



Institute of  
Eminence

# Cancer Pain



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# Learning Objective

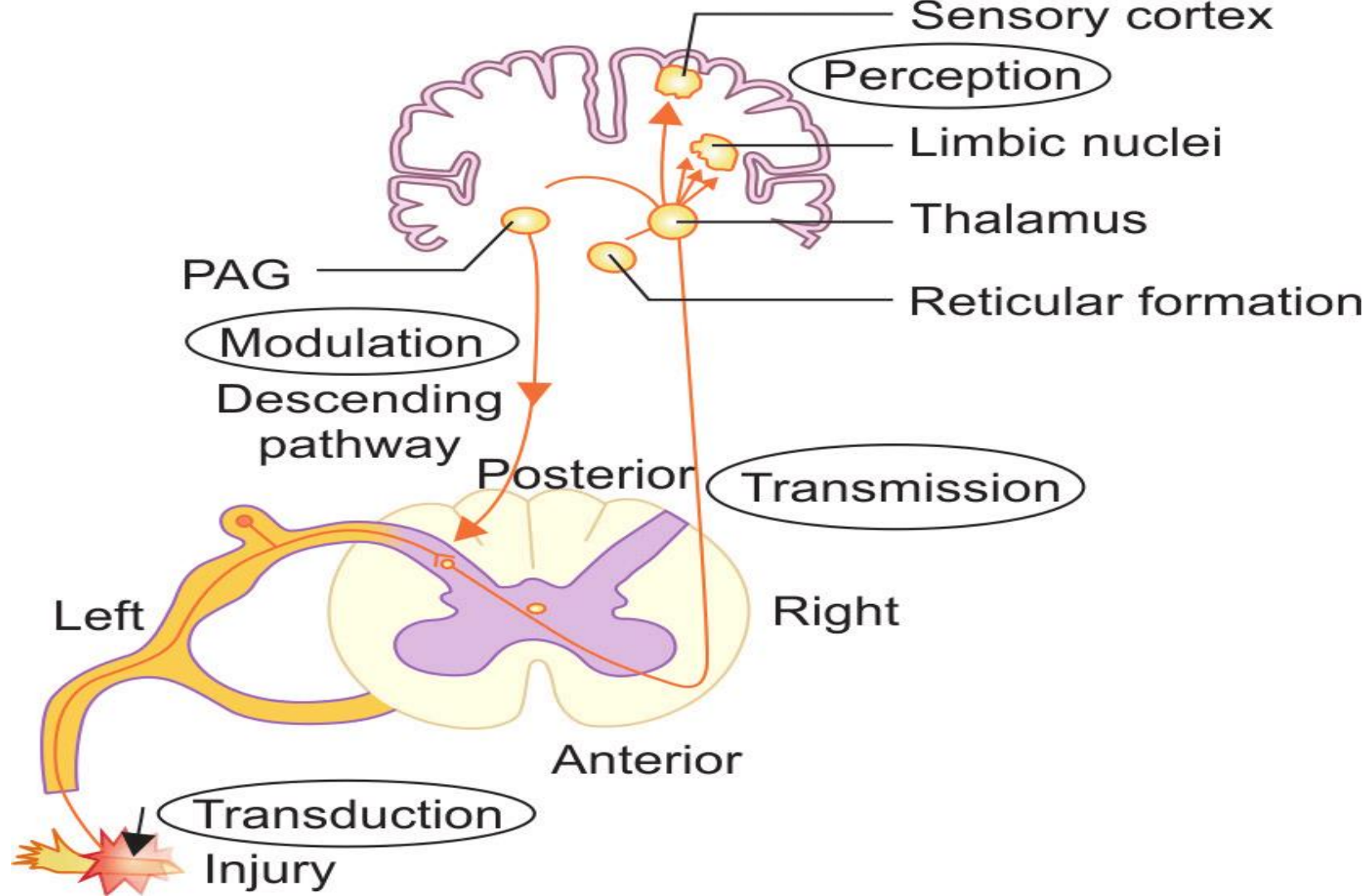
- What is Pain??
- What is “Total Pain”?
- Assessment of Pain, & History Taking
- WHO Analgesic ladder
- Opioids

# Case scenario

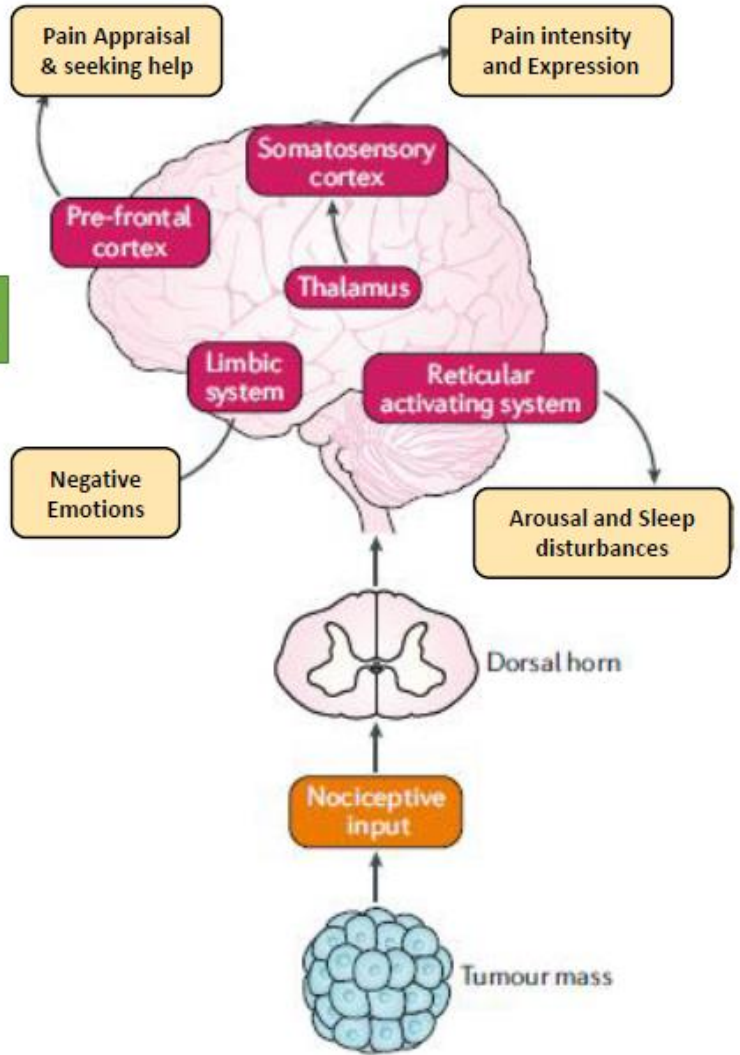
- 45 year lady with metastatic breast cancer
- Have undergone Surgery, CT
- Severe chest and back pain
- Unable to sleep
- Activity, cough etc increase her pain
- She has 15 and 12 years daughters
- Husband- school teacher
- Diclofenac and tramadol- little help

# What is 'Pain'?

- Keep this in mind
  - It is a **subjective experience**
  - So, it differs between persons
  - It differs with time and situation even in the same person
- Definition of Pain
  - By IASP *"An unpleasant **sensory and emotional experience** associated with, or resembling that associated with, actual or potential tissue damage,"*
  - By Robert Twycross *"Pain is **what the patient says hurts**" him or her*



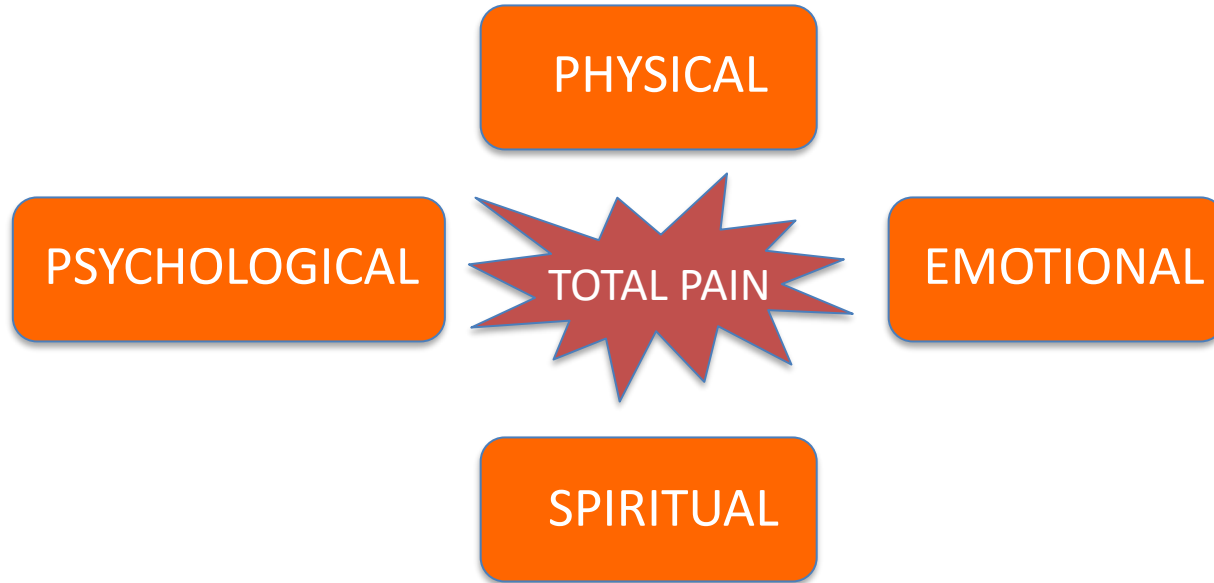
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Experience of Pain is the summative outcome of Somatosensory Cortex interactions with ...

- Frontal, Cingulate, insular cortices
- Limbic System
- Modulator/ inhibitory System

# Total Pain: how patients experience pain



# Identifying Bio-psycho-social factors influencing pain

- A 45 year old father of two young daughters
- Diagnosed to have carcinoma of lung with metastasis
- He is having lower back and right sided chest pain
- He is irritable, sad, anxious and unable to sleep
- He is worried about his two school going children
- He thinks that God is punishing him





# Identifying Bio-psycho-social factors influencing pain

Young man, father of the two young daughters → Emotional/ psychological Social

Diagnosis of cancer → Emotional/ psychological Biological

Pain over the chest and back → Biological

Irritability and anxiety → Emotional/ psychological

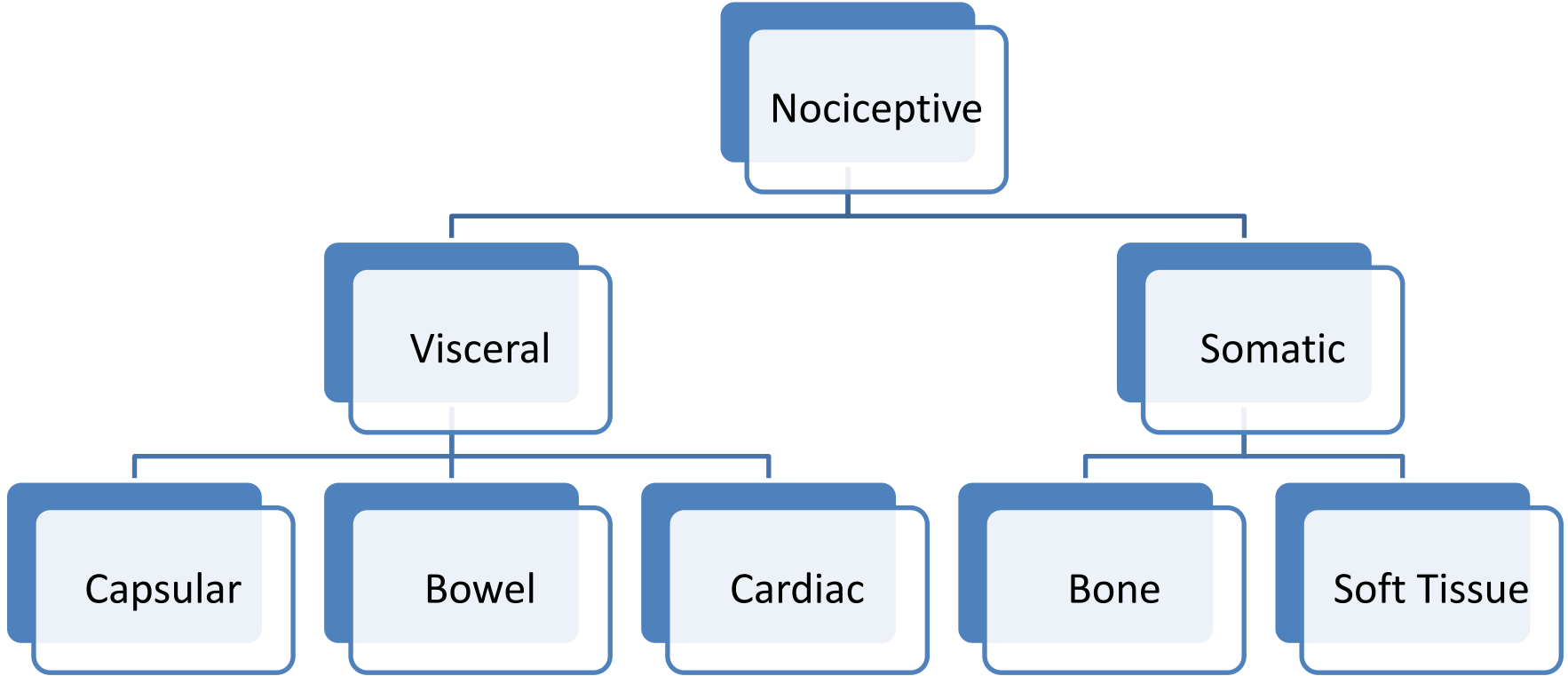
Worried about the future of the daughters → Emotional/ psychological Social

God is punishing him → Spiritual/existential

# Classification of Pain

Pain can be described by its:

- ***Duration*** – acute or chronic
- ***Mechanism*** – nociceptive or neuropathic
- ***Origin*** – somatic or visceral
- ***Situation*** – incidental pain, breakthrough pain, procedural pain



# Nociceptive pain: somatic pain

***Somatic pain:*** stimulation of nociceptors in the skin, soft tissues, muscle, or bone

- Pain usually is in a particular location
- Aching, throbbing, or persistent pain
- Causes: bone or soft tissue infiltration

# Nociceptive pain: visceral pain

***Visceral pain***: stimulation of nociceptors in internal organs and hollow viscera organs

- Pain is often not in a single location
- Described as **pressure, cramping, or squeezing pain**
- Causes: blockage, swelling, stretching, or inflammation of the organs from any cause

# Neuropathic pain

**Neuropathic pain:** caused by damage to nerve pathways

- Described as **burning, prickling, stinging, pins and needles, insects crawling under skin, numbness, hypersensitivity, shooting, or electric shock**
- Causes: infiltration by cancer, HIV infection, or herpes zoster, drug-related peripheral neuropathy, central nervous system injury, diabetes or surgery

## Features of neuropathic pain :

- Hyperalgesia : increased response to a normally painful stimuli
- Allodynia : a painful response to a stimuli like light touch that does not normally cause pain

# ASSESSMENT OF PAIN

# General guidelines for performing an assessment

- Establish a **trusting relationship** with the patient
  - Addressing the immediate need of the patient
  - Active listening
  - Empathetic touch
  - Non-judgemental attitude
- Starting with open questions and then moving on to more specific ones
- Encouraging the patient to do the talking and actively listening
- Look for verbal and non-verbal cues from the patient while performing assessment
- At the end, summarise your finding back to the patient



# Assessment of pain

<b>Site</b>	Where does it pain?
<b>Frequency</b>	Continuous or Intermittent If intermittent then, <ul style="list-style-type: none"><li>• How often in a day?</li><li>• How long does it last?</li></ul>
<b>Impact on activity</b>	Does it affect your work/activities of daily living? Does it affect your sleep?
<b>Medication history</b>	What drugs do you take for the pain? What is the route? How often do you take? Does it give you relief? How long does the relief last? Are there any side effects?

# Pain History OPQRST

<b>Onset</b>	<b>When did the pain start?</b>
<b>Provocative/Palliative factors</b>	<ul style="list-style-type: none"><li>• What makes the pain worse?</li><li>• What makes the pain better?</li></ul>
<b>Quality</b>	What exactly is it like? <ul style="list-style-type: none"><li>• Dull aching pain</li><li>• Sharp pain</li><li>• Burning pain</li><li>• Lancing pain, etc</li></ul>
<b>Radiation</b>	Does it spread anywhere?
<b>Severity</b>	How severe it is? <ul style="list-style-type: none"><li>• Mild</li><li>• Moderate</li><li>• Severe</li></ul> OR apply numerical rating scale (NRS)
<b>Temporal factors</b>	Does it come and go? Is it worse at any particular time of the day or the night?

# Assessment of 'Pain'

- Site of pain
- Onset of pain
- Characteristics of pain
- Radiation of pain
- Associated symptoms
- Timing of pain
- Exacerbating/Alleviating factors of pain
- Severity of pain

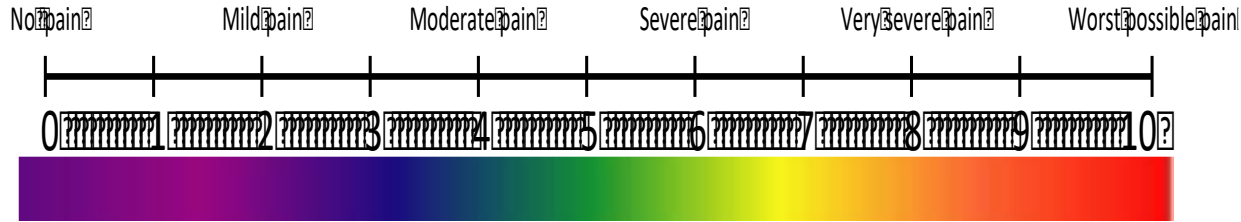
# Assessing the severity of pain

- **Self-report** of pain is the **best report**
- No one can exactly grade the intensity of pain like the person experiencing the pain.

## **Pain scales**

- **Numerical rating scale**
- **Wong-Bakers FACES Pain rating scale**
- **Categorical scale**
  - Mild pain
  - Moderate pain
  - Severe pain

# Numeric pain rating scale



- Pain levels from 0-10 can be explained verbally to the patient using a scale in which 0 is no pain and 10 is the worst possible pain imaginable
- Patients are asked to rate their pain from 0 to 10
- Record the pain level to make treatment decisions, follow-up, and compare between examinations

# How to assess pain in children

Age	Scale
Neonates	CRIES scale
2month-3years	FLACC scale
3-6 years	Faces Pain Scale
>7 years	NRS/VAS scale

# FLACC scale

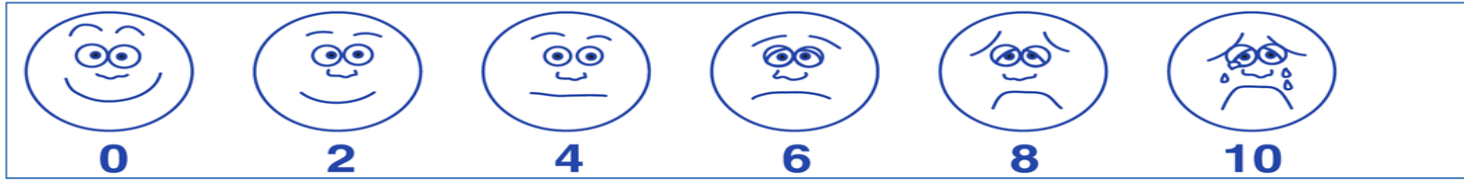
- Use in children less than 3 years of age or older children who can't talk

CATEGORIES	SCORING		
	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting, back and forth, tense	Arched, rigid or jerking
Cry	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging or being talked to, distractible	Difficult to console or comfort

Each of the five categories: **(F)** Face; **(L)** Legs; **(A)** Activity; **(C)** Cry; **(C)** Consolability, is scored from 0–2 which results in a total score between 0 and 10 (*Merkel et al. 1997*)

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# Wong-Baker FACES scale



- Use in children who can talk (usually 3 years and older)
- Explain to the child that each face is for a person who feels happy because he has no pain, or a little sad because he has a little pain, or very sad because he has a lot of pain
- Ask the child to pick one face that best describes his or her current pain intensity
- Record the number of the pain level that the child reports to make treatment decisions, follow-up, and compare between examinations



Why Cancer Pain??

# Do all cancer patients have pain ?

- Pain is 1<sup>st</sup> symptom in 20-50% of all cancer patients.
- Moderate to severe pain experienced by 40% to 50% of cancer patients.
- Very severe pain experienced by 25% to 30% of cancer patients .
- 75-90% of terminal stage cancer experience moderate to severe pain.

# Pain is related to the type of cancer

- Head and neck (67–91%)
- Prostate (56–94%)
- Uterine (30–90%)
- Genitourinary (58–90%)
- Breast (40–89%)
- Pancreatic (72–85%)

Valeberg BT, Rustoen T, Bjordal K, Hanestad BR, Paul S, Miaskowski C. Self-reported prevalence, etiology, and characteristics of pain in oncology outpatients. *Eur J Pain* 2008;12:582–90.

# Cause of cancer pain

- The cancer itself 65-75%
- The treatment of cancer 15-20%
- Unrelated to the cancer 3-10%
- The debility of cancer

# Cause of cancer pain

- The cancer itself 65-75%
  - Tumor involvement of bone
  - Tumor involvement of nervous tissue
  - Tumor involvement of viscera
  - Tumor involvement of blood vessels

# **Distribution of pain Characteristics in cancer patients**

	N=118	
Somatic	16	13.6%
Neuropathic	30	25.4%
Visceral	20	16.9%
Mixed	52	44.1%

Paice et al., J. Pain Sympt. Sept 97

## Number of pain sites reported by 100 cancer patients

One site	20%
Two sites	30%
Three sites	18%
Four sites	16%
Five sites	8%
Six sites	2%
Seven sites	4%
Eight sites	2%

# Tools

- **Drugs**
- **Interventions**

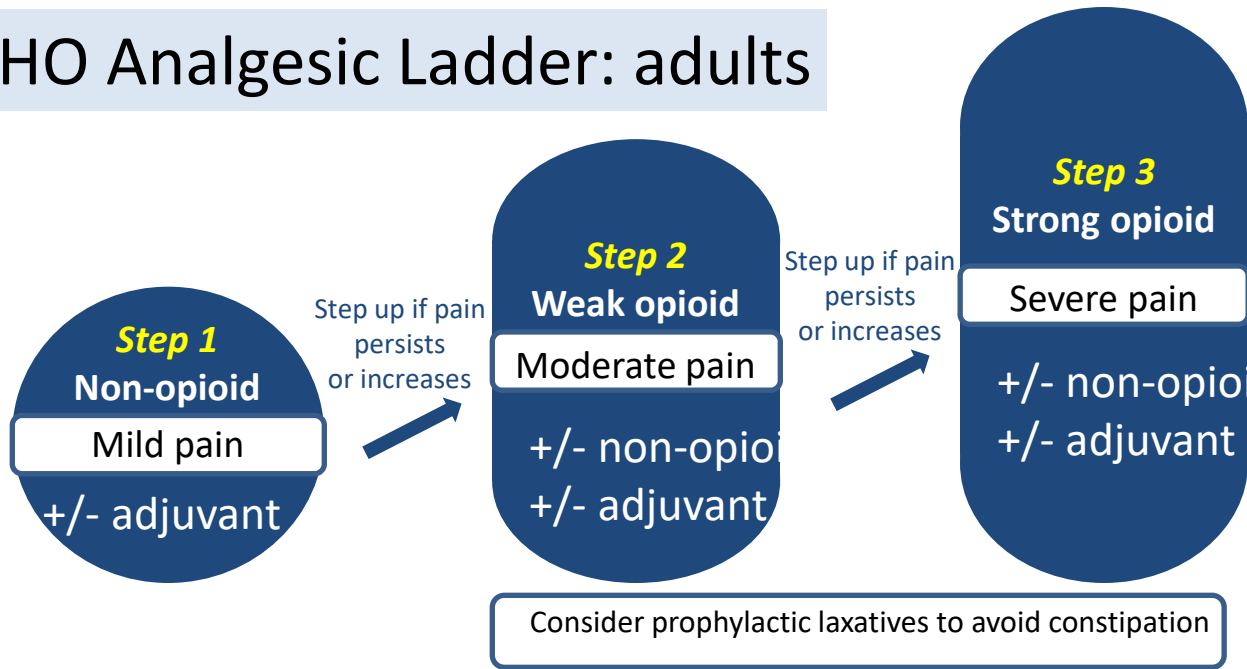




# Principles of pain management

- Aim is prompt treatment of pain and to prevent its recurrence
- Achieve realistic goal of pain relief
- ***By the mouth***
- ***By the clock***
- ***By the ladder***
- ***By the individual***
- ***Adjuvant drugs***

# WHO Analgesic Ladder: adults



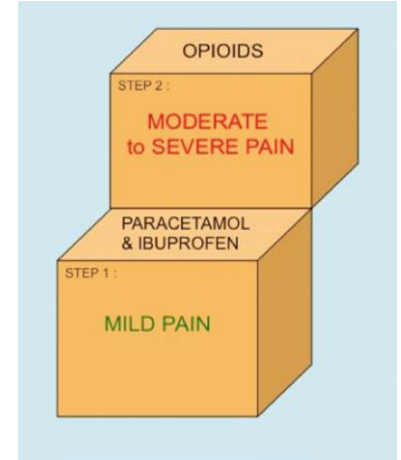
<i>Non-opioids</i>	ibuprofen or other NSAID, paracetamol (acetaminophen), or aspirin
<i>Weak opioids</i>	codeine, tramadol, or tapentadol
<i>Strong opioids</i>	morphine, fentanyl, oxycodone, hydromorphone, buprenorphine
<i>Adjuvants</i>	antidepressant, anticonvulsant, antispasmodic, muscle relaxant, bisphosphonate, or corticosteroid

Combining an opioid and non-opioid is effective, but do not combine drugs of the same class.

Time doses based on drug half-life (“dose by the clock”); do not wait for pain to recur

# The Two Step Ladder

- Step 1: Mild Pain
  - Acetaminophen
  - Ibuprofen
- Step 2: Moderate to Severe Pain
  - Morphine (Strong Opioid)
- Avoid weak Opioids (Tramadol, Codeine)
  - Lack of evidence and concerns about safety in children
- Avoid Pethidine: due to CNS toxicity



# Step 1 – mild pain: non-opioids

## *Paracetamol*

- Adult dose: 500mg-1g by mouth every 6 hours; maximum daily dose 4g
- Note: Hepatotoxicity can occur if more than the maximum dose is given per day
- Paracetamol can be combined with NSAID

# Step 1 – mild pain: non-opioids

## ***Ibuprofen (NSAID)***

- Adult dose: 400mg by mouth every 6-8 hours; maximum daily dose 1.2g
- Give with food and avoid in asthmatic patients
- The maximum dosing limit should be lowered in patients with liver impairment

# Step 1 – mild pain: non-opioids

## ***Diclofenac (NSAID)***

- Adult dose: 50mg by mouth every 8 hours; maximum daily dose 150mg
- Give with food and avoid in asthmatic patients

# Cautions with NSAIDs

NSAIDs can cause serious side effects, particularly after using for a longer period

- Gastro-intestinal (GI) bleeding or renal toxicity
  - Always add H2 blocker or PPI when prescribing NSAIDs
- Avoid in patients with renal impairment, Heart failure

## Step 2: Opioids

Codeine

Tramadol

Tapentadol

Methadone

Morphine

Oxycodone

Fentanyl

Hydrocodone

Hydormorphone

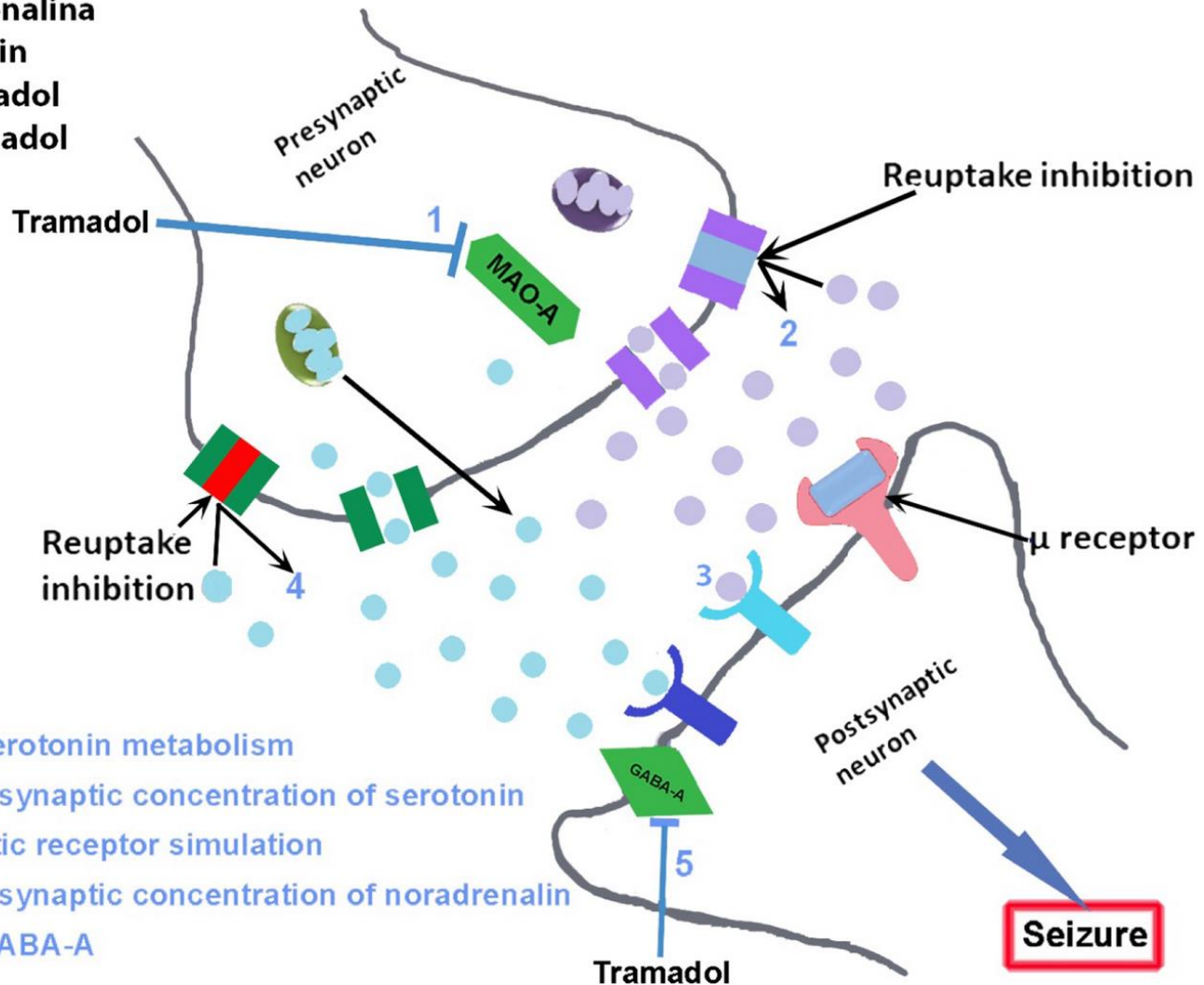


# Step 2 – moderate pain: weak opioids

## *Tramadol*

- Adult dose: 50-100mg by mouth every 4-6 hours
- Start with a regular dose and increase if no response (dose limit: 400mg/day)
- Use with caution in epileptic cases, especially if patient is taking other drugs that lower the seizure threshold
- May cause serotonin syndrome in patients on other serotonergic medications

- Noradrenalina
- Serotonin
- (-) Tramadol
- (+) Tramadol



1. Inhibited serotonin metabolism
2. Increasing synaptic concentration of serotonin
3. Postsynaptic receptor stimulation
4. Increasing synaptic concentration of noradrenalin
5. Inhibited GABA-A

**Seizure**

# Step 2 – moderate pain: weak opioids

## *Low-dose morphine*

- Some palliative care experts recommend using low-dose morphine in step 2 because it is associated with fewer side effects compared to other weak opioids

# Step 3 – severe pain: strong opioids

## *Morphine*

- “Gold standard” against which other opioid analgesics are measured
- When used correctly, patients don’t become dependent or addicted, tolerance is uncommon, and respiratory depression doesn’t usually occur

# Pharmacology

- Morphine is the principle medical alkaloid derived from the poppy plant
- Pure agonist, acts on the opioid receptors in the CNS (brain and spinal cord)
- Oral preparation is only 1/3 bioavailable
- Metabolized mainly in the liver into morphine-3-glucuronide (M3G) and morphine-6-glucuronide (M6G) which are excreted in the urine.

# Pharmacology

- M3G does not have a role in analgesia
- M6G has analgesic action and more potent than morphine; hence caution in prescribing to those with renal dysfunction
- Route of choice : oral- simple, effective, convenient
- Other route: SC, IV, IM, rectal, subarachnoid, epidural, topical

# What Opioid Analgesic to Use?

- Pharmacokinetics
- Patient co-morbidities (Kidney and liver Disease)
- Intensity of pain
- Previous experience with opioid analgesics
  - Considerable inter-individual variability in response to each opioid
  - Adverse events
- Etiology of pain
  - Nociceptive
  - Neuropathic
  - Opioid Induced Hyperalgesia
- Total daily dose of pain medications

# OPIOID NAÏVE AND OPIOID TOLERANT

***Opioid tolerant:*** patients who are taking, for 1 week or longer, at least:

- 60 mg oral morphine/day;
- 25 µg transdermal fentanyl/hour;
- 30 mg oral oxycodone/day;
- 8 mg oral hydromorphone/day;
- 20 mg oral methadone/day;
- 10 mg IM methadone/day;
- 25 mg oral oxymorphone/day; or
- An equianalgesic dose of any other opioid.



# OPIOID NAIVE

- Patients who do not meet the above definition of opioid tolerant, and who have not taken opioid doses at least as much as those listed above for 1 week or longer.

# OPIOIDS

- Mainstay of Cancer Pain management.
- Effective in treating > 85% cancer pain
  - Right Opioid
  - Right Dose
  - Right Route
  - Right Frequency ( Around –the – clock)
- **Limiting factors:**
  - Side effects
  - Availability
  - Tolerance, addiction
  - Not effective in few conditions.

# Short Acting Opioids

## Oral dosing:

- onset in 20-30 min
- peak effect in 60-90 minutes
- duration of effect 3-4 hours
- Can be dose escalated or re-administered every 2-4 hours for poorly controlled pain
- General guideline:
  - Moderate pain: increase 25-50%
  - Severe pain: increase by 50-100%

# Short Acting Opioids

## Parenteral or Oral:

- morphine
- hydromorphone (Dilaudid<sup>®</sup>)
- Codeine
  
- Onset & duration of action depends on route administration

## Oral only:

- oxycodone (Percocet<sup>®</sup> , Tylox<sup>®</sup> )
- hydrocodone (Vicodin<sup>®</sup> Lortab<sup>®</sup> , Lorcet<sup>®</sup> )
- propoxyphene (Darvon<sup>®</sup> , Wygesic<sup>®</sup> )
  
- Note: hydrocodone is only available as a combination product.

# Long Acting Opioids

- Oral
  - morphine:
    - MS Contin<sup>®</sup>
    - Kadian<sup>®</sup>
    - Oramorph SR
  - oxycodone
    - Oxycontin<sup>®</sup>
    - Oxycodone SR
  - oxymorphone
    - Opana SR
  - methadone
- Transdermal
  - Fentanyl Patch (Duragesic<sup>®</sup>) –
  - Dosing Q 72 hours

## When prescribing/initiating morphine

- Start with 5-10mg PO 4<sup>th</sup> hourly
- 6am -- -- 10am -- -- 2pm ----- 6pm ----- 10pm
- Provide for breakthrough pain - same as 4<sup>th</sup> hourly dose between the regular dose
- 4<sup>th</sup> hourly dose to be increased by 50% every 24 hours till pain relief is adequate or increase in dosage can be made depending upon the number of rescue doses of morphine needed
- There is no standard dose of oral morphine
- Always prescribe a laxative to prevent constipation
- Prescribe for nausea and vomiting for the initial 3-5 days as a preventive measure
- Never start on sustained release preparation of morphine

# Oral Morphine Initiation

- Assessment every 24-48 hours or 5-7 days
- Encourage breakthrough pain dose if needed
- Maintain Morphine diary for 24 hours Morphine requirement
- Once stable IR Morphine dose attained, change to SR Morphine

## Goal of Pain Management

**Titrate dose until adequate pain control is achieved or intolerable adverse effects manifest**



# Prescribing sustained release tablet

- Given only after stabilizing on immediate release tablets
- Effective daily dose of IR tablets is calculated
- Half this dose is given as BD
- Example morphine 10mg 4<sup>th</sup> hourly = 60mg in 24 hrs
- Sustained release (SR) tablet : 30 mg BD

# Situation

- ***Incident pain*** – occurs only in certain circumstances (e.g. after a particular movement)
- ***Breakthrough pain*** – a sudden, temporary flare of severe pain that occurs on a background of otherwise controlled pain
- ***Procedural pain*** – related to procedures or interventions

## Management of incident pain with examples

1. Oral morphine 20-30 mins prior to wound dressing
2. NSAID taken prior to movement, when appropriate
3. Inj. Ketamine (0.25-0.5mg/kg) taken 10-15 minutes prior to procedure

## Common side effects of oral morphine

1. **Opioid induced constipation** : stimulant laxative eg. Bisacodyl or stool softener like docusate
2. **Opioid induced nausea & vomiting** : Haloperidol or Metoclopramide
3. **Opioid induced pruritus** : antihistaminics

# Warning signs of morphine toxicity

Over drowsiness, hallucination, confusion

Over drowsiness occurs when morphine is prescribed for a less severe pain or a pain non-responsive to morphine

If toxicity occurs, reduce the dose

The patient may need to miss several doses

## Indication of Naloxone

1. RR less than 8 breath/min, difficulty to rouse and clinically cyanosed

or

respiratory rate less than 10-12 breath/min, difficulty to rouse and SpO<sub>2</sub> <90%

## **Treatment**

Dilute Naloxone 0.4mg in 10ml of 0.9% NS.

Administer 0.5ml IV every 2 minutes until respiratory status improves satisfactorily

## **Opioid induced hallucination or delirium**

Reduce dose of opioid, consider adding haloperidol 2.5-5mg HS

## **Opioid induced Myoclonus**

Modifying drug regimen and parenteral rehydration where appropriate

Treatment : Clonazepam 1-2mg/24hrs

## Type of pain where oral morphine may not be effective and adjuvants analgesics need to be given

Type of pain	Management
Muscular Pain	Muscle Relaxant/ Trigger Point Injections (TPI)
Colicky Pain	Antispasmodics
Bone Pain	Opioids + NSAID +- Corticosteroids
Pain due to constipation	Laxatives
Neuropathic Pain	Neuropathic Pain medications
Cutaneous hyperalgesia	Topical agents

## Alternative opioid to morphine

Rarely when patients develop intolerable side effects such as nausea, itching, confusion, myoclonic jerks, bronchospasm etc an alternative opioid might be of help

### Fentanyl –transdermal patch (tdp)

Indication :

1. Dysphagia
2. Intolerable side effects of oral morphine
3. Renal failure
4. Tablet phobia/ poor compliance



## Fentanyl –transdermal patch (tdp) contt..

Fentanyl is a selective mu receptor agonist

Its available as 72 hr tdp preparation eg. 12.5,25,50,75 or 100 mcg/hr over 3 days

Peak plasma concentration are achieved after 12 hrs and a depot remains in the skin for about 24hrs after the patch is removed

Breakthrough doses of opioid will be necessary during the first 12-24 hrs of application

Those on fentanyl patch may require oral morphine on a sos basis

# Fentanyl –transdermal patch

- Patches has to be used on dry non-inflamed, non-irradiated and intact skin
- Rate of absorption may change in the presence of fever, external heat or following a hot water bath
- A reduction in the dosage of laxative may be necessary when converting from morphine to fentanyl as the later causes less constipation
- One in ten patient who had pain controlled by morphine may experience a withdrawal reaction when converted to fentanyl



# Conversion rules

## Codeine and tramadol to oral morphine

Conversion factor is 10

Eg. A patient who is on codeine tablet of 40mg 4 hourly gets a total dose of 240 mg/24 hrs

To convert this to morphine :  $\frac{\text{Total codeine dose in 24hrs}}{10} = \frac{240}{10} = 24 \text{ mg}$

This gives a dose as 5mg 4<sup>th</sup> hourly

Similarly for tramadol also

## Oral morphine to fentanyl patch

**RULE OF THUMB =  $\frac{\text{total 24hour morphine dose}}{3}$**

Step 1 : calculate 24 hours dose eg A

Step 2 : As fentanyl is 100 times potent so  $\frac{\text{total 24 hrs dose}}{100} = \text{dose of fentanyl in 24 hrs} = A/100$

Step 3 : Hourly dose of fentanyl =  $\frac{A/100}{24} = A/2400$  in mg =  $A*1000/2400$  in mcg

Eg 24 hrs morphine dose = A = 60mg = 60000mcg

Fentanyl Patch for this patient will be =  $60000/24*100 = 25$  mcg patch

THUMB RULE 60/3 – 20 , so nearest patch will be 25mcg

# Opiod Equianalgesic Dose

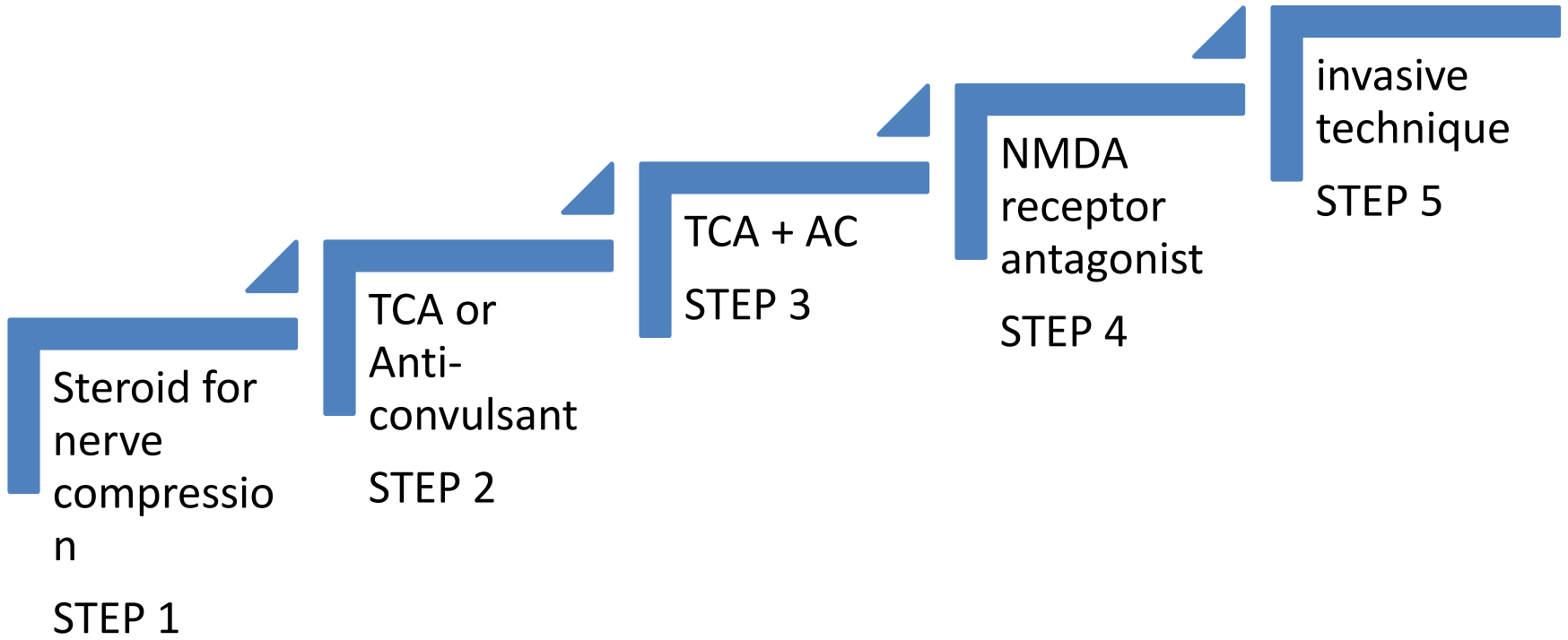
Drug	Equianalgesic parenteral dose	Starting iv dose	iv:po ratio	Starting dose po /transdermal	Duration of Action
Morphine	10 mg	Bolus dose=0.05-0.1 mg q 2-4 hours Continuous infusion=0.01-0.04 mg/kg/hr	1:2 to 1:3	0.15-0.3 mg/kg/dose q 4 hours	3-4 hours
Hydromorphone	1.5 mg	0.015-0.02 mg/kg q 4	1:5	0.06 mg/kg q 3 to 4 hours	2-4 hours
Oxycodone	5-10 mg	N/A		0.1-0.2 mg/kg q 3 to 4	3-4 hours
Fentanyl	100mcg	1 to 2 mcg/kg/hr as continuous infusion		25 mcg patch	72 hours
Methadone	1 mg	0.1 mg/kg q 4 to 8 hours	1:2	0.2 mg/kg q 4 to 8 hours	12 to 150 hours

# Neuropathic Pain in Cancer

- Antidepressant: TCA (Amitryptiline)  
SNRI (Duloxetine, Venlafaxine)
- Anticonvulsant: Gabapentin, Pregabalin
- Topicals: 5% Lidocaine, Capsaicin
- Opioids- Tramadol, Morphine
- NMDA Antagonists- Ketamine, Dextramethorphan

## Treatment of Neuropathic Pain

In neuropathic pain due to cancer , try opioid first



## Adjuvant analgesics

Cancer related bone pain – bisphosphonates

Skeletal muscle spasm – skeletal muscle relaxants

Smooth muscle spasm – antispasmodic

Cancer related edema – corticosteroid

Others

Peripheral sensitization – corticosteroids

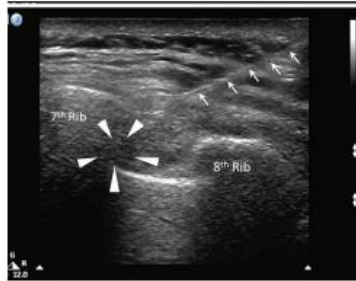
Ectopic foci caused by nerve damage – anti-epileptics

Central sensitization – NMDA receptor channel blockers, some anti-epileptics

Altered descending pain modulation – anti depressants

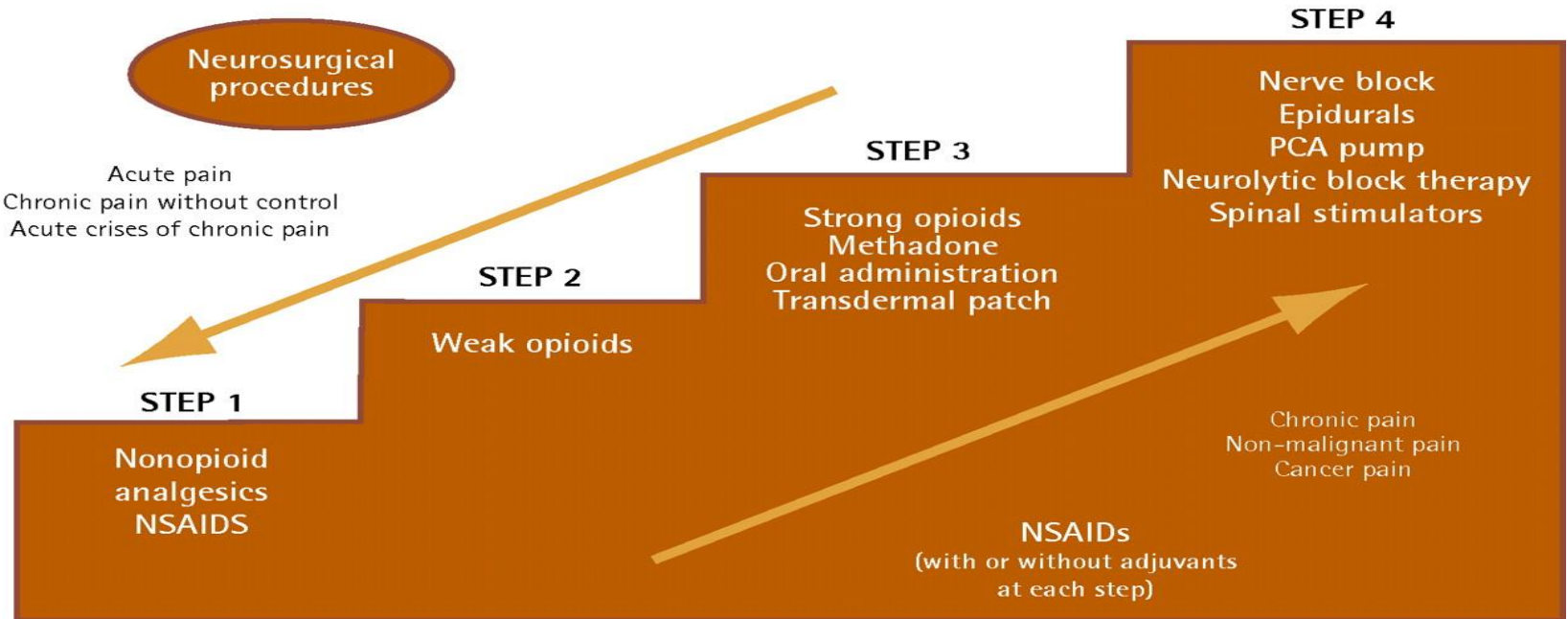


# Interventional Pain Treatment



# Adapted WHO pain ladder.

Figure 2. New adaptation of the analgesic ladder



# Modified WHO Analgesic Ladder

Proposed 4<sup>th</sup> Step



Quality of Life  
Invasive treatments  
Opioid Delivery

Pain persisting or increasing

Step 3  
Opioid for moderate to severe pain  
±Nonopioid ±Adjuvant

Pain persisting or increasing

Step 2  
Opioid for mild to moderate pain  
±Nonopioid ±Adjuvant

Pain persisting or increasing

Step 1  
±Nonopioid  
±Adjuvant

Pain

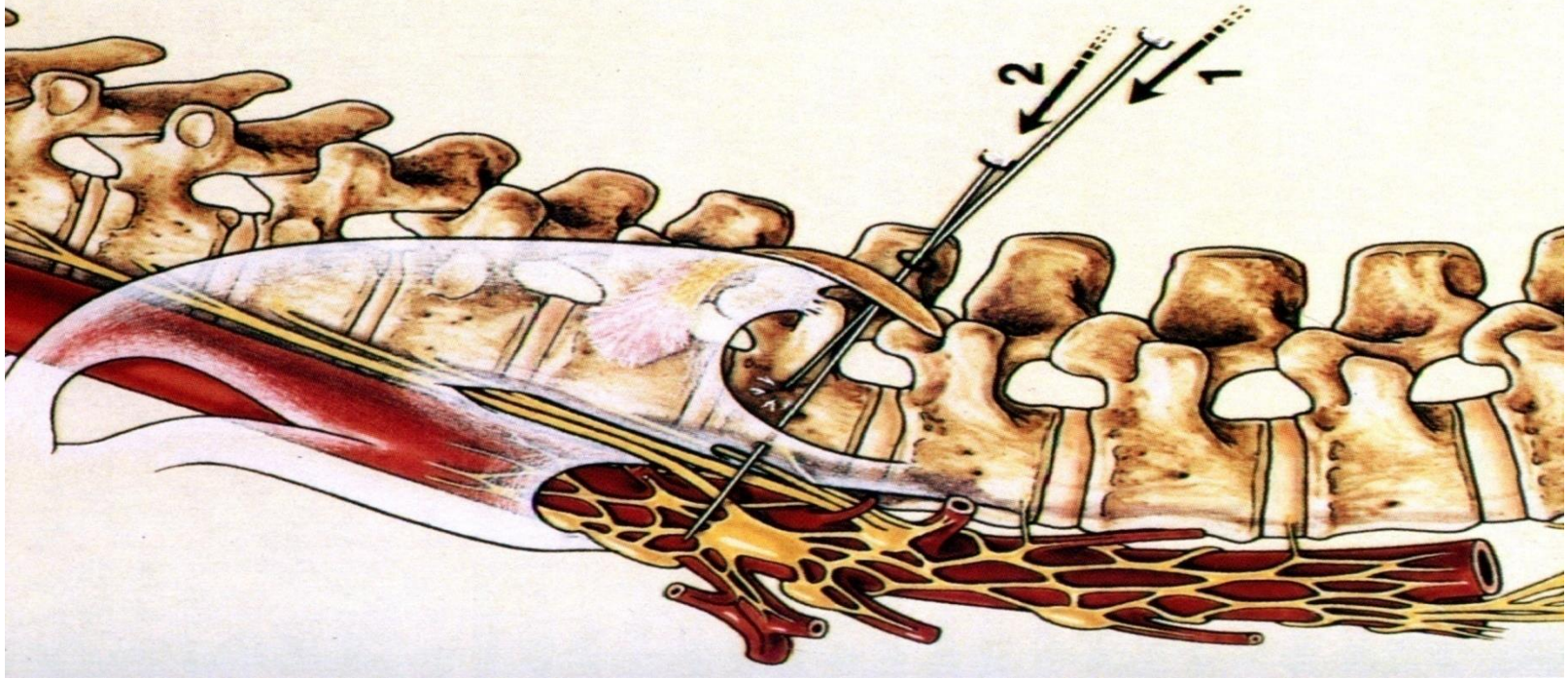
The WHO  
Ladder



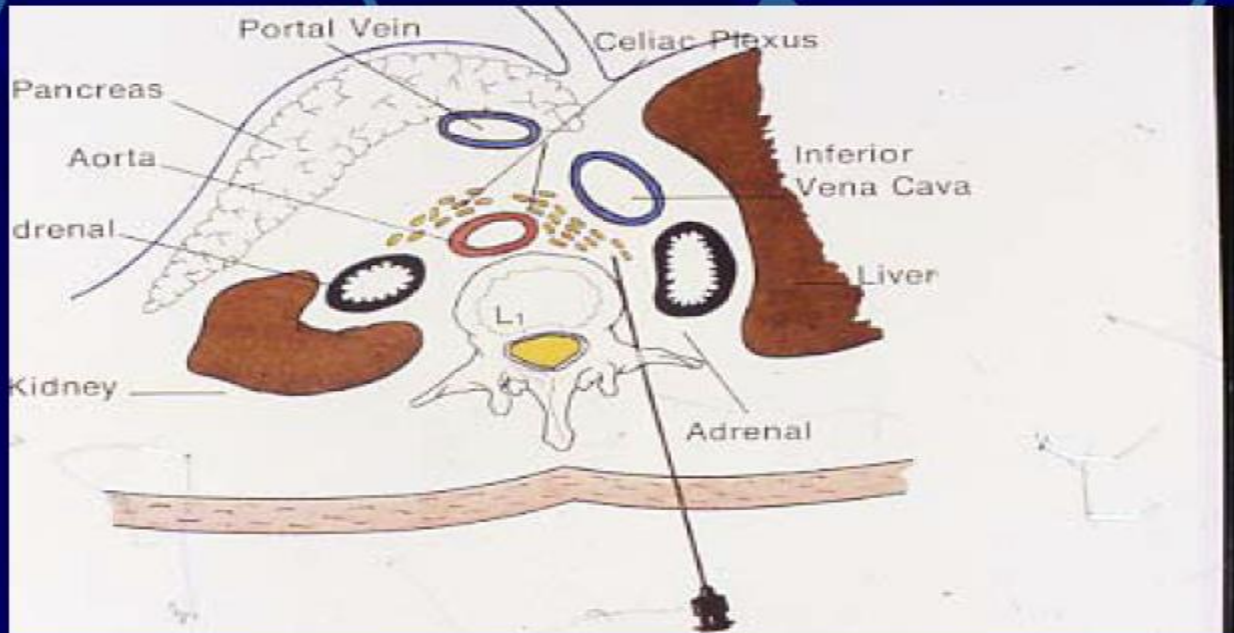
## Invasive therapies for cancer pain

- Peripheral and sympathetic nerve blocks: steroids, alcohol/phenol, RF ablation, cryoanalgesia
- Neuraxial delivery: epidural and intrathecal analgesia
- Vertebroplasty and kyphoplasty
- Spinal cord and peripheral nerve stimulation
- Cordotomy

# Celiac Plexus



# Anatomical location of Celiac Plexus



# AP and Lateral view of Celiac Plexus Block

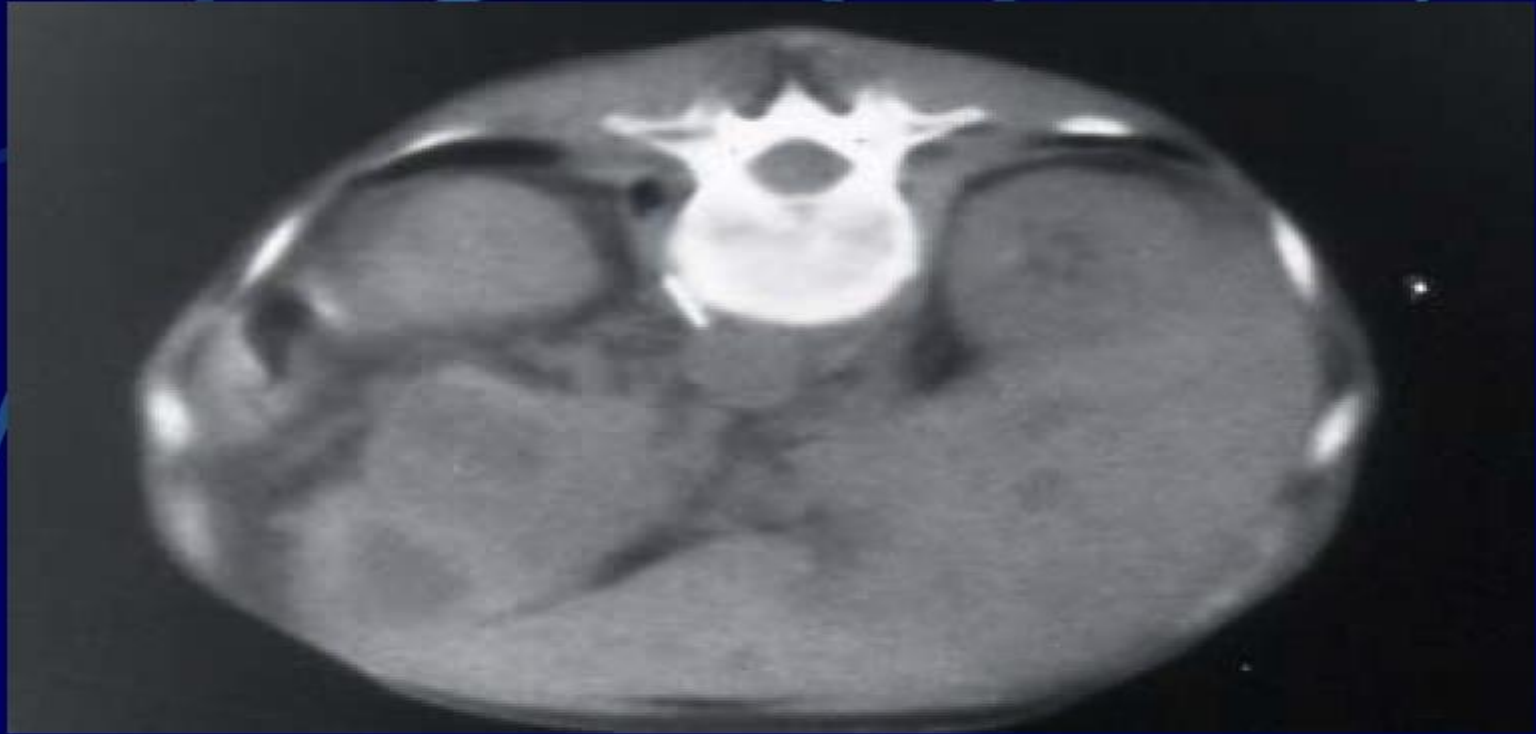


# CT Guided Posterior Approach





# CT Guided Retrocrural

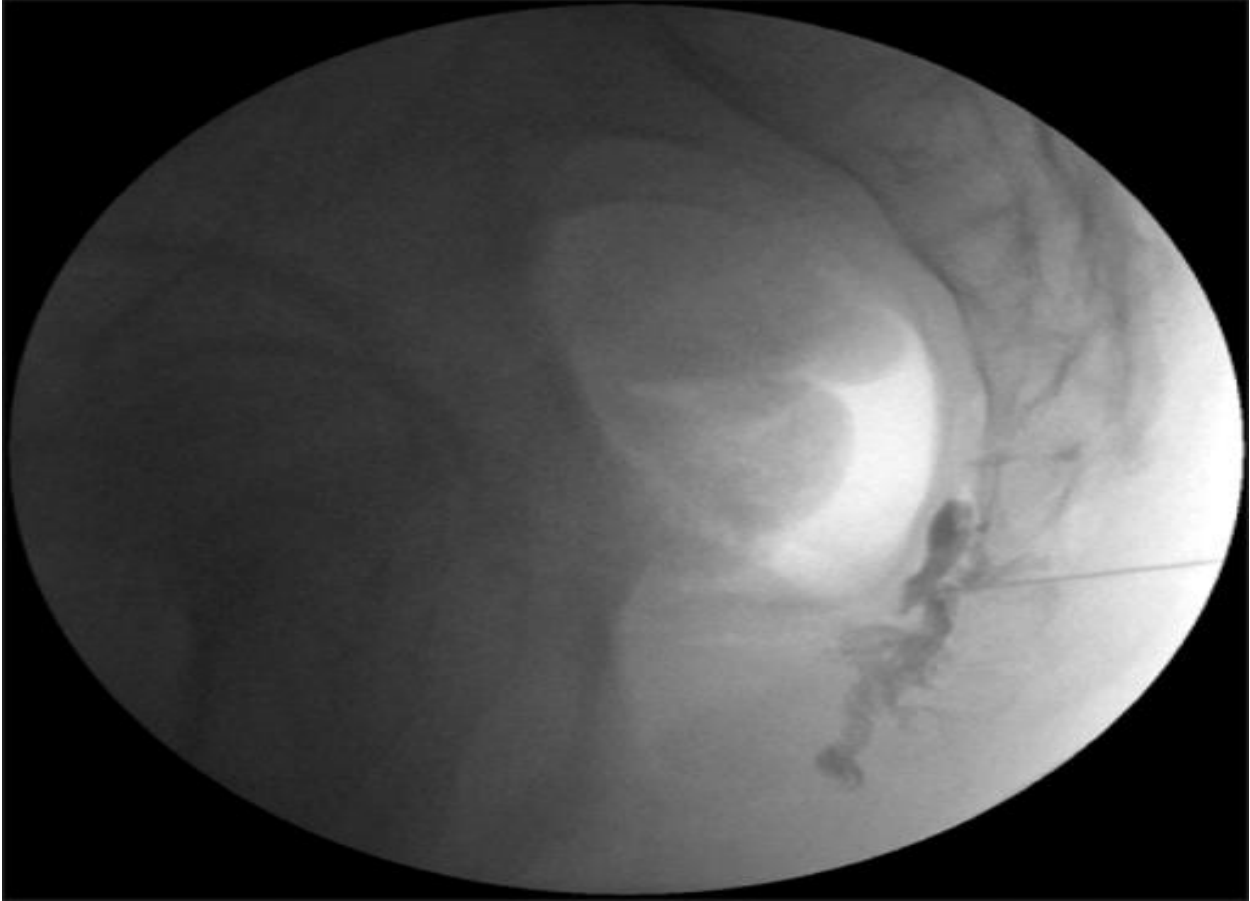


# CT Guided Celiac Block – Single needle technique

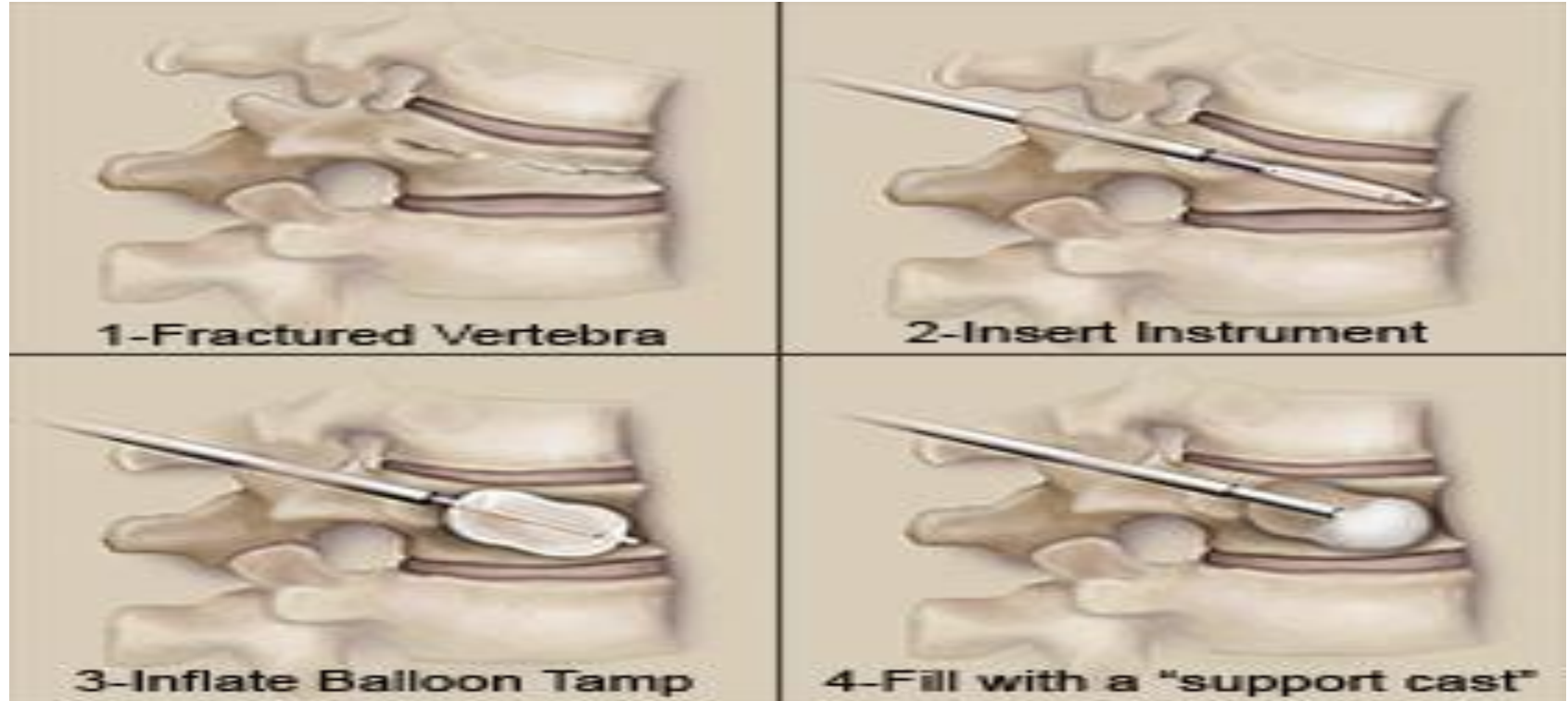


# CT Guided Trans-aortic approach

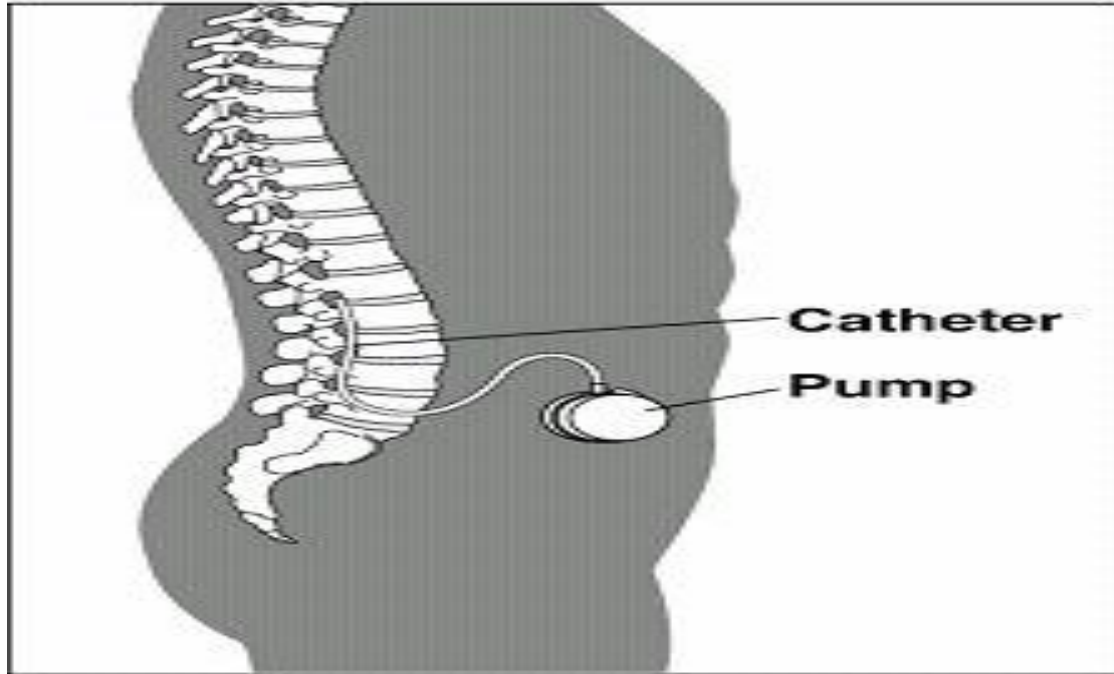




# Kyphoplasty/Vertebroplasty

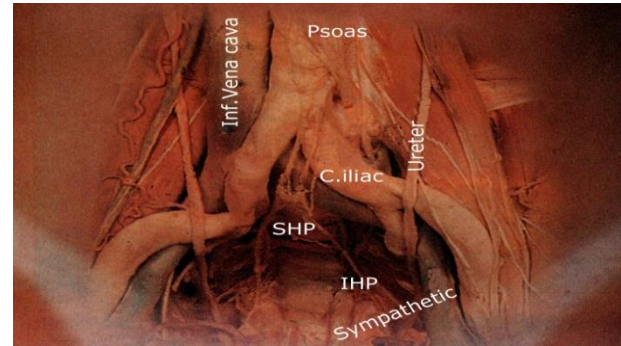


# Intrathecal Pain Pumps



# Superior hypogastric plexus destruction

- Pelvic visceral pain
- Bladder, prostate, cervix, uterus, ovary, colon & rectum
- 75% success



# **Lateral view of Superior hypogastric plexus block**





**PAIN IS VERY OFTEN  
POORLY TREATED**

## **BARRIERS**

- **Lack of knowledge and commitment**
- **Myths about addiction**
- **Other barriers**
  - **Patient related**
  - **System related**
  - **Profession related**

# Barriers to Effective Pain Management

- Not recognizing the importance of pain
- Prejudices about pain
- Fears of abuse and addiction
- Unpleasant experiences with pain therapy (intolerable side effects: nausea, drowsiness, fatigue, constipation)
- Regulatory restrictions
- Insufficient knowledge of pharmacological therapy

# Case scenario

- 45 year lady with metastatic breast cancer
- Have undergone Surgery, CT
- Severe chest and back pain
- Unable to sleep
- Activity, cough etc increase her pain
- She has 15 and 12 years daughters
- Husband- school teacher
- Diclofenac and tramadol- little help

[www.neuronpainclinic.com](http://www.neuronpainclinic.com)

You Tube: Neuron Pain Clinic

Facebook page: Neuron Pain & Spine Clinic

Google page: Neuron Pain & Spine Clinic

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## Take Home Message

1. Cancer pain is under-reported & under-treated
2. Caused by cancer and its treatment and debility
3. Comprehensive pain assessment is must
4. WHO analgesic ladder is a easy way managing most of the pain
5. Remember the thumb rules of converting different forms of opioid

