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SLP Considerations in Pain Management

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IMD

Agenda

- The Epidemiology of Pain
 - Ethics and Health Policy Related to Pain
- What is Pain?
 - Acute vs. Chronic Definitions
 - Types of Pain
 - Diagnoses/diseases associated with chronic pain
- Interdisciplinary Pain Management – Rehab, Nursing, Pharmacology, Psychology, Social Services
- The Practice of Speech Pathology Relating to the Public Health Burden of Pain
- Pain Evaluation Tools
 - Clinician-Patient Communications Relating to Pain
 - Quality of Life
- Pain Management and Integrative Techniques
- Ensuring a Quality Pain Program

Course Objectives

- 1) Identify 5 pain epidemiology statistics contributing to public health burden
- 2) Describe 3 differences between acute and chronic pain
- 3) Identify 3 pain evaluation tools
- 4) Identify 3 pain management techniques
- 5) Describe the therapeutic benefits of integrative pain techniques

The Epidemiology of Pain

Ethics and Health Policy Related to Pain – medical professionals must ask the following questions to effectively manage pain....

- Are the patient's preferences in pain treatment (autonomy) given the highest priority?
- Does the patient benefit (experience good) from my pain treatment decisions?
- What can I do to decrease harm (nonmaleficence) when deciding on a pain treatment regimen?
- Did I do my best to protect the most vulnerable patient, treating his/her pain in the best possible way with respect and without discrimination (justice)?

The Epidemiology of Pain

- Total annual cost of health care due to pain ranges from \$560 billion to \$635 billion (in 2010 dollars) in the US
 - Combined medical costs of pain care and the economic costs related to disability days, lost wages and productivity
- More than half of all hospitalized patients experienced pain in the last days of their lives and although therapies are present to alleviate most pain for those dying of cancer, research shows that 50-75% of patients die in moderate to severe pain
- An estimated 20% of American adults (42 million people) report that pain or physical discomfort disrupts their sleep a few nights a week or more

The Epidemiology of Pain

Condition	Number of Sufferers	Source
Chronic Pain	100 million Americans	Institute of Medicine of The National Academies (2)
Diabetes	25.8 million Americans (diagnosed and estimated undiagnosed)	American Diabetes Association (3)
Coronary Heart Disease (heart attack and chest pain) Stroke	16.3 million Americans 7.0 million Americans	American Heart Association (4)
Cancer	11.9 million Americans	American Cancer Society (5)

Prescription Drugs

- Use of prescription opioids also has quadrupled, leading to 1,000 people a day being treated in the emergency departments and almost 2 million people in 2014 dependent on prescription opioids.
- Current statistics from the Centers for Disease Control and Prevention identified that prescription opioid overdose deaths have quadrupled since 1999, involving more than 165,000 people in the U.S., with more than 14,000 deaths in 2014 alone. (*Opioid Overdose*, 2016).
- The incidence of adverse drug interactions and drug effects has lead to increased admissions to the Emergency room and hospital. Overdoses of opioid prescriptions now kill more individuals in the U.S. than overdoses of heroin and cocaine combined (DeNoon, 2011).

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Facts About Older Adults

- 50-80% of older adults report some degree of pain that interferes with Quality of Life
 - Pain is 2x as prevalent in the elderly
 - 25 to 50% of community-dwelling elderly
 - 45 to 80% of SNF residents (with analgesics being used by 40 to 50% of the residents)
- Musculoskeletal pain, most frequent complaint followed by:
 - Headaches
 - Cancer
 - Neuralgia
- They will underestimate the level/severity and will be under-treated
- They don't want to bother anyone
- Untreated pain can cause:
 - Sleep problems
 - Weight loss
 - Depression
 - ↓ life satisfaction
- Older individuals with dementia, communication and comprehension difficulties lead to even poorer pain detection and control

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Definition

The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”.

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What is Pain?

Margo McCaffrey best
defines pain as

**“whatever the
experiencing person
says it is, existing
whenever she or he
says it does”**

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How Does Pain Happen?

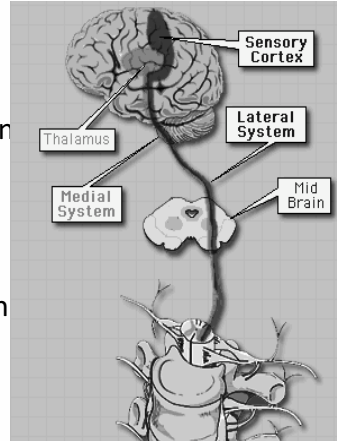
Stimulus or source of
pain → travels via the
spinal cord to the brain
→ perception by the
brain → brain the
communicates the
response



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Anatomy of Pain

- Nociceptors are stimulated
- Nerve transmission via Spinal tracts
 - Spinothalamic tracks relay information to the thalamus and brainstem
- Thalamus
 - Perception of pain
 - Affect and motivational aspect of pain
- Sensory cortex
 - Touch/pressure
 - Thermal
 - Mechanical
- Response is created from interpretation

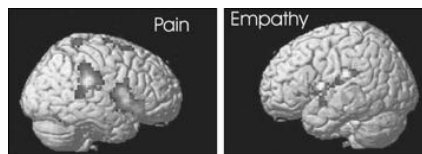


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Anatomy of Pain

Other areas involved:

- Limbic system
 - Emotional component of pain
- Cerebrocortex
 - Pain is perceived all over the brain



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Pain Neuromatrix theory

- Developed by Melzack that follows his previous gate theory.
- He proposed that “pain is a multidimensional experience produced by characteristic neurosignatures, or patterns of nerve impulses, generated by a widely distributed neural network called the body-self neural matrix”
- Chronic pain is not just influenced by sensory input from the periphery, but facilitated by the output of a distribution of neural networks in the brain.
- Phantom limb phenomena by identifying sensory input in the brain from a limb that is no longer present in the body. Based on communication loops that occur between the thalamus and cortex, and between the cortex and the limbic system, pain is perceived in a limb where there is none.

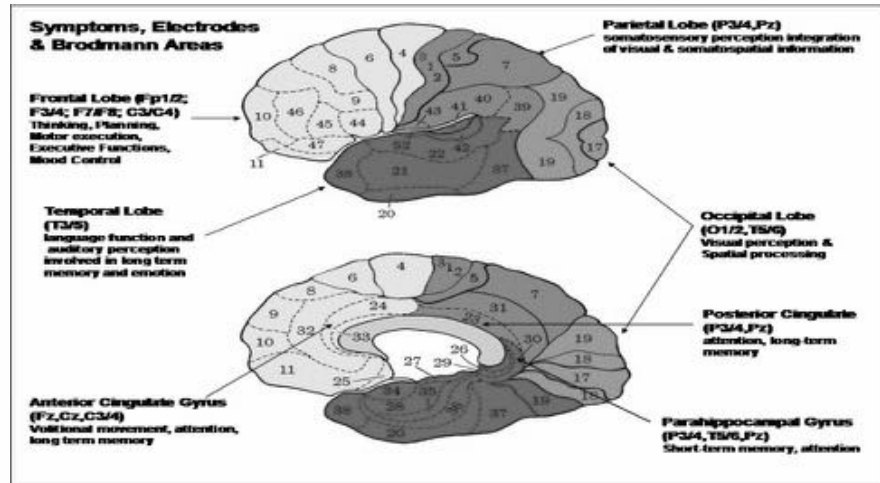
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Pain Neuromatrix theory

- The following areas of the brain: the thalamus, anterior and posterior insular cortex (aIC and pIC), lateral and medial prefrontal cortex (lPFC and mPFC), anterior, mid, and posterior cingulate cortex (ACC, MCC, and PCC), primary and secondary somatosensory cortex (S1 and S2), orbitofrontal cortex (OFC), basal ganglia, premotor cortex, midbrain, cerebellum, and posterior parietal cortex (PPC)
- The results indicated that chronic pain disturbs the thalamocortical interaction in the above regions in the brain, becoming overactive, and creating states of heightened emotions.

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Brodmann Areas



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Chronic Pain's Impact on Cognition

A Northwestern University Study found that: "Chronic back pain shrinks the brain by as much as 11 %, which is equivalent to the amount of gray matter lost in 10-20 years of normal aging"

- 1.3 cubic cm of gray matter are lost for every year of chronic pain
- 26 participants measured by MRI
- All had unrelenting pain for at least 1 year
- Back pain sustained for 6 + months is accompanied by abnormal brain chemistry in the areas impacting emotional responses, decision making and controlling social behavior

The Journal of Neuroscience - November 23, 2004

Acute versus Chronic Pain

Acute:

- Result of an injury to tissues, inflammation or specific disease
- Sudden onset
- Usually brief in duration
- Limited degree of severity
- Easy to diagnose and treat the cause
- Pain subsides as healing takes place
- If left untreated, will evolve into chronic pain

Chronic:

- Usually of unknown etiology due to co-morbidities
- Persistent
- Lasts for weeks, months and years (4 weeks greater than normal healing time for diagnosis)
- Intensity may range from mild to severe
- Rehabilitation may be slow
- Multiple medication use
- Comprised of both psychosocial and physical conditions

Diagnoses/Diseases Associated with Chronic Pain

- Joint disease, Arthritis, Osteoarthritis, RA
- Osteoporosis
- Neuropathic pain, Diabetes
- Peripheral Vascular Disease, ASHD
- Immobility
- Amputations
- Old Stroke, Contractures
- Depression, Headaches, Migraines
- Fractures, Pathological Fractures
- Cancer, Tumors
- Pressure Ulcers

Interdisciplinary Pain Management

- Client
- Family
- MD
- Rehab
- Nursing
- Pharmacology
- Psychology
- Social Services

The Practice of Speech Pathology Relating to the Public Health Burden of Pain

- SLP knowledge and awareness of individual pain challenges based on chart review, history and physical
- Non-verbal signs and symptoms indicative of pain
- Pain impacts physical, emotional, psychosocial and spiritual health of any human being
- Anxiety and fear almost always enhance pain
- Paramount - SLPs must help individuals identify pain, deal with the emotional factors within the framework of a team model
- Ask individual to describe what they are feeling, what intensifies pain and the limitations it causes
- Document findings in commonly used pain terminology
- Use AAC and pain scales with the non-verbal individual
- Cognitive and sensory stimulation interventions
 - Pain Management in speech-language pathology- Peter Rahanis, MS, CCC-SLP

Pain Assessment

- How do we assess pain?
- What do we need to assess?
- What tools do we have available to us?

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Assessment of Pain

- It is a complex process
- Behaviors vary from individual to individual
 - Verbal indicators i.e. moaning, crying,
 - Nonverbal indicators i.e. grimacing, wincing, grabbing your arm, eye signals, withdrawal
 - Physiological i.e. ↑ P, ↑ BP, ↑ sweating, N/V
 - Psychological i.e. depression, sleep deprivation, anxiety, fear
- Use of scales and diagrams

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Pain Evaluation Tools

- Clinician-Patient Communications Relating to Pain
 - Scales and tools foster discussion of standardized measures
- Quality of Life Scales
 - Matched with pain scales can assist in prioritizing areas of pain management, function, and daily routines, wishes and responsibilities

TARGET (American Pain Foundation)

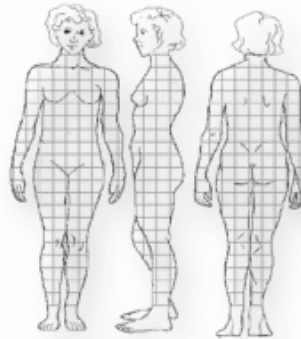
Questions to ask...

- T -Talk to your patients about pain
- A -Ask about current treatments
- R -Rate pain intensity and get details
- G -Get details about break through pain
 - BTP = short bursts of pain that doesn't respond to normal pain meds.
- E -Evaluate limitations on activities
- T -Treat side effects

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Patient Screening Tool

- Date:
- Patient Name:
- Intensity of Pain (0-10):
- Location of Pain (See Pain Map):
- Pain Description:
- Frequency of Pain:
- Is Pain Acute or Chronic:
- Activity that Worsens pain:
- Activity that Lessens Pain:
- Effect on function, quality of life and sleep patterns



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Assessing Pain History

Integrate Initial Pain Assessment				
No pain reported	Pain reported, but not severe	Pain reported, moderate	Pain reported, severe	Pain reported, very severe
Intensity of the patient's pain. Using the assessment tool below, document the patient's pain for each side of the chart below for reference. Mark each pain site by letter A, B, C, D, E on the drawing on the lower right portion of the form.				
No pain	1	2	3	4
Moderate pain				
Severe pain				
Description	Site A	Site B	Site C	Site D
Intensity at present				
Location of pain				
Duration of pain				
Frequency of pain				
Effect on function				
Effect on sleep				
Any pattern to the pain?				
Pain description of the pain	1. Sharp 2. Dull 3. Stabbing 4. Burning 5. Aching 6. Throbbing 7. Tiring 8. Pressure	1. Sharp 2. Dull 3. Stabbing 4. Burning 5. Aching 6. Throbbing 7. Tiring 8. Pressure	1. Sharp 2. Dull 3. Stabbing 4. Burning 5. Aching 6. Throbbing 7. Tiring 8. Pressure	1. Sharp 2. Dull 3. Stabbing 4. Burning 5. Aching 6. Throbbing 7. Tiring 8. Pressure
Acute pain, chronic pain, or both				
Factors, desired or non-desired				
Other type of pain				
Effect of pain	Interferes with activity	Interferes with activity	Interferes with activity	Interferes with activity
	Interferes with sleep	Interferes with sleep	Interferes with sleep	Interferes with sleep
	Interferes with work	Interferes with work	Interferes with work	Interferes with work
	Interferes with play	Interferes with play	Interferes with play	Interferes with play
Interferes with sex				
Duration of pain: 0 = no pain, 1 = pain less than 1 day, 2 = pain 1-7 days, 3 = pain 8-14 days, 4 = pain 15-30 days, 5 = pain more than 30 days				
Location of pain: 0 = no pain, 1 = pain less than 1 day, 2 = pain 1-7 days, 3 = pain 8-14 days, 4 = pain 15-30 days, 5 = pain more than 30 days				
Pain site identification				
Patient's pain for pain control: _____ Physical manifestation of pain: _____ Current pain medications: _____ When does the pain occur? _____ Patient: _____ Nursing intervention: _____ Outcome: _____ Physician's name: _____ Physician's number: _____				

L - Location
 I - Intensity (use a pain scale)
 S - Sensation (aching, dull, throbbing, cramping, burning, sharp, stabbing, tiring, knife-like, pressure)
 T - Type

Other Questions
 Duration
 S/S
 What relieves the pain?
 What intensifies it?

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Evaluation Tools

Intensity Scales

- Numeric Pain Scale
- VAS
- Verbal Descriptor Scale
- Simple Descriptive Scale
- Wong Baker Faces

Cognitively Impaired or Nonverbal Patients

- PAINAD
- Behavior Observation Scale
- Checklist of Nonverbal Pain Indicators
- Wong Baker Faces
- FLACC

Standardized Evaluation Tools

- Short-Form McGill Pain Questionnaire
- Initial Pain Assessment Tool (McCaffery, Beebe)
- Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)
- McGill-Melzack Pain Questionnaire (MPQ)
- Oswestry Low Back Pain Questionnaire
- Brief Pain Inventory (Cleeland)
- West Haven-Yale Multidimensional pain Inventory (WHYMPI)
- Roland and Morris Disability Questionnaire

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Pain Verbalization

Self report is the single most reliable indicator of the existence and intensity of pain, and any resultant distress

- A key characteristic of pain is its quality
- Typical descriptions of pain quality include sharp, stabbing, tearing, squeezing, cramping, burning, lancinating (electric-shock like), or heaviness

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Verbal Description of Pain Symptoms

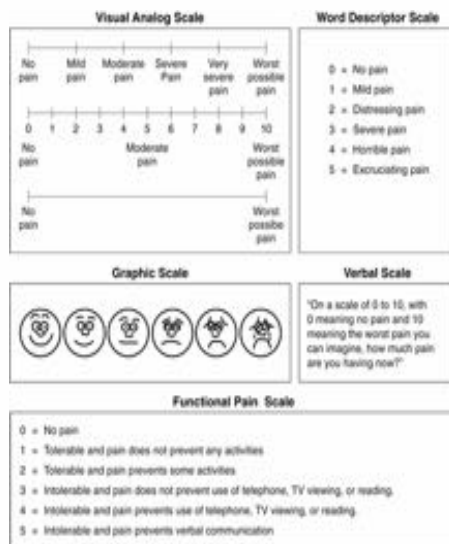
- **Visceral pain:** “I ache all the time”
- **Muscle pain:** “I’m sore and stiff” “It feels like a charley-horse”
- **Bone pain:** “It hurts when I move” “It aches at night” “The pain feels very deep”
- **Neuropathic pain:** “Feels like my skin is burning” “It feels like a shooting pain” “It feels like someone stabbed me”

Intensity

- Pain may range in intensity from slight through severe to agonizing and can appear as constant or intermittent
- Many attempts have been made to create a pain scale that can be used to quantify pain, for instance on a numeric scale that ranges from 0 to 10 points
 - In this scale, zero would be no pain at all and ten would be the worst pain imaginable

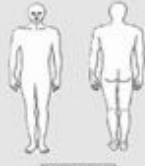

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Pain Assessment



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McGill Pain Questionnaire

INJURY CODE		SEX		AGE		WEIGHT	
1	2	3	4	5	6	7	8
1	FUCKING SUCKING POSSING POSSING BEATING POSSING	11	TEARS EMOTIONAL	BRYTHMIC PERIODIC INTERMITTENT CONTINUOUS STEADY CONSTANT		CONTINUOUS STEADY CONSTANT	
2	ARMING FLIPPING SHOOTING	12	SHOCKING POSSING				
3	PICKING KICKING SHOOTING SHOOTING LAUNCHING	13	TEARS REACTING TEARS			D = DISTANCE I = INTERNAL	
4	SHARP CUTTING LACERATING	14	PUNCHING GRABBING CHOKING MORTAL KILLING				
5	PICKING PRESSING CRAMPING CRAMPING CRAMPING	15	WHIPPING BURNING			D = DISTANCE I = INTERNAL	
6	TUGGING POSSING POSSING	16	ARMING SHARP EDGE WHIPPING WHIPPING WHIPPING				
7	KICK BURNING SCALPING SCALPING	17	SPREADING BURNING BURNING BURNING	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
8	TWILING TWO SMOOTHING CRAMPING	18	SHARP SHARP SHARP SHARP				
9	SHARP SHARP SHARP SHARP	19	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
10	SHARP SHARP SHARP SHARP	20	SHARP SHARP SHARP SHARP				
11	SHARP SHARP SHARP SHARP	21	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
12	SHARP SHARP SHARP SHARP	22	SHARP SHARP SHARP SHARP				
13	SHARP SHARP SHARP SHARP	23	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
14	SHARP SHARP SHARP SHARP	24	SHARP SHARP SHARP SHARP				
15	SHARP SHARP SHARP SHARP	25	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
16	SHARP SHARP SHARP SHARP	26	SHARP SHARP SHARP SHARP				
17	SHARP SHARP SHARP SHARP	27	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
18	SHARP SHARP SHARP SHARP	28	SHARP SHARP SHARP SHARP				
19	SHARP SHARP SHARP SHARP	29	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
20	SHARP SHARP SHARP SHARP	30	SHARP SHARP SHARP SHARP				
21	SHARP SHARP SHARP SHARP	31	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
22	SHARP SHARP SHARP SHARP	32	SHARP SHARP SHARP SHARP				
23	SHARP SHARP SHARP SHARP	33	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
24	SHARP SHARP SHARP SHARP	34	SHARP SHARP SHARP SHARP				
25	SHARP SHARP SHARP SHARP	35	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
26	SHARP SHARP SHARP SHARP	36	SHARP SHARP SHARP SHARP				
27	SHARP SHARP SHARP SHARP	37	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
28	SHARP SHARP SHARP SHARP	38	SHARP SHARP SHARP SHARP				
29	SHARP SHARP SHARP SHARP	39	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
30	SHARP SHARP SHARP SHARP	40	SHARP SHARP SHARP SHARP				
31	SHARP SHARP SHARP SHARP	41	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
32	SHARP SHARP SHARP SHARP	42	SHARP SHARP SHARP SHARP				
33	SHARP SHARP SHARP SHARP	43	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
34	SHARP SHARP SHARP SHARP	44	SHARP SHARP SHARP SHARP				
35	SHARP SHARP SHARP SHARP	45	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
36	SHARP SHARP SHARP SHARP	46	SHARP SHARP SHARP SHARP				
37	SHARP SHARP SHARP SHARP	47	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
38	SHARP SHARP SHARP SHARP	48	SHARP SHARP SHARP SHARP				
39	SHARP SHARP SHARP SHARP	49	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
40	SHARP SHARP SHARP SHARP	50	SHARP SHARP SHARP SHARP				
41	SHARP SHARP SHARP SHARP	51	SHARP SHARP SHARP SHARP	D = DISTANCE I = INTERNAL		D = DISTANCE I = INTERNAL	
42	SHARP SHARP SHARP SHARP	52	SHARP SHARP SHARP SHARP				

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Non Verbal

- When a patient is non-verbal and cannot self report pain, observation becomes critical and specific behaviors can be monitored and are pain indicators
- Behaviors such as facial grimacing and guarding indicate pain as well as an increase in or decreased vocalizations, changes in routine behavior patterns and mental status changes
- A change in condition that deviates from baseline such as moaning with movement or when manipulating a body part and limited ROM are also potential pain indicators

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FLACC

Used if patient is non-verbal

- F- Face
- L- Legs
- A- Activity
- C- Cry
- C- Consolability

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FLACC

Face	0 No particular expression or smile	1 Occasional grimace or frown, Withdrawn, Disinterested	2 Frequent to constant frown, Clenched jaw Quivering chin
Legs	0 Normal position OR relaxed	1 Uneasy Restless Tense	2 Kicking, OR Legs drawn up
Activity	0 Lying quietly Normal position Moves easily	1 Squirming Shifting back/forth Tense	2 Arched Rigid OR Jerking
Cry	0 No cry (Awake or Asleep)	1 Moans or Whimpers Occasional complaint	2 Crying steadily Screams or sobs Frequent complaints
Consolability	0 Content Relaxed	1 Reassured by occasional touching, hugging or "talking to" Distractible	2 Difficult to console or comfort

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Assessing Pain in Cognitively Impaired Patients

- Behavior has meaning and may give clues to assessing pain in a patient with cognitive impairment and/or dementia
- Use pain intensity scales that are appropriate for the residents cognitive abilities

Assessing Pain in Cognitively Impaired Patients

Look for:

- Change in activity level or functioning, sleep patterns
- Tense body language, fidgeting, rubbing body part, wringing of hands
- Sad or frightened facial expressions
- Vocalizations may range from hushed to negative to mournful and groaning
- Breathing may be audible and appeared labored or exaggerated

PAINAD Scale

	0	1	2	Score
Breathing Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations	
Negative Vocalization	None	Occasional moan or groan. Low level speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying	
Facial expression	Smiling, or Inexpressive	Sad. Frightened. Frown	Facial grimacing	
Body Language	Relaxed	Tense. Distressed pacing. Fidgeting	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out	
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure	
				TOTAL

Warden, Hurley, Volicer JAMDA in press

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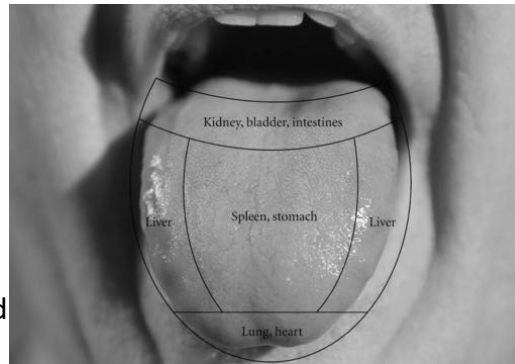
Evaluation

- TCM Tongue Diagnosis
- Triple Lewis aka “Scratch test - along paraspinals of the back - look for histamine response (reddening of skin, raised area)
- Search for tender or “trigger points”
- Examine back and extremities for asymmetry, deformity, atrophy
- Palpation and percussion
- Evaluation of lumbosacral & scapular mobility
- ADL and cognitive performance
- Mobility & Gait
- Muscle stretch reflexes, strength, ROM

TCM Tongue Diagnosis

Four areas to look at:

- **Color** – condition of the blood, nutritive qi and yin organs
- **Shape** – state of the blood and nutritive qi
- **Coating** – state of the yang organs, presence or absence of pathogenic factors and it's strength
- **Moisture** – state of the body fluids



Healthy Tongue

Color – Pink, pale red tongue

Shape – smooth, flat, no ridges or bumps

Coating – thin white coating

Moisture – slightly moist

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Pain = Blood Stasis with cold

- **Color** - reddish purple, bluish purple in the chest area on the right.
- **Shape** – stiff, slightly swollen
- **Coating** – sticky coating
- **Moisture** – yin deficient

Pain = Blood Stasis with heat

- **Color** – Reddish purple
- **Shape** – Swollen and cracked in the liver, heart and lung area
- **Coating** - peeled
- **Moisture** – chronic yin deficiency

Pain Management and Integrative Techniques

Pain Interventions

Non-invasive approaches

- Massage
- Heat/cold
- Acupuncture
- Biofeedback
- Therapy (PT/OT)
- Counseling
- Visualization
- Others

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Cognitive Interventions

- Comprehend instructions
- Memory
- Short/long term memory
- Auditory comprehension
- Reading comprehension
- Written expression
- Attention (selective divided, alternating) skills
- Organization/planning skills
- Problem solving/reasoning
- Deductive logic
- Insight/judgment
- Immediate, recent and past recall strategies

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Psychosocial Interventions

Relaxation Techniques:

- Meditation
- Hypnosis/NLP
- Guided Imagery
- Visualization
- Progressive Muscle relaxation
- Music/Noise
- Breathing exercises
 - Deep breathing
 - Rhythmic breathing
 - Visualized breathing

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Psychosocial Intervention

- Crafts/Hobbies
- Stress Management
- Books on Tape
- Humor
- Pet Therapy
- Music Therapy
- Leisure Activities
- Aromatherapy
- Herbal Therapy
- Tai Chi
- Qi Gong
- Yoga
- ROM dance
- Relaxation Techniques

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Physical Interventions by Rehab

Physical Agent Modalities

■ Deep PAM's

- Ultrasound
- Electrical Stimulation
- Diathermy
- TENS

■ Superficial PAM's

- Hot/Cold packs
- Warm bath
- Contrast Baths
- Paraffin Baths

Physical Interventions by Rehab

- **Neuro Inhibitory Techniques:**

- Vibration
- Slow stroking
- Rocking

- **Manual Therapy:**

- Acupressure
- Myofascial release
- Neurostretch
- Soft tissue mobilization
- Manual traction
- Trigger point release

Therapeutic Exercises

- Maximum results with minimal exertion
- Focus on strengthening core
- Make it creative and fun to increase compliance

So what is a Trigger or Tender Point?

Tender points- Defined as points that are too tender to the touch that elicit local pain when touched. Pain is not referred to any other site

Trigger points- Defined as “highly irritable localized spot of exquisite tenderness in a nodule in a palpable taut band of muscle tissue” (Janet Travell, MD)

- Hurts when you push on it and pain is referred to another area of the body (startle, wince or pull away response)
- nodule is the trigger point itself in the size of a pea or feel like a cooked piece of macaroni
- The palpable taut band is a semi-hard strand of muscle that feels like a cord or cable and is easily mistaken for a tendon

Trigger Point Symptoms

- **Referred pain-** felt as an oppressive deep ache (headaches, migraine, sinus pain, jaw pain, neck pain)
- **Compression of vessels and nerves-** muscles that have been shortened and enlarged by TP squeeze nearby nerves and veins, resulting in abnormal sensations (numbness, tingling, burning, hypersensitivity and swelling)
- **Autonomic effects-** ANS controls the glands and smooth muscles of the digestive system, blood vessels, heart, respiratory system and skin. (reddening of eyes, excessive tearing, blurred vision, excessive salivation, problems with coordination, dizziness, imbalance)
- **Problems with movement-** Stretching or contracting irritates TP and increases pain
- **Problems with mood-** sleeplessness and chronic fatigue leads to depression

Trigger Point Causes

- Muscle abuse- overuse syndrome, repetitive motion injury, repetitive strain, cumulative trauma disorder, overweight and out of shape
- Unavoidable muscle abuse- Accidents such as falls and car accidents, sudden wrenching movements, whiplash
- Unsuspected muscle abuse- immobility caused by splints, braces, slings and casts, injections

Trigger Point Interventions

- Deep Stroking Massage- Applied directly to the TP. Is the safest and most effective method
- Massage in circular motion around trigger point(s)
- Pressure on trigger point with strain counter-strain
- Vibration to trigger point
- Aroma-blend as a manual therapy medium to trigger point
- Ultrasound- 3 MHz, sub-thermal @ .5 watts/cm² for 60 seconds
- Spray and Stretch- spray the skin with a refrigerant then stretch the affected muscle. Cooling the skin prevents defensive tightening of the TP by distracting it and temporarily suppressing the pain. Follow the stretch with a MHP to keep it from drawing heat out of the muscle

Acupressure

- An ancient form of shiatsu, using finger pressure over acupuncture points to bring the body's energy into harmony and balance
- Comprised of 14 meridians that transport *Chi* (life force) from one acupuncture point to another
- Meridians are autonomic fibers in which the energy cycle is altered by a wave of electrical depolarization when stimulated
- Correlate to organs of the body and their function
- Blockage in the flow of *Chi* at one point in the meridian can cause disease & discomfort in an organ or tissue further down the line
- Each acupoint is approximately 3 mm in diameter
- Electrical resistance is lower at acupoints
- Instruments measure the electrical impedance of the skin
- Promotes release of endorphins and enkephalins

Acupressure: How does it work?

- When abnormalities exist in internal organs or when the function of an organ changes, there are corresponding changes on the surface. These result from sensory nerves, reflexes, motor nerve reflexes, and sympathetic or parasympathetic nerve reflexes
- The local skin point (acupoint), which is peripheral to the ANS, may act as a synapse where localized hormones are secreted and there is a two way feedback along the sympathetic nerve, which allows for both diagnostic and treatment from the same point

How to Use Acupressure

- Sensation of fullness or radiating warmth will be felt by the patient
- Points selected may be chosen so they encircle the area of pain
- If not possible, a line of points on a limb may be treated
- Combine distant and local points
- Treat both sides to reinforce the analgesic effects
- Vital energy flows during the 24-hour cycle, there are two-hour intervals when a maximum of vital energy is reached in each of the 12 meridians. Best time to treat pathologies of that organ
- Can increase or decrease energy of a meridian by stimulating or sedating the meridian preceding it according to the flow of energy

How to Use Acupressure

- For acute conditions, use less pressure, related to painful response to pressure
 - **Treat the contralateral side if too painful to pressure**
- For chronic conditions, use deep constant pressure
 - **Use small friction circular motions until deeper pressure is tolerated**
- For rheumatic and muscular conditions, distant points treated before local points
- In cases of headaches or trigeminal neuralgia, good to use distant points on a meridian that contains local points in the area of pain (post-herpes neuritis)

Acupressure

APTA

- APTA does not have a stance of acupressure per se, but the techniques used for acupressure would be consistent with the description of Manual Therapy Techniques as described in the Guide to Physical Therapist Practice.
- Lisa L Culver, PT, MBA
Associate Director, Department of Practice
American Physical Therapy Association

AOTA

- The code 97140 is the best code to use for this procedure. If acupressure is a type of manual therapy as you describe this would be appropriate for billing purposes. Just remember to clearly describe the services you are performing clearly and succinctly so that a medical reviewer with no prior knowledge of OT or the procedure will be able to understand what it is you are doing and why you have chosen to use this code.
- Tara C. Alexander, OTR/L
Health Policy Analyst
Reimbursement and Regulatory Policy
The American Occupational Therapy Association

Acupressure Research

- Treatment of low back pain by acupressure and physical therapy: randomized controlled trial
Hsieh LL, Kuo CH, Lee LH, Yen AM, Chien KL, Chen TH BMJ 2006; 332(7543): 696-700
Authors Stated Purpose: To evaluate the effectiveness of acupressure in persons with low back pain in terms of disability, pain, and functional status.
Authors Conclusions: This study shows that acupressure is more efficacious in alleviating low back pain than is physical therapy, as measured by pain visual analogue scale, core outcome measures, Roland and Morris disability questionnaire, and Oswestry disability questionnaire. The results support the conclusion of the previous randomized controlled clinical trial on low back pain treated by acupressure. Acupressure may thus be useful for reducing pain and improving body function and level of disability in low back pain.

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Aromatherapy

- Used as a gentle but effective method of healing mental, emotional and physical conditions.
- The healing component comes in the form of essential oils that are derived from plants, trees and grasses.
- Benefits include sedation, stimulation, balancing the hormones, diuretic and pain relief.
- This is accomplished through affecting the physical, mental, spiritual and emotional well being.

Positive Effects of Aromatherapy

- **Brings oxygen and nutrients to the tissues while assisting in the efficient disposal of carbon dioxide and other waste products that are produced by cell metabolism**
- **Increased blood flow improves the efficiency of the immune system and decreases blood viscosity**
 - Oregano is 26 times more powerful as an antiseptic than phenol (active ingredient in commercial cleaning materials)
- **Lower the pH of the blood slightly, creating an inhospitable environment for bacteria**
- **Essential oils are probiotic, they kill pathogenic bacteria, but leave the good flora behind**

Benefits of Aromatherapy

- **Non-invasive to the human body since we are made of the same materials**
- **They enter and leave the body with efficiency, leaving no toxins behind**
- **Most effective way to use essential oils is through external application or inhalation**
- **Oral is the least effective method, as it involves passing through the digestive system, comes into contact with digestive juices and enzymes, which affects their chemistry**

Aromatherapy Methods of Absorption

- | | |
|---|--|
| <ul style="list-style-type: none"> • Olfactory <ul style="list-style-type: none"> – Inhalation through the nose to the olfactory center of the brain-> releases neurochemicals – The tiny aroma molecules travel down the nasal passages into the lungs to blend with the bloodstream | <ul style="list-style-type: none"> • Skin <ul style="list-style-type: none"> – Applied to the skin and absorbed into the bloodstream via hair follicles and sweat glands-> transported via lymph and interstitial fluids to other parts of the body |
|---|--|

Aromatherapy Methods of Use

- Massage- Blended with a “carrier” oil.
- Bath- via relaxing bath, shower, hand or foot soak
- Steam- Good for relieving colds, congestion and headaches
- Vapor- Via oil burners, diffusers, humidifiers, perfumes and room sprays.

How pure is your essential oil?

- Does it dissolve in water or alcohol?
 - Essential oils will float on the top; altered oils will dissolve
- Does it leave a stain?
 - Pure essential oils are volatile and will evaporate completely; extended oils will leave a stain
- Does it feel greasy?
 - If it does it may have been mixed with a carrier oil for extended use
- Are the oils priced differently based on the availability and cost of materials?
 - If the oils all cost the same indicates the oils may be diluted or are a fragrance or synthetic blend and will not have the therapeutic properties as pure essential oils

Essential Oils for Pain

- **Black Pepper:** Good for muscle aches & pains and use before excessive sports. Stimulates appetite and circulation. Strengthens the nerves and mind and increases stamina. Effective for respiratory illnesses.
- **Chamomile:** Anti-inflammatory, antidepressant, digestive aid
- **Geranium:** Balancing to mind and body, Soothes rashes and inflammation, regulates hormone production
- **Ginger:** Warming for muscle aches and pains, arthritis and poor circulation.
- **Lavender:** Insomnia, pain reliever for muscle aches and sprains, antidepressant, antiseptic, anti-inflammatory
- **Peppermint:** headaches and migraines, antiseptic and antispasmodic for colds and flu, nausea, mental clarity
- **Rosemary:** anti-inflammatory, stimulant to mind and body, muscle aches, strains and sprains, arthritis, ease mental fatigue and memory loss
- **Sweet Marjoram** - Good for muscle spasms, migraines, aches and pains. Sedative.

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Aromatherapy Precautions

- Tea tree and lavender are the only oils recommended for direct skin contact without a carrier oil
- Not recommended for certain populations without knowing the individual (I.e. pregnant women and those patients with seizure disorder)
- Do not massage over open wounds, rash, or overly warm skin
- Those patients with specific food and flower allergies should be cautious of using those oils

Aromatherapy Research

Diego MA; Jones NA; Field T; Hernandez-Reif M; Schanberg S; Kuhn C; McAdam V; Galamaga R; Galamaga M. (1998).
Aromatherapy positively affects mood, EEG patterns of alertness and math computations. Int J Neurosci, 96(3-4):217-24.

Summary: Following inhalation of essential oil of lavender, subjects showed increased beta power on EEG patterns, suggesting increased drowsiness, and reported feeling more relaxed with less depressed mood. Their math computations were faster and more accurate following the inhalation. Following inhalation of rosemary, subjects showed decreased alpha and beta power on EEG patterns, suggesting increased alertness. They also reported less anxiety, and felt more relaxed and alert. Their math computations were faster but not more accurate following the inhalation

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Documentation

- Use objective pain assessment tools
- Use residents self report
- Include treatment interventions attempted that were ineffective
- Describe what makes it better or worse?
- Disrupts sleep pattern or quality of life?
- How does it impact function and mobility, mood, socialization, appetite, behavior and cognition?
- List current pain medications and dosage, ability to titrate off medications (number, dose, frequency)
- Include education and training provided to family, caregivers and resident, outcome of training and carry over of techniques

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Goals

- Include the patient and family in developing goals and treatment options
- Keep goals with gaining independence and function in mind
- Consider the patient's quality of life and how pain impacts cognition, roles and responsibilities
- Train and educate family, patient and caregivers to take control of their own pain conditions with non-pharmacological interventions
- May include titration off pain medications, when appropriate

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Goal Examples

Short-Term:

- Pt. will report back pain 3/10 at rest and 4/10 during activities.
- Pt. will report 4/10 left elbow pain during ADL's and functional activities.
- Pt's pain level will decrease from ____ to ____ consistently, during task completion and at rest.
- Pt will demonstrate pain relief techniques, as instructed, with ____ % accuracy.

Long-Term:

- Pt. will not report or show signs and symptoms of any pain during ADL completion.
- Pt. will demonstrate 100% safe and effective body mechanics during ADL tasks to prevent onset of back pain.

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Ensuring a Quality Pain Program

- Components:
 - Interdisciplinary Communication
 - Pain assessment and management training and education
 - All direct care staff
 - Pain rounds
 - Resources and activities for implementation
 - Clinically appropriate rehab, psychology, social services referrals
 - QI measures

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 - Esther Bernhofer, BSN, RN-BC
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 - http://www.painmed.org/PatientCenter/Facts_on_Pain.aspx#incidence

Questions