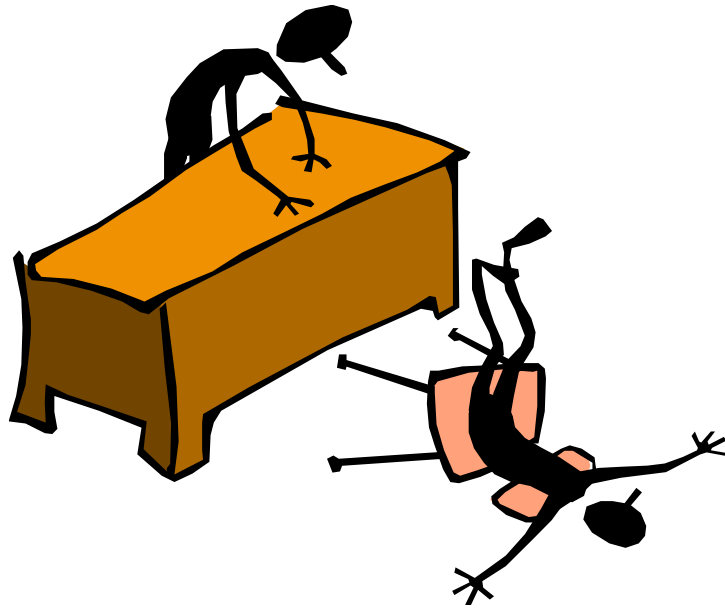


# The ABCs of Fall Prevention and Risk Reduction for Specialized Populations



# Definition of a fall

An unintentional descent to a lower level or descent to the ground with or without injury.

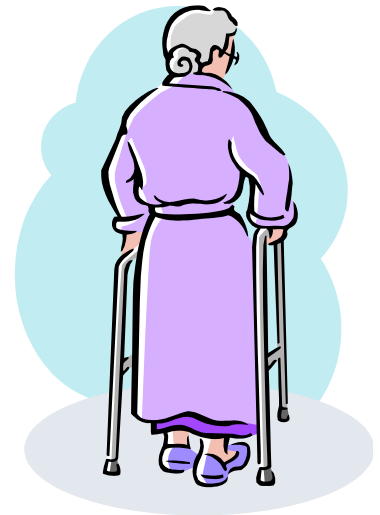




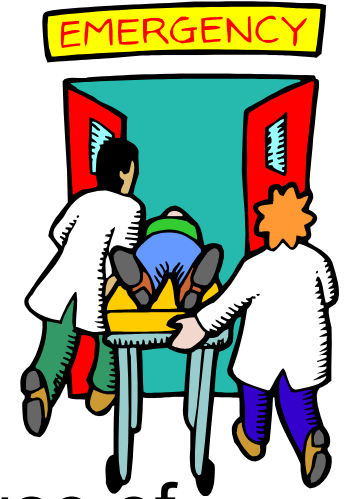
# Fall Related Facts<sup>1</sup>

More than a third of all individuals over the age of 65 fall each year.

Among older adults, falls are the leading cause of injury deaths.



# Fall Related Facts<sup>2</sup>



In 2000, falls were the most common cause of traumatic brain injuries and accounted for 46% of the falls among older adults.

The fall fatality rate in 2004 was 49% higher for men than for women.



# Fall Related Facts<sup>3</sup>

In 2000, the total direct cost for all fall injuries for people 65 and older exceeded 19 billion dollars.

In 2009, EDs treated 2.4 million nonfatal fall-related injuries among older adults. More than 662,000 of these patients had to be hospitalized<sup>4</sup>.

# Intrinsic Factors influencing falls: Those conditions that cannot be controlled that are inherent to the individual

Age

Neurological disorders

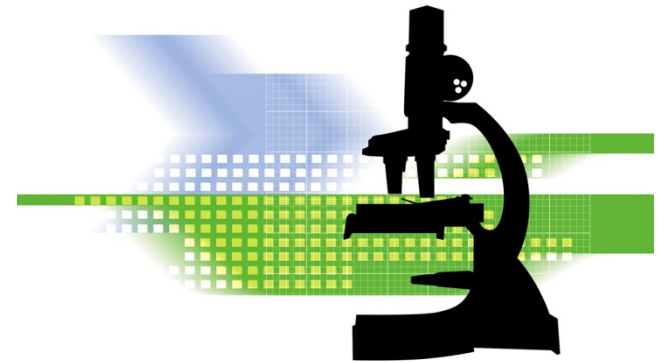
Orthopedic conditions

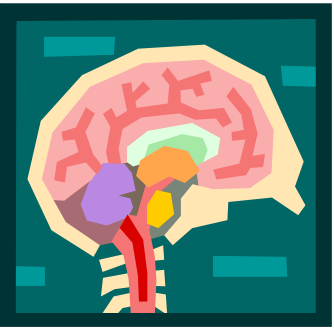
Diabetes

Urinary incontinence

Seizure disorders

Visual and hearing deficits



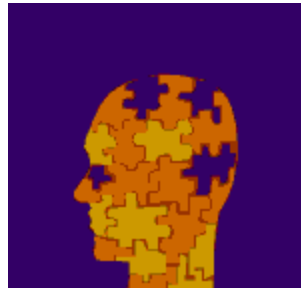


# Neurological Conditions

- Having a diagnosis of Alzheimer's, dementia, cerebral palsy, seizure disorder, Parkinson's and Parkinsonism-like symptoms all contribute to the increased risk for falls with increased risk for injury when falls do occur.

# Cognitive Considerations

- People with mild to moderate Alzheimer's disease have a faster rate of cognitive decline.
- Studies suggest that impaired attention is related to decline in gait and the increased risk of falling.
- Cognitive impairment is common in the IDD population and contributes to fall risk.





# Orthopedic Conditions

- Cerebral palsy
- Joint problems
- Arthritis
- Spinal problems



Extrinsic Factors influencing falls: Those factors that are “outside the individual” and can be controlled if steps are put into place to minimize or eliminate them

Objects in pathways

Uneven surfaces, changes in surfaces

Outside weather conditions

Wet floor surfaces

Improper usage or lack of use of assistive devices

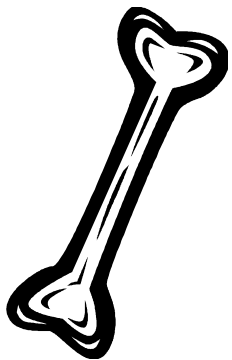
Multiple medications: “use of 4 or more, find on the floor”



# Falls are a predominant cause of serious injury among individuals with IDD<sup>5</sup>

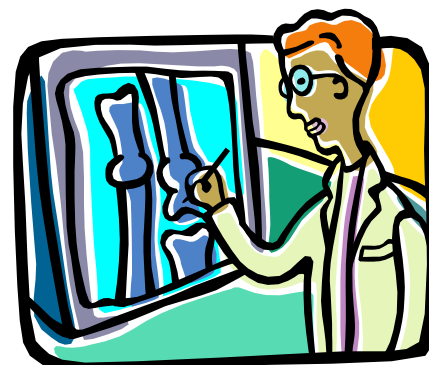
- 1) Changes associated with aging occur at a more rapid rate among IDD individuals
- 2) Inadequate protective responses / reaction
- 3) Rapid cognitive and functional decline (especially those with Down Syndrome who may be showing symptoms of Alzheimer' s and / or dementia-related diseases)
- 4) Medications used affect gait, strength, cognition, coordination, reaction time and bone density





# Osteoporosis

Osteoporosis is bone loss throughout the skeleton that causes the bones to thin and become more susceptible to fractures.



# Malabsorption Syndromes<sup>6</sup>

- Crohn's Disease
- Celiac Disease<sup>7</sup>
- Inflammatory Bowel Disease (colitis)

How are these conditions managed?

**STEROIDS!**





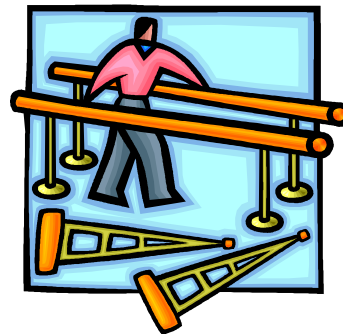
# Medications implicated in fall-related injuries

- Phenytoin and Carbamazepine, among other anticonvulsants, create a secondary osteoporosis when used long term<sup>8</sup>.
- Loop diuretics such as Lasix (furosemide), Bumex (bumetanide) and Demadex (torsemide) used to control high blood pressure also contribute to bone loss as a result of movement of calcium from the bones into the blood stream, which is then excreted through the kidneys<sup>9</sup>.
- PPIs<sup>10</sup> (Proton Pump Inhibitors)- these include Aciphex (rabeprazole), Nexium (esomeprazole), Prevacid (lansoprazole) Prilosec (omeprazole) and Protonix (Pantoprazole)

# Hip Fractures as a result of falls and its impact on health

When hip fractures occur as a result of falls, they often have very serious consequences<sup>11</sup>.

If surgical intervention is required, osteoporosis further complicates the surgical procedure and subsequent healing process.





# Hip Fractures and our clients

The previous statistics were not specific for the IDD population-

What happens after a hip fracture?

- Surgery oftentimes
- Rehab
- New medication(s)
- Digression from previous level of functioning

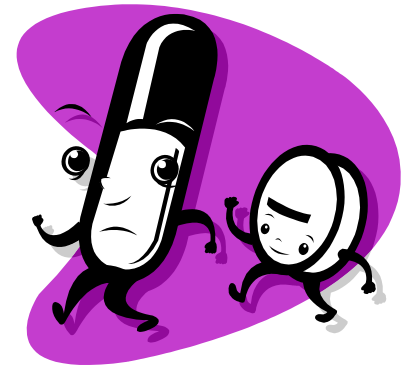




# High rates of hypothyroidism in Down Syndrome

Individuals with Down Syndrome have a higher than average rate of hypothyroidism than the average population. As a result, thyroid replacement therapy is common.

Levothyroxine is a common replacement medication that is prescribed when this diagnosis is made.



# Medications affecting neurological status



Antipsychotics: Used for treatment of schizophrenia, and bipolar disorder

- Risperdal (risperidone)
- Zyprexa (olanzapine)
- Abilify (aripiprazole)
- Seroquel (quetiapine)

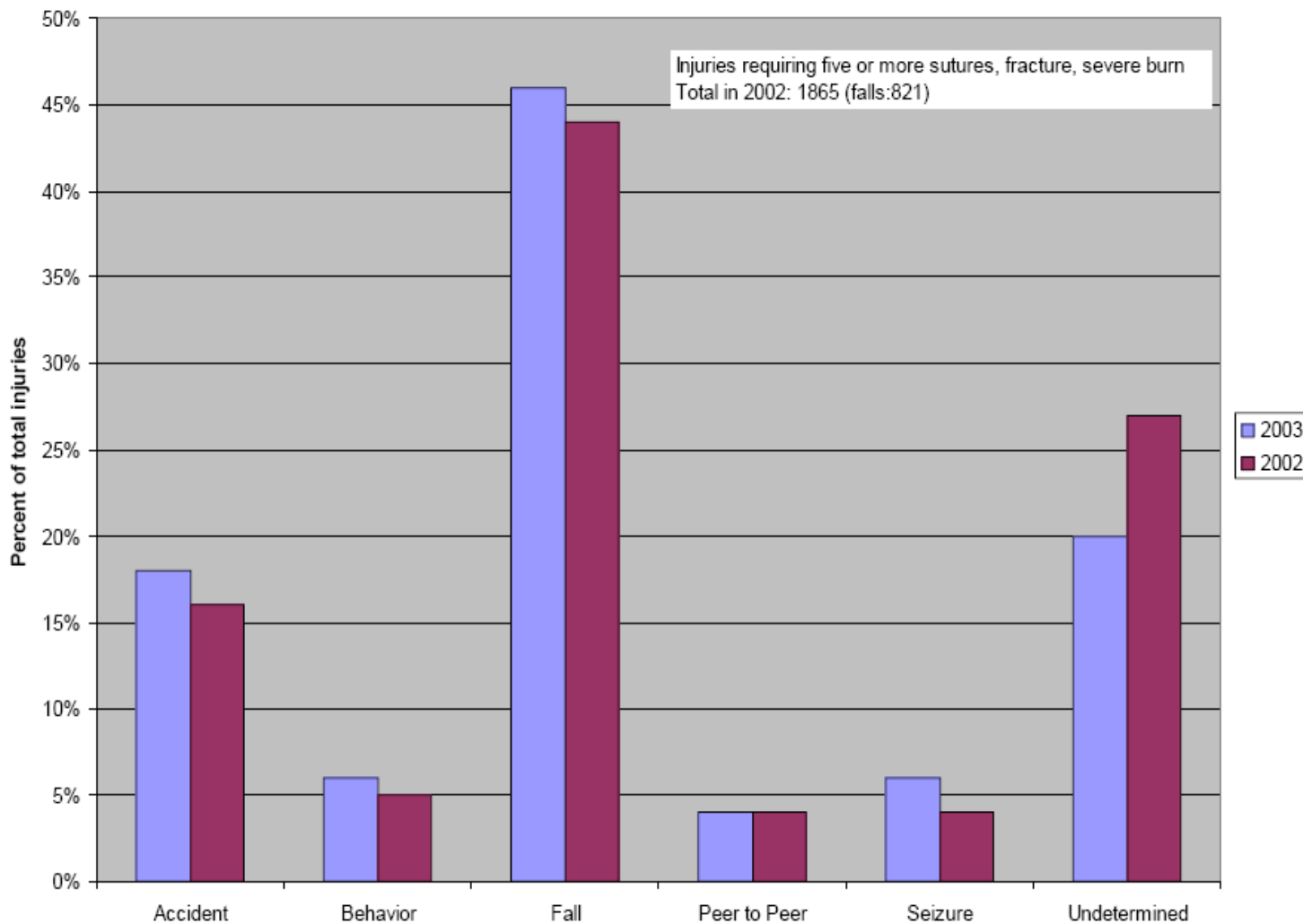


# Diabetes

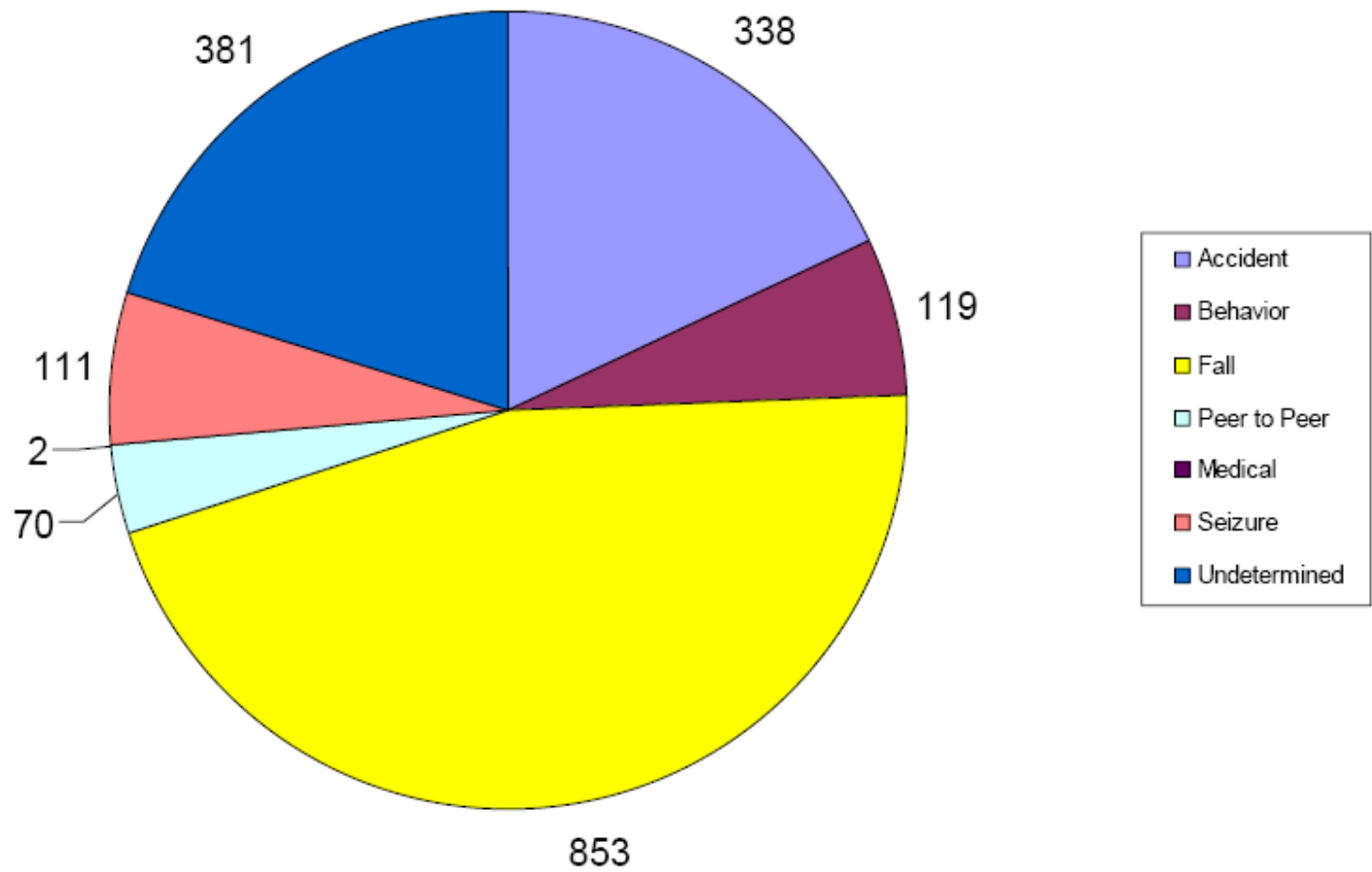
Complications associated with diabetes contribute to fall risk. Some of these are:

- Diabetic Neuropathy
- Diabetic Retinopathy
- Neurogenic Bladder

## Injuries



# Causes of Injuries 2003





# MUI Statistics- Ohio Department of DD

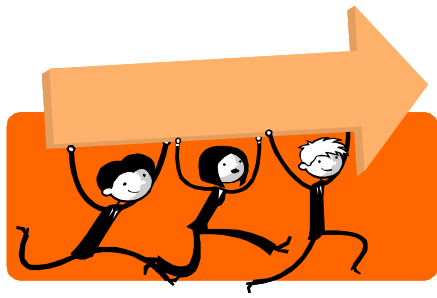
Falls were the #1 cause of all injury-related MUIs- This totaled over 45% in 2003<sup>13</sup>.

# Health and Safety Alert # 20



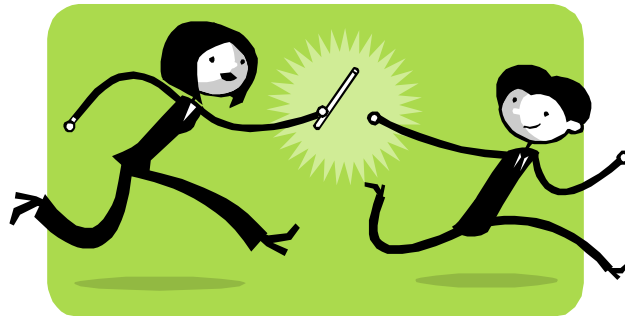
**The following locations were the most frequently identified for falls through MUI data review:**

- a) Bathrooms
- b) Bedrooms
- c) Stairs, including those on buses and vans
- d) Falls from one's wheelchair
- e) Doorways
- f) Outdoor uneven surfaces



# Team Responsibility

Information regarding falls is only as good as the accuracy of how they are reported.





# Multidisciplinary approach to fall risk management and fall prevention

- Staff education
- Management Role



# Multidisciplinary approach to fall risk management and fall prevention

- Review ISP and develop client specific plan to address falls. This may involve going through HRC if interventions are noted to be restrictive in nature.



# Multidisciplinary approach to fall risk management and fall prevention

- Physician communication
- Physician recommendations



# Multidisciplinary approach to fall risk management and fall prevention

- Hold Special Team Meetings as needed to problem solve and to develop solutions.





# Multidisciplinary approach to fall management and fall prevention

- Identify areas in the environment that can be potentially hazardous but are “easy fixes”



# Documenting falls when they occur

The UIR should include:

- The exact location of the fall (e.g. “next to the sink in the large bathroom” rather than “the bathroom”)
- What staff did to assist immediately upon witnessing / discovering the fall
- The person’s mood; if anything out of the ordinary was witnessed prior to the fall
- Exactly how the person landed if the fall was witnessed (“on her left side, landing on the left elbow first) OR if it was unwitnessed, in what position was the client found

# Documenting falls when they occur

DOCUMENT

DOCUMENT

DOCUMENT





# Human Rights and Dignity

- Least restrictive
- Impact to independence
- Safety vs. restriction





# Intervening to prevent falls

How do we improve monitoring for falls and reducing falls for our clients?

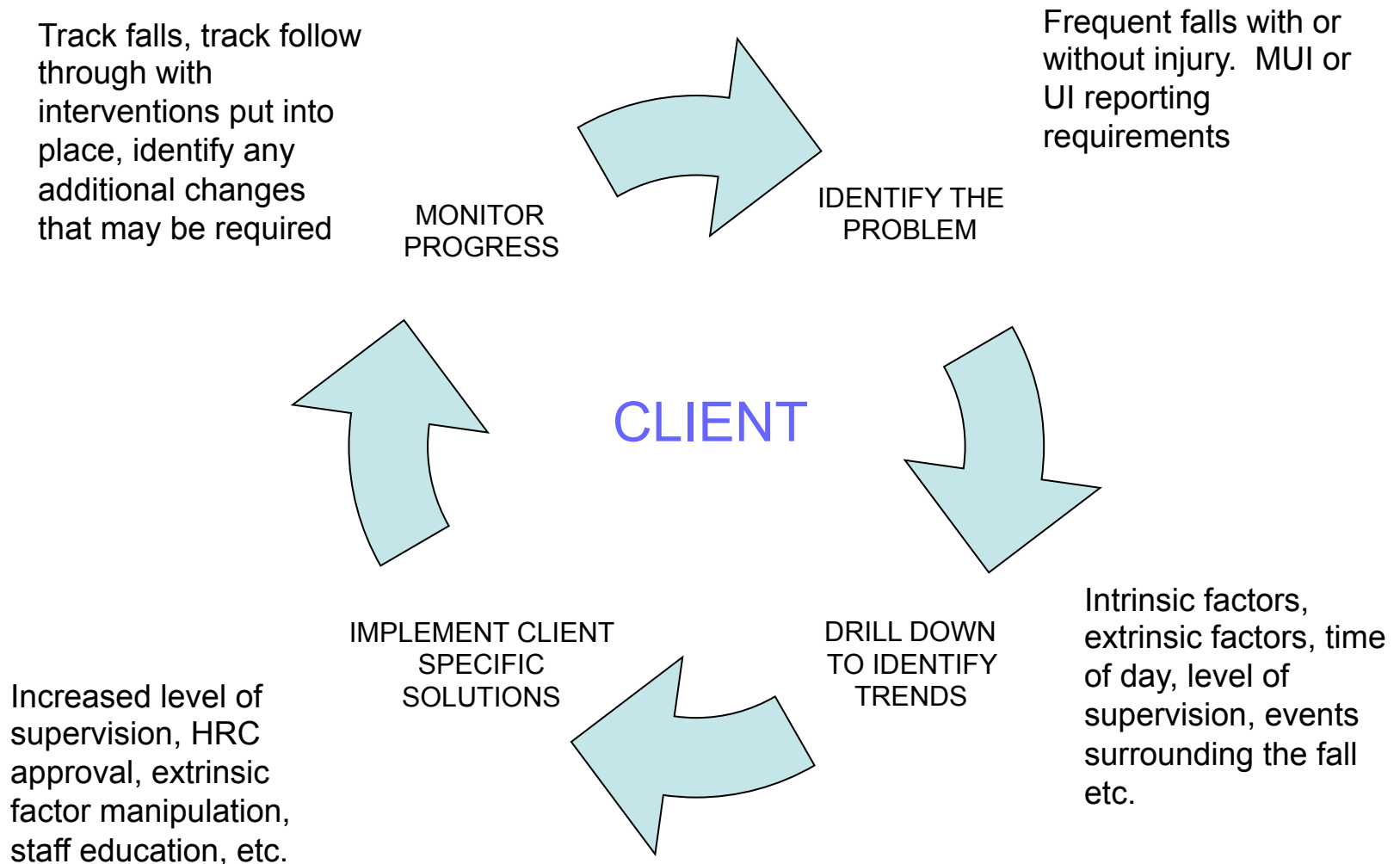


# Fall Prevention

Simple balance tests can help assess fall risk, particularly in cognitively impaired adults who have elevated falls risk and might not accurately recall previous falls.



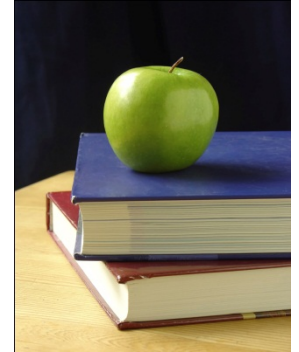
# Performance Improvement Cycle



# QUESTIONS



# References



<sup>4</sup>Cost of Falls Among Older Adults.

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/fallcost.html>. Retrieved 11-29-12

<sup>7</sup>Down Syndrome and Celiac Disease.

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<http://www.celiacentral.org/Celiac-Disease/Related-Diseases/Down-Syndrome/48/> Retrieved 11/29/12

<sup>1,2,3</sup>Falls Among Older Adults: An Overview:

<http://www.cdc.gov/ncipe/factsheets/adultfalls.htm>. Retrieved 12/30/08

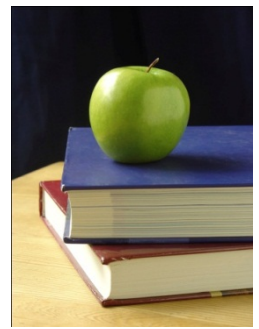
<sup>14</sup>Health and Safety Alert # 20-04-12 Falls. Ohio Department Developmental Disabilities (reissued April 2012).

<sup>12,13</sup>Major Unusual Incident Analysis: Implications for Health Care.

Dr. Andrew Eddy, MD, MS. Ohio Department of MRDD. Nov 19<sup>th</sup>, 2004.

<sup>8,9</sup>Medication-Related Osteoporosis: Michigan Consortium for Osteoporoses Working Group. Jan. 2001. [www.mphi.org](http://www.mphi.org)  
Retrieved 01/11/09

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<sup>5</sup>Preventing Falls: A Resource Manual; Tennessee Division of Mental Retardation Services. May 2007. [Tennessee.gov/dmrs/clinical\\_services/PreventingFallsResourceManual.pdf](http://Tennessee.gov/dmrs/clinical_services/PreventingFallsResourceManual.pdf) – 2009-01-05. Retrieved 01/11/09

<sup>10</sup>Proton-Pump Inhibitors and Risk for Fractures: Breaking Through the Confusion.  
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<sup>6</sup>Secondary Causes of Osteoporosis. The Creighton University Osteoporosis Research Center; Spring 2009 Biannual Newsletter # 23.  
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<sup>11</sup>Walking Competency in Ambulatory Individuals Living in Long-term Care:  
[http://www.the-ria.ca/event/materials/archive01/RIA\\_2007\\_research\\_day-glangreg10.pdf](http://www.the-ria.ca/event/materials/archive01/RIA_2007_research_day-glangreg10.pdf). Retrieved 12/02/12