Ohio AgrAbility Working with Occupational Therapy to Serve Agricultural Workers
Objectives

• Review agriculture in Ohio.
• Discuss the roles of Ohio AgrAbility and OTs working together.
• Examine the on-farm assessment process to identify client’s needs
• Review the documentation and follow up process when providing service to clients
Agriculture in Ohio

• Largest industry in the state
• 77,000 farms in Ohio – 91% individual / family owned
• Average age of farmer in Ohio is 57 years
• Health of farmer critical to survival of the business
Agriculture in Ohio

• Family farms are multi – generational
  • 2, 3, even 4 generations
• Multi-cultural:
  • Amish cultures
  • Migrant farm workers
Agriculture in Ohio

• Unique environment:
  • Home and workplace are the same
  • Vast area to work
  • Daily care for livestock (7 days/week, 365 days/year)
  • Seasonal work practices
  • Long work days
  • Weather
Injuries Faced by Farmers

- Head injury
- Paralysis
- Amputation
- Cut / caught in
- Blunt trauma
- Sprain / strain
- Secondary Injuries
Health Issues Faced by Farmers

• Arthritis
• Hip and knee replacement
• Cardiac health
• Stroke
• Diabetes
• Cancer
• Respiratory issues
Safety Concerns for Aging Farmers

- Reduced reaction time
- Reduced balance
- Loss of Strength
- Overexertion
- Fatigue quickly
- Reduced vision
- Hearing impairment
Ohio AgrAbility Program

National AgrAbility Project

The National AgrAbility Project was created through the U.S.D.A. to assist people with disabilities employed in agriculture and provide practical education and assistance that promotes independence in agricultural production and rural living.
Ohio AgrAbility Program

The Ohio State University has partnered with Easter Seals to serve Ohio’s agricultural residents impacted by a disability, by providing training, technical assistance, and become a primary source of information directly to the farmer.
Ohio AgrAbility Program

We have also developed partnerships through our Advisory Committee which includes:

Ohio Rehabilitation Services Commission
Ohio Arthritis Foundations
Ohio Rural Health Coalition
Centers for Independent Living
USDA’s Farm Service Agency

and many other health care professionals, public officials, and agribusiness professionals.
Ohio AgrAbility Program

Why is the program needed?

Agricultural production is ranked as one of the most hazardous occupations in Ohio and the nation.

- Agriculture has one of the highest disabling injury rates of any industry.
- 1 out of 14 Ohio farm families experience a farm-related injury each year.
- Approximately 84% of those injuries occurred on the farm, and about 69% of them were farming operations related.
Ohio AgrAbility Program

Why is the program needed?
Farm and rural families experience the same types of non-work related injuries and disabling conditions as the rest of the population.

- Off - the - Farm incidents
- Workplace injuries
- Illness or Health problems

Older farmers often experience limitations such as:
- vision loss
- hearing loss
- loss of strength
- loss of range of motion
Ohio AgrAbility Program

Who is served by the program?

• The Ohio AgrAbility Program serves farmers and rural families in Ohio who have faced a wide range of disabilities.
  – head or spinal cord injury
  – back injury
  – visual impairment
  – amputation
  – arthritis
  – hearing impairment
  – stroke
  – diabetes
  – mental illness
  – respiratory impairment
  – ergonomic / repetitive motion injuries
Ohio AgrAbility Program

No Cost Services:

1) Provide a wide variety of resources and information on solving specific problems and working with a specific disability.

- worksite modifications
- adaptive tools
- accessibility issues
- assistive technologies
- health and safety information
- secondary injury prevention
Ohio AgrAbility Program

No Cost Services:

2) On-Site assessments and technical assistance

- Prioritizing specific obstacles
- Helping to find solutions to meet specific needs
- Utilizing best practices
- Identification of assistive technology needs
- Applying Universal Design concepts
- Process development
Ohio AgrAbility Program

No Cost Services:

3) Peer to Peer Support
   – Connecting people with similar experiences for sharing ideas and support.
   – Assistive technology demonstrations
   – Family / primary caregiver support
Ohio AgrAbility Program

No Cost Services:

4) Referral Information
   Providing information on services available in:
   – agriculture
   – rehabilitation
   – state service agencies
   – local community
Ohio AgrAbility Program

No Cost Services:

5) Training

Our staff is available to provide training on a variety of topics including:

- farming with a disability
- ag safety and health
- researched-based best practices
- farm accessibility issues
- prevention of secondary injuries
No Cost Services:

6) Public Awareness:

Our staff can speak or provide displays at:

- community events & health fairs
- field days & ag safety seminars
- agricultural trade shows
- civic organizational events
Bridging the gap with common goals

Health Care - Occupational Therapy
Agriculture – Ohio AgrAbility
Bridging the gap with common goals

- **Identify** a farmer's job tasks.
- **Evaluate** a person while on the job to determine his or her ability to complete job tasks.
- **Create** a safe, productive, and functional work environment.
- **Monitor** a farmer's progress and reassess work tasks.
Bridging the gap with common goals

- **Recommend** modifications to job tasks that the farmer can complete safely.
- **Implement** the use of assistive devices that may help a person complete a task safely.
- **Design programs** to develop strength and endurance in performing job tasks.
Creating a productive and safe work environment

Assistive technology / Adaptive Equipment
Extending Universal Design to the farmstead
  – Home ⇒ Garage, Farm shop, Barn
Entrances / Accessibility
Workplace modifications
Specialty work areas
Tools / Equipment
Livestock handling
Assistive Technology

Any kind of device, modification, or service that will help a person with a disability work and live more independently.

- low tech or high tech
- expensive or inexpensive

Ultimately helps to make it possible for someone to complete a job that might otherwise be difficult.

Create a productive and safe work environment
Universal Design

Universal Design is the creation of products and environments meant to be usable by all people, to the greatest extent possible, without need for adaptation or specialization.

Extending Universal Design to the farmstead

– Home ⇒ Garage, Farm shop, Barn
Creating a productive and safe work environment

- Entrances / Accessibility
  - Doors & Gates
  - Handles
  - Stairway vs. Ladder
Creating a productive and safe work environment

• Mobility
  – Standing Wheel Chair
  – Mobility Scooter
  – ATV / UTV
Creating a productive and safe work environment

- Equipment modification
  - Steps
  - Hand controls
  - Steering
Creating a productive and safe work environment

• Equipment modification
  – Quick – Attach
  – Hitching Devices
  – Ag Cams
  – Seating
Creating a productive and safe work environment

• Equipment modification
  – Lifts
Creating a productive and safe work environment

• Job Accommodations
  – Anti - Fatigue mats
  – Stools / Utility Carts
  – Task lighting
Creating a productive and safe work environment

• Job Accommodations
  – Tool / parts storage
  – Hoist / lifting devices
  – Wash areas
Creating a productive and safe work environment

Storage: Indoor or Outside
- Keep most used items 18” – 54” from floor
- Reduce travel with storage items to the job location or garden
Creating a productive and safe work environment

- Tools / Equipment
  - Pneumatic powered
  - Battery powered
Creating a productive and safe work environment

- Tools / Equipment
  - Cushioned, thicker handles
  - Specialty tools
  - Material handling
Ergonomic Tools

- Tools should have handles that fit your hand
  - Handle should be big enough that your thumb barely overlaps your fingers
  - Handle should be small enough that you can hold it comfortably
Long Handle Tools

Ergonomic Considerations

- Two handed grip is better
- Light weight
- Enlarged, foam, or soft handle
- Telescoping handle
  - Shorter length to accommodate task at hand
D - Grip

• **D-grip**: Tool Accessory for rakes, shovels, hoes, pitch forks, and brooms.

• Mounts mid-way down the tool handle to give lifting leverage to the forward hand.
Creating a productive and safe work environment

Universal design tools
- Larger handles
- Cushioned handles
- Ergonomic grips
- Easy to use on / off switches
- Large digital display or dials
- Color coded
- Larger knobs
Creating a productive and safe work environment

• Job Accommodations: Livestock
  – Feed / Water processes
  – Efficient daily chores
Creating a productive and safe work environment

• Job Accommodations: Livestock
  – Modify handling processes
  – Livestock handling equipment
  – Corral systems
On – Site Assessment Process

1) Initial Visit
   - Kitchen table discussion
   - Prioritizing specific obstacles
   - Walk - thru of farmstead

2) On-Site assessments and technical assistance
   - Helping to find solutions to meet specific needs
   - Determine goals
   - Identification of assistive technology needs
   - Applying Universal Design concepts
   - Changes in process

3) Follow up visits
   - Equipment use
   - Seasonal changes
   - Health changes
On – Site Assessment Tool

1) Personal Data
2) General Farm Data
3) Overall Farm Accessibility
4) General Farm Maintenance
5) Equipment & Machinery
6) Crop Production
7) Livestock Production
8) Orchards / Woodlots / Gardens
9) Farm Management Activities
10) Additional Vocational Skills
11) Establishing Goals
12) Comments / Observations
13) Farmstead Layout
Ohio AgrAbility partners with OOD to assist farmers with disabilities to maintain farming

- Mission of both OOD and Ohio AgrAbility

Referral and Eligibility

- Making sure the client is right fit for eligibility and a good match to work with OOD

Provide assessments for OOD

- Assessments for the home, farm and ag work environment

Utilize our networking resources to seek viable solutions

- National AgrAbility, OSU Extension, USDA, Ohio Farm Service Agency, Equipment manufacturers
Working with Ohio

Recommendations on a plan to keep that individual farming

– Work with OOD to design and develop an individualized plan for the farmer.
– Make sure the equipment / AT is good match for client and work environment.

Implementation of the plan

– Assist with implementing the plan.
– Assist with looking at lowest cost item and getting price quotes.
– Purchase of equipment / AT

Follow through to success

– Follow up for OOD with farmers
– Continue to work with the farmer to solve problems to maintain productivity and success
Working with Ohio

OOD has provide funding for:

- Farm Utility Equipment
- Tractor / Equipment Modifications
- Mobility Devices / Track Chair / Standing Chair
- Livestock Handling Systems
- Feed Handling Systems
- Material Handling Equip.
- Vehicle Modifications
- Mobility Aid Devices
- Home Lifts / Modifications
- Dragon Software
- Hearing Devices
Working Together = Results

• Ohio AgrAbility can be a resource for OTs and the farmer patient.

• Occupational Therapy and Ohio AgrAbility working together can increase positive outcomes for farmers with a disabling condition.
Where can I find more information?

www.ohioline.osu.edu

Assistive Technology for the Farm,
Extending Universal Design Principles onto the Farmstead,
Secondary Injury Prevention: Walking and Working Surfaces,
Secondary Injury Caused by Lifting,
Secondary Injury Prevention: Caught-in or between Objects,
Secondary Injury Prevention: Ergonomics for the Farm,
Secondary Injury Prevention: Farming with a Pacemaker,
Secondary Injury Prevention: Heat Stress
Secondary Injury Prevention: Safety for Senior Farmers,
Secondary Injury Prevention: Understanding Conussions,
Secondary Injury Prevention: Repetitive Motion,
Overexertion Causing Secondary Injury
Farming with Lower Extremity Amputation,
Farming with Upper Extremity Limitation/Amputation,
Injury Prevention: Types of Cold Stress,
Injury Prevention: Working in Cold Weather
Managing Arthritis When Farming,
Farming After a Stroke,
Managing Stress for a Healthy Heart,
Preventing Heart Disease,
Farming with Parkinson's Disease,
Farming with Diabetes

Initial Farm Injury Emergency Response
Primary Caregiver for a Farm Family Member,

Arthritis tends to affect most farmers in their hands, knees, and hips because these are the joints that take the most pressure. Seven strategies minimize pressure on these joints, reducing pain and stiffness.

1. Maintain a healthy weight. The Arthritis Foundation suggests that every 10 pounds lost relieves 40 pounds of pressure on the knees.
2. Look for ways to simplify body movements.
   - Adding a drop-down step with non-slip material and attaching an extra handle to farm machinery
   - Installing suspension seats or seat cushions with lumbar support and adjustable armrests inserts in tractors will absorb shock, protecting joints.
   - Adding mirrors inside and outside of the tractor cab decreases twisting.
   - Using a wheelbarrow or utility vehicle to move heavy objects minimizes pressure on the knees and back.
   - Adding padding to gears and handles. Building up tractor knobs, levers, small tools, or handles with foam and duct tape can make them easier to grasp, especially if hand strength is limited. Adding an extender to a handle can also change the leverage and make it easier to use.
3. Maintain a healthy lifestyle—which includes a healthy diet.
4. Don’t smoke. Research by the Arthritis Foundation has found a correlation between smoking and arthritis.
5. Utilize treatments. Many of the traditional treatment methods for arthritis can improve mobility. Hot and cold packs can be used to reduce pain and swelling. A new generation of NSAIDs, or anti-inflammatory medications, are safer, allowing patients to use them longer and more often.
6. Consult an occupational therapist. Consider visiting with an occupational therapist to learn more about ways to protect the joints.

A purposeful exercise program

Have a purposeful exercise plan. Farmers do get exercise in the physical work they do every day, but a “purposeful” exercise plan includes stretching and warming up, strength and endurance exercises, and low-impact weight bearing activity that can benefit the joints—such as walking or swimming. A purposeful exercise will protect, strengthen, or maintain function in joints. Exercises should include:

- Range of motion exercises to extend joints through their limits of motion. These help maintain normal joint movement, relieve stiffness, and restore flexibility that’s been lost.
- Strengthening exercises to help retain or increase muscle tone. Strong muscles help keep joints stable and more comfortable.

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Where can I find more information?

www.agsafety.osu.edu
www.agrability.osu.edu
www.agrability.org

OSU Ag Safety & Health

Your local OSU Extension office.
How can I contact the Ohio AgrAbility program?

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