



Occupational Therapy: How to Meet the Needs of Farmers

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AgrAbility Virginia

AgrAbility Virginia promotes safety, wellness, and accessibility on the farm through education, rehabilitative services, and assistive technology. AgrAbility Virginia offers services to farmers at no cost, supports a wide diversity of farmers and farmworkers across all farming communities, and addresses a wide variety of disabling conditions in agriculture. To learn more, you can visit our website by going to www.agrabilityvirginia.org.

Understanding the Landscape of Virginia Agriculture

As food producers and land stewards within both rural and urban communities, farmers are a significant segment of the population in the United States. Protecting and promoting farmers' health and safety is essential not only to preserve a high quality of life for our farmers but also to our food security, our economy, and the health of our communities.

Agriculture is Virginia's largest industry, with an economic impact of \$82.3 billion annually, providing more than 381,800 jobs in the Commonwealth (USDA, 2022; VDACS, 2025). With a strong agrarian tradition, Virginia's agricultural context is one of the most diverse in the United States. From a commodity perspective, the

state ranks competitively for tobacco production and in seafood, cattle, apple, and peanut production, and is well known for poultry production (USDA, 2022; VDACS, 2025). Farming practices and models differ regionally and in different contexts. For example, dairy and beef cattle farming communities thrive in southwestern and central Virginia, while we celebrate cut flowers, goat, and tilapia production in southeastern Virginia.

Although commodities play a significant role in Virginia, the changing face of agriculture is illustrated through a majority of small-scale, diversified farms. The findings from the 2022 Census of Agriculture point out that there are 39,000 farms, while the average size farm is 187 acres (USDA, 2025). The variety of farming practices and diversity of producers may be at least partially attributed to the prevalence of small-scale agriculture. Small farms are crucial to Virginia's agricultural identity, as well as its economy.

Lastly, Virginia farmers and consumers have embraced the local and regional food movement, which is growing at a teeming rate following a national farm-to-table trend. This investment in the local and regional food system directly impacts the survival and viability of agriculture in the state. (Niewolny, et al., 2016).

Virginia Farmers

As in other states, the average age of farmers in Virginia has been steadily increasing, with the average age of farmers now reaching 59.2 in 2022 (USDA, 2022). As farmers age, they may experience impaired vision and hearing, slow reaction times, and other conditions such as arthritis and stroke (Raghupathi & Raghupathi, 2018). These factors may adversely affect farmers' ability to farm safely, resulting in primary or secondary injuries.

According to the *Bureau of Labor Statistics Injury and Illness Report*, among all U.S. states, Virginia had the 17th highest fatal injury rate per 100,000 full-time workers in the agriculture, forestry, fishing, and hunting sectors (BLS, 2023a). Moreover, the ratio of the fatal injuries in Virginia's agriculture, forestry, fishing, and hunting sector (19.8) was higher than the overall rate across all state industries (2.7) (BLS, 2023a). Although it is slightly lower than the national rate (20.3) (BLS, 2023b), Virginia's fatal injury rate underscores the dangers faced by agricultural workers. Factors related to an aging farming community, coupled with higher levels of farm vulnerability, may be contributing to this increased number of fatal and non-fatal injuries in Virginia.

To support aging farmers, those with disabilities or injuries, farm families, farm workers, and new farmers seeking to enter into agriculture, it is essential that health service providers understand the unique demands of agricultural work and promote wellness and rehabilitation strategies that help farmers achieve their goals.

Assessing the Risk of Injury

In 2020, the agriculture sector employed approximately 1 million people full-time, and 368 farmer deaths were due to work-related injuries in the US (The National Institute for Occupational Safety and Health (NIOSH), 2022); 11,800 injuries from agricultural work resulted in time off from work; 12,000 youths were injured on farms in 2014 (NIOSH, 2022). Compared to the 1970s and 1980s, farm-related injuries now occur in older individuals; injuries are also more severe and are more commonly neurological in nature (Staskywitz et al., 2022). Between 2011 and 2015, 89 percent of injuries experienced by farmers were caused by their work; livestock, machinery, and hand tools were the most common causes (Johnson et al., 2021).

Increased risk for injury included younger age, agriculture as the primary vocation, more time spent working, and lack of internet access. Injuries often cost about eight thousand dollars.

According to the Occupational Safety and Health Administration (OSHA, 2022), there are many personal risks: animal-acquired infections, grain bin- and silo-related injuries (e.g., suffocation), hazardous equipment, heat, ladders and falls, musculoskeletal injuries, noise, harmful chemicals, respiratory distress, unsanitary conditions, and vehicle hazards. Because of these unique factors, farmers have needs that differ from the population at large.

Understanding Common Farmer Responsibilities:

Farmers have a lot of responsibilities. It is essential to understand these responsibilities because farmers have a different lifestyle and set of needs compared to those of the general population. Included below are some important examples of farm responsibilities to note as a healthcare provider who serves farmers and agricultural communities with a focus on strength, movement, and rehabilitation:

- **Physical Labor.** Farmers are responsible for performing manual labor to cultivate and upkeep the farm. Farm responsibilities may span all 365 days of the year, depending on the type of farm. For example, dairy farmers must manage and milk their cows seven days a week and sometimes twice or three times a day, while crop farmers may have times in the year when they are less active but may work upwards of 14 hours per day during the planting and harvesting seasons (spring and fall). These tasks can involve lifting, bending, squatting, kneeling, and other repetitive motions, and/or sitting for long periods of time on a vibrating tractor seat.
- **Equipment.** Many farmers need to handle heavy machinery and dangerous equipment on a daily basis. This may involve heavy lifting and/or contorting the body into awkward positions to access hard-to-reach areas of an engine or the interior of a piece of machinery.
- **Stress.** During the high-intensity planting and harvesting season, farmers may experience increased stress levels that may impair their decision-making process, along with a lack of rest, prompting them to get injured.

These responsibilities correspond to a higher risk of injury for farmers that may not be seen in the general population.

What is Occupational Therapy (OT)?

Occupations are meaningful activities that we may engage in every day, all day. The term “occupation” is commonly used to refer to paid work, but OTs use it to include tasks such as leisure, activities of daily living, family activities, and social endeavors. Occupational therapists and occupational therapy assistants incorporate these valued activities into their interventions to help maintain and restore participation in daily life. Occupational therapy helps individuals gain, remain, or return to the occupations they are passionate about through a personalized care plan that suits their lifestyle. (American Occupational Therapy Association [AOTA], 2020).

Common OT Focuses

Occupational therapists focus on the person as a whole. They evaluate not only the person’s individual functional abilities, such as vision, motor skills, and cognition, but also factors such as routines, values, and beliefs that guide these abilities. The context or environment in which activities take place is another key factor in an evaluation. With this information, they collaborate with the client to make goals and provide services with the focus of helping clients to better participate in their meaningful occupations. Occupations are the meaningful activities people engage in every day, and occupational therapists improve people’s quality of life by helping them better engage in their lives. They are skilled in addressing people’s habits and routines as well as physical limitations (AOTA, 2020).

Common OT Approaches

Occupational therapists use various approaches when treating clients due to the vastly differing needs, values, and goals of the individuals being treated. As OT is a highly client-centered profession, these approaches are used in a manner specific to individual needs to increase client progress and overall client-perceived quality of life. Key approach strategies in occupational therapy include:

- **Health promotion.** ‘Health promotion’ means creating something to improve occupational performance. An example is developing an energy conservation program for a farmer with chronic obstructive pulmonary disease (COPD) (AOTA, 2020). (COPD is a condition in which someone is unable to breathe easily, and it often causes fatigue. Energy conservation programs can help people with COPD to engage in their meaningful activities with less risk of becoming overfatigued.)
- **Establish, restore.** The ‘establish, restore’ principle involves training a client to gain a new skill or regain a lost skill. An example is helping a farmer with a shoulder injury regain the strength to push a throttle. (AOTA, 2020)
- **Maintain.** ‘Maintain’ is used to describe the provision of services that help a client maintain skills that could be lost without the intervention. An example is training a farmer with memory impairments on memory techniques to reduce the decline in their memory skills. (AOTA, 2020)
- **Modify.** ‘Modify’ means adapting the activity or context to allow the client to better participate in their occupation. An example is modifying a farmer’s tools to help them better engage in their meaningful tasks. (AOTA, 2020)
- **Prevent.** ‘Prevent’ focuses on preventing occupational performance issues in clients who are at risk. An example is educating farmers about proper body mechanics to mitigate the risk of injury. (AOTA, 2020)

OT’s Role in Injury Prevention

One of an occupational therapist’s main roles is educating their clients (AOTA, 2020). Coman et al. (2020) found that educational interventions that focus on preventing injuries and improving farmers’ health and well-being can increase farmers’ health and safety awareness, as well as their quality of life. These educational approaches are within the scope of OT practice because work is a category of occupation. Moreover, providing farmers with education about health promotion and prevention improves their ability to engage in their everyday occupations, including non-work occupations, such as activities of daily living and social participation.

Now Let's Apply It

Below, we offer a case example of an occupational therapist working with a farmer in a fictional scenario. We present the fictional case and note the key question related to the farmer's unique needs. We provide examples of how OT can meet the needs of the farmer using their training and education for working with the general public, as well as their understanding of working with farmers and within agricultural communities.

Case example

Samuel is a 57-year-old male. He owns and operates a small cattle farm in southern Virginia. He has been married for 30 years to his wife Julie, who is a retired schoolteacher now working on the farm. They have two adult sons, aged 34 and 31, who live in the area; one is married and has two young children. Both sons work full-time jobs off the farm, limiting their time and ability to help out around the farm.

Samuel's responsibilities around the farm consist of feeding cattle, building/fixing fences, putting out hay, working cattle through a chute, or moving them through pastures, etc. These tasks require heavy lifting, being able to get into and out of a tractor (climbing up steep, narrow steps), driving large vehicles and hauling trailers (riding on a vibrating seat and twisting to view obstacles on the road), standing and walking, etc. Samuel independently performs the vast majority of the chores and responsibilities on the farm, with occasional help from his wife and sons.

Samuel was in a motor vehicle accident four months ago that resulted in a below-the-knee amputation of his left leg. He has recovered in a typical manner and has recently received his prosthesis. Since returning home, Samuel continues to experience severe fatigue and weakness in all limbs. His endurance has also decreased due to the lack of activity over the last four months. Ultimately, Samuel's mental health has deteriorated, experiencing severe anxiety and depression stemming from his fear of losing his farm and livelihood. He wants to return to each of his job tasks and responsibilities as soon as possible.

Case Question

How can you, as an OT, adapt your treatment approach and plan of care (POC) when working with Samuel as a client?

Farmer's Focus & Goals

It is of the utmost importance to consider specific client contexts and goals when creating a plan of care. This is to include career, family life, values, goals, etc., and should directly steer the direction of the care and specific treatment options being utilized. When creating Samuel's plan of care, the following should be considered:

- Return to job responsibilities:
 - Samuel needs a safe way to climb in and out of his tractor.
 - He needs to be able to stand for extended periods of time and ambulate on uneven surfaces to build/fix fences.
 - He has to be able to balance and ambulate when doing heavy lifting.
 - Samuel needs to remain healthy to be able to care for his family.
 - Samuel likely requires a referral to a mental health treatment provider to address his anxiety and depression.

OT's Focus and Approach

As an OT, after taking into consideration all the specific client-centered context and goals, it is then your responsibility to determine a plan of care to facilitate progression and healing. Listed below are various approaches that can be used in combination with one another to create the most encompassing treatment for Samuel.

Table 1. Meeting Samuel's needs through the five common OT approaches

Health promotion	Develop a new lifestyle plan for Samuel that accommodates living with a prosthesis. Instruct Samuel about the increased energy demands placed on the body when performing standing activities with a prosthetic.
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Establish, Restore	Assist Samuel in establishing a new routine that incorporates management strategies, accommodations, and challenges associated with being a new prosthesis user. Work on creating a partial work schedule that includes increased breaks between tasks. Consider whether some farm chores could be done partially seated using mobile, durable outdoor seating.
Maintain	Help Samuel identify ways that he can maintain proficiency so he can feel and be successful on his farm. Collaborate with Samuel to identify tasks he can engage in, at least partially, and develop a plan to gradually increase his participation.
Modify	Assist Samuel in modifying tasks and areas of the farm to make them more accommodating and accessible. Consider adding a handle and/or an extra step to the tractor steps to decrease the risk of falls.
Prevent	Identify strategies for Samuel to care for himself to prevent a decline in overall occupational performance. Conduct a walkthrough of common tasks to identify fall risks and develop strategies to mitigate them.

Strategies to Meet the Farmer's Unique Needs

This is a perfect opportunity for OTs to utilize their client-centered approach, thinking outside of the box to create the most realistic and useful plan of care (POC) for Samuel. As he has experienced a life-changing injury, it will be a lengthy and collaborative process between him and his OT to regain function where possible, adapt areas in need, and address his mental health concerns, which will improve his motivation to participate in his treatments.

Key aspects of POC design to meet the farmer's needs

When treating Samuel, plan therapy sessions outdoors to better simulate the environment the client is trying to get back to. This simulation can help him acclimate to the weather and help him learn to navigate uneven terrain.

Ask detailed questions and complete the intake research to tailor the client-centered care to the farming client's specific needs. Create your plan of care around farming responsibilities. For example, a farming client may have little interest in addressing going up and down standard steps if the home is a one-story with no steps at the entrance. However, they may have a significant interest in being able to use their tractor, which will involve navigating through a set of steep, narrow steps with small treads.

Ask the client to bring in pictures or videos of the tasks they need to complete, or inquire about taking a trip to the farm to better serve the farmer.

Conclusion

The work that farmers do is different than other occupations, so it is important for OTs to work with their farmer clients closely to better understand their unique needs. Because OTs use a holistic, client-centered approach, they are qualified to address farmers' unique needs through the use of their occupational profile and intervention approaches. As farmers are at high risk for injury, it is within OTs' scope of practice to provide farmers with education on injury prevention and how health promotion can increase their safety awareness and overall quality of life. This includes reviewing and providing available resources that can aid in injury prevention, healing

after an injury, and accommodations after a life-changing event.

Topics like these are addressed in resources developed by AgrAbility Virginia and other AgrAbility programs across the US. In Virginia, the AgrAbility team is available to support healthcare providers and farmers as they work towards rehabilitation following an illness, injury, or other disabling event. AgrAbility Virginia works with many healthcare and disability service providers to promote safety education on the farm and improve the care of farmers after injury. They utilize their resources and connections by referring farmers to medical professionals and encouraging medical professionals to refer to AgrAbility in cases where clients may be unaware of this available resource. Healthcare service providers can also work alongside AgrAbility within a collaborative team to provide these comprehensive services to farmers that help prevent primary and secondary injuries, improve their overall health, and allow them to return to farming and meet their farming goals. An important aspect of this collaborative process is educating and learning from one another about the unique services provided by AgrAbility Virginia and various medical professionals who support farmers, including doctors, nurses, OTs, physical therapists, and other rehabilitation specialists.

To learn more about AgrAbility, visit the website at www.agrabilityvirginia.org. To contact AgrAbility Virginia staff directly, call 540-231-4582 or email agrabilityva@vt.edu. AgrAbility staff can answer healthcare professionals' questions about working with farmers, provide resources and recommendations related to assistive technologies for farmers' specific needs, make referrals to other service providers, and visit with farmers on the farm to address their needs.

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