
Pain Assessment
and
Management for
the Bedside
Practitioner
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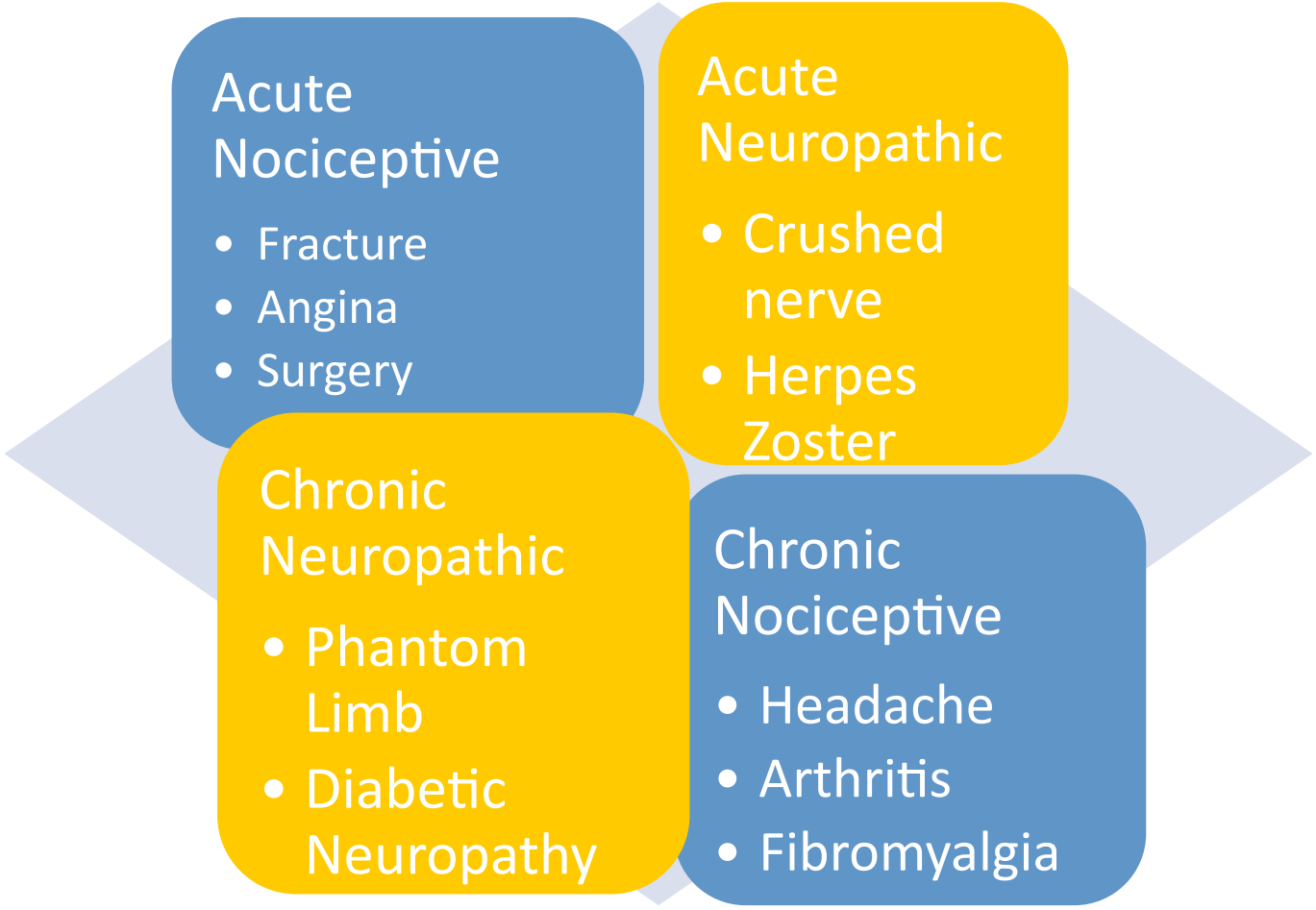
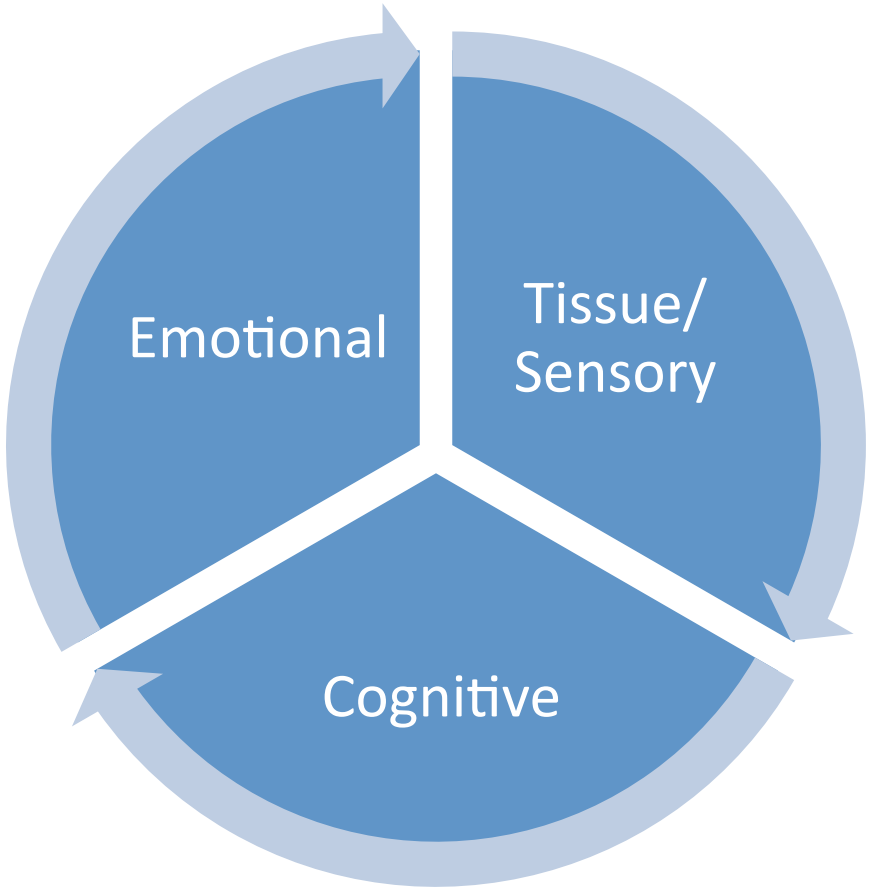
Objectives

- Understand why it is important to assess and treat acute pain early
- Introduce and use the OPQRST and Brief Pain Inventory assessment tools
- Describe 2 tools to assess pain in the non-verbal patient
- Apply & use 2 simple strategies to manage pain
- Be aware of at least 2 resources regarding pain management and assessment

What is pain?

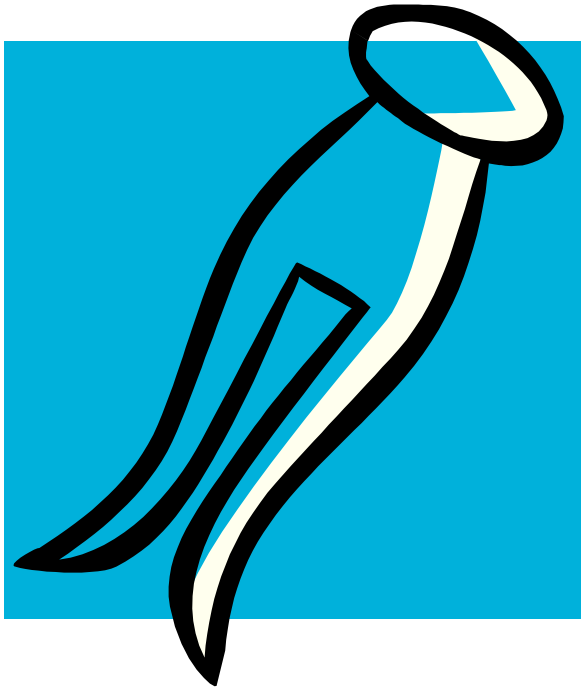

Acute Nociceptive
• Fracture
• Angina
• Surgery
Acute Neuropathic
• Crushed nerve
• Herpes Zoster
Chronic Neuropathic
• Phantom Limb
• Diabetic Neuropathy
Chronic Nociceptive
• Headache
• Arthritis
• Fibromyalgia

What is Pain?



Activating the Nociceptors

- The clothes peg - audience participation exercise



Effects of unrelieved pain?

Adverse effects of unrelieved Pain

::

Cardiovascular

↑Heart Rate	Unstable angina
↑Blood Pressure	Myocardial
↑Increased	infarction
myocardial demand	DVT
Hypercoagulation	PE

Respiratory

↓Lung Volumes	Atelectasis
↓Decreased cough	Pneumonia
Splinting	Hypoxemia

GI

↓Gastric Emptying	Constipation
↓ Bowel Motility	Anorexia
	Ileus

National Pharmaceutical Council (2001). Macintyre & Schug (2007).Cohen et al (2004)

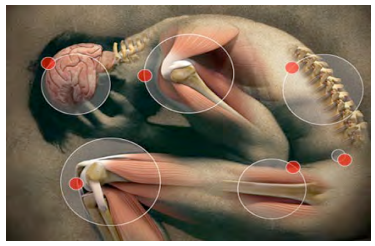
Adverse effects of unrelieved Pain

Neuroendocrine

Altered release of multiple hormones

- Hyperglycemia
- Wt loss/ muscle wasting
- Impaired wound healing
- Impaired immune function

MSK



Muscle spasm

Impaired muscle mobility & function

- Immobility
- Weakness
- Fatigue

Psychological

Anxiety

Fear

- Sleep deprivation
- Impact on coping
- Post traumatic stress disorder

National Pharmaceutical Council (2001). Macintyre & Schug (2007).Cohen et al (2004)

Incidence of Chronic Pain After Surgery

Surgery	Incidence of chronic pain
Amputation	30-85%
Thoracotomy	5-67%
Coronary artery bypass surgery	30-50%
Mastectomy	11-57%
Cholecystectomy	3-56%
Inguinal hernia repair	0-63%
Vasectomy	0-37%
Dental surgery	5-13%

From: Macintrye and Schug (2007)

Incidence of Chronic/Persistent Pain after Trauma

Injury	Incidence of persistent pain
Spinal Cord Injury	› 50%
Traumatic Brain Injury	32 – 51%
Vertebral fractures	› 25%
Burn Injuries	35- 52%
Complex Regional Pain	1-5%

Macintrye and Schug (2007), Kehlet et al.(2006), Sinha & Cohen (2011), Nampiaparampil (2008), Dauber et al. (2002), Singh & Cailliet (2011)

Pain Severity Tools

- Numeric Pain Scale

Rate your pain now (0-10)

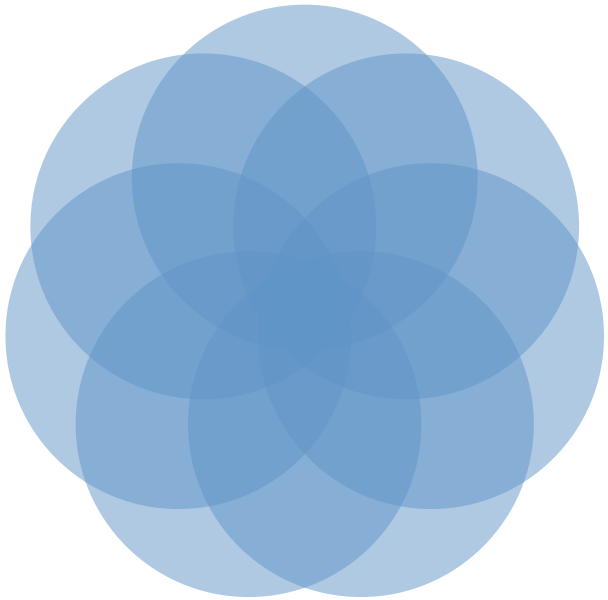
Rate how unpleasant the sensation is (0-10)

Predictors of Persistent/Chronic Pain

Factors associated with the development of persistent pain after Trauma/Surgery

Younger age

Psychological : anxiety, depression, stress, pain expectations, catastrophizing



Female gender

Nerve injury

Multiple surgeries

Poorly managed pain

Pre-existing pain

Macrae (2008), Keene et al (2011) , Sommer et al (2010)

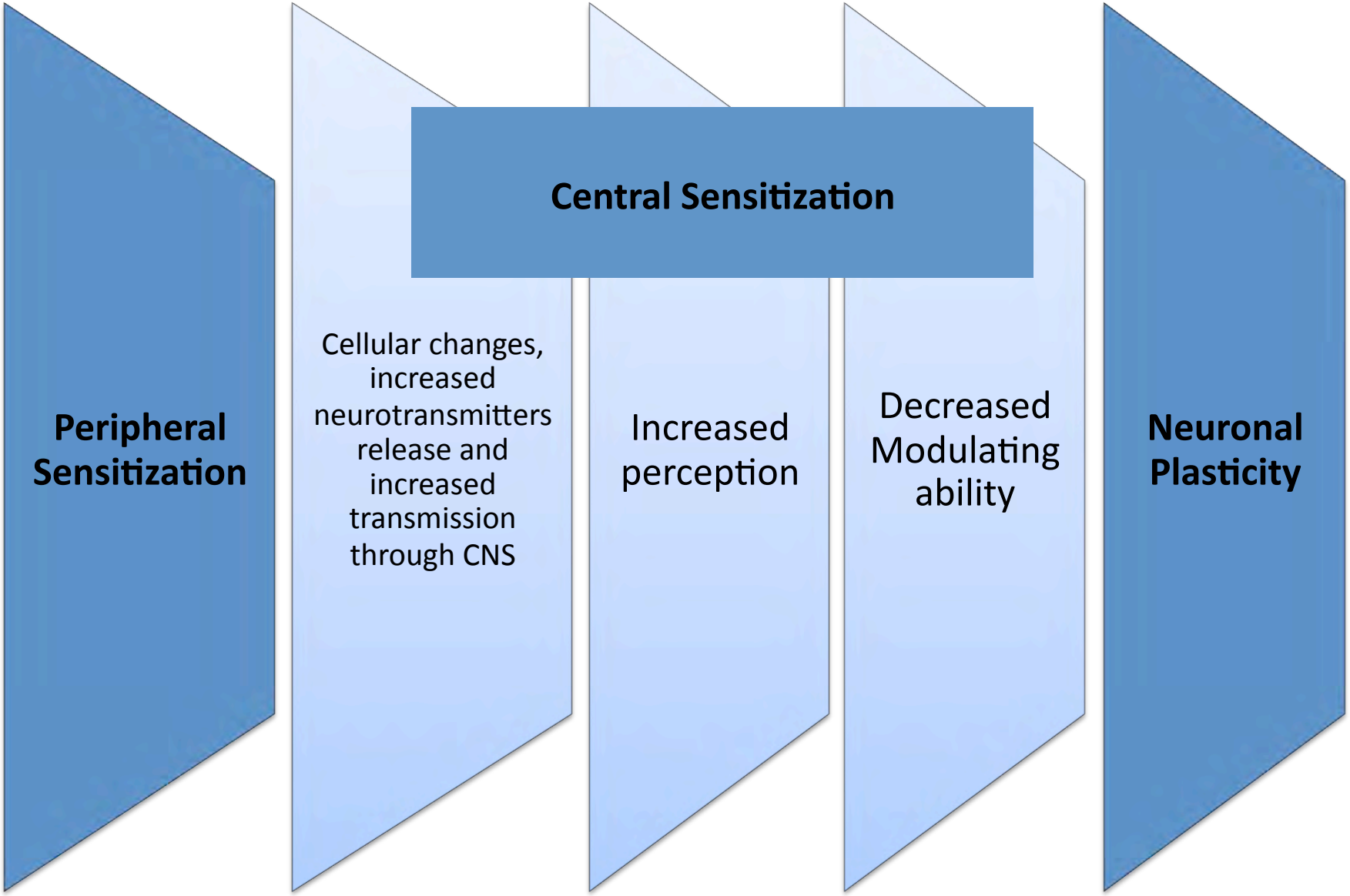
Chronic Pain

Commonly persists beyond the time of healing of an injury or may not have any clearly identifiable cause

Pain Pathways

- http://www.youtube.com/watch?v=n2Jzt3zd8vQ

What happens in Chronic Pain



Chronic Pain

Impact of Chronic Pain

sleep dysfunction, fatigue,
mood ↓ quality of life & ADL's

Acute versus Chronic Pain

	Acute	Chronic
Cause	Tissue damage neuropathic	Neuronal or CNS (plasticity/sensitization)
Duration	Days to weeks	Pain persists longer than the normal course or time with particular injury or condition or no apparent cause
Course	Expected to resolve	Expected to persist
Biological Function	Yes	No
Life Impact	Temporary	Ongoing – impacts multiple dimensions quality of life

Goldman Jovey, (2008) Managing Pain

Pain Severity Tools

- Numeric Pain Scale

Rate your pain now (0-10)

Rate how unpleasant the sensation is (0-10)

Give your clothes peg a gentle wiggle - what is your pain now?

Remove the peg

Case Study

Pair up with the person beside you

Give instructions for pain assessment exercise

Case Study

1 Geriatric Diabetic Patient

- 80 yr old female
- Type 2 Diabetes, COPD & CHF
- Lt Below Knee amputation 2 years ago
- Admitted with ischemic Rt foot

2 Surgical Patient

•60 yr old female Chronic Back Pain

•L 4/5 discectomy

•Depression

•Admitted with # Lt calcaneous – fell off a ladder cleaning the gutters

Assessment Mnemonic

- **O**nset
- **P**rovocative/**P**alliative factors
- **Q**uality
- **R**egion/**R**adiation
- **S**everity
- **T**ime
  - **A**ssociated **S**ymptoms
  - **P**reexisting pain conditions
  - **E**TOH & MAD/street drug use

Case Study

- Repeat the pain assessment using the OPQRST

Assessment tools

Case Study

- Pain assessment and management :
  - Types of assessment tools and documentation?
  - Non-pharmacological and pharmacological approaches?
  - Patient education resources & self management strategies?

Does this Change your Assessment & Management

25 yr old male admitted with a calcaneus #

Jumped from balcony being pursued by RCMP

PMx – Previous OD

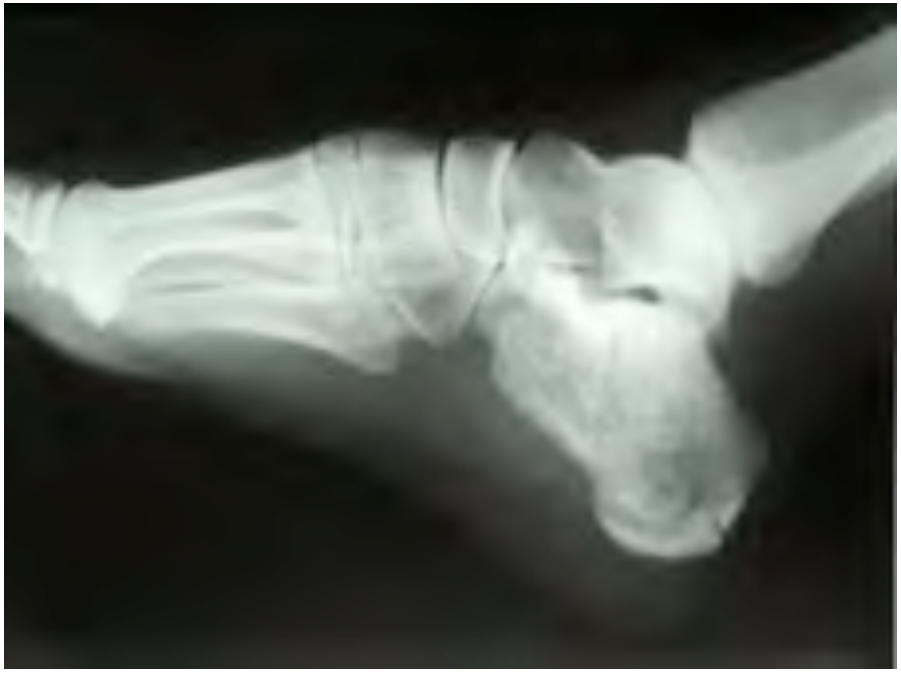
pelvis

on Methadone

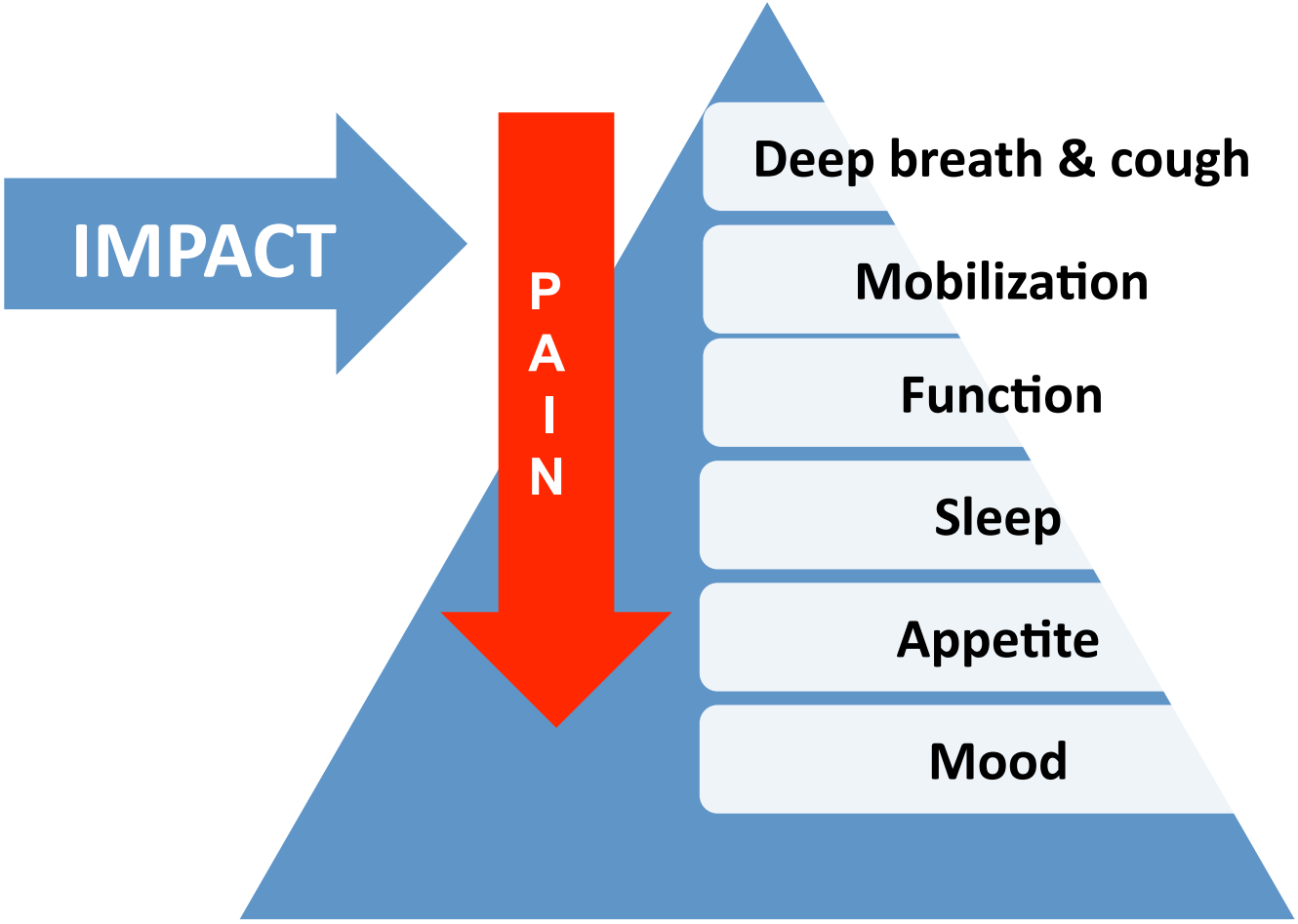
Social History - homeless

On Trauma list for OR ~ 48hrs

Pain management strategy for this patient?



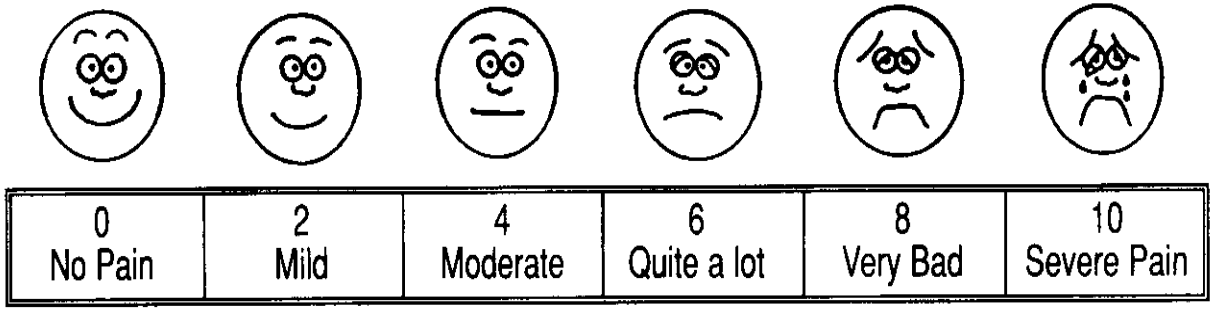
Goals of Pain Management



Pain Severity Tools

- Numeric Pain Scale

Baker-Wong Faces Scale



Available in 22 languages to be printed online/or laminated version

Pain in the ICU Behavioural Pain Scale

Item	Description	Score
Facial Expression:	Relaxed	1
	Partially tightened	2
	Fully tightened	3
	Grimacing	4
Upper Limbs:	No movement	1
	Partially bent	2
	Fully bent with finger flexion	3
	Permanently retracted	4
Compliance with Ventilation:	Tolerating movement	1
	Coughing but tolerating ventilation for most of the time	2
	Fighting ventilator	3
	Unable to control ventilation	4

The BPS has a maximal acceptable pain score of 5

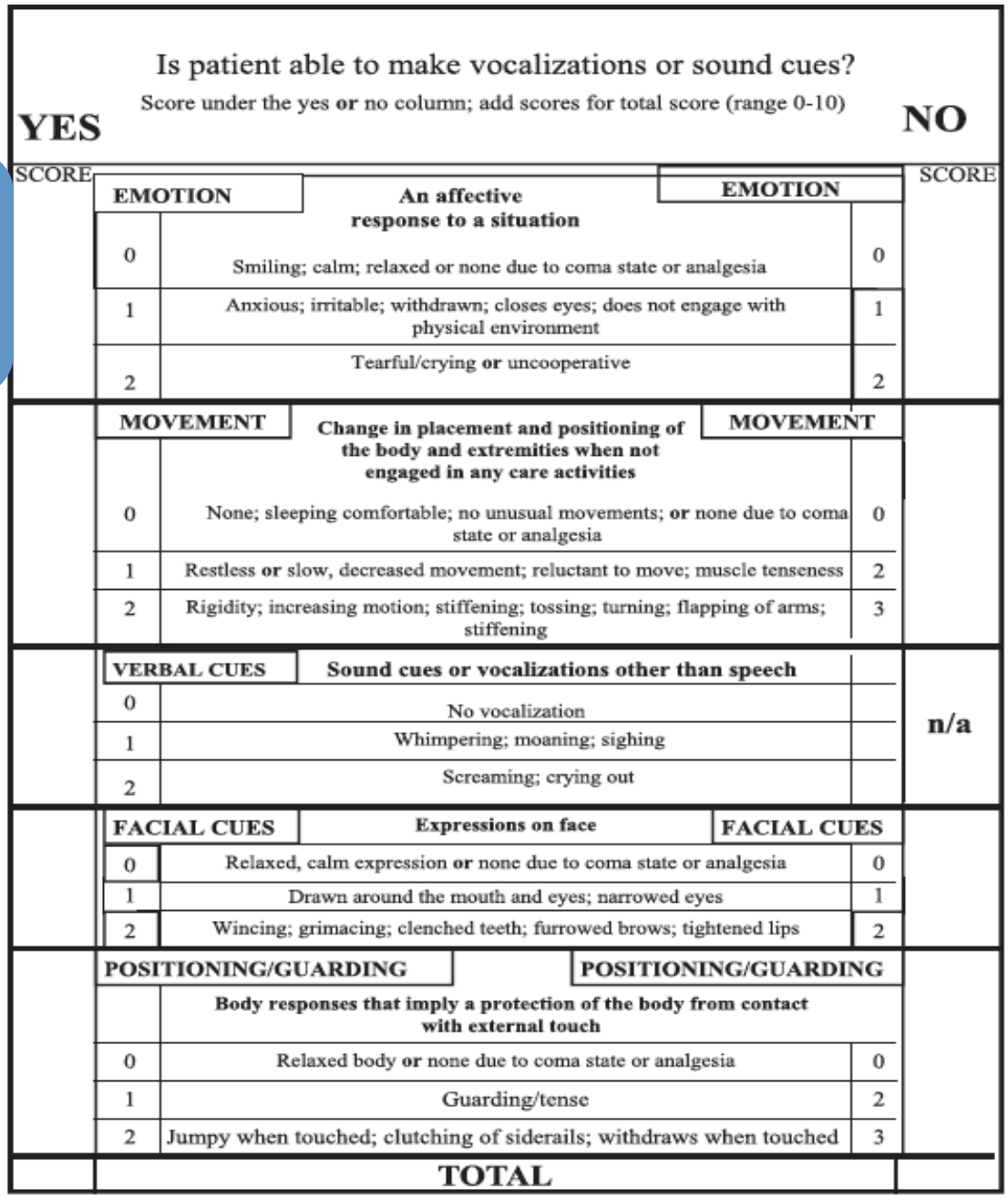
DO:301

Critical-Care Pain Observation Tool (CPOT)

Description and Directives to Use the Critical-Care Pain Observation Tool (CPOT)

Indicator	Score		Operational definition
Facial expressions	Relaxed, neutral	0	No muscle tension observed
	Tense	1	Presence of frowning, brow lowering, orbit tightening, and levator contraction or any other change (e.g., opening eyes or tearing during nociceptive procedures)
	Grimacing	2	All previous facial movements plus eyelid tightly closed (the patient may present with mouth open or biting the endotracheal tube)
Body movements	Absence of movements or normal position	0	Does not move at all (doesn't necessarily mean absence of pain) or normal position (movements not aimed toward the pain site or not made for the purpose of protection)
	Protection	1	Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements
	Restlessness	2	Pulling tube, attempting to sit up, moving limbs/thrashing, not following commands, striking at staff, trying to climb out of bed
Compliance with the ventilator (intubated patients)	Tolerating ventilator or movement	0	Alarms not activated, easy ventilation
	Coughing but tolerating	1	Coughing, alarms may be activated but stop spontaneously
	Fighting ventilator	2	Asynchrony: blocking ventilation, alarms frequently activated
OR			
Vocalization (extubated patients)	Talking in normal tone or no sound	0	Talking in normal tone or no sound
	Sighing, moaning	1	Sighing, moaning
	Crying out, sobbing	2	Crying out, sobbing
Muscle tension: Evaluation by passive flexion and extension of upper limbs when patient is at rest or evaluation when patient is being turned	Relaxed	0	No resistance to passive movements
	Tense, rigid	1	Resistance to passive movements
	Very tense or rigid	2	Strong resistance to passive movements, incapacity to complete them
TOTAL		___ / 8	

Nonverbal Pain Assessment Tool (NPAT)



Is patient able to make vocalizations or sound cues?

Score under the yes **or** no column; add scores for total score (range 0-10)

SCORE	YES		NO	SCORE
	EMOTION	**An affective response to a situation**	**EMOTION**	
	0	Smiling; calm; relaxed or none due to coma state or analgesia	0	
	1	Anxious; irritable; withdrawn; closes eyes; does not engage with physical environment	1	
	2	Tearful/crying **or** uncooperative	2	
	MOVEMENT	**Change in placement and positioning of the body and extremities when not engaged in any care activities**	**MOVEMENT**	
	0	None; sleeping comfortable; no unusual movements; **or** none due to coma state or analgesia	0	
	1	Restless **or** slow, decreased movement; reluctant to move; muscle tenseness	2	
	2	Rigidity; increasing motion; stiffening; tossing; turning; flapping of arms; stiffening	3	
	VERBAL CUES	**Sound cues or vocalizations other than speech**		**n/a**
	0	No vocalization		
	1	Whimpering; moaning; sighing		
	2	Screaming; crying out		
	FACIAL CUES	**Expressions on face**	**FACIAL CUES**	
	0	Relaxed, calm expression **or** none due to coma state or analgesia	0	
	1	Drawn around the mouth and eyes; narrowed eyes	1	
	2	Wincing; grimacing; clenched teeth; furrowed brows; tightened lips	2	
	POSITIONING/GUARDING		**POSITIONING/GUARDING**	
		Body responses that imply a protection of the body from contact with external touch		
	0	Relaxed body **or** none due to coma state or analgesia	0	
	1	Guarding/tense	2	
	2	Jumpy when touched; clutching of siderails; withdraws when touched	3	
	TOTAL			

Choose only one behavior per category

Pain Assessment in Advanced Dementia (PAINAD) Scale

Items*	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**	

*Five-item observational tool (see the description of each item below).

**Total scores range from 0 to 10 (based on a scale of 0 to 2 for five items), with a higher score indicating more severe pain (0="no pain" to 10="severe pain").

DN4 Questionnaire

PATIENT INTERVIEW

QUESTION 1: Does the pain have any of the following characteristics?

1 Burning
2 Painful sensation of cold
3 Electric shocks

QUESTION 2: Is the pain associated with any of the following symptoms in the same area?

4 Tingling
5 Pins and needles
6 Numbness
7 Itching

PATIENT EXAMINATION

QUESTION 3: Is the pain located in an area where examination reveals either of the following?

8 Hypoesthesia to touch
9 Hypoesthesia to prick

QUESTION 4: Is the pain provoked or increased by the following?

10 Brushing

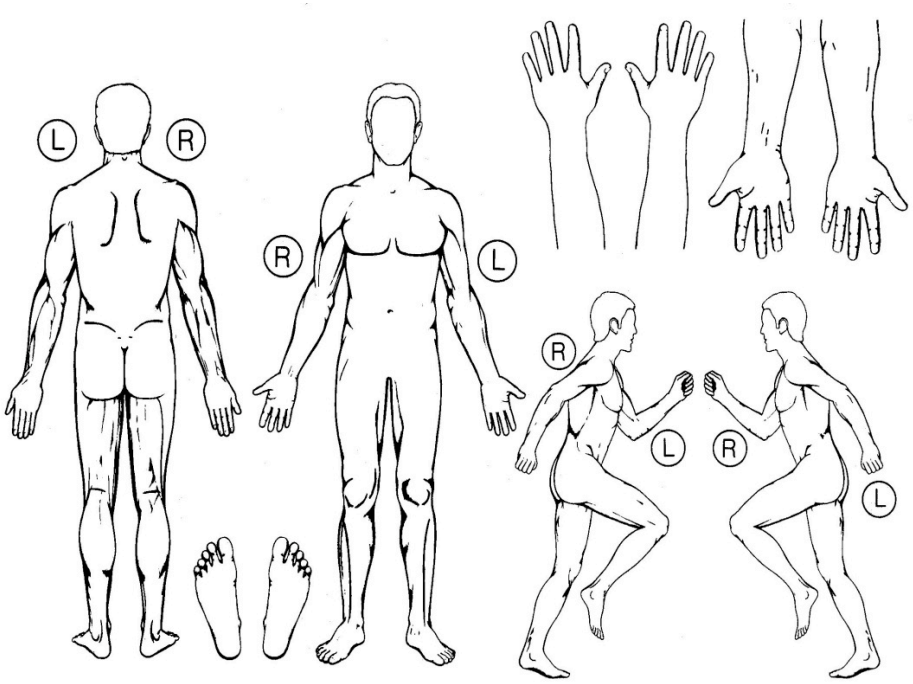
YES = 1 point **NO = Zero points** **Patient's score: /10**

Bouhassira D, et al. *Pain* 2005;114:29-36.

4/10 or greater is positive neuropathic pain

sensitivity 83% specificity 90%

Brief Pain Inventory-
Sample questions



On the diagram below, shade in the areas where you feel pain.
Put an "X" on the areas where it hurts the most.
(S=sharp/stabbing, B=burning, N=numbness, P=pins and needles, A=aching,

- Includes questions about their pain in the last 24 hours:
  - worst, least, average and right now
- What makes their pain worse or better?
- What treatments or medications are they currently receiving for your pain?

BPI – Sample Questions

- How much does pain interferes with:
  - General Activity
  - Mood
  - Walking Ability
  - Normal Work (includes both work outside the home and housework)
  - Relations with other people
  - Sleep
  - Enjoyment of Life

SBAR Pain

Providence HEALTH CARE

SBAR: PAIN PROFILE

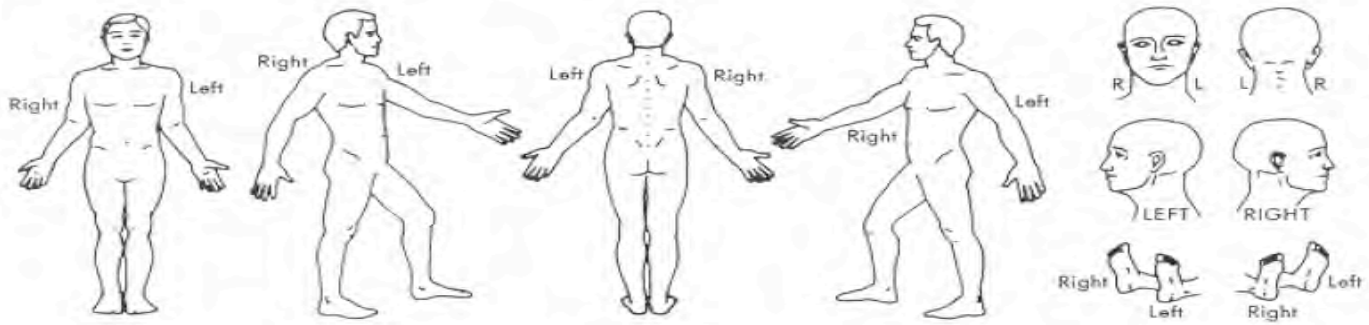
Date: _____

SITUATION:

PAIN ASSOCIATED DIAGNOSIS: _____

LOCATION OF PAIN: WHERE DOES IT HURT? (have the person point to spots of discomfort on their body)

Nurse to mark location of pain on drawings



BACKGROUND: (State briefly the person's pertinent medical history and recent changes/trauma)

IMPRESSION: Write down your impression of the kind of pain, underlying causes, and anything else you think is relevant.

_____

_____

_____

What has been tried in the past to relieve the pain?

Intervention	How did it work?

Providence HEALTH CARE

SBAR PAIN

SBAR: PAIN PROFILE

ASSESSMENT: (Use the person's own words)

Onset When did the pain start? _____

Pattern What makes the pain(s) better? _____ worse? _____

Quality How would you describe your pain(s)?
☐ Throbbing ☐ Shooting ☐ Numbness ☐ Stabbing ☐ Sharp ☐ Dull
☐ Aching ☐ Burning ☐ Pins and needles ☐ Grinding ☐ Other: _____

Radiating Does the pain(s) spread to other areas? _____

Severity How would you rate your pain(s), ☐ 0-10 scale ☐ 0-5 scale ☐ Descriptions ☐ Faces
_____

Timing Is the pain(s): ☐ Constant? ☐ Come and go? ☐ Only with movement?

Understanding What do you think causes the pain(s)? _____

Value What is your acceptable comfort level? _____

DOES YOUR PAIN(S) AFFECT YOUR: ☐ Sleep ☐ Appetite ☐ Activity ☐ Mood
☐ Other: _____

PAIN RELATED BEHAVIOURS: (Record family and staff observations)

Use the NOPPAIN assessment to record non-verbal behaviour indicating pain. If the person is cognitively impaired, this may be the only assessment information available.

_____
_____
_____

RECOMMENDATIONS:

PLAN: Include the plan you have ready to discuss:

_____
_____
_____
_____

Printed name: _____ Signature: _____

File with the Progress Notes. ***Update Interdisciplinary Care Plan with any new information***

Sedation Scale

::

0 **None** – Awake & Alert

1 **Mild** – Occasionally drowsy; easy to rouse

2 **Moderate** – Frequently drowsy; easy to rouse, falls asleep during conversation

3 **Severe** – Somnolent; difficult to rouse

S **Normal Sleep** – Note quality, depth and rate of respirations

Pasero Opioid-Induced Sedation Scale (POSS)[3]

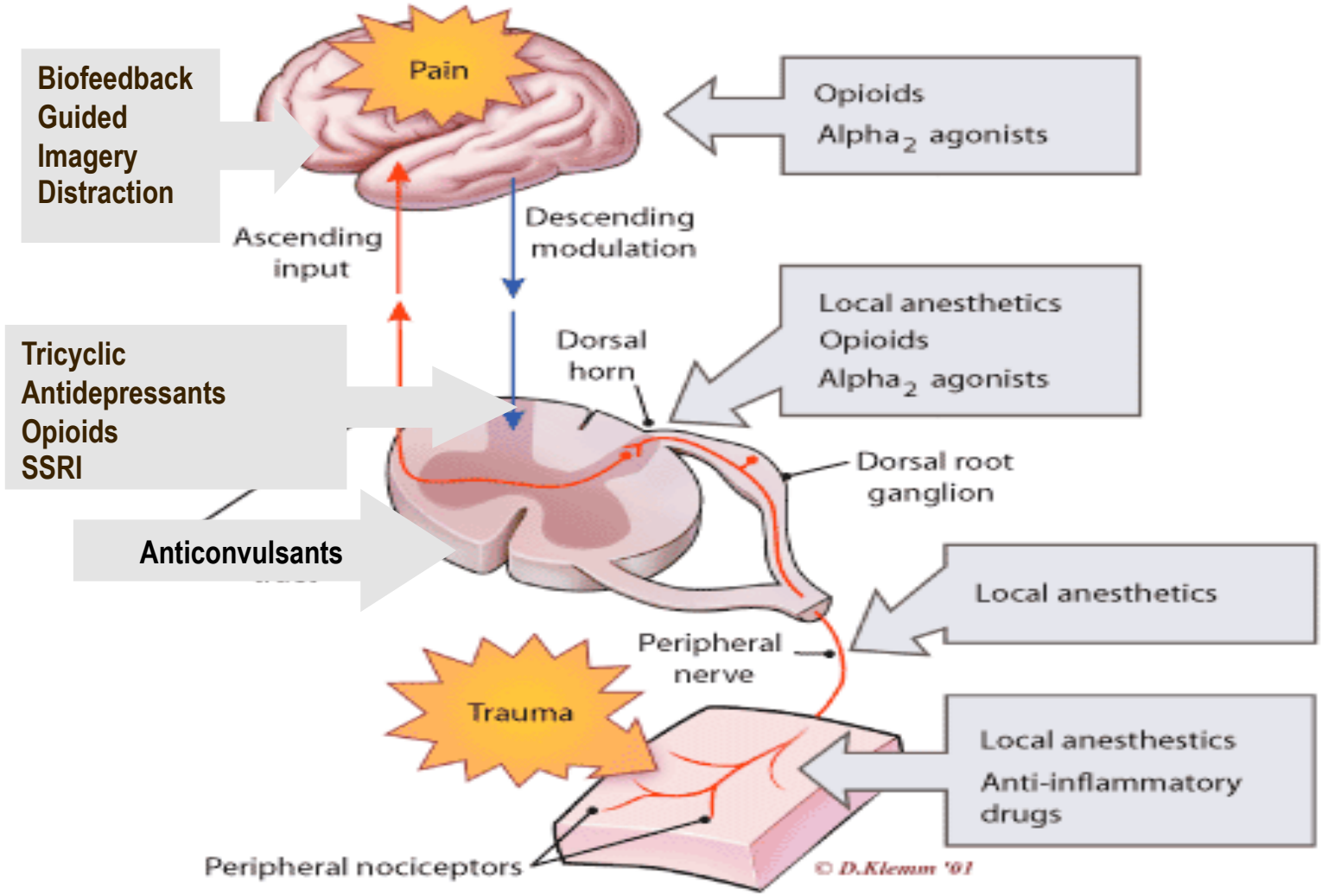
Meaning of Score

Sleep, easy to rouse **S**	**Acceptable**; no action necessary; may increase opioid dose if needed
Awake and alert **1**	**Acceptable**; no action necessary; may increase opioid dose if needed
Slightly drowsy, easily roused **2**	**Acceptable**; no action necessary; may increase opioid dose if needed
Frequently drowsy, rousable, drifts off to sleep during conversation **3**	**Unacceptable;** • Monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory • Notify prescriber or anesthesia, decrease opioid dose by 25% to 50% • Consider administering a non-sedating, non-opioid analgesic for pain i.e. acetaminophen or NSAID
Somnolent, minimal or no response to verbal and physical stimulation **4**	**Unacceptable;** • Stop opioid • Administer naloxone as per order • Notify prescriber or anesthesia STAT • **PROVIDE AIRWAY, BREATHING SUPPORT and Oxygen** • **Monitor respiratory status, sedation levels closely until sedation level is stable at less than 3 and respiratory status is satisfactory**

Functionality may be a better measure of the efficacy of pain medications than pain levels.

True or False?

Pain Pathway – Pain Management



http://www.pharmacology2000.com/Central/Opioids/postop_pain1.gif

MODIFIED

Nociceptive Pain Management

PHYSICAL

- Cold
- Splitting/casting/
- sling
- Elevation

- Rest – short term
- Time
- Massage
- Manipulation

PSYCHOLOGIC

- Distraction
- Relaxation

- Education – pain related surgical or procedural

- Pain Scales
- Patient's right to appropriate pain management

PHARMACOLOGIC

Nonopioids
- Acetaminophen
- NSAIDS/Cox2

Opioids

Adjuvants
- muscle relaxants for spasm
- antianxiety agents

- Gabapentin/Pregabalin – recent trials in postoperative pain
- Ketamine

INTERVENTIONAL

Surgery utilizing
- Spinal/Epidurals
- Local/opioids

- Local anesthetic – single bolus into operative area or continuous infusion

Multi-modal pain management

Chronic Pain Pharmacological Possibilities

::

Non-Opioids

- Acetaminophen
- NSAIDS;
- Coxibs

OPIOIDS

- Morphine
- Hydromorphone
- Oxycodone
- Methadone
- Fentanyl
- Tramadol
- Buprenorphine

Co-Analgesics

Antidepressants

- TCA
- SNRI
- SSRI

Anti-convulsants

- Gabapentin
- Pregabalin
- Topiramate
- Carbamazepine
- Lamotrigine

Muscle Relaxants

Topical Agents

Cannabinoids

- Nabilone
- Dronabinol
- Cannabidiol

+delta9 THC spray

Sleep Aids

- Melatonin
- Trazodone
- Tryptophan
- Zopiclone

Pain Clinic Additions:

- NMDA Antagonists
- Ketamine

Local Anesthetic

- Lidocaine

Chronic Pain Non-Pharmacological Possibilities

::

Physical

Physiotherapy

- Active
- Passive
- Stretching
- Conditioning

Aqua therapy

- TENS

Acupuncture

- Massage
- Manipulation
- Mirror

Box Therapy

- Graded Motor Imagery

Psychological

Mind/Body Techniques

- CBT
- Biofeedback
- Meditation
- Mindfulness Meditation
- Relaxation
- Hypnosis
- Distraction

- Education

- Self –Management

- Support Groups

Interventional

- Nerve Blocks
- Epidural Steroid Injection
- Trigger Point injection
- Intra articular injection
- Botox injection
- Radio Frequency Ablation
- Spinal Cord Stimulation
- Intrathecal medication pumps

Interdisciplinary Pain Clinics

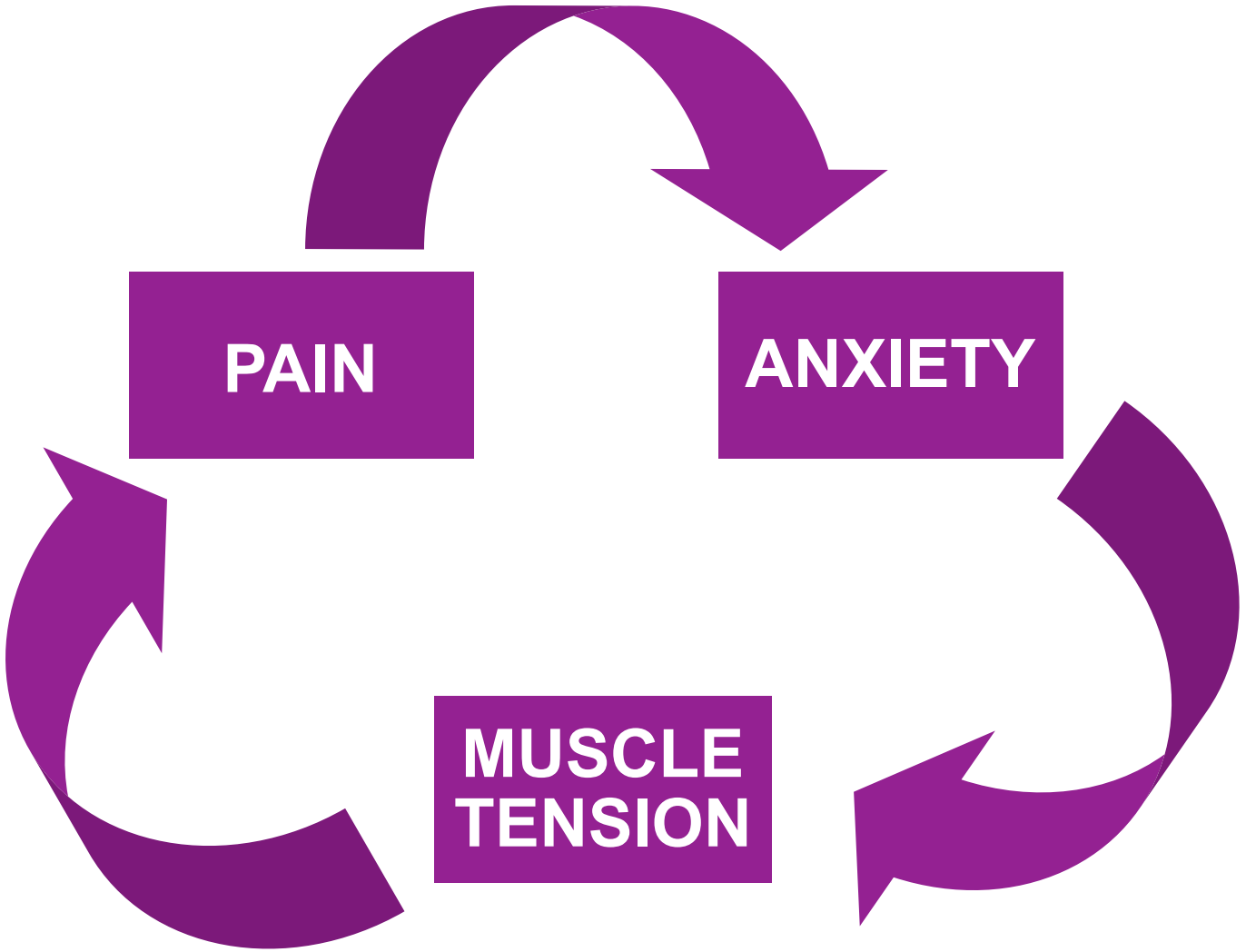
Type of Pain/guidelines for use of Non-opioids and adjuvants for pain care

Type of pain	Signs and symptoms	Commonly occurs in	Non-opioids/adjuvants	Adverse effects/other comments
Musculoskeletal pain -joint pain -muscle pain	Aching or throbbing and localized pain	Rheumatoid arthritis Osteoarthritis	Acetaminophen NSAIDS—short term use Cox-2 inhibitor	See handout
Bone pain	Deep aching pain	Osteoporosis	Calcitonin Bisphosphonates Calcium, Vit D	See handout
Neuropathic pain	Sharp, shooting, burning, stabbing pain, knife like lacinating	Phantom limb pain,M S, Post herpetic neuralgia, radicular pain eg sciatic	Anticonvulsants, Tricyclic antidepressants, Capsaicin cream, Neuroleptics (eg Nozinan)	See handout
Muscle spasm pain	Throbbing, aching and spasm pain	Arthritis, MS	Baclofen-begin low and titrate NB positioning out of spasm	See handount

Why patient self-management strategies for pain help with coping with pain?

- Self management strategies
  - Decrease anxiety and muscle tension so that the patient feels more in control of managing their pain
  - Calm the excited nervous systems—both PNS and CNS by calming the neurons (nerve cells) firing the pain signals, so next generation of neurons are calmer

Cycle of Pain



Understanding Pain: What to do about it in less than 5 minutes

- http://www.youtube.com/watch?v=4b8oB757DKc

Types of Pain Self Management Strategies

- Positioning/posture
- Exercise
- Heat/cold
- Deep breathing—Relaxation
- Distraction
- Music
- Stroking or tension releasing exercises
- Etc.

Exercise: using pain assessment tools and pain management strategies

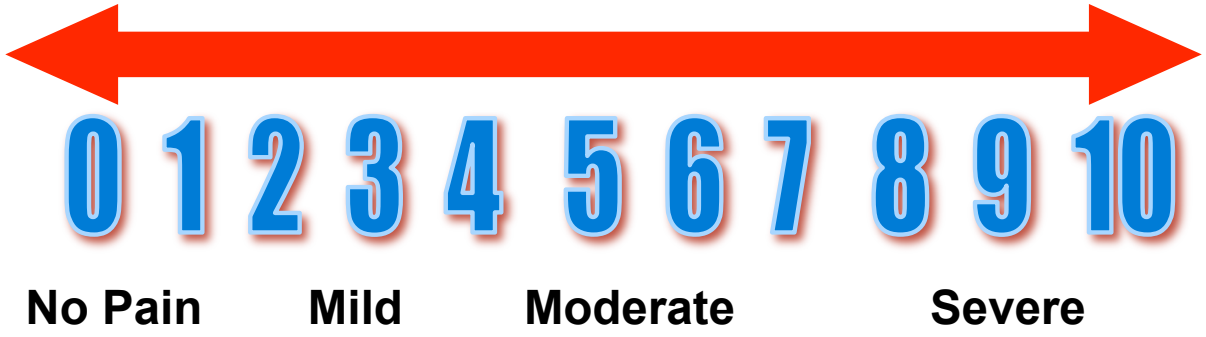
- Let's now get back to your pain!

- Place clothes peg back on your ear & reassess your pain
  - Rate how unpleasant the sensation is (0-10)
  - Rate your pain now (0-10)

- Now watch this 5 minute DVD clip

Pain Severity Tools

- Numeric Pain Scale



Rate your pain now (0-10)

Rate how unpleasant the sensation is (0-10)

Exercise: Pain assessment and management

- Now remove clothes peg and stroke area
  - Rate how unpleasant the sensation is (0-10)
  - Rate your pain now (0-10)
- Did you find stroking the area helped with the pain?

Resources

- **Pain BC website**

www.painbc

- **Apps**

http://itunes.apple.com/ca/app/pain-guide-pain-management/id385999172?mt=8

- **Canadian Pain Society website**
- **PainEDU.org**
- **Paintopic.org**
- **Pennsylvania School of Medicine – online Pain Course**

http://cme-online.med.upenn.edu/index.pl?id=452010

Resources

- **Clinician education resources:**
  - **Pain management pocket guide**
  - **Types of pain and Guidelines for the use of Non-opioids & Adjuvants for Pain Management**

- **Patient education resources:**
  - **Pain and ways to manage it-- patient education pamphlet**
  - **University of Victoria Chronic Disease Management—Chronic pain program --on Chronic Disease management websitehttp http://www.selfmanagementbc.ca/upcomingworkshops**
  - **People in Pain Network (PIPN) website http://www.pipain.com/**

Thank you

Questions?

Comments?

- Please complete the evaluation forms!