

**Neurogenic Pain:**  
**Focus on the Elderly**

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**Objectives:**

1. Recognize the burden of neurogenic (neuropathic) pain in elderly populations
2. Describe effective pain assessment and early detection strategies
3. List common pain relief measures including common pharmacologic therapies

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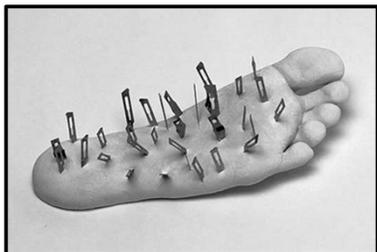
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New York Times (April, 22, 2008)

**“Pain as an Art Form”**



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QUIZ


\_\_\_ All pain is the same?

\_\_\_ We should expect to have pain as part of the aging process?

\_\_\_ Elders are not good self-reporters of their pain?

\_\_\_ Elders do not feel pain like younger adults?

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Basic Difference

### Acute Versus Chronic Pain

<b>Acute</b>	<b>Chronic</b> <small>(Non malignant vs. Cancer)</small>
• Often has a reason	• Often linked to an ongoing process; may be degenerative in nature
• More time limited	• Can exist over time with periods of waxing and waning...never really gone
• Usually a warning, reminder that injury (illness) has or will happen	• Usually suggests an ongoing issue but may not be easily explained

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See Handouts

### Language of Pain

- **Allodia** – Pain due to a stimulus which does not normally provoke pain, such as pain caused by light touch to the skin
- **Dysesthesia** – An unpleasant abnormal sensation, whether spontaneous or evoked
- **Hyperalgesia** – An increased response to a stimulus which is normally painful
- **Hyperesthesia** - Increased sensitivity to stimulation, excluding the special senses
- **Paresthesia** – Numbness and tingling

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### Remember This...

“Describing pain only in terms of its intensity is like describing music only in terms of its loudness”

(von Baeyer CL. (2006). Pain Research and Management 11(3), 157-162)

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### “You can observe a lot just by watching” Y. Berra Accurate Pain Description

- Overall what do you see...
- Facial expression: grimacing; furrowed brow; appears anxious; flat affect
- Body position and spontaneous movement: is the positioning to protect a painful area?, limited, absence movement due to pain
- Diaphoresis? Color or skin changes – can be caused by pain
- Areas of redness, swelling, overt skin breakdown
- Atrophied muscles; twitching...myoclonus?
- Gait alterations...if able to walk; self-positioning

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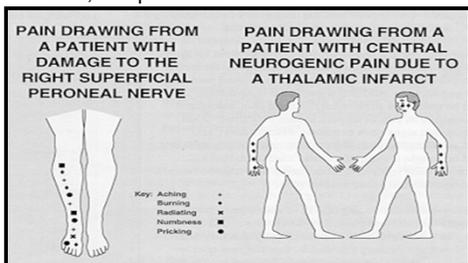
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### Include the patient ☺

- If able, ask patient to draw...




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Classification by Pathology <small>(McCafferty &amp; Paserto, 1999)</small>	
Nociceptive Pain	Neuropathic Pain
<ul style="list-style-type: none"> <li>▪ Somatic</li> <li>▪ Visceral</li> </ul>	<ul style="list-style-type: none"> <li>• Centrally generated</li> <li>• Peripherally generated</li> </ul>
<b>Nociceptive pain</b> – normal processing of stimuli; reflects damage and/or potential damage; usually responds to opioids	<b>Neuropathic pain</b> – Abnormal processing of sensory input. Peripheral or CNS; more response to adjuncts
<b>Somatic</b> – occurs from bone, joint, muscle, skin or connective tissue. Often "aching, throbbing"...often well localized,	<b>Central</b> – injury to peripheral or CNS (EX: phantom limb pain)
<b>Visceral</b> – often occurs from visceral organs •Crampy •Tumor involvement •Obstruction of hollow organ (bowel)	<b>Peripheral</b> –felt along the patterns of peripheral nerves; DM neuropathy; occurs after known injury

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- Burden of Pain in Adults**  
**Why We must Improve Care**
- Common reason for seeking care
  - Chronic pain is reported by > 116 million (Institute of Medicine, 2011)
  - Neuropathic pain is common...occurs in 6-7% of general population
  - 44-80% of elders in LTC report "substantial" pain (AGS, 2002; Achtenberg et al., 2009; D'Arcy, 2010)
  - 2 of 3 elders agree that pain keeps them from routine activities (The Study of Pain and Older Americans, Harris & Associates, 1997; D'Arcy, 2010)
  - Less is known about pain and pain management in elders

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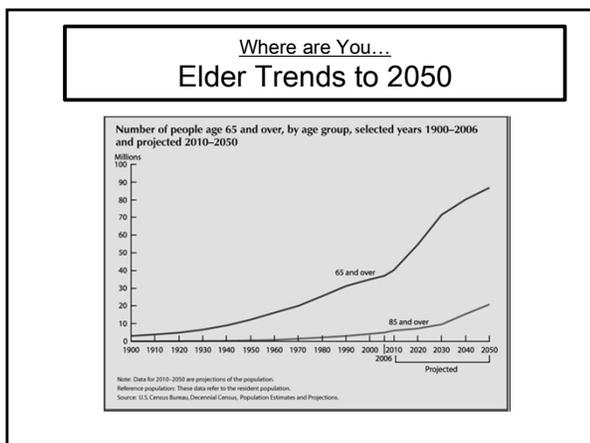
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Closer look at Neuropathic Pain

**Definition...**



- Neuropathic pain can be acute and/or chronic. It is *different*...often severe; often attributed to disruption in neuronal bodies (compression, transection, ischemia, metabolic injury...or some combination)
- "pain arising as a direct consequence of a lesion or disease affecting the somatosensory system" (Teede, et al., 2008)
- Pain can be
  - Peripheral or central in origin
  - May result from a primary lesion; dysfunction in the nervous system, peripheral nervous system
  - Can be unrelenting

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**Features of Neuropathic Pain**

COMPONENT	DESCRIPTORS	EXAMPLES
<p><b>Steady, Dysesthetic</b></p>	<ul style="list-style-type: none"> <li>• Burning, Tingling</li> <li>• Constant, Aching</li> <li>• Squeezing, Itching</li> <li>• Allodia</li> <li>• <u>Hyperesthesia</u></li> </ul>	<ul style="list-style-type: none"> <li>• Diabetic neuropathy</li> <li>• Post-herpetic neuropathy</li> </ul>
<p><b>Paroxysmal, Neuralgic</b></p>	<ul style="list-style-type: none"> <li>• Stabbing</li> <li>• Shock-like, electric</li> <li>• Shooting</li> <li>• Lancing</li> </ul>	<ul style="list-style-type: none"> <li>• trigeminal neuralgia</li> <li>• may be a component of any neuropathic pain</li> </ul>

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**Look and See!**

- Video Pain Assessment
  - <http://consultgerirn.org/resources/>
  - [http://www.nursingcenter.com/prodev/ce\\_article.asp?tid=799083](http://www.nursingcenter.com/prodev/ce_article.asp?tid=799083)

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Just the Facts  
**Why Are Elders at Risk...**

- Diseases associated with neuropathic pain increase with age
- Co-morbid conditions increase with age making diagnosis, treatment more difficult
- Age-related changes exist in pharmacokinetics, hearing, vision, and function; cognitive impairments challenge therapy
- Older persons may be more sensitive to analgesics and CNS depression
- Elders are underrepresented in trials... fewer RTCs describing informed treatment

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**Common Culprits**

- Diabetes Mellitus
- Facial Nerve (Trigeminal Neuralgia)
- Shingles (Herpes Zoster)
- HIV infection or AIDS
- Amputation
- Alcoholism
- Certain chemotherapy
- Chronic back, leg and hip problems
- Multiple sclerosis

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Neurogenic Pain  
**How is it Different?**

- Often less responsive to common pain medications
- Described as ..."worse pain, ever"
- Patient descriptors...
  - Electric shock-like episodes (54%)
  - Pins and needles
  - Numbness
  - Burning (54%)
  - Tingling (48%)
  - Dyesthesias, hypoesthesias, paresthesias (abnormal sensations...cold, prickling and itching)
  - Allodia

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For Pain Assessment  
**Common Scales and Measurements**

- Joint Commission on Accreditation of HC Organization; 5<sup>th</sup> vital signs
- Short form-McGill Pain Scale (SF-MPQ)
- Faces scale / Pain Disability Index
- Brief Pain Inventory (BFI)
- Neuropathic Pain Scale (Galer et al.)
- PainAD

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Common  
**Pain Assessment Scales**

**Pain Assessment Scales**

Verbal Pain Intensity Scale: No pain, Mild pain, Moderate pain, Severe pain, Very severe pain, Worst possible pain

Visual Analog Scale: No pain, Worst possible pain

0-10 Numeric Pain Intensity Scale: No pain, Moderate pain, Worst possible pain

"Faces" Scale: 0, 1, 2, 3, 4, 5

1. Portney RK, Kanner RM, eds. Pain Management: Theory and Practice. 1998:9-10.  
2. Wong DL. Wiley and Wong's Essentials of Pediatric Nursing 5<sup>th</sup> ed. 1997:1215-1216.  
3. McCaffery M, Pasero C. Pain: Clinical Manual. Mosby, Inc. 1999:16.

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If Patient Can Participate...  
**Brief Pain Inventory**

- <http://www.mdanderson.org/education-and-research/departments-programs-and-labs/departments-and-divisions/symptom-research/symptom-assessment-tools/bpilon.pdf>
- 2 formats (allows patient to draw location/ describe to others)
  - 5 page instrument
  - 2 page instrument

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Fundamentals

**Ask About Common Factors**

- Location
- Intensity
- Pattern
- Duration
- Character
- Effect on functioning and mobility
- Impact on mood, sleep and social functioning
- What makes it worse, better...time of day
- Current treatment, adverse effects

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Descriptors

**Verbal, Objective**

<p><u>Verbal</u></p> <ul style="list-style-type: none"><li>• Ache, "pin"</li><li>• Sore</li><li>• Stiffness</li><li>• Crying, moaning</li><li>• Burning</li><li>• Painful</li><li>• Shooting</li></ul>	<p><u>Behaviors</u></p> <ul style="list-style-type: none"><li>• Grimacing/ frown</li><li>• Agitation/restlessness</li><li>• Rubbing</li><li>• Withdrawal</li><li>• Sleeplessness</li><li>• Changes in activity/ appetite</li></ul>
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Document

**When to Ask, Observe?**

- During bath...personal care
- Before and after activities
- During group mealtimes
- During transfers, observed ambulation
- When a change in behaviors is observed
- When new medications are added or others are discontinued
- When new interventions are added...PT, topical medications, heat, ice....etc.

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Accurate Description  
**Pain Assessment**

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### Cognitively Impaired Patient

- Assume that pain is present with certain diseases, procedures or injury conditions
- Establish a baseline for behavior
- Monitor for presence of pain on a regular basis using a comprehensive list of behaviors
- Indicators for pain may not be obvious
- If uncertain trial analgesics

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### New Behaviors Suggesting Pain

- Clenched teeth, frowning, grimacing, sadness, new aggression and combativeness
- Verbalizations/vocalizations:** 'ouch', cursing
- Non-verbal: moans, groans, shouting, crying
- Body movements:** bracing, guarding, massaging affected area, refusal to eat
- Restlessness,** agitation, rocking
- **Other causes of pain** - infection, constipation, wound, undetected fractures, UTI

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Independent or Adjuvant

**Non-Pharmacologic Interventions...**

- Physical and occupational therapy
- Exercise, strengthening, stretching
- Hot and cold packs
- Assistive devices - canes; braces; splints; wedges
- Education – patient and family
- Other support:
  - Chaplain
  - Social work
  - Psychiatrist

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Do you know

**Abnormal Physiologic Factors ?**

- Decreased renal function
- Decreased distribution because of diminished lean body weight
- Decreased liver mass and hepatic blood flow
- Less activity of select drug-metabolizing enzymes
- Potential for decreased serum protein concentrations
- Decreased pulmonary function

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What Must Be Done...

**When New Medication is Needed**

- Assess pain level at regular intervals with a consistent assessment tool
- Report, document pain control with each shift
- Seek pharmacist for evaluation of drug-drug interactions with new medications
- Ask patient to help you with pain control by answering pain assessment honestly; asking for medication when they are uncomfortable
- \*Call family and share the intended plan of care

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For Elders with Neurogenic Pain

**What is Evidence-based**

- Limited trials with elders (Dworkin et al,2003; Attal et al, 2006, Moulin et al, 2007). Existing data mostly with "healthy elders"; fewer trials frail elders >85
- Elders are often challenging and complex
- Individual variation in pain, causation is common
- Variability by age, sex, ethnicity
- Worry with frailty, multiple co-morbidities, and/or multiple medications

(Institute for Clinical Systems Improvement Health Care Guideline for Assessment and Management of Chronic Pain, 5th Ed., November, 2011)

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Some Ideas

**Neuropathic Pain Treatment**

- Measures for pain control may be
- ✓ Disease specific: EX
  - Optimal glyceimic Control (Diabetes)
  - Infection Control (i.e. (HIV, Lyme Disease, Herpes Zoster)
  - Surgery, radiation (i.e. Trigeminal Neuralgia)
  - Disease modifying medication (Multiple Sclerosis)

(Belgrade, 1999)

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However!

**Serious Diagnoses Not to Miss**

- Vertebral neoplasm or metastases
- Spinal cord compression or cauda equina
- Epidural abscess, epidural hemorrhage
- Abdominal aortic aneurysm
- Compression fracture...osteoporosis, metastases
- Neurological deterioration...bowel & bladder, loss of function, "can't walk"....etc

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Local/ Regional - Some Ideas  
**Neuropathic Pain Treatment** (Belgrade, (1999))

- FIRST**- do no harm. Know your patient!
- Local/ Regional treatment measures**
  - Topical Medications** (Capsacin; Lidocaine; anesthetic creams)
  - Regional Blocks** (sympathetic blocks; epidural blocks/ pumps; selective nerve root blocks)
  - Stimulation Therapy** (TENS; acupuncture; spinal cord stimulation; massage)
  - PT/OT** (Splinting; assistive devices; range of motion)
  - Ablative Therapies** (Nerve ablation; cordotomy/ rhizotomy; Radio frequency ablation)

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Behavioral Ideas  
**Neuropathic Pain Treatment**

- Behavioral Therapies if able to participate**
  - Biofeedback
  - Hypnosis
  - Imagery
  - Relaxation
  - Cognitive-behavior therapy

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Symptom Control: ICSI  
**Neuropathic Pain Treatment**

**Medication Therapies**

- Tricyclic anti-depressants, SNRIs
- Clonazepam
- Corticosteroids
- Opioids

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(Neuropathic Pain Special Interest Group: IASP)  
**Step-Wise Approach**

- 1) Assess pain, establish clear diagnosis...? pain specialist; know you patient; explain process
- 2) Initiate therapy with one or more...
  - TCA (nortriptyline, desipramine) or an SSNRI (duloxetine, venlafaxine);
  - Gabapentin or pregablin (Calcium channel ligand)
  - Topical agent for localized neuropathic pain
  - Perhaps Opioids or Tramadol with 1<sup>st</sup> line agents for cancer pain; exacerbations
- 3) Reassess pain, QOL, ....expect adjustments

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Pain requires a team...  
**An Ounce of Prevention**

If in LTC, share your plan with patient and family

- Assign same nurse, utilize consistent sign-off, team reports

**Anticipate safety needs**

- PT can assist with mobility, strengthening, ADL...

**Prevent avoidable medication interactions**

- Engage a clinical pharmacist (geriatric preferred)
- Begin any dosing slowly
- Know your medications

**Treat expected consequences of treatment**

- Constipation if opioids are used

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Review  
**Ongoing Resources**

- Reference Handouts
- End of Life Nursing Education Consortium (ELNEC) Definitions of pain
- Medication Handouts
  - ICSI-Pharmaceutical Interventions for Neuropathic pain
  - ELNEC - Equianalgesic Table
- Neuropathic Pain Treatment Diagram
- ELNEC – Sources of Pain

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### In Summary...

- Neurogenic pain is complex, poorly understood; a source of suffering among elders
- Accurate assessment is critical to treatment
- Successful treatment requires a functional team; documentation and consistent sign-offs are critical
- Assessment and treatment are especially difficult with cognitive changes
- Poorly controlled pain often exacerbates other co-morbidities
- Ask for help!

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### Keep Your Patients Up and Running



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### Thank You!

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