

When Nature Threatens

Approaches to Leading Horticultural Therapy in Hot Weather

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Summer weather provides an opportunity to reflect on how horticultural therapy (HT) can continue to be done, even in sweltering temperatures. Although heat comes with inherent risks, HT can be adapted to empower participants in creating a healthier relationship with the natural world.

Participant and therapist safety during an HT session is of primary concern. Extreme heat can have serious health consequences, including medication complications, dehydration, muscle cramps, heat exhaustion, heat stroke, and worsening of pre-existing health conditions.¹ Any symptom (figure 1A to the right) represents a significant health risk that must be immediately addressed.^{1,2} The goal, then, is to prevent heat-related illness.

Adapting an HT activity to high temperatures can be challenging. One approach, described in *Horticultural*

Therapy Methods,³ is for the therapist to adjust how they lead the group. There are three main styles of group leadership: authoritarian, democratic, and laissez-faire. Authoritarian leadership exhibits tight control and supervision. Democratic leadership presents a task, provides choice, and facilitates decision-making. The laissez-faire style has minimal leader direction,

allowing individuals to decide and act on their own.

Comfort with these styles allows the therapist to meet the heat in front of them (figure 1B on page 18). Imagine you work in a rehabilitation hospital, it is 1:45 PM,

FIGURE 1A – SYMPTOMS OF HEAT RELATED ILLNESS

If any are present, move person to cool or shaded place and begin medical care.²

TYPE	SYMPTOMS
Edema	<i>Extremity swelling, facial swelling or flushing</i>
Cramps	<i>Muscle spasms, moist and cool skin, normal body temperature</i>
Rash	<i>Eruption of red raised skin rash, especially on parts of body with higher moisture</i>
Syncope	<i>Lightheadedness, dizziness, confusion, orthostasis, transient loss of consciousness</i>
Exhaustion	<i>Thirst, headache, fatigue, high heart rate, weakness, nausea, vomiting, diarrhea, cold and clammy skin, elevated temperature of 101°-104°F</i>
Stroke	<i>Altered mental status, seizures, coma, low blood pressure, fast and shallow breathing, sweating, core temperature ≥105°F</i>

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85 degrees, and you are about to lead an HT session for a patient who recently suffered a stroke. They are steadily regaining function, saying that your sessions are an important part of their healing.

Consider the styles; all three are valid. The authoritarian voice reminds you to set strict safety requirements. Through the democratic lens you see a patient wrestling with their perception of autonomy; they may want a broad range of activity options. Laissez-faire reminds you to focus on the patient and work together to better understand their therapy goals.

Many of the people we serve are at higher risk of heat-related illness: older adults, people using health-related technology, those with chronic medical conditions.⁴ We must not limit their access to nature on the basis of their vulnerability as long as access can be provided safely. Integrating multiple leadership approaches is one way to adapt HT to them.



REFERENCES

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3. Haller, Rebecca L., and Christine L. Capra. Horticultural Therapy Methods: Connecting People and Plants in Health Care, Human Services, and Therapeutic Programs. Second ed., CRC Press, 2017.
4. <https://www.cdc.gov/extreme-heat/about/index.html#:~:text=Protect%20yourself%20when%20it's%20hot,staying%20safe%20during%20extreme%20heat.>
5. <https://arielschecklist.com/wbgt-chart/>
6. Haller, Rebecca L., et al. The Profession and Practice of Horticultural Therapy. CRC Press, Taylor & Francis Group, 2019.
7. <https://ephtracking.cdc.gov/Applications/HeatRisk/>

FIGURE 1B – APPROACHES TO SAFE AND EFFECTIVE HT ACTIVITY IN HOT WEATHER

STYLE	SELECT APPLICATION WITH EXAMPLES
Authoritarian	Strict symptom safety. Discuss symptoms of heat-related illness prior to starting and advise participant to alert provider immediately if any symptoms arise. Environmental requirements. Factors in the environment that increase one's risk of heat-related illness include adequate breaks, access to shelter/shade, regular sips of water, high humidity, and high temperatures.² Online sources can help guide safety of temperature and relative humidity.⁵ Managing participant's risk factors prior to starting. Discuss patient's unique risk factors for heat-related illness. For example, a person with diabetes who is sweating a lot is at higher risk of blood sugar disturbances. Facility policy. Work with facility to ensure you are aligned with their policies. For example, some facilities may restrict outdoor time at particular temperatures. Personal limits. You may have personal sensitivities. Set your limits and take care of yourself.
Democratic	Cultivate a diversity of garden locations. Toggling between different garden microclimates allows you to maximize time in the garden in extreme weather. Great garden spaces for a hot day include under a shaded canopy, near a bustling water feature, or in a well-ventilated greenhouse. Hold space to consider options and discuss. Some people may have strong emotional reactions to hot weather. Stimulate discussion to understand their needs and goals. Activities requiring less exertion may be favorable. Discuss the optimal zone of environmental press (EP). EP represents the limiting or stimulating aspects of the environment. Adapting to an environment depends on the interaction between EP and the individual's competencies. Optimal EP occurs when the environment promotes reasonable challenge but does not frustrate. Decreasing EP in hot weather may include ready access to essentials such as water and seating.⁶ Map the weather together. Cognitive problem solving in nature is a healthy way to stimulate and condition the brain. The government-run website, HeatRisk, shows your county's heat impact.⁷ Plan outdoor activities with participants for earlier or later in the day.
Laissez-faire	Prompt for reflection. Sit in a shaded place to watch how the sun shines on the plants. Encourage participants to reflect on how their body feels in the heat. Provide wide variety of activity options adapted to hot weather. Consider referring to the neurosequential model of therapeutics and horticultural activities, a technique of purposefully stimulating particular brain regions with targeted HT activities (e.g. designing a garden layout to stimulate cognitive problem solving in the brain's neocortex).⁶ Promote creativity. For example, make music with garden instruments, such as bamboo poles and sand. Emphasize independence. Useful when participant needs to set their own agenda. Allow individuals to safely explore the space.