

CATEGORY: HORTICULTURAL THERAPY & HEALTH SERVICES

Allied Therapeutic Modalities

Allied therapeutic disciplines including occupational, physical, recreation therapy as well as health providers across disciplines including counselors, social workers, nutritionists, and mental health staff are using horticulture, gardens, gardening, adaptive gardening tools and techniques within their services. Social prescribing is a practice gaining traction in the UK and the U.S., being implemented across health disciplines (Hardman et al., 2024; Fixsen & Barrett, 2020 & 2022; Thompson, 2018). Health professionals are also using self-care involving gardens and gardening for themselves, evident during COVID-19 and its associated stress (Cordoza et al., 2018). A variety of populations and settings are seeing plant-based interventions delivered by allied professionals including children and college students, radiation and cancer patients, and nurses, at parks, green spaces and dental offices. Polyvagal theory, positive psychology and mindfulness are appearing in the literature, sometimes delivered in conjunction with HT/TH.

For related resources refer to category: Horticultural Therapy & Health Services – all sections.

Key Organizations

[American Therapeutic Recreation Association](#) (ATRA)

[American Occupational Therapy Association](#)

[Green4C Alliance](#)

Books, journals & epublications

American Journal of Recreation Therapy

Dana, D. (2018). *The polyvagal theory in therapy: Engaging the rhythm of regulation*. W.W. Norton & Company.

Porges, S.W., & Dana, D. (2018). *Clinical applications of the polyvagal theory: The emergence of polyvagal-informed therapies* (Norton Series on Interpersonal Neurobiology). W.W. Norton & Company.

Research & articles

Recently published selected research & articles:

Armstrong, A., Nolan, C., Cremin, K. et al. (2023). The relationship between horticulture, recovery and occupational therapy in mental health: A scoping review. *Occupational Therapy in Mental Health*, 1-26.

Burke, HK., Burke, LM., Hacker, CG., & Lane, SJ. (2024). Nature-based pediatric occupational therapy: A scoping review. *Phys Occup Ther Pediatr.*, 44(1), 96-109.

Cancer Research UK. (2024). [Aromatherapy](#).

Casella, J. (2021). Complementary and alternative medicine: Reliable websites for consumers [includes HT]. *Journal of Consumer Health on the Internet*, 25(2), 196-204.

Chang, TW., Tsai, ST., Huang, HY. et al. (2024). Slow well-being gardening: Creating a sensor network for radiation therapy patients via horticultural therapeutic activity. *Sensors (Basel)*, 24(12), 3771.

Choi, N., Yamanaka, T., Takemura, A. et al. (2022). Impact of indoor aroma on students' mood and learning performance. *Building and Environment*, 223, 109490.

Cordoza, M., Ulrich, R.S., Manulik, B.J. et al. (2018). Impact of nurses taking daily work breaks in a hospital garden on burnout. *Am J Crit Care.*, 27(6), 508-512.

- Clarke, F.J., Kotera, Y., & McEwan, K. (2021). A qualitative study comparing mindfulness and shinrin-yoku (forest bathing): Practitioners' perspectives. *Sustainability*, 13(12), 6761.
- Davis, B.E. (2011). Rooftop hospital gardens for physical therapy: A post-occupancy evaluation. *HERD*, 4(3), 14-43.
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- Elsadek, M., Xie, J., & Jie, G. (2023). The impact of indoor plants on patient recovery: Physiological and psychological effects in dental clinics. *HortScience*, 58(11), 1376-1382.
- Farrar, A.J., & Farrar, F.C. (2020 Dec). Clinical aromatherapy. *Nurs Clin North Am.*, 55(4), 489-504.
- Firby, H., & Raine, R. (2023). Engaging with nature and the outdoors: A scoping review of therapeutic applications in contemporary occupational therapy. *British Journal of Occupational Therapy*, 86(2), 101-115.
- Fixsen, A., & Barrett, S. (2022). Challenges and approaches to green social prescribing during and in the aftermath of COVID-19: A qualitative study. *Front Psychol.*, 13, 861107.
- Fixsen, A., & Polley, M. (2020). Social prescribing for stress related disorders and brain health. *Int Rev Neurobiol.*, 152, 237-257.
- Fleming, L., House, B., & Kirby, J. (2018). Half-day intensive grow your professional skills: Gardening, gardens & therapeutic horticulture [for recreation professionals]. *Canadian Therapeutic Recreation Association*.
- Fleming, L. (2017). Laughter therapy and horticultural therapy: Cross-pollination. *Journal of Therapeutic Horticulture*, 27(2), 39-50.
- Furuyashiki, A., Tabuchi, K., Norikoshi, K., et al. (2019). A comparative study of the physiological and psychological effects of forest bathing (Shinrin-yoku) on working age people with and without depressive tendencies. *Environmental Health and Preventive Medicine*, 24, 46.
- Ga-Yeon, K., & Pouong-Sik, Y. (2024). Effects of forest activities on sleep and problematic behaviours in young children. *Journal of People, Plants, and Environment*, 27(2).
- Hardman, M., Hubbard, L., & Watson, H. (2024). Upscaling green social prescribing and urban agriculture in cities: Reflections on social and horticultural therapy in the United Kingdom. *The Professional Geographer*, 76(2), 170-179.
- Hart, B., & Zanskas, S. (2021). Cultivating care: Trauma, homeless veterans, and nature-based therapy. *Journal of Therapeutic Horticulture*, 31(1), 25-38.
- Jin, H.Y., Gold, C., Cho, J. et al. (2023). The role of healthcare facility design on the mental health of healthcare professionals: A literature review. *HERD*, 16(1), 270-286.
- John Hopkins Medicine. (2024). Aromatherapy: Do essential oils really work?
- Khan, S.U., Hamza, B., Mir, R.H. et al. (2023). Lavender plant: Farming and health benefits. *Current Molecular Medicine*.
- Kaplanis, G.F. (2019). Harnessing nature for occupational therapy: Interventions and health promotions. Doctoral dissertation. *Nova Southeastern University College of Health Care Sciences*.
- Kemper, K.J. (2022). Food as medicine: Health professionals promoting victory gardens in light of climate crisis. *Complement Ther Med.*, 70, 102869.
- Kim, D. (2020). The effects of a recollection-based occupational therapy program of Alzheimer's Disease: A randomized controlled trial. *Occup Ther Int.*, 6305727.
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Examples of allied therapeutic modalities using plant-based activities

[LeadingAge Florida Association and Eldergrow GARDEN therapeutic horticulture programs](#) across Florida was funded in 2021 from the Agency for Health Care Administration to implement therapeutic horticulture programs at 22 nursing homes in Florida.

The Mobility Garden at Sarasota Memorial Hospital Rehabilitation Pavilion in Sarasota, FL. Occupational therapists use the Mobility Garden for treatment for compromised physical abilities.

The Plantrician Project seeks to educate, equip and empower physicians, healthcare providers and other health influencers with knowledge about the benefits of whole food, plant-based nutrition.
<https://plantricianproject.org/vision>

Videos, websites & webinars of allied therapeutic modalities using plant-based activities

CNN article and video “Gardening becomes healing with horticultural therapy” by A. Chilag includes several examples where allied health disciplines include gardening for their clients.
<https://www.cnn.com/2018/08/03/health/sw-horticultural-therapy/index.html>

Ergonomic Gardening Tips for Arthritis Patients video from Johns Hopkins Arthritis center provides information from occupational therapists and garden experts.
https://www.youtube.com/watch?v=r7O9e32qh_E

Green4c organization’s website identifies its mandate, network partners, and practices at the EU level in the field of Green Care including forest-based care, urban green care, social agriculture and green care tourism.
<https://www.greenforcare.eu/>

Therapy Garden at McGuire VA Medical Center (MVAMC) in Richmond, VA where occupational therapists use gardening and gardens supporting patients with polytrauma.
<https://www.youtube.com/watch?v=jWYmQWepEC0>

Using Gardens in a Holistic Approach to Occupational Therapy with Deedee Levine video.
https://www.youtube.com/watch?v=sotXsH_YCnY

Related organizations

[Florida Physical Therapy Association](#) (FPTA)

[Florida Counseling Association](#)

[American Counseling Association](#)

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