Fall Risk Management & The Moore Balance Brace

Presented by Josh White, DPM, CPed
Common Fears Among Elderly Patients

- Falling / fractures
- Burden to family
- Loss of independence
Presentation Objectives

1. Understand patient demographic & market demand
Presentation Objectives

2 Why podiatric physicians should be addressing this problem
Presentation Objectives

3. How podiatric physicians can get involved in fall prevention
Fall Facts

• Leading cause of injury-related death in seniors
• Leading cause of hospitalization for injury in adults 65+
• Over 95% of hip fractures are caused by falls. In 2010 there were over 258,000 hip fractures
• 67% of fall victims (65+) are discharged to nursing facilities; 50% of whom will never live independently again
• Direct medical costs associated with falls >$30B annually

Reference: www.cdc.gov
Why podiatric physicians should focus on fall prevention

• Most podiatric physicians treat patients at risk for falling

• Four of the leading risk factors associated with falling can be treated by podiatric physicians*.  
  1. Muscle Weakness  
  2. Gait Deficits  
  3. Balance Deficits  
  4. Arthritis
## Most Common Fall Risk Factors*

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Significant/Total</th>
<th>Mean RR-OR</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle Weakness</td>
<td>10/11</td>
<td>4.4</td>
<td>1.5-10.3</td>
</tr>
<tr>
<td>History of Falls</td>
<td>12/13</td>
<td>3.0</td>
<td>1.7-7.0</td>
</tr>
<tr>
<td>Gait Deficits</td>
<td>10/12</td>
<td>2.9</td>
<td>1.3-5.6</td>
</tr>
<tr>
<td>Balance Deficits</td>
<td>8/11</td>
<td>2.9</td>
<td>1.6-5.4</td>
</tr>
<tr>
<td>Use Assistive Devices</td>
<td>8/8</td>
<td>2.6</td>
<td>1.2-4.6</td>
</tr>
<tr>
<td>Visual Deficits</td>
<td>6/12</td>
<td>2.5</td>
<td>1.6-3.5</td>
</tr>
<tr>
<td>Arthritis</td>
<td>3/7</td>
<td>2.4</td>
<td>1.9-2.9</td>
</tr>
<tr>
<td>Impaired ADL</td>
<td>8/9</td>
<td>2.3</td>
<td>1.5-3.1</td>
</tr>
<tr>
<td>Depression</td>
<td>3/6</td>
<td>2.2</td>
<td>1.7-2.5</td>
</tr>
<tr>
<td>Cognitive Impairment</td>
<td>4/11</td>
<td>1.8</td>
<td>1.0-2.3</td>
</tr>
<tr>
<td>Age&gt;80 Years</td>
<td>5/8</td>
<td>1.7</td>
<td>1.1-2.5</td>
</tr>
</tbody>
</table>

The Causes*

**INTRINSIC FACTORS**
- Medical and neuropsychiatric conditions
- Impaired vision and hearing
- Age-related changes in neuromuscular function, gait, and postural reflexes

**EXTRINSIC FACTORS**
- Improper prescription and/or unintended interaction of medications
- Improper use of assistive devices
- Environmental Hazards

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Start Early

• Early intervention to prevent the loss of muscle strength is critical
• Balance and strength can be improved with exercise
• Get screened and, if needed, treat for osteoporosis
Key Components of Podiatric Fall Risk Prevention Program

• Objective multifactorial assessment tool
• Referral for medical, physical, occupational, auditory and vestibular therapy and home healthcare
• Prescription for footwear, canes, walkers, AFOs
• Patient education
It all starts here...

The Assessment
Moore Balance Functional Fall Risk Assessment Tool

**Vestibular**
- 0: No complaints of dizziness
- 6: Intermittent complaints of dizziness
- 10: Dizziness that interferes with ADLs

**History of Fall, Near Falls**
- 0: No falls
- 6: 1-2 falls or near falls

**Walk and Talk**
- 0: No deficit in walking while speaking
- 6: Inability to maintain normal gait pattern while speaking
- 10: Must stop walking in order to speak

**Foot Deformity**
- 0: No foot deformity

**Grading of falls risk: Circle total score**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>Low falls risk</td>
</tr>
<tr>
<td>10-20</td>
<td>High falls risk</td>
</tr>
<tr>
<td>&gt;20</td>
<td>Extreme falls risk</td>
</tr>
</tbody>
</table>

Implement actions for identified individual risk factors, and implement additional actions for high falls risk (Fall Prevention Center referral, home safety assessment and education, medication assessment, footwear assessment, Physical/Occupational Therapy referral, Moore Balance Brace, other assistive devices as needed).
Foot and ankle conditions that increase fall risk in seniors*

- Reduced ankle flexibility
- Hallux valgus deformity
- Decreased tactile sensitivity
- Decreased toe plantar flexor strength
- Foot pain

Shoes pose increased risk for falls. Some characteristics include:

- Cause Pain
- Poorly fitting
- Smooth slippery leather soles and heels
- Too thick or too heavy soles
- High heels
- Mules
- Slippers
- Flip-flops
- Sandals
Balance Footwear

- Light weight
- Non-slip soles
- Supportive
- Well-fitting
- Adjustable
- SafeStep shoe catalog
Postural Sway

• Constant displacement and correction of the center of gravity over the base of support

• Factors found to be correlated with increased postural sway include:
  o Reduced peripheral sensation
  o Poor near visual acuity
  o Slow reaction time
Postural Sway

• Increased postural sway is a significant risk factor for falling
• Can be reduced with appropriate footwear and by increased support around the foot and ankle
AFO mechanisms of action in improving balance

• Ankle joint stabilization
• Improved proprioception
• Decreased postural sway in frontal plane
• Support of foot longitudinal arch
• Decreased foot pain
• Increased confidence
The Moore Balance Brace

- Increases sensorimotor function via its custom molded shape and textured fabric
- Decreases postural sway
- Provides stabilization in the presence of muscle fatigue, osteoarthritis and pain
The Moore Balance Brace

- Addresses orthopedic conditions that can affect balance
  - Muscle weakness (728.87)
  - Ankle instability (718.87)
  - Gait abnormality (781.2)
  - Mild dropfoot (738.20)
Moore Balance Brace Features

- Polypropylene shell provides lightweight support around the foot and ankle
- Easy to reach Velcro straps
- Post designed to maximize balance & stability
- Padded tongue for maximum comfort
- Padded heel & arch
- Custom orthosis provides longitudinal arch support & midfoot stability
Casting for an MBB

• The MBB is best fabricated using mid-calf, STS casting socks
Balance improvement in older adults using customized ankle foot orthoses*

The Effect of Customized Ankle Foot Orthoses (AFO) on Gait and Balance in Older Adults

Discussion & Conclusion

Using the Moore Balance Brace along with proper footwear on elderly patients, was shown to "reduce postural sway by more than 50%" and "improves postural stability in the medial-lateral direction by 18% without influencing reach and distance or TUG times".

The MBB is part of a larger comprehensive fall risk management protocol.

Four key components of this protocol:

1. Fall Risk Assessment
2. DME Assistive Devices (footwear, canes, AFO)
3. Strength and Balance Training (i.e. PT/OT)
4. Patient Education
Medicare & Medical Necessity

The Social Security Act specifies that “medical necessity” is a prerequisite for Medicare to cover any service. Medical necessity is defined in Sec. 1862. [42 U.S.C. 1395y] (a)

"...reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member."
### PDAC Assigned L Codes: Reimbursement fee schedule

<table>
<thead>
<tr>
<th>Code</th>
<th>Fee (ea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 1940</td>
<td>$557*</td>
</tr>
<tr>
<td>L 2330</td>
<td>$442*</td>
</tr>
<tr>
<td>L 2820</td>
<td>$97*</td>
</tr>
</tbody>
</table>

1 MBB = $1,098

$1,098 x 2 MBBs = $2,196/Patient

*Reimbursement fees vary by state*
Register for the ‘balance’ of the series covering these topics:

• Fall risk assessment & casting for the MBB
  o Tuesday, November 4 @ 8PM pm EST

• How to implement a comprehensive fall risk management protocol into your practice
  o Tuesday, November 25 @ 8 pm EST

• How to educate your patients and other practitioners about fall prevention
  o Tuesday, December 9 @ 8 pm EST
SafeStep

MBB Post-Webinar Starter Kit

- MBB Sample
- STS casting socks
- Fall Risk Assessment Tear off Pad
- Tips on talking to your patients
- Exercise Tri-fold
- Compliance Docs
- Order Forms
- UPS labels
- MBB Patient Brochures
- MBB Poster
- WorryFreeDME Flyer
- SafeStep Shoe Catalog
Schedule a free Training Session with a DME Expert at SafeStep.net
Questions?