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

New York Times (April 22, 2008)
"Pain as an Art Form"
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?

Basic Difference
Acute Versus Chronic Pain

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

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


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

Include the patient 😊

- If able, ask patient to draw…

![Pain Drawing Examples]
Classification by Pathology

(McCafferty & Paserto, 1999)

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<th>Nociceptive Pain</th>
<th>Neuropathic Pain</th>
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<td><strong>Somatic</strong></td>
<td>Centrally generated</td>
</tr>
<tr>
<td><strong>Viseral</strong></td>
<td>Peripherally generated</td>
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- **Nociceptive pain**: normal processing of stimuli; reflects damage and/or potential damage; usually responds to opioids
  - **Somatic** - occurs from bone, joint, muscle, skin or connective tissue. Often “aching”, “throbbing”... often well localized.
  - **Viseral** - often occurs from visceral organs
- **Neuropathic pain**: abnormal processing of sensory input. Peripheral or CNS; more response to adjuncts
  - **Central** - injury to peripheral or CNS (EX: phantom limb pain)
  - **Peripheral** - felt along the patterns of peripheral nerves; DM neuropathy; occurs after known injury

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

Where are You...

**Elder Trends to 2050**

- [Graph showing trends in population growth for elders]
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

Features of Neuropathic Pain

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<th>COMPONENT</th>
<th>DESCRIPTORS</th>
<th>EXAMPLES</th>
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<tr>
<td>Steady, Dysesthetic</td>
<td>Burning, Tingling, Constant, Aching, Squeezing, Itching, Allodia, Hyperesthesia</td>
<td>Diabetic neuropathy, Post-herpetic neuropathy</td>
</tr>
<tr>
<td>Paroxysmal, Neuralgic</td>
<td>Stabbing, Shock-like, electric, Shooting, Lancinating</td>
<td>trigeminal neuralgia, may be a component of any neuropathic pain</td>
</tr>
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Look and See!

- Video Pain Assessment
  - http://consultgerirn.org/resources/
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

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

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%)
  - Dysthesias, hypoesthesias, paresthesias (abnormal sensations...cold, pricking and itching)
  - Allodynia
For Pain Assessment
Common Scales and Measurements

- Joint Commission on Accreditation of HC Organization; 5th 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

Common Pain Assessment Scales

If Patient Can Participate...
Brief Pain Inventory

- 2 formats (allows patient to draw location/ describe to others)
  - 5 page instrument
  - 2 page instrument
**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

**Descriptors**

Verbal, Objective

**Verbal**
- Ache, "pin"
- Sore
- Stiffness
- Crying, moaning
- Burning
- Painful
- Shooting

**Behaviors**
- Grimacing/ frown
- Agitation/restlessness
- Rubbing
- Withdrawal
- Sleeplessness
- Changes in activity/appetite

**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.
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

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
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

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

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
For Elders with Neurogenic Pain

What is Evidence-based

- 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)

Some Ideas

Neuropathic Pain Treatment

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

(Belgrade, 1999)

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

- **FIRST**: do no harm. Know your patient!
- **Local/Regional treatment measures**
  - **Topical Medications** (Capsaicin; 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)

Behavioral Ideas
Neuropathic Pain Treatment

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

Symptom Control: ICSI
Neuropathic Pain Treatment

Medication Therapies
- Tricyclic anti-depressants, SNRIs
- Clonazepam
- Corticosteroids
- Opioids
(Neuropathic Pain Special Interest Group: IASP
Step-Wise Approach

1) Assess pain, establish clear diagnosis…? pain specialist; know your 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 1st line agents
     for cancer pain; exacerbations
3) Reassess pain, QOL, …expect adjustments

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

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
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!

Keep Your Patients
Up and Running

Thank You!

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