Essential Pain Management

EPM Lite

Introduction

Why EPM?

Why EPM?

- Pain is common.
- Pain is often poorly managed.
- We need a better system.

Overall EPM Aims

Better recognition

Better assessment

Better treatment

Workshop Objectives
You will be able to:

- Recognize pain
  - Define pain
  - List benefits of treating pain
- Assess pain
  - Measure severity
  - Classify pain type
  - Assess other factors

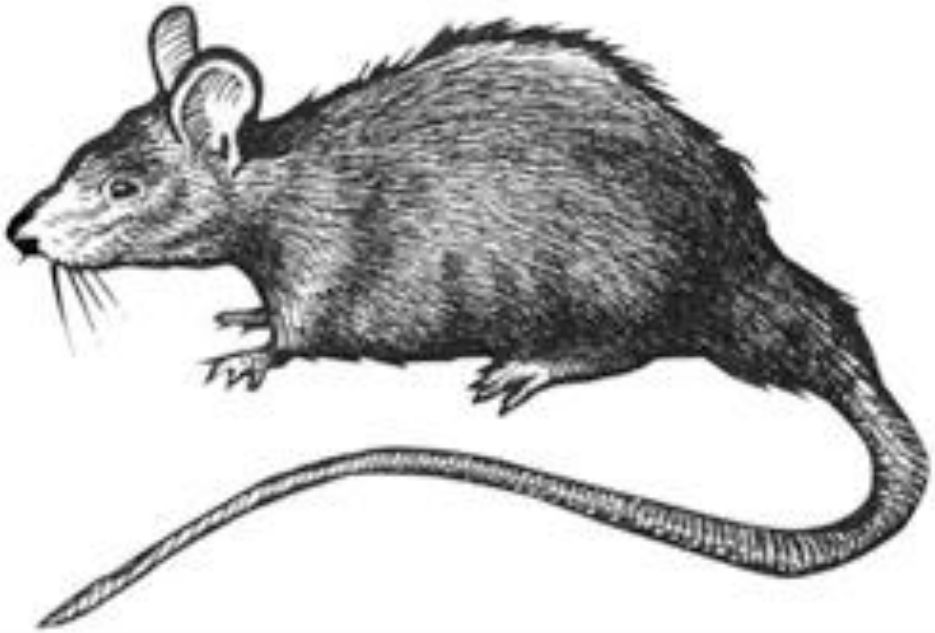
Workshop Objectives
You will be able to:

- Treat pain
  - List non-pharmacological treatments
  - List pharmacological treatments

EPM Lite Plan

- Short, interactive lectures
- Case discussions

Untreated Pain

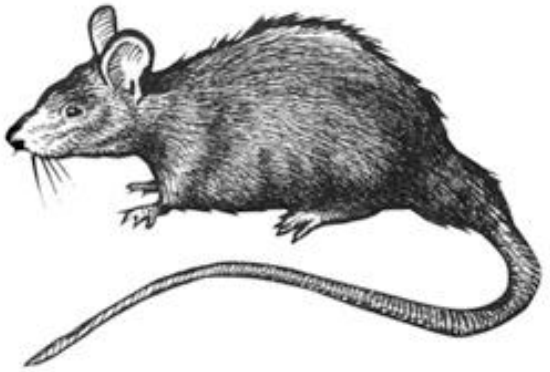


Untreated Pain

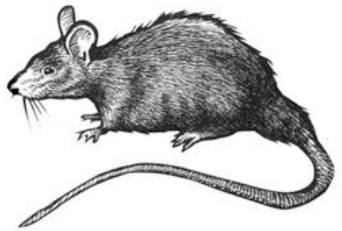
- Often hidden (not recognized)
- Causes a lot of suffering
- But … can often be treated simply and cheaply

RAT System

- Recognize
- Assess
- Treat

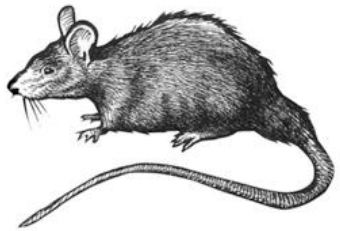


Recognize



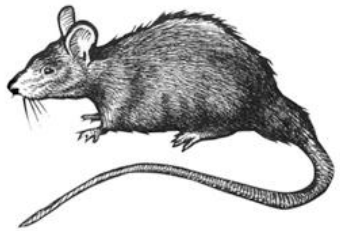
- Does the patient have pain?
- Do other people know the patient has pain?

Assess

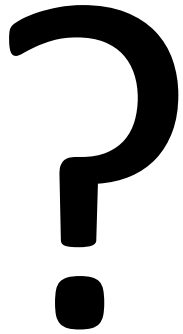


- How severe is the pain?
- What type of pain is it?
- Are there other factors?

Treat



- What non-pharmacological treatments can I use?
- What pharmacological treatments can I use?



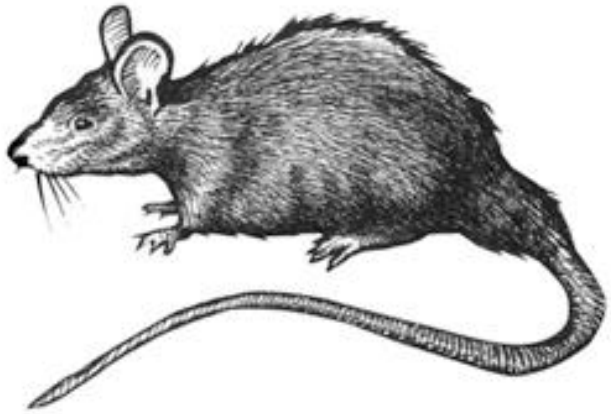
Introduction
Summary

- Pain is common.
- Pain is often poorly treated.
- We need a better system.
- RAT provides this system.

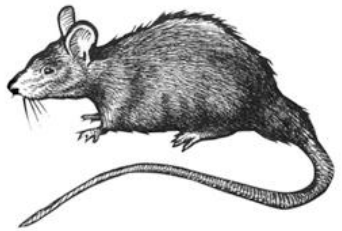
Recognize

Assess

Treat



Recognize



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- Does the patient have pain?
- Do other people know the patient has pain?

- The next lecture will cover:
  - The definition of pain
  - The benefits of treating pain

What is Pain & Why Treat It?

R

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What is Pain & Why Treat It?
Objectives

R

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You will be able to:

- Define pain
- List the benefits of treating pain

Group Discussion

R

- *Think of a patient who has or had pain.*
- *How did he or she describe the pain?*
- *What were the benefits of treating his or her pain?*

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Does this person have pain?

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What is Pain?

- International Association for the Study of Pain (IASP)
  - Pain is ‘an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage’.

- *Are there any other definitions?*

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What is Pain?

- Pain is unpleasant.
- Emotions are important.
- The cause is not always visible.

- ‘Pain is what the patient says hurts.’

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Does this person have pain?

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Benefits of Treating Pain

- For the patient
  - Physical
    - Better sleep, improved appetite
    - Fewer medical complications (e.g. heart attack, pneumonia)
  - Psychological
    - Reduced suffering
    - Less depression, anxiety

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Benefits of Treating Pain

- For the family
  - Improved function as part of the family (e.g. as a father / mother)
  - Able to keep working
- For society
  - Reduced health costs (e.g. shorter hospital stay)
  - Able to contribute to the community

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What are the benefits for this child?

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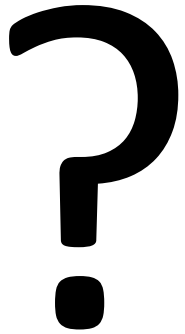

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What is Pain & Why Treat It?
Summary

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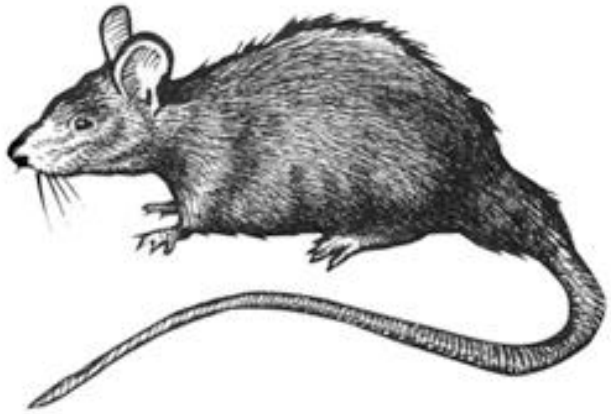
- Pain is an unpleasant sensory and emotional experience.
- Pain is subjective – ask the patient!
- Treating pain has many benefits:
  - For the patient
  - For the family
  - For society

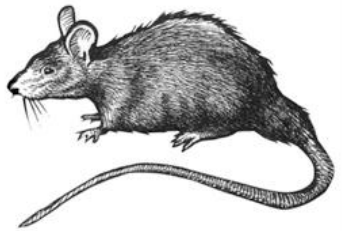
Recognize

Assess

Treat



Assess



- How severe is the pain?
- What type of pain is it?
- Are there other factors?

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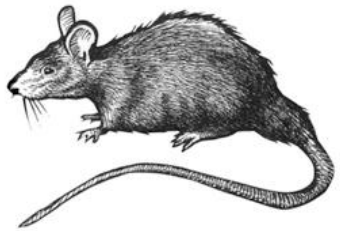
Assess



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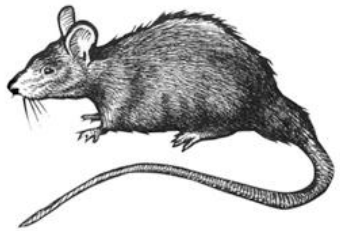
- How severe is the pain?
  - What is the pain score?
  - How is the pain affecting the patient?

Assess



- What is the pain type?
  - Acute or chronic?
  - Cancer or non-cancer?
  - Nociceptive or neuropathic?

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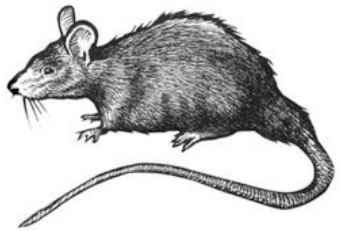
Assess



- Are there other factors?
  - Physical?
  - Psychological?

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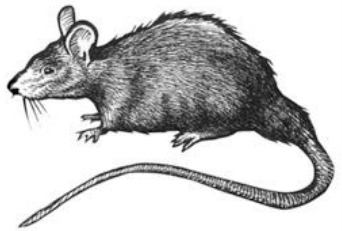
Assess



- The next lectures will cover:
  - Assessment of severity
  - Classification of pain
  - Underlying physiology and pathology

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Assessment of Severity

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Assessment of Severity
Objectives

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You will be able to:

- Understand the reasons for assessing severity
- Use different methods to assess severity

Assessment of Severity

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- Guides choice of treatment
- Measures response to treatment

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- ‘Pain is the 5th vital sign.’
  - Measure and *record* severity

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Assessment of Severity

- What is the pain score?
  - At rest?
  - With movement?
- How is the pain affecting the patient?
  - Can the patient move, cough?
  - Can the patient work?

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Methods

- Verbal Rating Scale
  - Mild, moderate, severe
  - 0 (no pain) to 10 (worst pain imaginable)
- Visual
  - Visual Analogue Scale (VAS)
  - Faces Pain Scale (FPS)
- Other more specialised methods

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Visual Analogue Scale

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Ask the patient to show what his/her pain is on a scale of 0 to 10.

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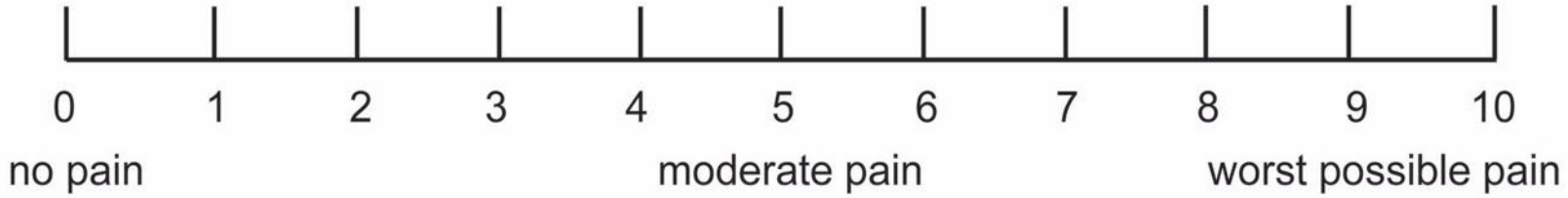

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Faces Pain Scale

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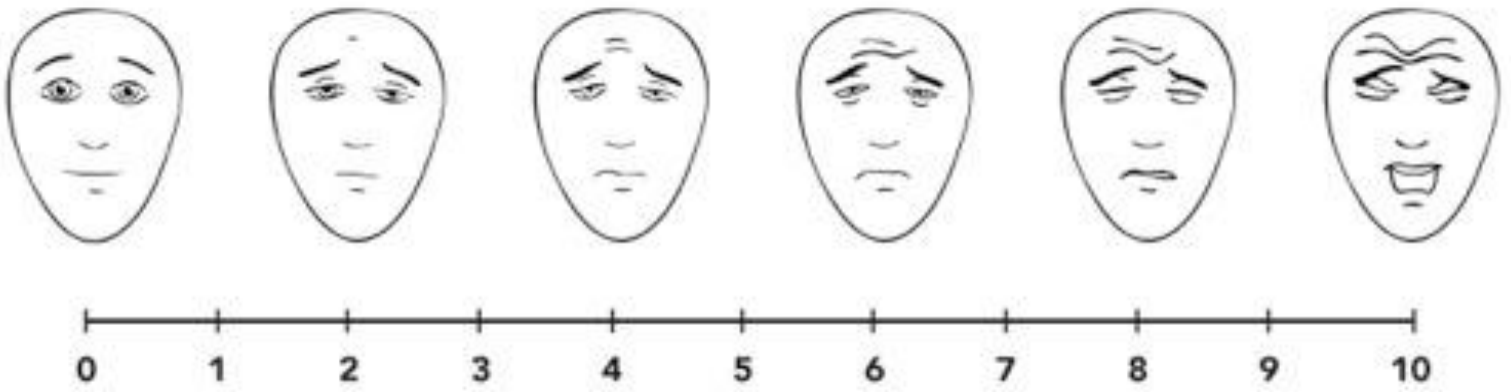
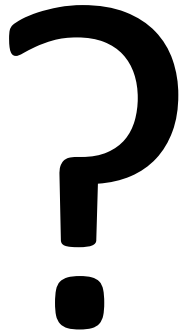


Faces Pain Scale – Revised, ©2001
International Association for the Study of Pain
[www.iasp-pain.org/FPSR]



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Assessment of Severity
Summary

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- Assessment of severity guides treatment and measures response.
- Common methods include:
  - Verbal Rating Scale
  - Visual Analogue Scale
  - Faces Pain Scale

Classification of Pain

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Classification of Pain
Objectives

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You will be able to:

- Classify types of pain
- Give examples of types of pain
- Understand that treatment depends on the pain type

Classification of Pain

- Not all pain is the same!
- Three main questions:

1. How long has the patient had pain?
2. What is the cause?
3. What is the pain mechanism?

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Classification of Pain

Duration	Acute Chronic
Cause	Cancer Non-cancer
Mechanism	Nociceptive (physiological) Neuropathic (pathological)

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Acute versus Chronic

- Acute
  - Pain of recent onset and probable limited duration
- Chronic
  - Pain lasting for more than 3 months
  - Pain lasting after normal healing
  - Sometimes no identifiable cause

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Cancer versus Non-Cancer

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Cancer versus Non-Cancer

- Cancer pain
  - Progressive
  - May be mixture of acute and chronic
- Non-cancer pain
  - Many different causes
  - Acute or chronic

Can you give examples of non-cancer pain?

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Nociceptive Pain

- Obvious tissue injury or illness
- Sometimes called physiological or inflammatory pain
- Protective function
- Description
  - Sharp and/or dull
  - Well localised

Can you give examples?

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Neuropathic Pain

- Caused by a lesion or disease of the sensory nervous system
- Tissue injury may not be obvious
- Does not have a protective function
- Description
  - Burning, shooting, pins and needles, or numbness
  - Not well localised

Can you give examples?

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Examples of Pain Types

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Acute Non-Cancer Pain

- Examples
  - Fracture, appendicitis
- Symptom of tissue injury or illness
- Usually nociceptive
- Occasionally neuropathic (e.g. sciatica)

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How would you classify low back pain?

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Chronic Non-Cancer Pain

- Examples
  - Chronic back pain, arthritis
- Cause may not be obvious
- Complex, may be mixed nociceptive and neuropathic
- Different pharmacological treatments may be needed

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Cancer Pain

- Examples
  - Uterine cervical cancer, breast cancer
  - Metastases in bone
- Features of acute and chronic pain
  - May be acute on chronic
- Often mixed nociceptive and neuropathic pain
- Usually gets worse over time if untreated

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Classification of Pain
Summary

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- Deciding on the type of pain is important
  - Acute / chronic
  - Cancer / non-cancer
  - Nociceptive / neuropathic
- Treatment depends on the pain type.

Pain Physiology and Pathology

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Pain Physiology and Pathology
Objectives

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You will be able to:

- Understand normal pain physiology
  - Nociceptive pathway
  - Factors affecting pain perception
- Understand the basis of neuropathic pain (pathology)

Why is pain physiology important?

R

- Many factors affect how we feel pain.
  - Psychological factors are very important.

A

- Different treatments work on different parts of the pathway.
  - More than one treatment is usually needed.

T

Nociception and Pain

- Nociception
  - How pain signals get from the site of injury to the brain.
- Pain
  - How we perceive or feel pain.

- Nociception is not the same as pain!

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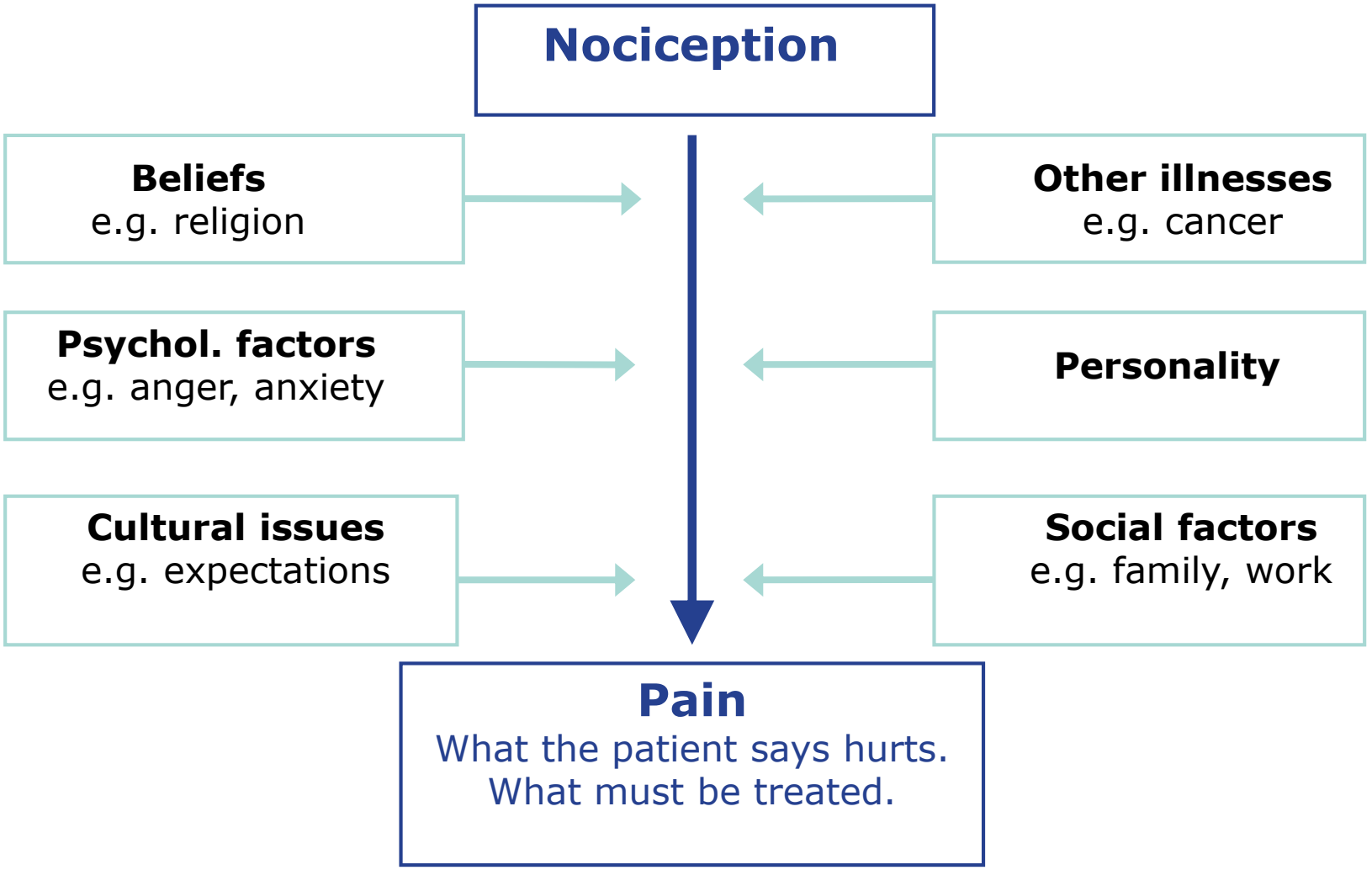
Is this man feeling pain?

Nociception is not the same as pain!



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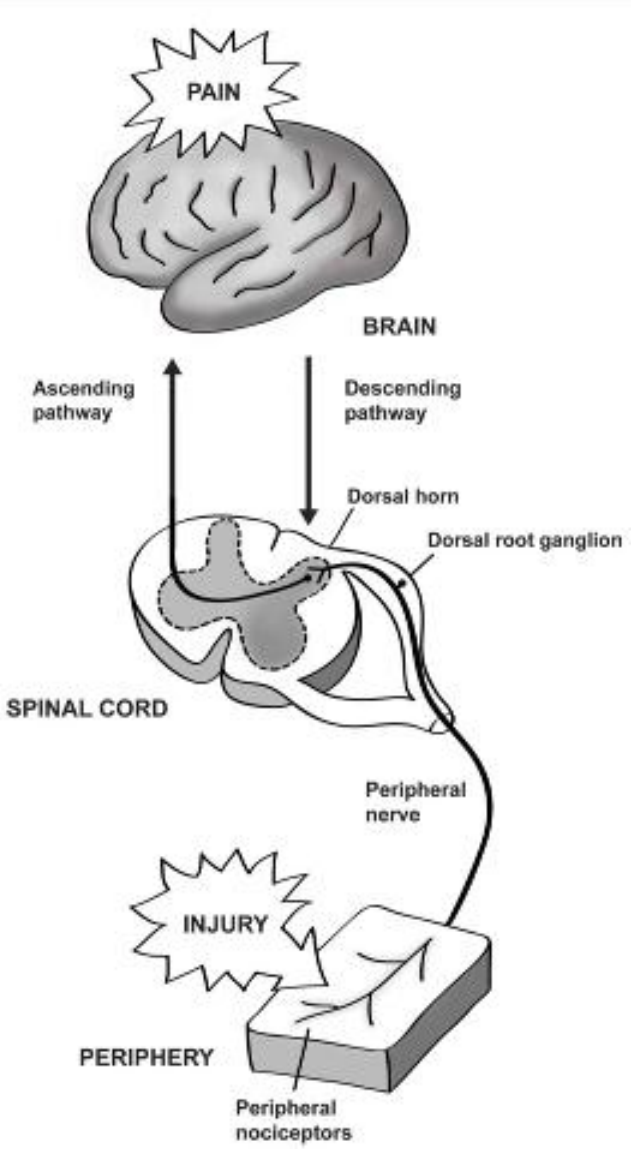
Modified from Analgesic Expert Group. Therapeutic Guidelines 2007

Physiology

- 4 steps:
  - Periphery
  - Spinal cord
  - Brain
  - Modulation
- We will look at each step.



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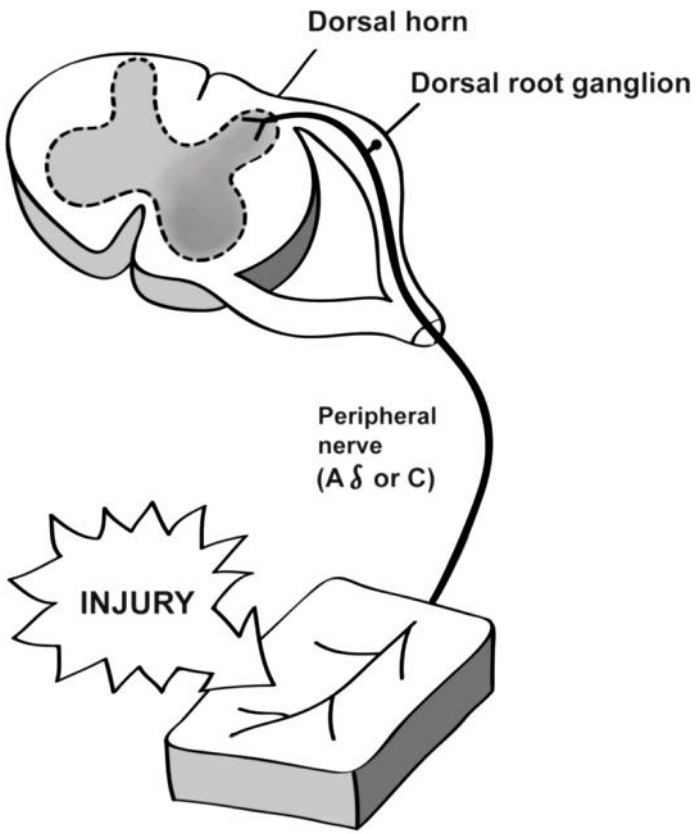
Periphery



- Tissue injury
- Release of chemicals
- Stimulation of pain receptors (nociceptors)
- Signal travels in Aδ or C nerve to spinal cord.

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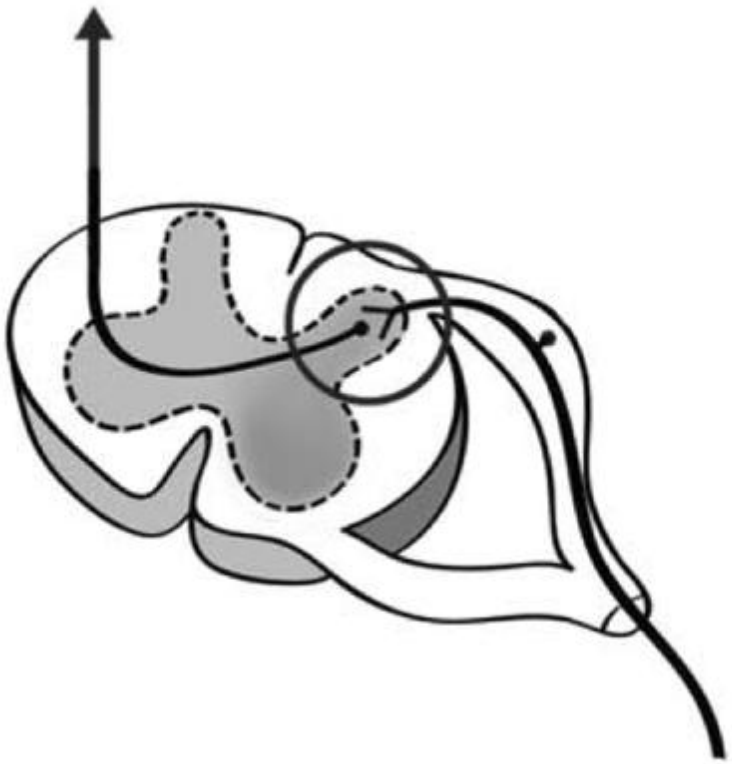
Spinal Cord



- Dorsal horn is the first relay station.
- Aδ or C nerve synapses (connects) with second order nerve.
- Second order nerve travels up opposite side of spinal cord.

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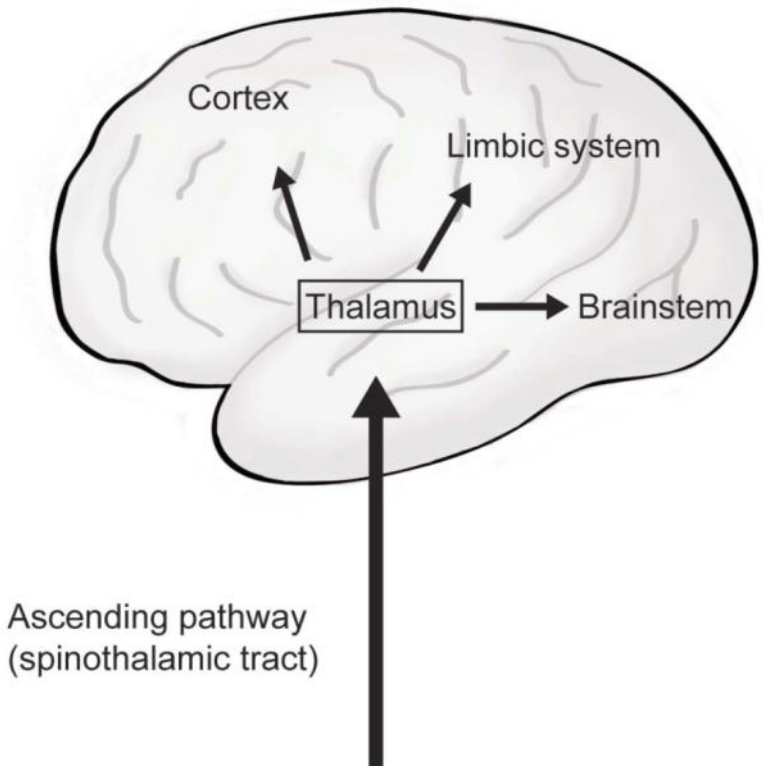
Brain



- Thalamus is the second relay station.
- Connections to many parts of the brain.
  - Cortex
  - Limbic system
  - Brainstem
- Pain perception occurs in the brain.

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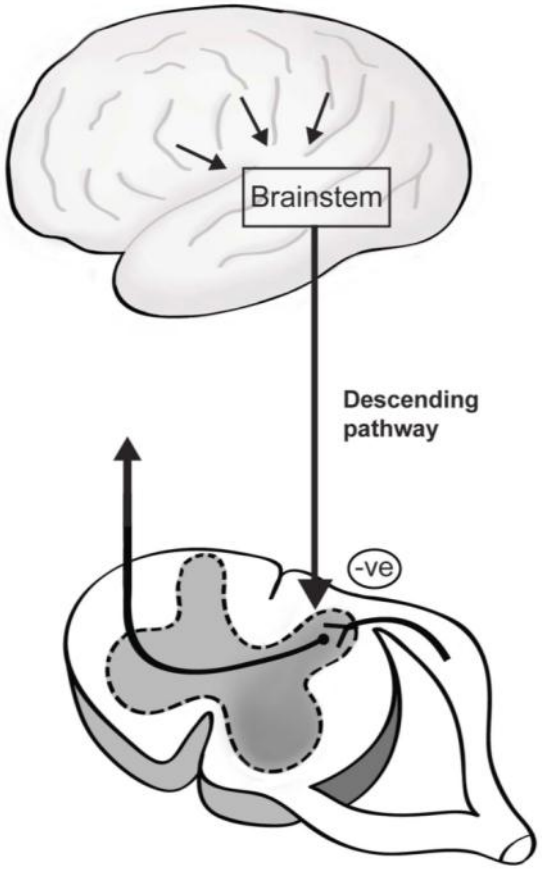
Modulation



- Descending pathway from brain to dorsal horn.
- Usually inhibits pain signals from the periphery.

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Neuropathic Pain

- Pathological pain
- Abnormality of nociceptive pathway
  - Peripheral nerves
  - Spinal cord or brain
- Needs different pharmacological treatments

How do patients describe their pain?

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Neuropathic Pain - Mechanisms

- Abnormal nerve tissue, e.g. amputation neuroma
- Abnormal firing of pain nerves
- Changes in chemical signalling in the dorsal horn
- Abnormal nerve connections in the dorsal horn
- Loss of normal inhibitory function

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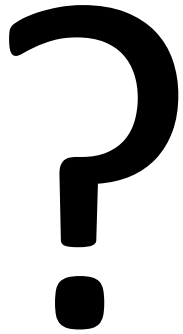

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Pain Physiology and Pathology
Summary

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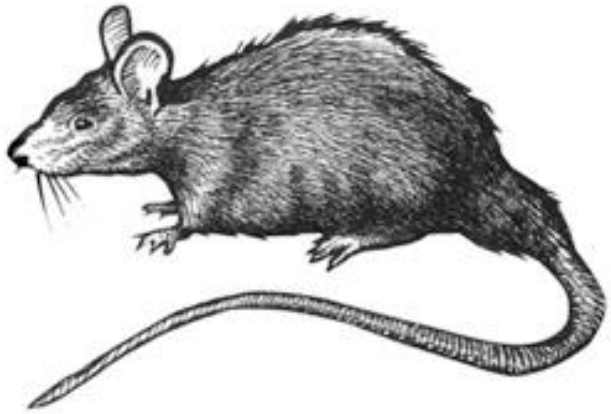
- Nociception is not the same as pain.
- Physical and psychological factors affect how we feel pain.
- Different treatments work on different parts of the nociceptive pathway.
- Neuropathic pain needs different pharmacological treatments.

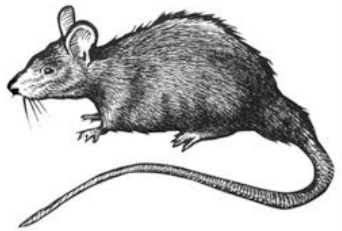
Recognize

Assess

Treat



Treat



- Non-pharmacological treatments?
- Pharmacological treatments?

- The next lectures will cover:
  - Non-pharmacological and pharmacological treatments
  - Pharmacology of common pain medications

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Pain Treatment Overview

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Pain Treatment Overview
Objectives

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You will be able to:

- Describe the non-pharmacological and pharmacological treatments that are available
- Classify pain treatments
- Understand the role of placebo treatment

Group Discussion

R

- *Name at least 10 non-pharmacological treatments that can be used to treat pain.*
- *Name at least 10 pharmacological treatments that can be used to treat pain.*

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Non-Pharmacological Treatments

- Physical
  - Rest, ice, compression, elevation
  - Surgery
  - Acupuncture, massage, physiotherapy
- Psychological
  - Explanation
  - Reassurance
  - Counselling

R

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Pharmacological Treatments

- Simple analgesics — R
  - Paracetamol (acetaminophen)
  - Anti-inflammatory medicines, e.g. ibuprofen — A
- Opioids — T
  - Mild, e.g. codeine, tramadol
  - Strong, e.g. morphine, pethidine, oxycodone

Pharmacological Treatments

- Other analgesics
  - Tricyclic antidepressants, e.g. amitriptyline
  - Anticonvulsants, e.g. carbamazepine, gabapentin
  - Local anaesthetics
  - Others, e.g. ketamine, clonidine

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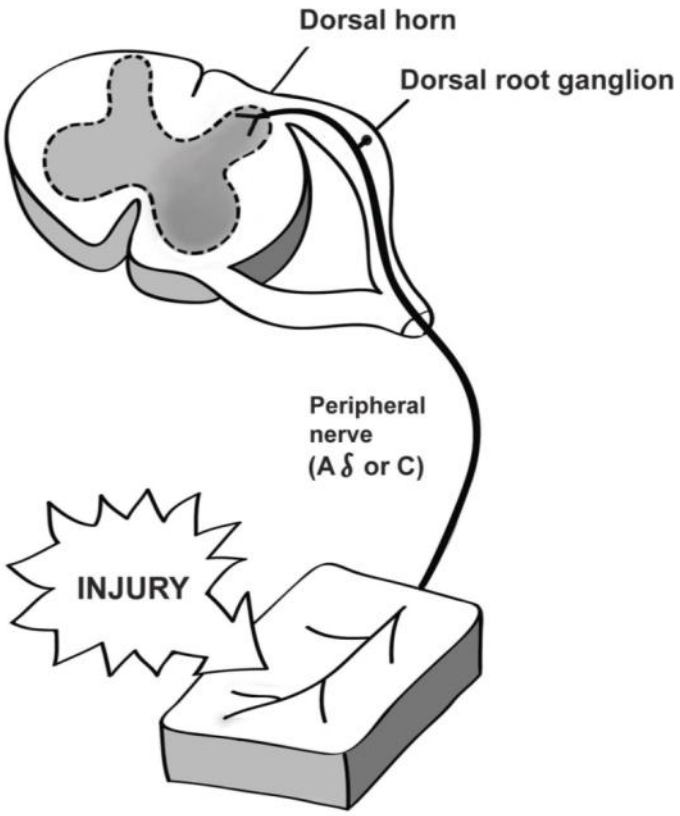
Treatments - Periphery



- Non-pharm treatments
  - Rest, ice, compression, elevation
- Anti-inflammatory medicines
- Local anaesthetics

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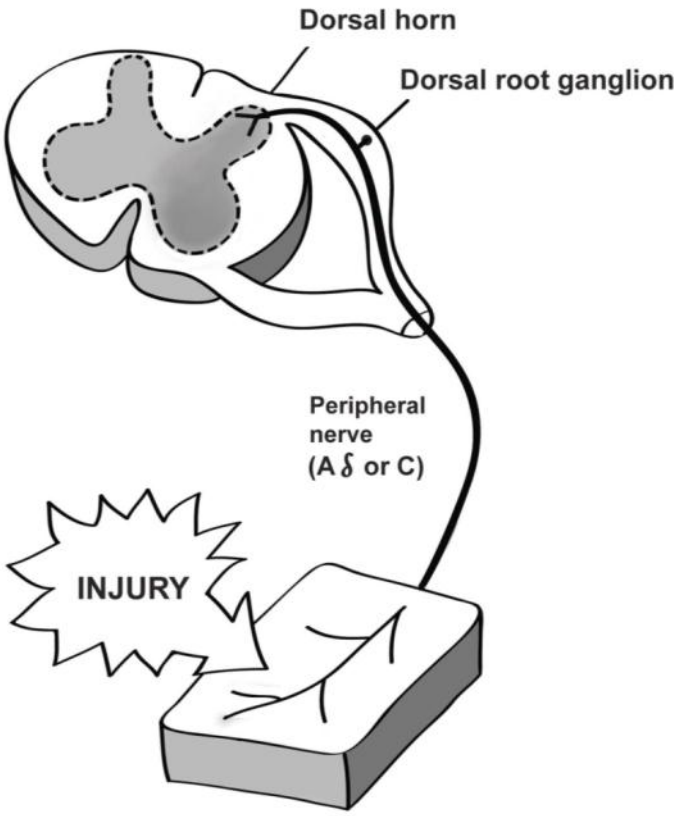
Treatments - Spinal Cord



- Non-pharm treatments
  - Acupuncture, massage
- Local anaesthetics
- Opioids
- Ketamine

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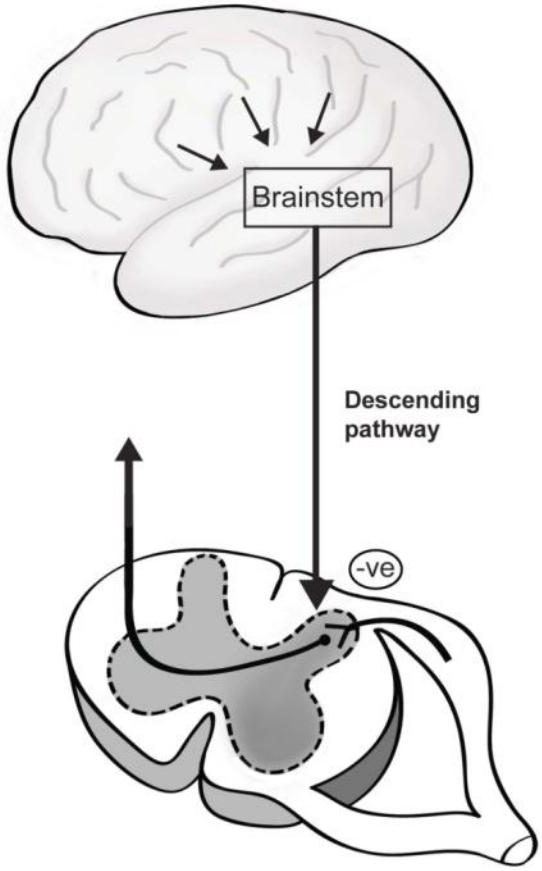
Treatments - Brain



- Non-pharm treatments
  - Psychological
- Pharmacological treatments
  - Paracetamol
  - Opioids
  - Amitriptyline

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Group Discussion

R

- *What is a placebo treatment?*
- *Is it helpful or unhelpful?*

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Placebo Treatment

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- Psychological factors are important.
- If a placebo treatment works, this does not mean that the patient did not have pain or was telling lies!

?

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6.12

Pain Treatment Overview
Summary

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- Both non-pharmacological and pharmacological treatments are important.
- Different treatments work on different parts of the nociceptive pathway.
- Pain medications can be classified into simple analgesics, opioids and other analgesics.

Pain Medications

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Pain Medications
Objectives

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You will be able to:

- Outline broad principles of pharmacological treatment
- Summarise the major advantages and disadvantages of important medications
- Address concerns about opioid addiction

Broad Principles

- This lecture:
  - Gives a broad overview of pharmacological treatment in common situations
  - Gives examples of medications
- For more detail, including doses:
  - Case discussions
  - EPM manual and EPM app

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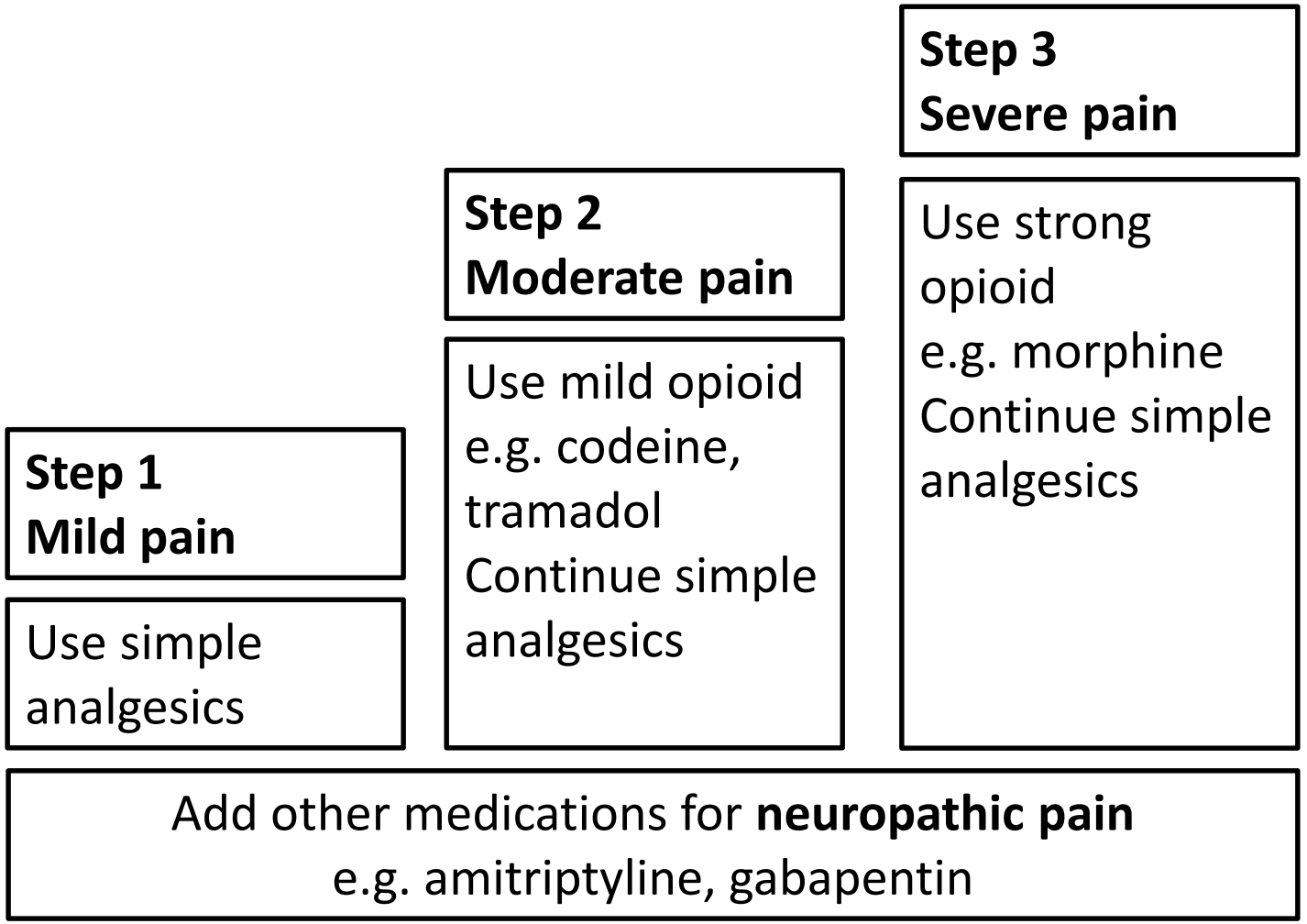
Treatment of Cancer Pain
WHO Ladder*



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*Modified

WHO Ladder

- Developed for cancer pain
- Emphasises oral treatment
- Treats nociceptive pain
- May need other medications for neuropathic pain

- Don’t forget non-pharmacological treatments!

R

A

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Treatment of Acute Nociceptive Pain

Reverse WHO Ladder

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Step 3
Severe pain

Use strong opioid
e.g. morphine
Also use simple analgesics

Step 2
Moderate pain

Use mild opioid
e.g. codeine, tramadol
Continue simple analgesics

Step 1
Mild pain

Continue simple analgesics

Reverse WHO Ladder

- Mainly useful for severe acute nociceptive pain
  - Trauma pain
  - Post-operative pain
- Start at the top and ‘step down the ladder’ as the pain improves.

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Chronic, Non-Cancer Pain

- Non-pharmacological treatments very important — R
- May need treatment for neuropathic pain — A
  - Antidepressants, e.g. amitriptyline
  - Anticonvulsants, e.g. gabapentin — T
- Opioids are usually not helpful and may cause harm.

*Group Discussion**

- *Choose two medications from each class:*
  - *Simple analgesics*
  - *Opioids*
  - *Other analgesics*
- *For each medication, what are the:*
  - *Indications?*
  - *Advantages?*
  - *Disadvantages?*

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*Optional, if time

Examples of Pain Medications

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Paracetamol (Acetaminophen)

- Indications
  - Mild nociceptive pain
  - Moderate to severe nociceptive pain (with other medications)
- Advantages
  - Cheap, safe
  - PO, PR, IV
- Disadvantages
  - Liver damage in overdose

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Ibuprofen

- Indications
  - Mild, moderate or severe nociceptive pain
- Advantages
  - Cheap
  - Usually safe if given short-term
- Disadvantages
  - Gastric and renal side effects
  - Interferes with blood clotting

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Tramadol

- Indications
  - Nociceptive and neuropathic pain
- Advantages
  - Safe
  - Useful for different pain types
  - Can be used with morphine
- Disadvantages
  - Nausea and vomiting
  - Confusion

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Morphine 1

- Indications
  - Moderate to severe, acute, nociceptive pain
  - Cancer pain
- Advantages
  - Very effective
  - Cheap
  - Usually safe
  - PO, IV, IM, SC

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Morphine 2

- Disadvantages
  - Nausea and vomiting
  - Respiratory depression in high dose
  - Constipation
  - Misunderstandings about addiction
  - Legal controls

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Morphine Dosing

- Oral dose is 2-3 times IV / IM / SC dose.

  Why is this?

- Tolerance
  - Increased dose needed over time
  - Very high doses may be needed in cancer treatment

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Amitriptyline

- Indication
  - Neuropathic pain
- Advantages
  - Cheap
  - Safe in low dose
  - Also treats depression, poor sleep
- Disadvantages
  - Harmful in overdose
  - Dry mouth, drowsiness
  - Urinary retention

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Gabapentin

- Indication
  - Neuropathic pain
- Advantages
  - Safe and effective
- Disadvantages
  - Drowsiness
  - Dose needs to be increased slowly

R

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Group Discussion

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- *What is addiction?*
- *How common is opioid addiction in patients with pain?*
- *Would this stop you giving opioids to a patient who has pain?*

Opioids and Addiction

- Addiction – Three C's
  - Craving
  - Loss of control
  - Negative consequences
- Addiction is very rare in acute pain and cancer pain.
- Addiction may occur if strong opioids are used to treat chronic non-cancer pain.

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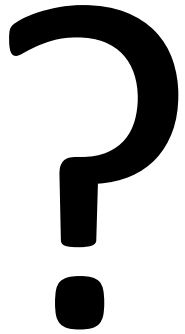

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Pain Medications
Summary

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- Pain can be treated with relatively cheap and safe medications.
- Morphine is very effective for cancer pain and acute severe nociceptive pain.
- In general, strong opioids should be avoided in chronic non-cancer pain.

Using the RAT System

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Using the RAT System
Objectives

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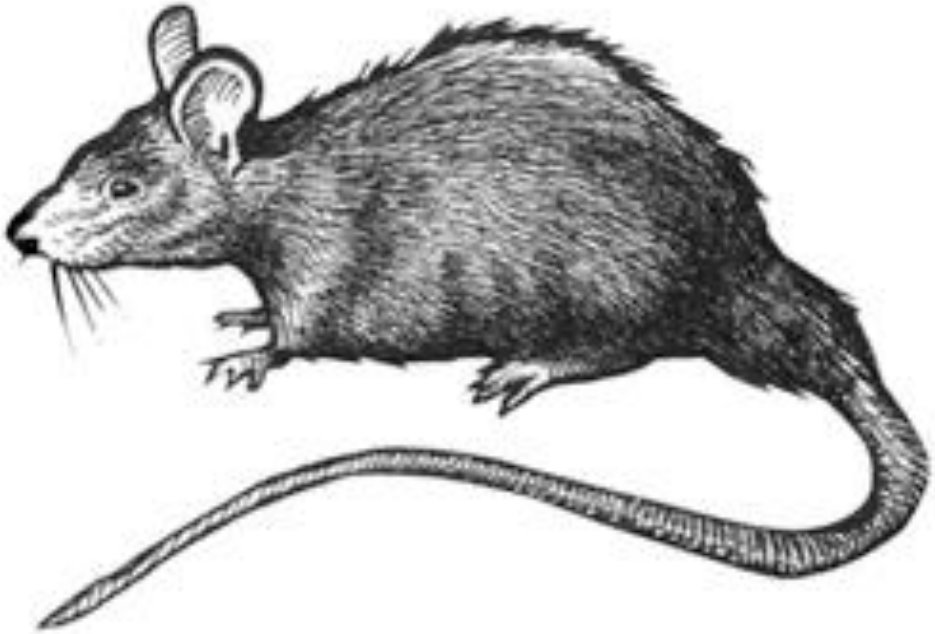
You will be able to:

- Summarise the RAT system
- Apply this system to different types of pain
- Understand the importance of reassessment

Using the RAT System



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Using the RAT System

- Recognize
- Assess
  - Severity?
  - Type?
  - Other factors?
- Treat
  - Non-pharmacological treatments
  - Pharmacological treatments

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Using the RAT System

Recognize

- Does the patient have pain?
- Do other people know the patient has pain?

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Using the RAT System

Assess

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- How severe is the pain?
  - Measure at rest
  - Measure with movement

Using the RAT System

Assess

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- What type of pain is it?
  - Acute or chronic?
  - Cancer or non-cancer?
  - Nociceptive or neuropathic?

Using the RAT System

Assess

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- Are there other factors?
  - Physical factors
  - Psychological and social factors

Using the RAT System

Treat

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- Non-Pharmacological Treatments
  - For both nociceptive and neuropathic pain
  - Physical

    (e.g. rest, ice, elevation, physiotherapy, massage)
  - Psychological

    (e.g. reassurance, explanation, counselling)

Using the RAT System

Treat

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- Pharmacological Treatments – Nociceptive Pain
  - Consider paracetamol, NSAIMs, tramadol, codeine, morphine
  - Use combinations

    (e.g. paracetamol + NSAIM + opioid)
  - Use IV morphine for acute, severe pain

Using the RAT System

Treat

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- Pharmacological Treatments – Neuropathic Pain
  - Consider using tramadol, tricyclic antidepressant (e.g. amitriptyline) or anticonvulsant (e.g. gabapentin)

Using the RAT System

Reassess

- Repeat RAT
- Is your treatment working?
- Are other treatments needed?

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Using the RAT System
Example 1

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- A 32-year-old man caught his right hand in machinery at work. He presents with a compound fracture of his hand.
- *How would you manage his pain using RAT?*

Using the RAT System
Example 2

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- A 55-year-old woman presents with a large breast tumour with spread to her spine. She has severe pain.
- *How would you manage her pain using RAT?*

Using the RAT System
Example 3

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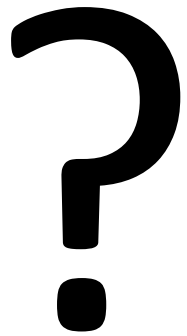
- A 51-year-old man has a 2-year history of lower back pain which sometimes radiates down his right leg. He fell recently and is now having problems walking.
- *How would you manage his pain using RAT?*



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Using the RAT System
Summary

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- Recognize
- Assess
  - Severity?
  - Type?
  - Other factors?
- Treat
  - Non-pharmacological treatments
  - Pharmacological treatments
- Reassess

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