Pain Management and Considerations for Prescribing in Pain

Sarah Thomas, RN, MSc, NMP

Lead Clinical Nurse Specialist in Pain Management

NHS
Chelsea and Westminster Hospital
NHS Foundation Trust

Introduction

- My background and role
- What is Pain
- Different types of pain
- Assessing pain
- What is the aim of pain management
- How do analgesics work
- Opioids- What to discuss with the patient when considering opioid treatment
- Adjuncts
- Tips for new prescribers

Background and Role

- I have been qualified for 24 years
- My main roles have been in surgery, vascular, cardiothoracic and ITU
- I started as a CNS in pain management in 2008
- Completed my MSc in pain management in 2012
- Completed my NMP in 2015 at London Southbank university
- I work as the Lead Clinical Nurse Specialist at the Chelsea and Westminster trust and work across both site
- I do weekly medication review clinics

What is Pain?

The international association for the study of pain, describe pain is as

“An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage,” (IASP2020)

Within this definition, there are 6 key aspects that need to be taken into account when assessing a patient with pain

6 key aspects to consider when managing pain

- Pain is a personal experience and this is influenced by biological, psychological and social factors
- Pain and nociception are different phenomena. Pain does not just come from sensory neurons.
- Through different life experiences - individuals learn the concept of pain
- A person's report of a experience of pain, should be respected
- Although pain can serve an adaptive role, it may have adverse effects on function, social and psychological well-being.
- Verbal description, is only one of several behaviours to express pain, the inability to communicate pain does not negate the possibility that you might be experiencing pain (IASP 2020)

Different types of pain

- **Acute pain**- sudden onset, anywhere in the body normally resolves
- **Chronic pain** - acute pain that last longer than 3-6 months
- **Visceral Pain** - Pain from the internal organs- eg pancreatitis
- **Somatic pain**- from the bones, muscles, tendons, joints
- **Neuropathic pain** - Damage and injury to the nerves from a disease of lesion
- **Cancer pain** - Caused by the Cancer and the treatment and can take many different forms.

Assessment of pain (SOCRATES)

- Site
- Onset
- Character
- Radiation
- Associations
- Time course
- Exacerbation/relieving factors
- Severity

Aims of pain management

Acute pain

- Facilitate recovery from the underlying injury, surgery, or disease
- Minimise impact of pain on recovery activities
- Control and reduction of pain to acceptable level
- Minimise pharmacologic side effects
- Prevent chronic pain

Chronic Pain

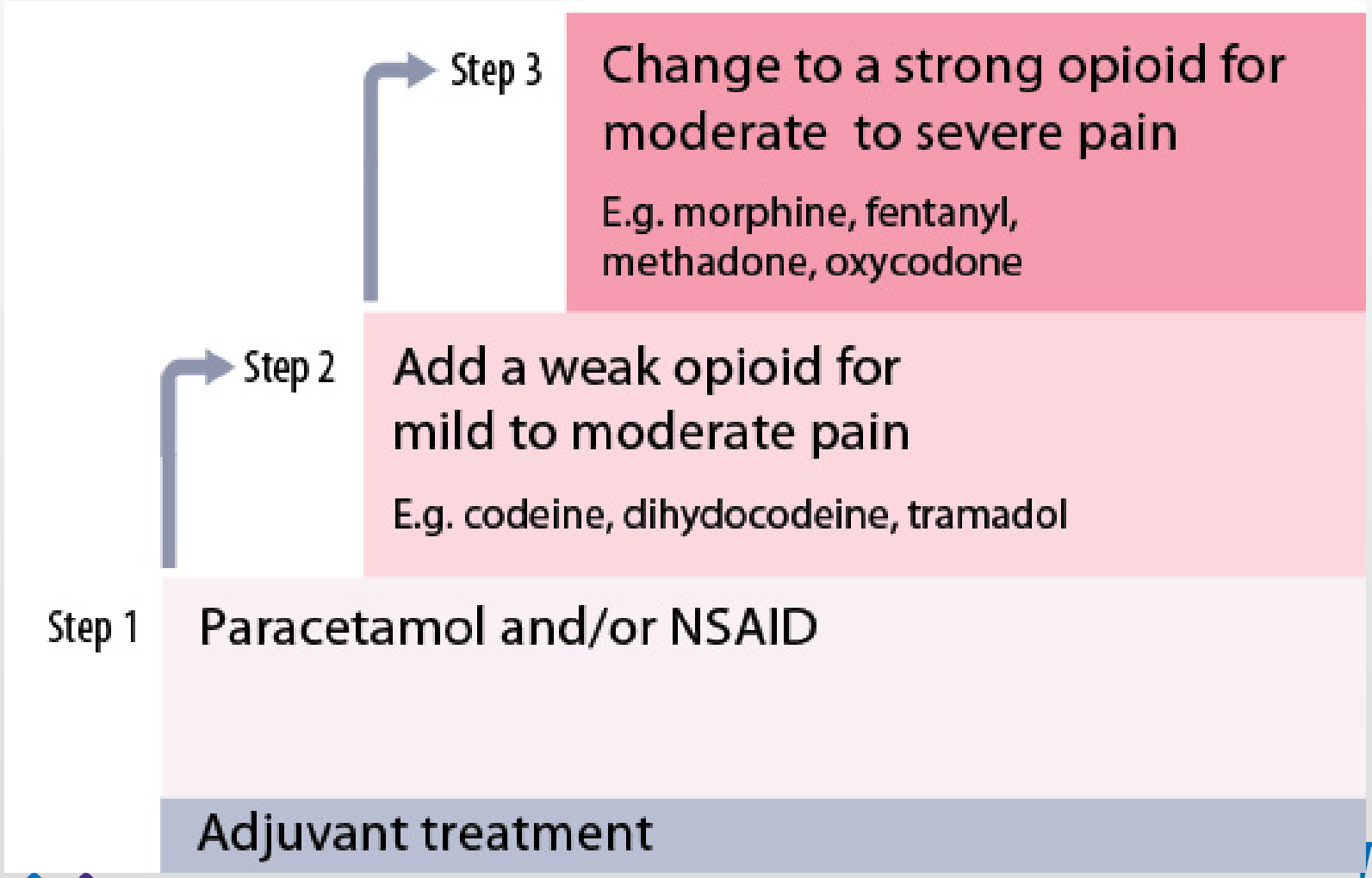
- Restore function
- Physical, emotional, social - maladaptive behaviours/ poor coping strategies
- Decrease pain
- Treat underlying cause where possible
- Minimise medication use
- Correct secondary consequences of pain Postural deficits, weakness, overuse

Causes of pain

- Most of the time pain is self limiting and comes from minor injuries, aches and pains
- Pain is affected by mood, past experiences of pain and the cause of pain
- Acute pain causes include- dental, fracture, post operative pain and musculoskeletal - this pain is normally straightforward and resolves quickly
- Chronic pain causes- lower back pain, arthritis, central pain (Stroke), neuropathic pain- this pain is harder to treat and the overall aim is self management.

Remember before starting any analgesia know the cause of the pain

WHO Ladder 1986



Management of mild pain

For patients with mild pain

- **Regular paracetamol** 1g QDS, please dose reduce in patients who are below 50 kilos.
- Counsel patients that paracetamol is found in many different medicines.
- Over the counter medication
- Anti- pyretic
- Use with caution in patient's with liver failure

Mode of action: No one knows how is works- lots of theories ? works on Cox3 or cannabinoid receptors

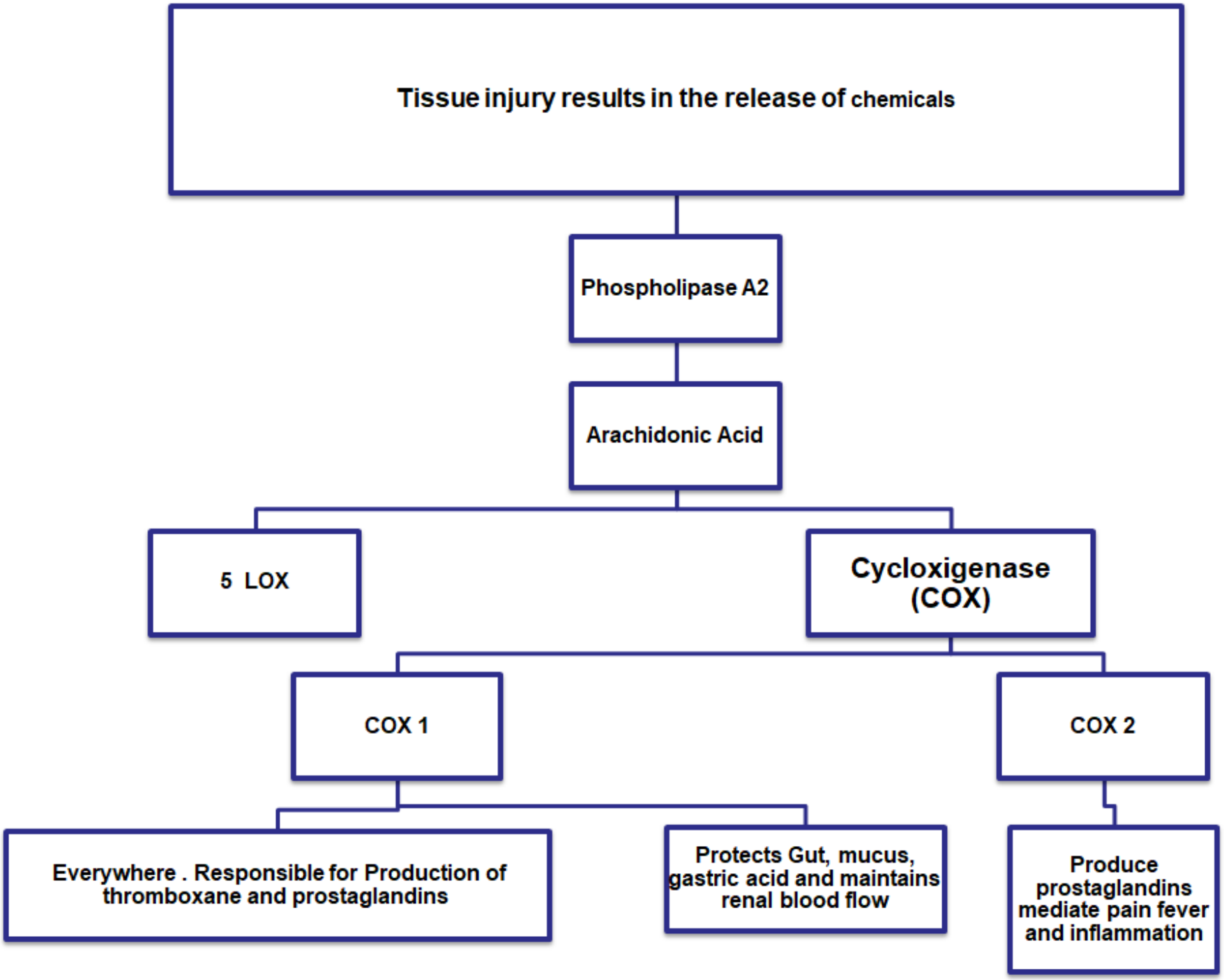
Management of mild pain

Consider the use of **N**on **S**teroidal **A**nti-**I**nflammatory **D**rugs.

- Used for the treatment of mild to moderate pain
- Little difference in efficacy between different types of NSAIDS - although there is a difference in the incidence of side effects
- Good pain relief with a combination of regular paracetamol and a regular NSAID
- They are to be used for short periods of time, no longer than 3weeks- but check the BNF
- Side effects include, abdominal pain, bleeding, gastric irritation, heartburn, diarrhoea, constipation, ulcers and nausea
- Consider prescribing a PPI

How do NSAIDS work?

- NSAIDs work by slowing the formation of compounds known as prostaglandins.
- Prostaglandins play an important role in the body's inflammatory response.
- Reducing the amount of prostaglandins that are produced by tissue damage reduces inflammation.
- NSAIDs block an enzyme called cyclooxygenase, also known as COX. The COX enzyme helps the reactions that produce prostaglandins.
- Two types: COX-1 – present in many tissues, responsible for protective prostaglandins – eg renal blood flow, gastric mucosa; COX-2 – induced during inflammation


Tissue injury results in the release of chemicals
Phospholipase A2
Arachidonic Acid
5 LOX
Cycloxigenase (COX)
COX 1
COX 2
Everywhere . Responsible for Production of thromboxane and prostaglandins
Protects Gut, mucus, gastric acid and maintains renal blood flow
Produce prostaglandins mediate pain fever and inflammation

When to avoid NSAIDs

They must not be used in the following patients

- Renal impairment
- Cardiac failure
- History of GI bleeding or ulceration
- Coagulation disorders
- Pregnancy
- Advanced age
- Severe liver dysfunction
- Known hypersensitivity to NSAIDS

Ibuprofen

- Over the counter medication
- Mild/moderate pain especially inflammatory pain
- Available in a tablet, syrup and gel
- Adult dose 200-400mg 3 x day (max dose 600mg, 4 x day)

- Other NSAIDS to consider include Dicofenac and Naproxen
- Selective COX-2 Inhibitors: Parecoxib (iv only), Celecoxib, Etoricoxib

Management of Moderate Pain

- **Dihydrocodeine** - A semi synthetic opioid, it works by interacting with opioid receptors, μ-, δ- and κ- Oral (IR and SR prep) and IM injection
- **Combined preparation** is Codydramol 8/500

- **Codeine phosphate**- Prodrug approx 5% of patients super effective and 10% of patients ineffective. Metabolism to morphine involves the enzyme CYP 2D6
- **MHRA Alert-** not to be used in patients younger than 12 years of age
- **Combined preparation** is Co-codamol 10/500 and 30/500

- **Side effects-** Nausea, vomiting, constipation, sedation, hallucinations, respiratory depression.

Tramadol for moderate pain

- Multiple sites of action Inhibits the re-uptake of norepinephrine and serotonin
- Available in Oral, and IV preparations
- Adult dose 50-100mg every 4-6hours (maximum dose 400mg/24hr)
- Interacts with a huge number of drugs including many antidepressant drugs
- Reduces seizure threshold,
- Side effects-Confusion/hallucinations
- This drug is a bit like marmite- patients either get on well with it or they dislike it because of the way it makes them feel.

Management of Moderate pain continued

- An example of analgesia regime for moderate pain

- Regular Paracetamol 1g QDS
- +/- Regular NSAID
- Regular Dihydrocodeine 30 mgs QDS regularly

- On your review, if the dihydrocodeine is not effective, consider switching over to Tramadol.

- ***These drugs should not be used for long term and for short term use only, they will need to be stopped. Remember to treat the underlying cause. Do not start these medications if you do not know exactly what you are treating.***

Management of Severe Pain

Opioids are often used in the management of severe acute pain, but they need to be used with caution.

How do opioids work- Opioids attach to proteins called opioid receptors on nerve cells in the brain, spinal cord, gut and other parts of the body. Opioids block pain messages sent from the body through the spinal cord into the brain.

Different types of opioids Morphine, Fentanyl, Oxycodone, Diamorphine and Buprenorphine

Different routes- patch, oral, IM, IV, Buccal, suppository

Management of Severe Pain

When considering opioid treatment, there are many things you need to consider

- There is evidence to support the use of opioids for acute pain
- Very poor evidence for the use of chronic pain
- The plan is not complete pain relief, but to reduce pain sufficiently so that the patient can function to engage in self management.
- In the consultation- agree to functional goals
- Discuss with the patient the harm of opioids including:
    - Sedation
    - Nausea
    - constipation
    - effect on hormones
    - Potential for drugs to worsen pain
    - Effects on the immune system

Management of severe pain

- What is the cause of this pain, before considering opioids you must know the cause of pain.
- Consider a trial, this establishes if the patient has any benefit
- A short term response does not predict long term therapies
- If you start a trial agree on outcomes, this includes pain reduction, specific functional improvement and sleep
- Duration of trial 1-2 weeks
- Choice of opioid- Immediate relief for 1-2 weeks
- Reassess patient - Keep a diary comment on sleep, pain, side effects- no improvement taper and stop. Pain reduction needs to be at least 30-40%

Adjuncts for pain

- These medications are not classic pain killers and not designed as a pain killer but it can be used for this purpose
- Examples include, antidepressants- (amitriptyline) anticonvulsants (gabapentin, pregabalin) , Local anesthetics (lidocaine patches) and steroids.
- These care are often used in the management of chronic pain and can be used on their own or in combination with other medications as part of a multimodal regime.
- Often useful in patients with neuropathic pain or mixed pain
- If you are starting these types of medicines it is important that they are reassessed regularly.
- Also consider non-pharmacological methods- cold, heat, TENS, Physiotherapy, massage and accupuncture.

Tips for prescribers

- All healthcare professionals must to be up to date with relevant law, best clinical practice, and requirements and recommendations by relevant professional bodies.
- It is essential to recognise the limits of your competence and work within them.
- You should have adequate knowledge of the patient's health before prescribing and should be satisfied that the treatment is in the best interests of the patient.
- Patients do not always take medicines as intended. If this becomes apparent, further support and information should be provided.
- Ask for help and advice and refer onto specialist clinics (Pain clinic)

Thank you

- Questions

References

- General Medical Council. Good practice in prescribing and managing medicines and devices. 2013.
- Health and Social Care Professions Council. Standards for Prescribing. 2013
- National Institute for Health and Care Excellence. Guideline NG5: Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes. 2015
- National Institute for Health and Care Excellence. Guideline NG46: Safe use and management of controlled drugs. 2016
- Chou R, Turner JA, Devine EB, et al. The effectiveness and risks of long-term opioid therapy for chronic pain: a systematic review. Annals of Internal Medicine 2015; 162: 276-286.
- Fishbain DA, Cole B, Lewi, J, et al. What Percentage of Chronic Nonmalignant Pain Patients Exposed to Chronic Opioid Analgesic Therapy Develop Abuse/Addiction and/or Aberrant Drug-Related Behaviors? A Structured Evidence-Based Review. Pain Medicine 2008; 9: 444–459.