Geriatric Syndromes: What we will cover today

- Urinary Incontinence
- Insomnia
- Falls/Gait Changes
- Dizziness
- Hearing Problems
- Vision Problems

- Delirium
- Dementia
- Depression
- Malnutrition
- Pressure Sores
- Chronic or persistent pain
Learning Objectives

- Explore the effects of aging on the body
- Discuss assessment and treatment options for older adults with urinary incontinence
- Identify causes of insomnia in the older adult
- Explore the common causes of falls in the older adult
- Explore the best practices for fall prevention in the older adult
- Identify the most common causes of confusion in the older adult
Learning Objectives

• Discuss assessment of late life depression and treatment options
• Explore interventions for malnutrition
• Identify common causes of dizziness in older adults
• Discuss best practices for pressure sore prevention and management
• Identify strategies for chronic pain management in the older adult
Urinary Incontinence

Sowing Seeds for More Rewarding Lives
What is infrequent bladder syndrome?
Who is afflicted with it?
What are the complications?
What is the treatment?
The Aging Genitourinary System
What is urinary incontinence?

• Losing urine when you don’t want to
• Never a normal consequence of aging
Changes to Expect as We Age

- Decrease in glomerular filtration rate (GFR)
  - GFR can be determined by the Cockcroft-Gault formula
  - Difficulty maintaining fluid and electrolyte balance
- Decreased efficiency in removing medications from the bloodstream
- Decreases in bladder elasticity and contractility
- Decrease in bladder sensation and desire to void
- Increase in nocturnal urine formation
- Reduction in bladder capacity
Translation

• More frequent trips to the bathroom
• If incontinent, more episodes at night
• Urgent need to use the bathroom
Background - Bladder Control System

Brain:
- Brain stem
- Detrusor motor area

Spinal cord:
- Thoracolumbar
- Sacral

Lower urinary tract:
- Bladder
- Urethra
Urinary Incontinence
Stats on Incontinence

• Affects
  – 38% of women over 60
  – 17% of men
  – 50% of nursing home residents
Lack of Reporting of Incontinence

• By older adult
  – Embarrassed
  – Think it is normal aging

• By healthcare staff
  – Short length of time in hospital
  – Think it is normal aging
  – Think it has been addressed
Urinary Incontinence Categories

• Transient
  – Acronym: DIAPPERS
    • Delirium
    • Infection
    • Atrophic vaginitis
    • Pharmacological impact
    • Psychological
    • Restricted mobility
    • Stool impaction
• Chronic or persistent
Transient Incontinence

• Treat the underlying cause
• Do not assume
  – Older adult = Incontinence
Five types of Chronic Urinary Incontinence

- Stress
- Urge
- Overflow
- Functional
- Mixed
Types of Incontinence: Stress

- Stress
  - More common in women
  - Increase in intra-abdominal pressure
    - Coughing
    - Sneezing
    - Exercising
    - Running
    - Lifting something heavy
Types of Incontinence: Urge

- Urge
  - Strong desire to void, unable to hold the urge to urinate
  - Detrusor hyperactivity with impair bladder contractility (DHIC)
  - Most common 50-75%
  - Many causes – bladder irritants, bowel problems, stroke, injury to the nervous system
Types of Incontinence: Functional

- Functional
  - Due to a problem affecting mobility or manipulation of clothing
  - Also due to cognitive issues such as dementia
Types of Incontinence: Overflow

- Overflow
  - Inability to effectively empty the bladder effectively
  - Constant dribbling
  - Sensation of incomplete emptying
  - Causes include nerve damage by diabetes, MS, enlarged prostate as well as blocked urethra or damage to the bladder
Types of Incontinence: Mixed

- Combination of more than one type
- Usually stress and urge
Drugs that Contribute to UI

- **Diuretics** - frequency, urgency
  - furosemide, hydrochlorothiazide
- **Anticholinergics** – retention, impaction, sedation
  - oxybutynin, tolterodine
- **Narcotic analgesics** - retention, impaction, sedation
  - oxycontin, oxycodone
- **ACE inhibitors** - cough
  - captopril, enalapril, benzepril
- **Calcium blockers** – can relax bladder contraction
  - nifedipine, diltiazem, verapamil
Assessment

- Medical history
- History of problem: onset, frequency of episodes, duration, and severity
- Transient or established/chronic
- Physical exam
  - Appearance, clothing stained
  - Ask to cough while standing
- Medications
- Testing
Assessment

- Lower abdominal tenderness
- Distended, PVR
- Skin rashes, excoriation
- S/S UTI, hematuria
- Constipation, fecal impaction
Questions to Ask About Incontinence

- How often
  - Day/night
- How much
  - Weak stream?
  - Straining to void?
  - Emptying?
- Sleep pattern
- Description
Your Daily Bladder Diary

This diary will help you and your health care team figure out the causes of your bladder control trouble. The “sample” line shows you how to use the diary.

Your name: ________________________

Date: ________________________

<table>
<thead>
<tr>
<th>Time</th>
<th>Drinks</th>
<th>Trips to the Bathroom</th>
<th>Accidental Leaks</th>
<th>Did you feel a strong urge to go?</th>
<th>What were you doing at the time?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>Coffee</td>
<td>2 cups</td>
<td>How many times?</td>
<td>How much urine? (circle one)</td>
<td>(circle one)</td>
</tr>
<tr>
<td>6-7 a.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>7-8 a.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>8-9 a.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>9-10 a.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>10-11 a.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>11-12 noon</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>12-1 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>1-2 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>2-3 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>3-4 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>4-5 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>5-6 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
<tr>
<td>6-7 p.m.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Use this sheet as a master for making copies that you can use as a bladder diary for as many days as you need.
<table>
<thead>
<tr>
<th>Time</th>
<th>Drinks</th>
<th>Time to the Bathroom</th>
<th>Accidental Leaks</th>
<th>Did you feel a strong urge to go?</th>
<th>What were you doing at the time?</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8 p.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6-7 p.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5-6 p.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>11-12 midnight</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>12-1 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1-2 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2-3 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3-4 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4-5 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5-6 a.m.</td>
<td>Soda</td>
<td>2 cans</td>
<td>✓</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

I used ______ pads today. I used ______ diapers today (write number).

Questions to ask my health care team:

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*Let’s Talk About Bladder Control for Women* is a public health awareness campaign conducted by the National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC), an information dissemination service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health.
Treatment: Non-pharmaceuticals

• Non-pharmaceuticals
  – Kegels
    • Tighten the pubococcygeal muscle (the one that stops stream of urine) without moving abdominal muscles
    • Perform this exercise 5 times per day, 10 in each set gradually increasing to 15-20 in each set
    – Scheduled/Prompted voiding
  – BSC
  – Manual dexterity
Minnie Pauz

Thank God for all those years of doing my Kegels!
<table>
<thead>
<tr>
<th>Lifestyle Changes</th>
<th>Consider:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Losing weight</td>
<td>• Incontinent products</td>
</tr>
<tr>
<td>• Quite smoking</td>
<td>• Adapting the bathroom</td>
</tr>
<tr>
<td>• Avoid alcohol</td>
<td>• Toilet mapping</td>
</tr>
<tr>
<td>• Decaffeinated beverages</td>
<td>• Timed voiding</td>
</tr>
<tr>
<td>• Prevent constipation</td>
<td></td>
</tr>
<tr>
<td>• Depression screening</td>
<td></td>
</tr>
</tbody>
</table>
Caregiver Burden or Stress

• Lack of understanding
  – Why this is occurring
  – How to manage at home
  – Results in increased laundry, time, odor, cleaning
Equipment for home or bedside

Aging Institute of UPMC Senior Services and the University of Pittsburgh
Vinyl flooring, waterproof mattress covers
<table>
<thead>
<tr>
<th>Brand</th>
<th>Briefs</th>
<th>Undergarments</th>
<th>Pad &amp; Pant Systems</th>
<th>Guards</th>
<th>Pads/Shields</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reassure</strong></td>
<td>One style with elastic in the waist, four tape tabs, and a cottony lining (S,M,L,H). Briefs with Perma-Dry have four tape tabs and a silky lining (S,M,L) (Youth size available without Perma-Dry)(H). Briefs with Perma-Dry and Waistband have elastic in the waist, six tape tabs and a cottony lining (M,L,H).</td>
<td>Fastens around the waist with elastic belts and buttons. Beltless style stays in place with an adhesive strip.</td>
<td>Disposable pads fit inside washable pants.</td>
<td>Slightly heavier than pads or shields. Attach with an adhesive strip.</td>
<td>Attach to your own underwear with an adhesive strip.</td>
</tr>
<tr>
<td><strong>Attends</strong></td>
<td>One style with elastic in the waist, six tape tabs and a cottony lining (S,M,L,H). One style designed for nighttime has more absorbent padding in the center (M,L,H).</td>
<td>Belted style has cottony lining and a soft Cloth Like outer lining (M,L,H).</td>
<td>Wrap-around style pants fastens with Velcro (S,M,L). Pads fasten with an adhesive square (M,L,H).</td>
<td>Cup-shaped, foam-backed guards fasten with an adhesive strip (L,M,H).</td>
<td>Soft, elastic gathers shape pad to body and fasten with an adhesive strip (L).</td>
</tr>
<tr>
<td><strong>Tranquility</strong></td>
<td>One style with a cottony lining, an inner cuff and four tape tabs (Y,S,M,L,H).</td>
<td>Belted style has button straps (M,L,H). Elastic style has button straps and a Cloth-Like outer lining (M,L,H). Easy Fit style fastens with Velcro straps and has a Cloth-Like outer lining (M,L,H).</td>
<td>Mesh pants (S,M,L,XL) hold pads (L,M,L,H) in place.</td>
<td>Poise guards have a cup-shaped foam backing and fasten with an adhesive strip (L,M). Male style guard is cup-shaped and fastens with an adhesive strip (L,M).</td>
<td>Poise pads have elastic gathers so pad fits body and fastens with an adhesive strip (L). Shields are cup-shaped with no elastic and fasten with an adhesive strip (L).</td>
</tr>
<tr>
<td><strong>Promise</strong></td>
<td>One style with a cottony lining, four tape tabs and padding in the wings (S,M,L,H).</td>
<td>Belted style has button straps (M,L,H). Beltless style has elastic side gathers and fastens with an adhesive strip (M,L,H).</td>
<td>Elastic edging gives guard a cup shape and fastens with an adhesive strip (L,M,H).</td>
<td></td>
<td>Thin shields come in a regular, super-plus and male style. All fasten with an adhesive strip (L).</td>
</tr>
<tr>
<td><strong>Suretys</strong></td>
<td>One style with elastic waist, cottony lining and four tape tabs. Care Plus style has four tape tabs, cottony lining and padding in the wings (S,M,L,H).</td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td>Cotton, light support pant (S,M,L,XL) may be used with any self-adhering absorbent product.</td>
<td></td>
<td>Thin pad and pad have a soft foam backing and fasten with adhesive strip (L). Curved pad has soft, elastic gathers and fastens with an adhesive strip (L).</td>
</tr>
<tr>
<td><strong>Serenity</strong></td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Divinity</strong></td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td>Briemates fasten with an adhesive strip (M,L,H), and come with a disposable mesh.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Treatment: Pharmaceuticals

Pharmaceuticals

– Urge: anti-muscarinics- oxybutynin (Ditropan), Solifenacin (Vesicare), tolterodine (Detrol)
  • Disadvantage is anti-cholinergic effect
– Stress: Estrogen, Duloxetine (Cymbalta), Alpha adrenergic agonists (pseudo-ephedrine and phenylpropanolamine)
– Overflow: Bethanechol - Ureocholine (cholingeric receptor agonist), Tamsulosin – flomax (selective alpha reductase inhibitor)
UTIs

- 10% of older adult population per year affected
- Female/Male ratio is 2:1
- Symptoms can be atypical
- Asymptomatic bacteriuria: 20% of older adult population
  - Multiple causes
  - 80-90% of those with catheters have bacteriuria
Complications of Urinary Incontinence

- Skin issues
- UTIs
- Depression
- Isolation
Insomnia
So.....

- What percentage of older adults report disruptions with sleep?
- Do we need less sleep as we age?
- Can you make up for lost sleep on a weekend?
Insomnia

- Difficulty falling asleep
- Difficulty staying asleep
- Premature awakening
Stages of Sleep

- Stage 1 is the transitional period of drifting to sleep when one can be easily aroused.
- Stage 2 is a period of greater relaxation and light sleep will follow.
- Stages 3 and 4 are progressively deeper and more restorative periods when the blood pressure, pulse, and metabolism decrease or slow down.
Changes as We Age

- Increase in Stage 1 wakefulness
- Decreased deep NREM (stages 3 and 4) slow wave sleep
- Increase in night time awakenings
- Frequent arousals reduce the amount of nocturnal sleep
  - Common sleep interruptions include: nocturia and nocturnal incontinence, hypersomnia/insomnia, restless legs syndrome/periodic limb movements, sleep-disordered breathing
Given that older adults.....

- Are more easily awakened
- Cannot fall asleep as easily once they are awakened

Impact on care??
Impaired sleep

• Results in:
  – Daytime sleepiness
  – Lack of concentration
  – Poor nutrition
  – Mood shifts
  – Falls
<table>
<thead>
<tr>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sleep history</td>
</tr>
<tr>
<td>– Pittsburgh Sleep Quality Index</td>
</tr>
<tr>
<td>• Medical History</td>
</tr>
<tr>
<td>• Medication History</td>
</tr>
<tr>
<td>• Mobility</td>
</tr>
</tbody>
</table>
What is sleep hygiene?
Alternatives to Sleeping Medication

Soft music
Temperature
Lighting
Comfort
QUIET
Do we have a problem with NOISE?
What about sleeping pills?
Sleeping Medications in the Older Adult

• Increase sleep time by an average of 25 minutes
• Decrease length of time to fall asleep by 10 minutes
• Clinical benefits may be modest at best
• Increase in adverse effects
  – Daytime drowsiness
  – Nightmares
  – GI disturbances
  – Dizziness
  – Motor vehicle accidents
  – Falls
• Are the benefits worth the risks?

Glass, Lanctot, Herrmann, Sproute, busto, 2005
Falls/Mobility/Dizziness/Vision Hearing
Every 15 seconds an older adult is treated in the Emergency Department due to a fall.
CDC Statistics

- 1 in ___ older adults, 65 years of age and older, fall each year
- Falls are the leading cause of fatal and nonfatal injuries in seniors
- In 2013, the direct medical cost of falls was ____ dollars
- ____% of fall result in moderate to severe injuries
CDC Statistics

• In 2013, _______died of unintentional fall injuries
• A 75 year old who falls are 4-5 times more likely to be admitted to a nursing home for_____ or longer
• _________ hip fractures per year
• ______% of adults over the age of 65 report episodes of dizziness.
# Fall Risk Checklist

<table>
<thead>
<tr>
<th>Patient:</th>
<th>Date:</th>
<th>Time:</th>
<th>AM/PM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Risk Factor Identified</strong></td>
<td><strong>Factor Present?</strong></td>
<td><strong>Notes</strong></td>
<td></td>
</tr>
<tr>
<td>Falls History</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any falls in past year?</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worries about falling or feels unsteady when standing or walking?</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with heart rate and/or rhythm</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incontinence</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foot problems</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other medical conditions (Specify)</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any psychoactive medications, medications with anticholinergic side effects, and/or sedating OTCs? (e.g., Benadryl, TYLENOL PM)</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gait, Strength &amp; Balance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed Up and Go (TUG) Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥12 seconds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-Second Chair Stand Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below average score (See table on back)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Stage Balance Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full tandem stance &lt;10 seconds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acuity &lt;20/40 OR no eye exam in ≥1 year</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postural Hypotension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A decrease in systolic BP ≥20 mm Hg or a diastolic bp of ≥10 mm Hg or lightheadedness or dizziness from lying to standing?</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Risk Factors (Specify)</td>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Yes ☐ No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
First Things First: Risk factors

- Age
- Functionality
  - Vision
  - Hearing
  - Sensation
  - Movement, strength, balance
  - Dizziness
- Chronic health issues
- Medications
- Environmental factors
Visual Changes

• Decrease in the size of the pupil
• Decrease in ability to accommodate changes in levels of light
• By age 45, many adults need magnification to see fine details
• May impact the continuation of normal activities
• Color discrimination becomes difficult
• Yellowing of the lens occurs
• Depth perception may be affected
Yellowing of the lens
Abnormal Vision Changes

Diabetic Retinopathy

Macular Degeneration
Macular Degeneration
Abnormal Vision Changes

Cataracts  Glaucoma  Hemianopia
Cataracts

NORMAL VISION

CATARACT VISION

Aging Institute of UPMC Senior Services and the University of Pittsburgh
Cataracts
Cataracts

Look at the difference in these street scenes.

A healthy lens allows all of the incoming light to generate a clear image. Cataracts scatter the incoming light resulting in hazing and lack of detail.
Things to Remember

• Use bright nonskid tape on stairs
• Wear your glasses
• Reduce glare
• Regular eye doctor visits
• Increase environmental lighting by 30%
• Use nightlights, place lamps at the entrance to a room
Use of Bifocals
Use of Bifocals
Hearing Loss

Normal Changes

• It is the third leading chronic health problem in the U.S.
• Hearing loss is worse at higher frequencies
• Affects approximately 1/3 of all adults between 65 and 74
• Affects about ½ of adults age 75 to 79
Abnormal Changes in Sensation

- Associated with diseases such as Parkinson’s disease, stroke, diabetes, arthritis
- Can also be associated with medication and injury
- Decreased sensation is seen primarily in the fingertips, palms, and lower extremities
- Decreased ability to distinguish temperature and pain
Mobility, strength and Balance Assessment

- http://www.cdc.gov/steadi/videos.html
First Things First: Risk factors

• Age
• Functionality
  – Vision
  – Hearing
  – Sensation
  – Mobility, strength, balance
  – Dizziness
• Chronic health issues
• Medications
• Environmental factors
Chronic Health Issues

- Parkinson’s disease
- Stroke
- Musculoskeletal
- Cardiovascular function
- Diabetes
- Respiratory function
- Dementia
Dizziness

• Common complaint of seniors
• Difficult to diagnose
• Can have multiple causes in the same individual
Types of Dizziness

- Vertigo
- Pre-syncope
- Disequilibrium
- Light-headedness

Tablonski, 2009, 309-311
Vertigo

- Peripheral
  - Benign Paroxysmal Positional Vertigo
  - Labyrinthitis
  - Recurrent vestibular syndromes
- Central
  - Disruption of blood flow to the cerebellum
Pre-Syncope

• Orthostatic Hypotension
  A drop of 20 mm Hg in systolic blood pressure or a 10 mm Hg drop in diastolic blood pressure

• Factors that may impact:
  Anemia
  Deconditioning
  Dehydration
  Hypokalemia
  Medications

Tablonski, 2009, 309-311
Screening

• Balance testing
• Blood pressure lying and standing
### Physical Skills Screening Score Form

3 points = lower risk  
2 points = moderate risk  
1 point = higher risk

<table>
<thead>
<tr>
<th>Age</th>
<th>Get Up and Go (How many seconds to tenth of second)</th>
<th>Chair to Stand (How many stands)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>60-64</td>
<td>&lt;3.8 = 3 points</td>
<td>&lt;4.4 = 3 points</td>
</tr>
<tr>
<td></td>
<td>3.8-</td>
<td>4.4-6</td>
</tr>
<tr>
<td></td>
<td>5.6=2</td>
<td>6.4=1</td>
</tr>
<tr>
<td>65-69</td>
<td>&lt;4.3 = 3</td>
<td>&lt;4.8 = 3</td>
</tr>
<tr>
<td></td>
<td>4.3-9</td>
<td>4.8-6</td>
</tr>
<tr>
<td></td>
<td>5.9=7</td>
<td>6.4=1</td>
</tr>
<tr>
<td>70-74</td>
<td>&lt;4.4 = 3</td>
<td>&lt;4.9 = 3</td>
</tr>
<tr>
<td></td>
<td>4.4-6.2</td>
<td>4.9-7.1</td>
</tr>
<tr>
<td></td>
<td>6.2=1</td>
<td>7.1=1</td>
</tr>
<tr>
<td>75-79</td>
<td>&lt;4.6 = 3</td>
<td>&lt;5.2 = 3</td>
</tr>
<tr>
<td></td>
<td>4.6-7.2</td>
<td>5.2-7.4</td>
</tr>
<tr>
<td></td>
<td>7.2=1</td>
<td>7.4=1</td>
</tr>
<tr>
<td>80-84</td>
<td>&lt;5.2 = 3</td>
<td>&lt;5.7 = 3</td>
</tr>
<tr>
<td></td>
<td>5.2-7.6</td>
<td>5.7-8.7</td>
</tr>
<tr>
<td></td>
<td>7.6=1</td>
<td>8.7=1</td>
</tr>
<tr>
<td>85-89</td>
<td>&lt;5.5 = 3</td>
<td>&lt;6.2 = 3</td>
</tr>
<tr>
<td></td>
<td>5.5-8.9</td>
<td>6.2-9.6</td>
</tr>
<tr>
<td></td>
<td>8.9=1</td>
<td>9.6=1</td>
</tr>
<tr>
<td>90-94</td>
<td>&lt;6.2 = 3</td>
<td>&lt;7.3 = 3</td>
</tr>
<tr>
<td></td>
<td>6.2-10</td>
<td>7.3-11.5</td>
</tr>
<tr>
<td></td>
<td>10=1</td>
<td>11.5=1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>One Leg Balance (How many seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>80-84</td>
<td>&gt;15 = 3</td>
</tr>
<tr>
<td></td>
<td>15-5</td>
</tr>
</tbody>
</table>

Pennsylvania’s Healthy Steps in Motion 152
First Things First: Risk factors

- Age
- Functionality
  - Vision
  - Hearing
  - Sensation
  - Movement
  - Balance
  - Dizziness
- Chronic health issues
- Medications
- Environmental factors
Medications

- Honest review of what they are taking and why
  - In their own words
- Brown bag technique with the addition of supplements
- Medication
  - Sedative-hypnotics
  - Antidepressants
  - Anxiolytics
  - Diuretics
Beers Criteria 2105

• To identify potentially inappropriate medications that should be avoided in many older adults

• To reduce adverse drug events and drug related problems, and to improve medication selection and medication use in older adults

• Designed for use in any clinical setting; also used as an educational, quality, and research tool
Beers Criteria 2015

• The Beers Criteria have had many positive impacts
  – Use of many medications included in the Beers Criteria has declined
  – Increased appreciation of special considerations that should be applied when prescribing for older adults
Beers Criteria 2015

• Think of the Beers Criteria as a warning light

• Whenever you think about prescribing or renewing a Beers medication, the “warning light” should make you stop and think:
  – Why is the patient taking the drug; is it truly needed?
  – Are there safer and/or more effective alternatives?
  – Does my patient have particular characteristics that increase or mitigate risk of this medication?
  – But, keep in mind that there are situations in which use of Beers medications is justified and appropriate
First Things First: Risk factors

- Age
- Functionality
  - Vision
  - Hearing
  - Sensation
  - Movement
  - Balance
  - Dizziness
- Chronic health issues
- Medications
- Environmental factors
Environmental Press

Does the home/facility lend itself to aging in place?
Problem Areas

- Stairs
- Lighting
- Bathroom
- Kitchen
Where to Begin?

- Honest assessment of abilities
- Availability of help
- Costs
- Resources
Safety Check

Do a safety check of the home to eliminate safety hazards:

- Poor lighting
- Use of throw rugs
- Electrical cords crossing pathways
- Lack of bathroom grab bars and non-skid mats
- Sidewalks in poor repair
- Too much clutter
Things to consider

• Encourage use of assistive aids such as walkers, canes, and proper footwear
• Foot disorders and ill-fitting shoes can contribute to gait problems.
• Ensure that vision and hearing are tested regularly
• Regular doctor visits to review medications
### Appendix 1: FOOTWEAR ASSESSMENT TOOL

#### 1. FIT

<table>
<thead>
<tr>
<th>Foot length</th>
<th>Thumb width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Fit of shoe (length) – rule of thumb (wearer’s thumb)**
  - Palpation:
  - Straw =
  - Too short (< ½ thumb) □
  - Too long (> 1 ½) □

- **Fit of shoe (width) – grasp test**
  - Good □
  - Too narrow □
  - Too wide □

- **Fit of shoe (depth)**
  - Good □
  - Too shallow □

#### 2. GENERAL

<table>
<thead>
<tr>
<th>Age of shoe</th>
<th>0 – 6 months □</th>
<th>6 – 12 months □</th>
<th>&gt; 12 months □</th>
</tr>
</thead>
</table>

- **Footwear style**
  - Walking shoe □
  - Boot □
  - Slipper □
  - Sandal □
  - Athletic shoe □
  - Ugg-boot □
  - Backless slipper □
  - Surgical/bespoke □
  - Oxford shoe □
  - High heel □
  - Court shoe □
  - Other (specify) □
  - Moccasin □
  - Thong/flip-flop □
  - Mule □

- **Materials (upper)**
  - Leather □
  - Synthetic □
  - Plastic □
  - Mesh □
  - Leather □
  - Other □

- **Materials (outsole)**
  - Rubber □
  - Other □

- **Weight**
  - □

- **Length**
  - □

- **Weight/length**
  - □

#### 3. GENERAL STRUCTURE

- **Heel height =**
  - 0 – 2.5 cm □
  - 2.6 – 5.0 cm □
  - > 5.0 cm □

- **Forefoot height (measured at point of the 1st and MTPJs) =**
  - 0 – 0.9 cm □
  - 1.0 – 2.0 cm □
  - > 2.0 cm □

- **Longitudinal profile (heel – forefoot difference) =**
  - Flat (0 – 0.9 cm) □
  - Small heel rise (1 – 3 cm) □
  - Large heel rise (> 3 cm) □

- **Last (centre goniometer at 50% shoe length) =**
  - Straight (< 5°) □
  - Semi-curved (5 – 15°) □
  - Curved (> 15°) □

- **Fixation of upper to sole**
  - Board □
  - Combination □
  - Slip-lasted □

- **Forefoot flexion point**
  - At level of MTPJs □
  - Proximal to 1st MTPJ □
  - Distal to 1st MTPJ □
### 4. MOTION CONTROL PROPERTIES

<table>
<thead>
<tr>
<th>Density</th>
<th>single</th>
<th>dual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixation</td>
<td>none</td>
<td>laces</td>
</tr>
</tbody>
</table>

- **Heel counter stiffness (20mm above bottom or upper)**
  - no heel counter
  - minimal (> 45°)
  - moderate (< 45°)
  - rigid (0-10°)

- **Midfoot sole sagittal stability**
  - minimal (> 45°)
  - moderate (< 45°)
  - rigid (0-10°)

- **Midfoot sole frontal stability (torsional)**
  - minimal (> 45°)
  - moderate (< 45°)
  - rigid (0-10°)

### 5. CUSHIONING

<table>
<thead>
<tr>
<th>Presence</th>
<th>none</th>
<th>heel</th>
<th>heel/forefoot</th>
</tr>
</thead>
</table>

- **Lateral Midsole hardness**
  - 1st Durometer readings
  - soft
  - firm
  - hard
  - mean

- **Medial Midsole hardness**
  - 1st Durometer readings
  - soft
  - firm
  - hard
  - mean

- **Heel sole hardness (centre of inside heel shoe interface)**
  - 1st Durometer readings
  - soft
  - firm
  - hard
  - mean

### 6. WEAR PATTERNS

- **Upper**
  - medial tilt (> 10°)
  - neutral
  - lateral tilt (> 10°)

- **Midsole**
  - medial compression signs
  - neutral
  - lateral compression signs

- **Tread pattern**
  - A
    - textured
    - not worn
  - B
    - smooth (i.e. no pattern)
    - partly worn

- **Outsole wear pattern**
  - none
  - normal
  - lateral
  - medial

---

R | L
Senior Friendly Environment

- Door levers
- Chairs with armrests
- Non glare surfaces
- Lighting
- Nightlights
- Flashlight under the bed
- Clear pathways
Senior Friendly Bathrooms
Translucent door provide the sense of privacy when supervision of self bathing is needed.

New tub-surround wall with grab bar. Hand-held scrubbers with handles.

Single lever faucet to avoid scalding, because the water temperature will gradually get warmer as the dial is turned.
Assessment and Fall Prevention
# Fall Risk Checklist

<table>
<thead>
<tr>
<th>Fall Risk Factor Identified</th>
<th>Factor Present?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any falls in past year?</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Worries about falling or feels unsteady when standing or walking</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Medical Conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with heart rate and/or rhythm</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Incontinence</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Foot problems</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Other medical conditions (Specify)</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any psychoactive medications, medications with anticholinergic side effects, and/or sedating OTCs? (e.g., Benadryl, TYLENOL PM)</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Gait, Strength &amp; Balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed Up and Go (TUG) Test</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>≥12 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-Second Chair Stand Test</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Below average score (See table on back)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Stage Balance Test</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Full tandem stance &lt;10 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acuity &lt;20/40 OR no eye exam in &gt;1 year</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Postural Hypotension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A decrease in systolic BP ≥20 mm Hg or a diastolic bp of ≥10 mm Hg or lightheadedness or dizziness from lying to standing?</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Other Risk Factors (Specify)</td>
<td>□ Yes □ No</td>
<td></td>
</tr>
</tbody>
</table>
Physical Exam

• When was the last eye exam?
• When was the last hearing exam?
• Assessment of postural hypotension
• Mobility, strength, balance
• Osteoporosis
Shirley and the Body Builder

- [http://www.youtube.com/watch?v=LgLopvyudM4](http://www.youtube.com/watch?v=LgLopvyudM4)
Fall Risk Reduction Interventions

- Environmental modifications
- Exercise
- Assistive devices
- Medication review
Our Aging Population

- In 2009: 39.6 million over 65, 13% of the U.S. population
  - Represent 60-70% of all hospital admissions
  - Average length of stay 5.6 days for seniors versus 4.8 days for all other ages
  - Incidence of delirium increases length of stay to 7.8 days (McCusker, J, Cole, MG, Dendukuri, N, Belzile, E, 2003)
- In 2030: 72 million over 65, 19% of the U.S. population
- Pennsylvania:
  - 2010 Older adults represented 16% of total population
  - 2030 Older adults will represent 22.6% of total population

Administration on Aging
Our Aging Body

Aging Institute of UPMC Senior Services and the University of Pittsburgh
### Aging Changes

<table>
<thead>
<tr>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory</td>
</tr>
<tr>
<td>Cardiovascular</td>
</tr>
<tr>
<td>Gastrointestinal</td>
</tr>
<tr>
<td>Pulmonary</td>
</tr>
<tr>
<td>Skin</td>
</tr>
<tr>
<td>Immune</td>
</tr>
<tr>
<td>Neurologic</td>
</tr>
<tr>
<td>Musculoskeletal</td>
</tr>
<tr>
<td>Renal</td>
</tr>
<tr>
<td>Endocrine</td>
</tr>
</tbody>
</table>
Baseline Mental Status

Why is it important to establish baseline mental status?

Why is this often not established?

Is there a lack of standardized terminology?

- Not acting right
- Confused
- Behavior changes
- Lethargic
- Agitated
- Disoriented
“This is not my mom!”

- [http://www.youtube.com/watch?v=9QURzexhWP4](http://www.youtube.com/watch?v=9QURzexhWP4)
Confusion in the Older Adult

- Accepted as a normal consequence of aging
- Term used as a general label for cognitive changes
- Typically implies an untreatable condition
3 D’s of Dementia, Depression, Delirium

- Incidence increases as we age
- Occur separately or in combination
- Only delirium has a sudden onset
  - “Never acted like this before”
  - “Very agitated today”
  - “Kept him sitting at the nurses station so we could keep an eye on him”
  - “He needs something to settle him down”
## Comparison Chart for the 3 D’s

<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Sudden/abrupt, depends on cause, often at twilight or in darkness</td>
<td>Insidious/slow and often unrecognized; depends on cause over time</td>
<td>Coincides with major life changes; often abrupt, but can be gradual</td>
</tr>
<tr>
<td>Course</td>
<td>Short, diurnal fluctuations in symptoms; worse at night, in darkness, and on awakening</td>
<td>Long, no diurnal effects; symptoms progressive yet relatively stable over time; may see deficits with increased stress</td>
<td>Diurnal effects, typically worse in the morning; situational fluctuations, but less than with delirium</td>
</tr>
<tr>
<td>Progression</td>
<td>Abrupt</td>
<td>Slow but uneven</td>
<td>Variable; rapid or slow but even</td>
</tr>
<tr>
<td>Duration</td>
<td>Hours to less than 1 month; seldom longer</td>
<td>Months to years</td>
<td>At least 6 weeks; can be several months to years</td>
</tr>
<tr>
<td>Consciousness</td>
<td>Reduced</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td>Alertness</td>
<td>Fluctuates; lethargic or hypervigilant</td>
<td>Generally normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Attention</td>
<td>Impaired; fluctuates</td>
<td>Generally normal</td>
<td>Minimal impairment, but is distractible</td>
</tr>
<tr>
<td>Orientation</td>
<td>Generally impaired; severity varies</td>
<td>Generally normal</td>
<td>Selective disorientation</td>
</tr>
<tr>
<td>Memory</td>
<td>Recent and immediate impaired</td>
<td>Recent and remote impaired</td>
<td>Selective or &quot;patchy&quot; impairment; &quot;islands&quot; of intact memory; evaluation often difficult due to low motivation</td>
</tr>
<tr>
<td>Thinking</td>
<td>Disorganized, distorted, fragmented; incoherent speech, either slow or accelerated</td>
<td>Difficulty with abstraction; thoughts impoverished; judgment impaired; words difficult to find</td>
<td>Intact but with themes of hopelessness, helplessness, or self-deprecation</td>
</tr>
<tr>
<td>Perception</td>
<td>Distorted; illusions, delusions, and hallucinations; difficulty distinguishing between reality and misperceptions</td>
<td>Misperceptions usually absent</td>
<td>Intact; delusions and hallucinations absent except in severe cases</td>
</tr>
<tr>
<td>Psychomotor behavior</td>
<td>Variable; hypokinetic, hyperkinetic, and mixed</td>
<td>Normal; may have apraxia</td>
<td>Variable; psychomotor retardation or agitation</td>
</tr>
<tr>
<td>Sleep/wake cycle</td>
<td>Disturbed; cycle reversed</td>
<td>Fragmented</td>
<td>Disturbed; usually early morning awakening</td>
</tr>
<tr>
<td>Associated features</td>
<td>Variable affective changes; symptoms of autonomic hyperarousal; exaggeration of personality type; associated with acute physical illness</td>
<td>Affect tends to be superficial, inappropriate, and labile; attempts to conceal deficits in intellect; personality changes, aphasia, agnosia may be present; lacks insight into purpose of assessment</td>
<td>Affect depressed; dysphoric mood; exaggerated and detailed complaints; preoccupied with personal thoughts; insight present; verbal elaboration; somatic complaints, poor hygiene, and neglect of self</td>
</tr>
<tr>
<td>Assessment</td>
<td>Distracted from task; numerous errors</td>
<td>Failings highlighted by family, frequent &quot;near miss&quot; answers; struggles with test; great effort to find an appropriate reply; frequent requests for feedback on performance</td>
<td>Failings highlighted by individual, frequent &quot;don't knows;&quot; little effort; frequently gives up; indifferent toward test; does not care or attempt to find answer</td>
</tr>
</tbody>
</table>

“In U.S. hospitals, five older patients become delirious every minute” (Inouye, 2014).
What is delirium?

Acute disease

• Acute onset of confusion
• Impaired attention
• Disorganized thinking
• Altered level of consciousness
Videos

• Delirium Vignettes
  – Hypoactive
  – Hyperactive
  – ICU
Risk Factors for Atypical Presentation

• Over age 85 in particular
• Multiple co-morbidities
• Multiple medications
• Cognitive or functional impairment
What is it like to have delirium?

– Be less aware of what is going on around you.
– Be unsure about where you are or what you are doing there.
– Be unable to follow a conversation or to speak clearly.
– Have vivid dreams, which are often frightening and may carry on when you wake up.
– Hear noises or voices when there is nothing or no one to cause them.
– See people or things which aren’t there.
What is it like to have delirium?

– Worry that other people are trying to harm you.
– Be very agitated or restless, unable to sit still and wandering about.
– Be very slow or sleepy.
– Sleep during the day, but wake up at night
– Have moods that change quickly.
– You can be frightened, anxious, depressed or irritable.
– Be more confused at some times than at others – often in the evening or at night.
Delirium is……

- Often unrecognized or attributed to dementia
  - Non-detection rates as high as 69% (Yanamadala, Wieland, Heflin, 2013)
- Preventable in 30-40% of cases (Inouye, 2014) through risk factor identification and modification
  - Also results in prevention of other geriatric syndromes
- Associated with:
  - increased mortality rate
  - functional decline
  - falls
  - increased nursing time
  - longer lengths of hospital stay
  - higher rates of new nursing home placement
Incidence of delirium per situation:
- At hospital admission – 14 to 24%
- During hospitalization – Another 6 to 56%
- Older postoperative patients – 15 to 53%
- Postoperative hip fracture patients – up to 65%
- Intensive care patients – 70 to 87%

• Mortality rates
  - among hospitalized patients with delirium range from 22 to 76%
    • Which is as high as those with sepsis and myocardial infarction
  - one year mortality rate associated with cases of delirium is 35 to 40%

Inouye SK, 2014
Predisposing Factors

- Advanced age > 70
- Dementia
- Depression
- Multi-morbidity
- Sensory deficits: hearing, vision
- TIA/stroke
Precipitating Factors

- Medications
- Immobilization
- Indwelling bladders catheters
- Metabolic derangements
- Infections
- Iatrogenic events
- Surgery
Medications and Older Adults
Medication Appropriateness

Is there an indication for the drug?
Is the medication effective for the condition?
Is the dosage correct?
Are the directions correct?
Are there clinically significant drug-drug interactions?
Are there clinically significant drug-disease interactions?
Are the directions practical?
Is this drug the least expensive alternative compared to others of equal utility?
Is there unnecessary duplication with other drugs?
Is the duration of therapy acceptable?

Delirium Prevention = Modifying Risk Factors

- Determine baseline mental status: family, nursing facility
- Identify delirium risk factors
- Initiate preventative strategies to modify risk factors
Rate Your Preventative Strategies

- Ongoing assessment for high risk medications
- Early and regular mobilization
- Discontinue unnecessary medical equipment/tethers
- “Protect” sleeping during the night
- Address pain
- Address sensory deficits
- Prevent dehydration
- Gentle re-orientation
- Incorporate patient routine
- Monitor for metabolic and electrolyte abnormalities
- Educate and involve families
Key Factors if Delirium Develops

#1 Recognize it: bedside nurse is key
  • Symptoms fluctuate throughout the day

#2 Address underlying causes

#3 Rarely a single reason; require multifactorial approach
Types of Delirium Assessments

Depending on hospital preference:
• CAM Confusion Assessment Method
• NU-DESC Nursing Delirium Screening Scale
• ICDSC for ICU Delirium
Confusion Assessment Method

Four Elements
Must have 1 and 2 and either 3 or 4

1. Acute onset, fluctuating course
2. Inattention
3. Disorganized thinking
4. Altered level of consciousness
Management of Delirium

- Include preventative strategies
- Identify and treat underlying causes
- Pharmacological approaches
- Non-pharmacological approaches
Realities of Care
Dementia Training
“I am Sylvia. I was Sylvia before I was diagnosed, and I am still Sylvia after being diagnosed. I'm still the same person — treat me the same way. Talk to me the same way. Include me in the conversation as you would before.”
“When you’ve met one person with Alzheimer’s, you’ve met one.”

Alzheimer’s disease and dementia are different By Angela Lunde September 27, 2007
What are normal changes associated with memory as we age?
Normal Cognition and Aging

- ↓ Speed of information processing
- Slowed “multi-tasking”: harder to “talk and walk” at same time
- Cognitive processing & reaction time ("hitting the buzzer")
When do you start to question if your memory decline is normal or not normal?
• Are you noticing more of a decline in your memory?

• Are you forgetting important things such as appointments or recent events?

• Are you having difficulty with sequencing or completing a complex task that you could previously do?
MILD COGNITIVE IMPAIRMENT
What is Dementia?

• Umbrella term

• Encompasses all forms, not specific

• Affects cognitive, physical and social abilities
Types of Dementia

Alzheimer’s Disease

Most common form

Accounts for 60-70% of all dementia

Discovered in 1906

Life expectancy is typically 8-12 years from diagnosis

Plaques and Tangles

Source: alz.org

Vascular Dementia

Vascular Dementia is the 2nd most common dementia

Occurs after a stroke, or years of damage to blood vessels

Progression may be step like instead of steady and gradual

Source: alz.org
Types of Dementia

**Lewy Body**
- Parkinson’s features
- Hallucinations common
- Wide variance in cognition
- Alzheimer’s (can overlap)
- Symptoms may vary daily

**Fronto-Temporal**
- Extreme changes in behavior and personality
- Inability to understand language
- Tends to begin between ages of 40 & 70
- Family history (common)
- Social behavior problems – stealing, compulsive behavior

Source: alz.org

Aging Institute of UPMC Senior Services
and the University of Pittsburgh
Comparison of Healthy Brain to AD

Aging Institute of UPMC Senior Services and the University of Pittsburgh

Source: nia.gov
Risk Factors

- **Risk factors that can not be changed:**
  - Genetics
  - Age

- **Risk factors that can be changed:**
  - Cardiovascular factors
    - Don’t smoke; maintain a healthy weight, keep your blood pressure, cholesterol and blood sugar within recommended limits
  - Lack of exercise, both physical and mental
    - “Evidence suggests exercise may directly benefit brain cells by increasing blood and oxygen flow to the brain”
  - Diet
    - “The best current evidence suggests that heart-healthy eating patterns, such as the Mediterranean diet, also may help protect the brain.” Alzheimer’s Association
Assessment

• **Current symptoms**
  – Baseline

• **Detailed history**
  – Family/medical history
  – Depression
  – Alcoholism
  – Medication review

• **Exams and testing**
  – Neurological
  – Laboratory
  – CT or MRI
  – Cognitive testing
Stages of Alzheimer’s

Mild or Early Stage
Average length 2-4 years

Moderate or Middle Stage
Average length 2-10 years

Severe or Late Stage
Average length 1-3+ years
Stage 1: Mild Decline

- Short term memory loss
- Difficulty remembering recent events and names
- Getting lost while walking/driving
- Forgets how to balance a checkbook, make a grocery list, appointments
- Difficulty with conversation and finding words
- Takes longer for tasks
- Repeating questions
Stage 2: Moderate Decline

- Difficulty with ADL’s/IADL’s
- Restless, mood swings
- Wandering
- Impulsive behavior
- Problems with reading, writing and eating habits
- Lack of inhibition
- Difficulty with sequencing
- Delusions
Stage 3: Severe Decline

- Difficulty eating, swallowing
  - Weight loss
- Loss of motor skills
- Severe memory impairment
- Vocabulary very limited
  - Inability to communicate
- Lack of control of bowel and bladder
- Requires constant care
Challenging Behaviors

- Resistance
- Wandering
- Repetitiveness
- Accusatory/verbally abusive
- Frustration/agitation/aggression
- Withdrawal

Source: clip art
Behaviors Related to Caregivers

Knowledge deficit

Lack of teamwork

Rigidity: “My way!”

“Go through the motions”

Time factors
  – “This is how we always did it.”

Source: clip art
Always remember.....

All behavior has meaning!

Interpretation is key!

Skills are paramount!
1. Approach and Communication
   - 3 C’s
     - Calm
       - Verbal
       - Non-verbal
         » What are you saying
     - Caring
       - Touch
       - Never argue
       - Address by name
       - Respect
       - Listening skills
     - Communication
       - Look friendly
       - Talk friendly
       - Eye level
       - Approach from the front
2. Your ability to redirect (verbal/non-verbal)
   - Know their history
   - Change the subject discretely
   - Don’t say, “Don’t you remember?”
   - The truth or not the truth
   - One step instructions
     - Cueing as needed: physical/verbal
       » Actions speak louder than words

3. Your ability to be flexible
   - Go with the flow
   - Re-approach later
   - Never take it personally
• 4. Interpreting their verbal and nonverbal responses
  – Crying?
  – Restlessness?
  – Distressed?
  – Pacing?
  – Grimacing?
  – Striking out?
  – Yelling?
  – Rocking back and forth?

Source: clip art
#5 Entering Their **Reality**

Aging Institute of UPMC Senior Services and the University of Pittsburgh
Late Life Depression

Sowing Seeds for More Rewarding Lives
Overview

- Most common mental health problem of late life
- Considered a serious medical condition
- Only 15% of older adults with depression receive appropriate treatment.
- Up to 50% of long term care residents suffer from depression.
Overview cont...

- Precise cause is unknown
- May be due to:
  - Stressful life events
  - Chronic stress
  - Imbalances of brain chemicals and hormones
  - Negative thought patterns
  - Lack of control over life circumstances
Risk Factors for Depression

- Family history
- Low self esteem
- Little or no social support
- Major life changes
- Chronic physical or mental illness
- Alcohol abuse
- Caregiving
### Symptoms of Depression

- Feeling hopeless and helpless
- Loss of interest in daily activities/hobbies
- Weight changes
- Insomnia or oversleeping
- Irritability
- Low energy
- Decreased ability to concentrate
- Recurrent thoughts of death
- Suicidal ideation
Assessment PHQ-2

Two question screening tool

– During the last month have you been bother by feeling down, depressed, or hopeless?
– During the past month, have you often been bothered having little interest or pleasure in doing things?
  • Yes to either question is a positive screen for depression
### PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

**NAME:**  

**DATE:**

Over the last 2 weeks, how often have you been bothered by any of the following problems? (Use "0" to indicate your answer)

<table>
<thead>
<tr>
<th></th>
<th><strong>0</strong></th>
<th><strong>1</strong></th>
<th><strong>2</strong></th>
<th><strong>3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
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<tr>
<td>2. Feeling down, depressed, or hopeless</td>
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<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
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<td>4. Feeling tired or having little energy</td>
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<tr>
<td>5. Poor appetite or overeating</td>
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<tr>
<td>6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down</td>
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<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
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<tr>
<td>8. Moving or speaking so slowly that other people could have noticed, or the opposite—being so fidgety or restless that you have been moving around a lot more than usual</td>
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<tr>
<td>9. Thoughts that you would be better off dead, or of hurting yourself in some way</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**add columns: + +**  

**TOTAL:**

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**10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?**

<table>
<thead>
<tr>
<th></th>
<th>Not difficult at all</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

**PHQ-9 is adapted from PRIME-MD TODAY, developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues, with an educational grant from Pfizer Inc. For research information, contact Pfizer at pharma@pfizer.com. Use of the PHQ-9 may only be made in accordance with the Terms of Use available at http://www.phq-9.com. Copyright © 1998 Pfizer Inc. All rights reserved. PRIME-MD TODAY is a trademark of Pfizer Inc.**

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**DEPRESSION AND ADJUSTMENT IN THE NURSING HOME TOOLKIT 23**

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**Aging Institute of UPMC Senior Services and the University of Pittsburgh**
Treatment for Depression

- Non-pharmacologic: psychotherapy
- Pharmacologic: antidepressants
- Electroconvulsive therapy (ECT)
Malnutrition
“Nutrition, hydration, and electrolyte balance are related and can have profound effects on a person’s functional status, immune competence, and well-being.”
Poor Nutrition

- Is not natural
- Not a normal aging change
- Has social and cultural significance
- Is not specific only to underweight individuals
My body is a temple where junk food goes to worship.
As you know......

Caloric requirements are a function of basal metabolic rate and activity level.

Certain dietary restrictions which may be necessary with chronic health issues can lead to excessive weight loss.

Cultural and personal preferences must be considered.
Nutritional Screening

- Multiple screening tools available for obtaining history
- Functional limitations
- Oral health
- Cognitive status
- Laboratory data:
  - Serum albumin
  - Transferrin
  - Total lymphocytic count
  - Hemoglobin and hematocrit
Oral Health and Swallowing

• https://vimeo.com/60944584
Factors Affecting Nutrition

- Taste and thirst perception
- Visual impairments
- Oral care
- Constipation
- Dependency
- Dining area
- Lighting
Swallowing Problems

• As many as 60% of LTC residents have some degree of dysphagia
  – Pocketing, drooling, increased congestion
  – Wet, gurgly voice
  – Coughing or choking
Nutritional Strategies

- Proper positioning
- Addressing basic needs
- Lighting/aids
- SLT and OT consults
- Thickening agent
- Feeding techniques

- Observational moments
  - Functional ability
  - Oral comfort
- Cueing
- Equipment
- Prepare tray
- Monitor weight/intake
Pressure Sores
Aging Changes in Skin

- Less elasticity
- Loss of subcutaneous tissue
- Drier
Stage I and II

Stage 1 Non-blanchable erythema

Stage 2 Partial thickness
Stage III and IV

Stage III Full thickness skin loss

Stage IV Full thickness tissue loss

Aging Institute of UPMC Senior Services and the University of Pittsburgh
Unstageable

Unstageable Depth unknown
Risk Factors

• Advancing age
• Increased moisture
• Limited mobility
• Poor nutrition
Assessment

• Do not rely solely on the assessment tool in determining risk. Use clinical judgement as well.
• Norton-Braden Scales typically used for risk assessment.
Preventative Measures

• Specialized surfaces that come into contact with the skin may be able to alter the microclimate by changing the rate of evaporation of moisture and the rate at which heat dissipates from the skin.
• Heat increases the metabolic rate, induces sweating and decreases the tolerance of the tissue for pressure
Preventative Measures

- Apply a polyurethane foam dressing to bony prominences (e.g., heels, sacrum) for the prevention of pressure ulcers in anatomical areas frequently subjected to friction and shear.
- Silk like fabrics reduce shear/friction
- Nutritional options may be necessary including fortified foods, supplements,
Medical Device-Related Pressure Sores

Best Practices for Prevention of Medical Device-Related Pressure Ulcers in Long Term Care

- Choose the correct size of medical device(s) to fit the individual
- Cushion and protect the skin with dressings in high-risk areas (e.g., nasal bridge)
- Inspect the skin in contact with device at least daily (if not medically contraindicated)
- Avoid placement of device(s) over sites of prior or existing pressure ulcer
- Educate staff on correct use of devices and prevention of skin breakdown
- Be aware of edema under device(s) and potential for skin breakdown
- Confirm that devices are not placed directly under an individual who is bedridden or immobile
The Pressure Ulcer Scale for Healing (PUSH Tool) was developed by the National Pressure Ulcer Advisory Panel (NPUAP) as a quick, reliable tool to monitor the change in pressure ulcer status over time.

- PUSH Tool (web version)
- PUSH Tool (pdf version)
- Reprint Agreement (pdf)
- Information and Registration Form
- Instructions for Using PUSH
- Copyright Policy & Contract
Pain, Chronic or Persistent
Definitions

• Pain: an individual’s unpleasant sensory or emotional experience.
  – Acute pain occurs abruptly and escalates quickly, whereas chronic pain is persistent or recurrent.
  – A resident may have both acute and chronic pain simultaneously.
• How might someone who is non-verbal communicate pain?
• How might someone with dementia communicate pain?
• Pain is a highly personal experience for which there are no consistent ways people will react.

• This makes it hard to identify how people act when they are hurting!!!
Pain can cause:

<table>
<thead>
<tr>
<th>Causes</th>
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</thead>
<tbody>
<tr>
<td>• Gait disturbances</td>
</tr>
<tr>
<td>• Increased falls</td>
</tr>
<tr>
<td>• Fear of falling</td>
</tr>
<tr>
<td>• Slow rehabilitation</td>
</tr>
<tr>
<td>• Multiple medication use</td>
</tr>
<tr>
<td>• Malnutrition</td>
</tr>
<tr>
<td>• Depression</td>
</tr>
<tr>
<td>• Impaired sleep</td>
</tr>
<tr>
<td>• Increased health care costs</td>
</tr>
</tbody>
</table>

Hirschman, et al. (2005)
American Medical Directors’ Association (1999)
Common Misconceptions

- Pain is a normal part of aging
- Cognitively impaired elders do not experience pain
- Pain perception is decreased as we age
- Older adults cannot tolerate opioids
- If pain is not reported, it does not exist
- Sleep = comfort
Need to assess......

• Facial Expressions:
  – Do they frown, look frightened, grimace, wrinkle his or her brow, keep eyes closed tightly, blink rapidly, or exhibit any distorted expression?

• Verbalizations/Vocalizations:
  – Does he or she moan, groan, sigh, grunt/chant/call out, breathe noisily, or become verbally abusive?

• Body Movements:
  – Is their body posture rigid and/or tense? Does he or she fidget, pace or rock back and forth, have restricted movement, gait or mobility changes? Cry out when you try to move them? Do they resist care such as bathing, showering or grooming?

• Behavioral Changes:
  – Does he or she refuse food or have an appetite change? Is there any change in sleep/rest periods? Has he or she suddenly stopped common routines or begun wandering? Do they strike out at you when you are providing care?

• Mental Status Changes.
  – Does he or she cry, become more confused, irritable or distressed?

• Retrieved from: www.healthinaging.org
# Pain Assessment in Advanced Dementia (PAINAD) Scale

**Description:** The Pain Assessment in Advanced Dementia (PAINAD) Scale was developed to assess pain in patients who are cognitively impaired, non-communicative, or suffering from dementia and unable to use self-report methods to describe pain. Observation of patients during activity records behavioral indicators of pain: breathing, negative vocalization, facial expression, body language, and consolability.

**How to use:** PAINAD is a five item observational tool with numerical equivalents for each of the five behavior items listed, with total scores ranging from 0 to 10. Each of the five assessments contains a range from 0 to 2 and the sum of each of the five categories results in the total numerical score. To use:

Assess the patient during periods of activity, such as turning, ambulating or transferring. Assess the patient for each of the 5 indicators and assign a numerical point value based on each of the 5 assessment indicators. Obtain a total score by adding scores of the 5 indicators. The total score ranges from a minimum of 0 to a maximum of 10.

<table>
<thead>
<tr>
<th>Items</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing independent of vocalization</td>
<td>Normal</td>
<td>Normal</td>
<td>Noisy labored breathing</td>
<td></td>
</tr>
<tr>
<td>Negative vocalization</td>
<td>None</td>
<td>Occasional moan or groan</td>
<td>Repeated calling out. Loud moaning or groaning. Crying</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Low level speech with negative or disapproving quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolability</td>
<td>No need to console</td>
<td>Distracted reassured by voice or touch</td>
<td>Unable to console, distract or reassure</td>
<td></td>
</tr>
</tbody>
</table>
With New Acute Pain

- When there is a **severe** change in condition or you are very concerned that something is wrong:
  - Perform a head to toe assessment
  - Call the physician or CNRP
CALM the Pain with Nonpharmacological Approaches

• **Comforting**
  - A soothing voice, gentle touch, and cozy environment can relieve stress and put the resident at ease.

• **Address positioning**
  - Soft pillows, warm blankets, chair cushions

• **Listening to music**

• **Massage**
  - Offer neck and back massages
Analgesic Trial

• Analgesic Trial: is used to assess and relieve pain through the use of pain medication.
• When the resident manifests signs of pain yet can’t tell you or rate the pain... use of an analgesic trial is appropriate, if you suspect pain (e.g., UTI and bladder spasm, new gout flair, new decubitus).

  1) For mild to moderate pain- non-opioid analgesic may be given initially. (example: acetaminophen 500 every 6 hours for 24 hours)

  2) Continually assess for effect for the next 24 hours. If behaviors improve (as documented on PAIN-AD tools), assume pain is relieved and continue analgesic and CALM
References

- [http://www.rand.org/health/projects/acove.html](http://www.rand.org/health/projects/acove.html)
References

References

• https://www.nia.nih.gov/health/publication/urinary-incontinence

• http://www.acpinternist.org/archives/2010/06/incontinence.htm

• Resnick, B. (2015). Choosing wisely revisited: Finally the support we have been waiting for in geriatrics. Geriatric Nursing. www.gnjournal.com
QUESTIONS