational Performance Measure (COPM; Law et al., 2014) during evaluation and at the discharge session where she identified stress, physical activity, time management, leisure participation, and sleep as her outcome measure areas. The COPM assesses a client's perceived performance and satisfaction in self-selected daily activities. Scores range from 1 to 10, with higher scores indicating better performance and satisfaction.

Based on the Wellness Model (SAMHSA, 2012), the OT focused on physical, emotional, social, and vocational dimensions of wellness to create a balanced and healthier lifestyle that addressed Jessica's concerns over a span of 12 weeks. The OT used cognitive behavioral techniques to combat Jessica's cognitive distortions, and mindfulness to improve her nervous system response. Time management strategies like scheduling, organizing, and prioritizing helped Jessica improve her work structure and flow at the workplace, while at home it gave her slivers of time to increase participation in physical activity like going to the gym and running; and leisure activities like playing guitar and sketching. Keeping Hierarchy of Controls in mind, Jessica proactively started taking ergonomic breaks (personal protective equipment), used stairs instead of elevators (engineering control) furthering her participation in physical activity, conducted walking meetings (administrative controls) and substituted healthy food for the unhealthier options at her office meetings (substitution and elimination). By the end of 12 weeks, Jessica noted significant changes in her life and health conditions as evidenced in the COPM scores by an increase in the performance rating by 3.9 points and satisfaction rating by 5.4 points. A change in the COPM score of 2 or more points is considered clinically significant (Law et al., 2014). She lost 10 lbs as a result of increased physical activity, improved her time management, and reported incorporating anxiety/stress coping skills and increased participation in leisure activities, resulting in decreased anxiety.

## Conclusion

Evidence suggests that unmanaged chronic conditions have a profound effect on an individual's sense of occupational well-being

## About the Work & Industry SIS

The Work & Industry Special Interest Section (WISIS) focuses on the distinct role of occupational therapy in assisting people and groups across populations to engage and reengage in the meaningful occupation of work throughout the lifespan. The WISIS is dedicated to understanding the relationship of work to human development, motivation, and performance and supporting occupational therapy practice in a wide variety of settings. The WISIS provides a forum for networking with peers and other professionals, a means to access clinical resources, and a way to share emerging service delivery systems.

- Meet the WISIS committee members at [www.aota.org/WISIS](http://www.aota.org/WISIS).
- Join the CommunOT™ discussion at [www.aota.org/WISIS-forum](http://www.aota.org/WISIS-forum).



Explore evidence on Work and Industry in the Topics section of the *American Journal of Occupational Therapy* at <http://ajot.aota.org/topics.aspx>.

because it disrupts their routines (Crespo et al., 2013). Routines structure our daily activities, which play a pivotal role in an individual's health and well-being. OTs can use their expertise in health promotion, wellness, and functional engagement to help improve workplace wellness.

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## Evidence Supports Work Rehabilitation Programs, On-Site Interventions

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