**Partnering of... Medical and Community Models of Evidence-Based Fall Risk Management for Reduction of Fall Injuries in North Carolina**

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**Session Objectives**

- Identify the role and responsibility of the physical therapist and physical therapist assistant in addressing falls as a public health issue
- Share expected outcomes for managing fall risk in a continuum model
- Share evidence-based falls prevention programs offered in community-based settings across North Carolina
- Describe the communication and methods for medical and community programs to jointly support an individual’s fall risk management in North Carolina

**Costs of Falls**

**CDC 2015 estimate:**

- **Direct medical costs of falls:** $31 billion
  - Includes hospital and nursing home care, doctors and other professional services, rehabilitation, community-based services, use of medical equipment, prescription drugs, changes made to the home, and insurance processing.
  
  [https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html](https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html)

- **Annual costs attributable to falling:**
  - $35,144 if admitted faller
  - $3,408 if non-admitted

  In the quarter immediately after the fall, admitted faller costs were 15.5 times as great as those of non-fallers.

  Reference: A Longitudinal Analysis of Total 3-Year Healthcare Costs*for Older Adults Who Experience a Fall Requiring Medical Care
  

**Triple Aim**

- Better Care
  - Patient Safety
  - Quality
  - Patient Experience

- More Efficient Care (Reduce Per Capita Cost through improvement in care)
  - Reduce unnecessary and unjustified medical cost
  - Reduce administrative cost thru process simplification

- Improve Population Health
  - Decrease health disparities
  - Improve chronic care management and outcome
  - Improve community health status

**CMS Shifting Toward Value-Based Payment Models**

Fall Risk Management
- Effective and Timely INTERPROFESSIONAL Communication
- Top of License Practice
- Utilization of Evidence Based Practice AND Meaningful Outcomes
- Patient Centered Care – Empower Patient Activation and Engagement
- Awareness of clients Health Literacy
- Effective and Timely INTERPROFESSIONAL Communication

So where do we fit as PT’s and PTA’s?

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Fall Risk Factors
- Depression
- Taking more than 4 medications at the same time or psychoactive medications (such as sedatives or antidepressants)
- Using a cane or other walking device
- Home hazards (throw rugs, pets underfoot)
- Low blood pressure
- Being 80 years old or older
- Leg muscle weakness
- Difficulty with balance or walking
- Vision problems (cataracts, macular degeneration, wearing bifocals)
- Medical conditions that limit your ability to get around, such as Parkinson disease, stroke, or diabetes
- Conditions that cause confusion, such as dementia and Alzheimer disease

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Greatest Fall Risk Factors
- A history of previous falls
- Balance problems
- Leg muscle weakness
- Vision problems
- Taking more than 4 medications or psychoactive medications
- Difficulty with walking

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AGS/BGS Guidelines

Summary of the Updated American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline for Prevention of Falls in Older Persons

Developed by the Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society

The following article is a summary of the American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline for Prevention of Falls in Older Persons. This article provides additional discussion of the guideline process and the differences between the current guideline and the 2013 version and includes the guidelines’ recommendations, algorithm, and acknowledgments. The complete guideline is published in the American Geriatrics Society’s Web site (http://www.americangeriatrics.org/healthcare_professionals/clinical_practice/clinical_guideline_recommendations2013). J Am Geriatr Soc 2013.
The purpose of this clinical guidance statement (CGS) is to provide recommendations to physical therapists to help improve outcomes in the identification and management of fall risk in community-dwelling older adults.

This CGS provides recommendations to assist physical therapists in the identification and management of fall risk in older community-dwelling adults.

**STEADI (Stopping Elderly Accidents, Deaths and Injuries)**

- Researchers at CDC’s Injury Center created this tool kit for health care providers who treat older adults who are at risk of falling or who may have fallen in the past.
- The STEADI Tool Kit is based on a simple algorithm (adapted from the American and British Geriatric Societies’ Clinical Practice Guideline).
- Includes basic information about falls, case studies, conversation starters, and standardized gait and balance assessment tests (with instructional videos).
- Educational handouts about fall prevention specifically designed for patients and their friends and family.

https://www.cdc.gov/steadi/about.html

**STEADI Toolkit for Health Providers**

- **STEADI Basics**
- **Screening**
- **Medication Review**
- **Fact Sheets**
- **Functional assessments**
- **Extra Clinical Tools**
- **Graphics**

https://www.cdc.gov/steadi/materials.html

**Introducing the Algorithm**

- Based on Clinical Practice guideline from AGS/BGS
- Clinical Decision tree for screening, assessment and intervention
- Stay Independent Brochure
- Self assessment and screening tool
- Score of 4 or more indicates increased risk

**Introducing the Algorithm**

- When a patient has a + screen, complete Timed up and Go (TUG), 30 Second Chair Rise and 4 Stage Balance Test
- Multifactorial Assessment warranted:
  - Patient answers yes to any key question
  - Has gait, strength or balance impairment
  - Had two or more falls in last year or one fall with injury
Multifactorial Assessment

- Review Stay Independent Brochure
- Falls History
- Physical exam:
  - Postural dizziness/hypotension
  - Medication review
  - Cognitive screen
  - Feet and footwear
  - Use of mobility aids
  - Visual acuity check

The Otago Exercise Program

- The Otago Exercise Program was developed and tested in four controlled trials by a research team at the University of Otago Medical School, New Zealand, led by Professor John Campbell. Effective in reducing by 35% both the number of falls and the number of injuries resulting from falls. It was equally effective in men and women. In terms of the number of fall injuries prevented, the program had the greatest effect in high-risk groups: those over 80 years of age and those with a previous fall.
- Prescribed and progressed by a physical therapist
- Set of Balance and strength exercises (17 total)

Dose requirements for lasting benefit

- Evidence
  - 50 hours of exercise for effective falls prevention (Sherrington, 2010)
  - 6 months of consistent intervention for sustained behavior change (Fitts, 2008)

Low Risk and Moderate Risk

- As part of the intervention plan, you should:
  - Refer to strength and balance exercise to include a Community Exercise or Fall Prevention Program
Continuum of Care for Falls Prevention

Evidence-Based Falls Prevention Programs available in NC

- Otago: Conducted by a Physical Therapist
- AMOB: A Matter of Balance: can be lead by a trained lay leader
- TCA: Tai Chi for Arthritis: can be lead by trained instructor
- YMCA: MBB: YMCA: Moving for Better Balance: led by trained instructor

Widely Disseminated Initiatives

- Healthy Aging NC Resource Center
  - A Resource Center for North Carolina Evidence-Based Programs
- Culture of Results
  - Applies Results-based Accountability (RBA), an evidence-based, action-oriented, and data-driven framework to improve population health and wellbeing and program performance.
  - RBA enables programs and organizations to focus on action, critical collaborations, and quality data for transparency and accountability of success
  - RBA website: https://clearimpact.com/results-based-accountability/

Healthy Aging NC History

   - Awarded to NC DAAS
   - Expansion of evidence-based falls prevention programs and creation of Healthy Aging NC at NCCHW at UNC Asheville
   - Grant was extended through August 31, 2017

2. Chronic Disease Self-Management Education Programs
   Grant: Sept 2015-August 2017
   - Awarded to NCCHW at UNC Asheville to integrate into Healthy Aging NC Resource Center
   - Expansion of the Chronic Disease Self-Management Education (CDSM Education) suite of evidence-based programs (ie Living Healthy) (CDSM Education - Diabetes, EPAM - Chronic Pain, Tomando Control de Su Salud - Spanish CDSE, Programa de Manejo Personal de la Diabetes - Spanish DSMP)
   - Includes a centralized training academy and training enhancements for disability & minority health
   - Grant extension through August 31, 2018

What We Aim To Do

- Create a well-informed community where people can access high quality evidence-based healthy aging programs where they live, work, play, pray
- How would this happen?
  - Know where classes are held
  - Scale programs where people want and need classes
  - Ensure classes are offered with fidelity
  - Secure long-term funding to support classes
  - Foster collaboration at local, regional, and statewide levels
- What programs?
  - Falls Prevention Programs
  - Chronic Disease Self-Management Programs
  - Possibilities are endless, but funding is not

Healthy Aging NC Resource Center

Website: www.healthyagingnc.com

Nicolle Miller, Director of State & Community Collaboration
Jeannine Doraghi, Chronic Disease Self-Management Project Manager
Jenice Self, Data Administrator
Kate McDonald, Administrative Support

Mission:
Develop equitable opportunities that lead to healthy North Carolina Communities.

NCCHW works to impact policy, build capacity, and ignite community initiatives by working through a web of cross sector relationships organized around building healthier places throughout the state.
**Why Do This?**

- Providers across the state have offered programs for years
- Health reforms moving towards value-based-care
- Programs offer significant Return on Investment (ROI)
- Efforts in sustainability noted in other states formed through network hub model

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**The Risk of Falls in North Carolina**

- Residents aged 65 and older account for 88% of all fall deaths and 73% of nonfatal fall hospitalizations in NC.
- Each week, there are 1,189 emergency department visits among residents aged 65 and older, 266 hospitalizations, and 17 deaths due to fall injuries in NC.
- Projected rise of deaths due to fall injuries, increased ER utilization, and hospitalizations = diminished quality of life for NC older adults.

Lifetime costs associated with unintentional fall injuries in 2014 among NC residents aged 65 and older are estimated to be almost $1.4 billion. Most of the costs were associated with injuries requiring hospitalization.

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**Chronic Diseases among Older Adults**

- Adults Age 65 and older:
  - 83% have at least one chronic disease
  - 52% have 2 or more chronic diseases

**Most older adults 65+ years live in the community**

- 93.5% Community
- 4.5% Nursing Homes
- 2% Assisted Living

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**Who Are Our Partners?**

- National Partners for Guidance & Support
  - National Council on Aging
  - Administration for Community Living
  - Osteoarthritis Action Alliance

- State Partners Support Collaboration & Dissemination
  - NC DHHS Division of Aging & Adult Services (NC DAAS)
  - NC DHHS Division of Public Health (NC DPH)
  - NC Alliance of YMCAs
  - NC Baptist Aging Ministries (NC BAM)
  - NC Council of Churches
  - Genesis Rehabilitation

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**Connecting Program Providers to Healthy Aging NC (Our Network)**

- Regional and Local Agencies
  - Area Agencies on Aging (AAAs)
  - Centers for Independent Living
  - YMCAs
  - Hospitals
  - Community Care of NC networks
  - Local Health Departments
  - Senior Centers
  - Universities
  - Federally Qualified Health Centers (FQHCs)
Evidence-Based Programs

- Evidence-based programs (EBPs) offer proven ways to promote health and prevent disease among older adults.
- They are based on research and provide documented health benefits.
- Older adults who participate in EBPs can lower their risk of chronic diseases and falls—or improve long-term effects of chronic diseases or falls.
- Many EBPs allow for more efficient use of available community and health care resources as they use trained lay leaders and/or coaches.

Falls Prevention Programs

- A Matter of Balance
- Otago
- Tai Chi for Arthritis
- YMCA: Moving for Better Balance (Tai Chi)

Chronic Disease Self-Management Programs

- Living Healthy with Chronic Disease Self-Management Education Programs (developed by Stanford University)
  - Chronic Disease Self Management Program
  - Diabetes Self-Management Program
  - Chronic Pain Self-Management Program
  - Tomando Control de su Salud (Spanish Chronic Disease)
  - Programa de Manejo Personal de la Diabetes (Spanish Diabetes)
- Walk With Ease

Healthy Aging NC

- An initiative of the N.C. Center for Health & Wellness at UNC Asheville
- Evidence-based programs are embedded into an integrated, sustainable, statewide delivery system
- Quality of life for older adults, adults with disabilities, and low-income minority adults is dramatically improved
- Triple Aims are met: Better health, better health care, and lower health care costs
Return on Investment 2013 CMS Report to Congress
A Matter of Balance (AMOB)

Meeting the Institute of Healthcare Improvement’s Triple Aims

- Better Health
  - Increased physical strength and activity
  - Better Care
  - Increased physical and occupational therapy use
  - Communication
  - Program participation correlated with reduced mortality rates
- Lower Cost
  - $938 decrease in total medical cost savings per year
  - $517 reduction in unplanned hospitalization costs
  - $234 reduction in skilled nursing facility costs
  - $81 reduction in home health costs


Return on Investment 2015 CDC Special Report
Otago and Tai Chi: Moving for Better Balance

▶ The Otago Exercise Program had an average cost per participant of $339.15, an average expected benefit of $768.33 for participants over age 80, and an ROI of 127% for each dollar invested for this group.

▶ The Tai Chi: Moving for Better Balance Program had an average cost per participant of $104.02, an average expected benefit of $633.90, and an ROI of 509% for each dollar invested.


Return on Investment 2013 CDSMP Study

Meeting the Institute of Healthcare Improvement’s Triple Aims

- Better Health
  - Feel healthier
  - More active lives
  - Less depression
  - Better quality of life
  - Fewer Sick Days
- Better Care
  - Communication
  - Medication compliance
  - Health literacy
- Lower Cost
  - $714 per person savings in emergency room visits and hospital utilization
  - $364 per person net savings after considering program costs ($350)
  - Potential savings of $6.6 billion by reaching 10% of Americans with one or more chronic conditions


Website: www.healthyagingnc.com

▶ Access quick referrals to community resources
▶ Learn about upcoming lay leader/coach trainings
▶ Download healthy aging resources for your office and/or your clients
▶ Direct clients to accessible and healthy aging resources and evidence-based programs, including A Matter of Balance and Living Healthy/Chronic Disease Self Management
▶ Stay up-to-date on the latest healthy aging news and information

A Look Ahead

Secured 2017 Falls Prevention Grant (August 2017-July 2020) to:

- Create a falls prevention pathway in Mission Health Partners’ case management system
- Simultaneously scale programs in 18 counties of Western NC served by Mission Health Partners (an Accountable Care Organization)
- Assess the uptake of classes among those identified at risk and referred
- Assess claims data for patients who enroll and complete classes
- Continue sustainability efforts to serve as the Resource Center for Evidence-Based Healthy Aging Programs in North Carolina
The Healthy Aging NC Resource Center is Only as Good as the Sum of Our Parts. You Input and Feedback is Necessary for Our Long-Term Mutual Success.

Contact Information

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Questions?

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