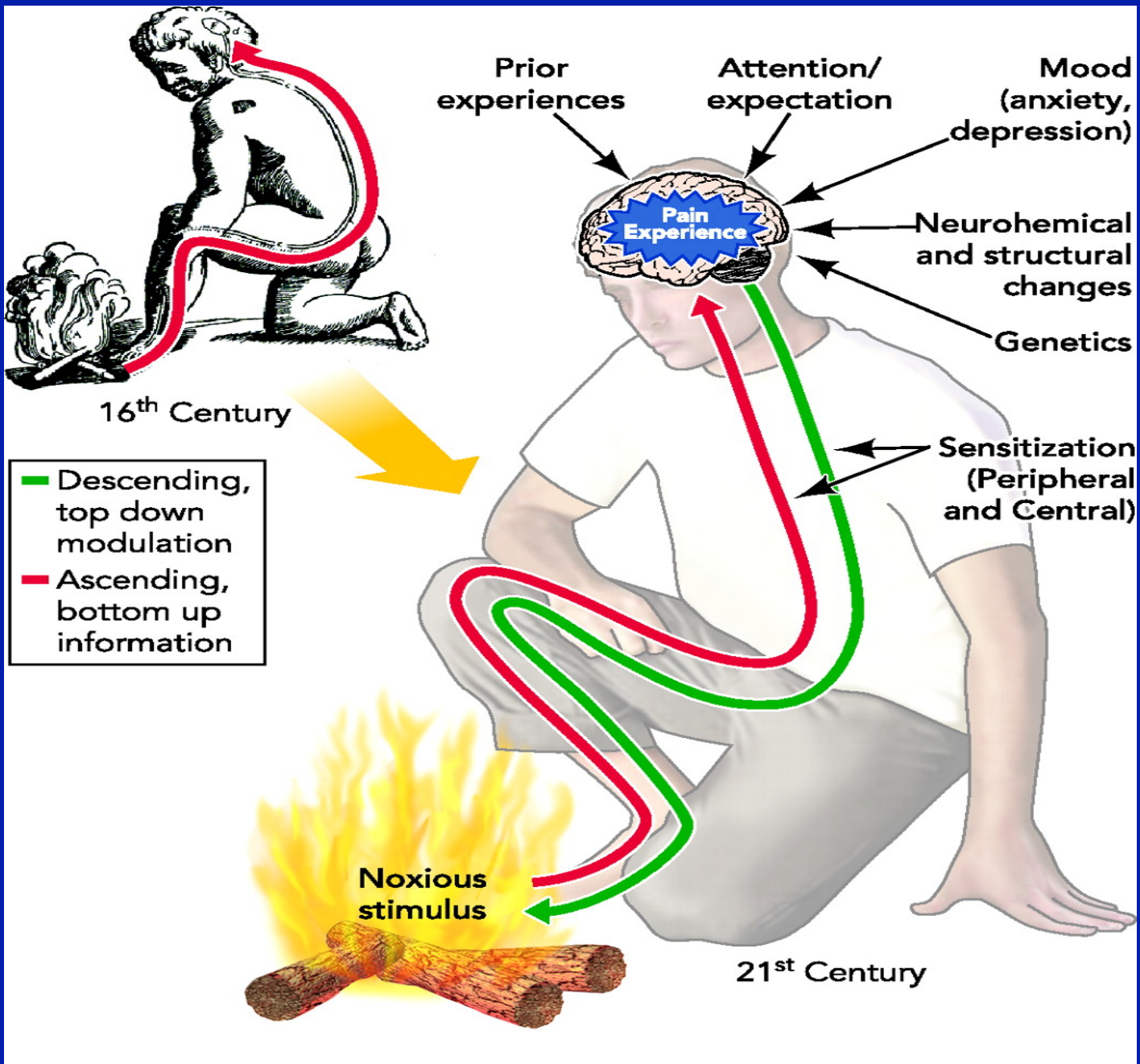


# Basic understanding of chronic pain

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# The problem

- Pain is commonest symptom causing patients to seek medical help
- Useful pain—v—Useless pain
- Patients with chronic pain are different!
  - Central sensitisation
  - Exposure to - and usage of – major drugs
- Pain after routine surgery may shock all concerned!



# What sort of pain?

- Acute or chronic?
- Nociceptive or neuropathic?
  - Everyday pain is usually nociceptive and responds to standard analgesics (beware patients with chronic pain....)
  - Neuropathic pain is seen in nerve entrapments (sciatica, femoral neuralgia, brachialgia) invasive cancers, neuritis, zoster, radiotherapy, surgery, etc.

# Acute pain

- WHO approach, may be more useful when stopping medicines as pain settles...
  - Paracetamol 1g qds as foundation (IV?)
  - Weak opioid
  - NSAID (?)
  - Strong opioid
  - Neuropathic medicines

# Weak opioids

- Codeine/DHC
  - All the problems of strong opioids up to a ceiling, so respiratory depression uncommon
  - Ceiling effect to pain relief too
  - 15 to 25 % of patients cannot produce active metabolite (morphine)
  - NNT (60mg taken alone) = 17 (!)
  - NNT with paracetamol (60/1000) = 2.2

*Br J Anaesth* 2002; **89**: 839–45

Reduced ability for codeine metabolism may be more common than previously reported. Plasma morphine concentration 1 h after codeine is very low, and related to phenotype. Codeine analgesia is less reliable than morphine, but was not well correlated with either phenotype or plasma morphine in this study.

# Constipation

Constipation is almost inevitable when opioids are used

- Co-prescribing of laxatives should be an audited standard of care



# Laxative choice

- Stimulant laxatives preferred, unless special patient
  - Senna
  - Sodium picosulfate
  - Bisacodyl
  - Co-danthramer for the terminally ill
- Low threshold for enemas, faecal softeners, etc.

# Opioid-related Nausea & Vomiting

- Common
- Usually settles
- First few doses of opioids should be covered with anti-emetic
  - Ondansetron now very cheap 4mg IV
  - Prochlorperazine 12.5mg IM is anxiolytic too
  - Cyclizine now third line drug that is painful on IV injection, dangerous in right heart failure and makes the patient feel awful
  - Dexamethasone probably underused

# Tramadol

- Spinal cord effects like tricyclics and similar to opioids, but not quite either
- Can be superb
- 20% of patients have a severe dysphoric reaction and refuse to take it ever again
- No way of predicting
- **Never provide as TTA unless you are sure the patient has already had tramadol and likes it**

# Tramadol Question

- What dose of morphine is the equivalent of 100mg tramadol?

7.5mg

10mg

15mg

17.5mg

20mg

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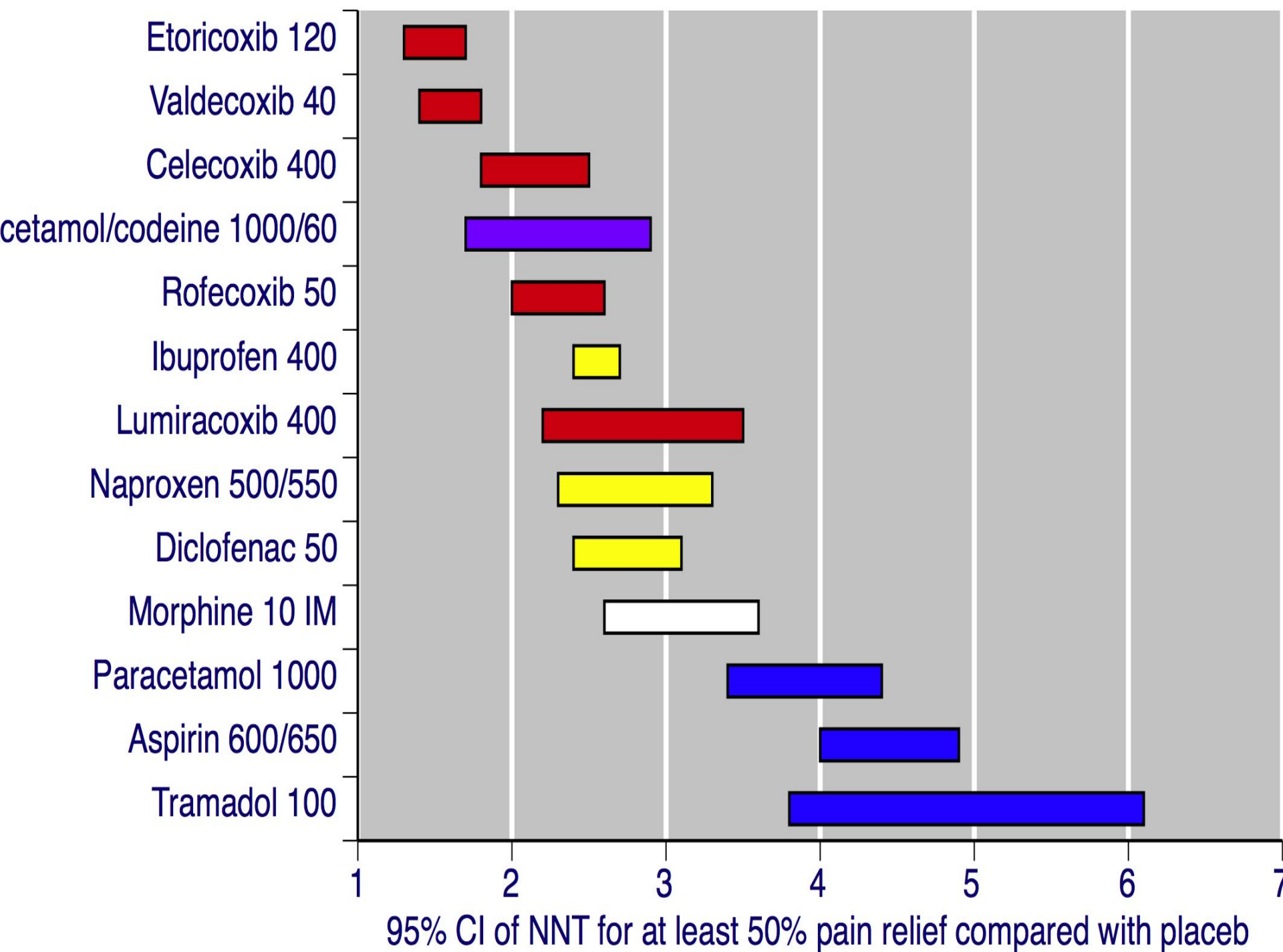
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20mg

<http://www.nelm.nhs.uk/en/NeLM-Area/Evidence/Medicines-Q--A/What-are-the-equivalent-doses-of-oral-morphine-to-other-oral-opioids-when-used-as-analgesics-in-adult-palliative-care/>

# NSAIDs

- Nurofen is not for neuropathic pain (!)
- A single shot of IV diclofenac can be near miraculous (Voltarol® injection can be added to Hartmann's solution)
- Long-term NSAIDs are the stuff of rheumatologists and pain doctors not for TTA



# Neuropathic pain

- NICE guidelines
  - Start with tricyclic or pregabalin
  - Add tricyclic or pregabalin if needed
  - Tramadol?
  - Lidocaine 5% plasters for localised pain, especially small areas or when intolerant of drugs



# Doses

- Amitriptyline, imipramine and nortriptyline start at 10mg nocte and increase (weekly?) by 10mg to maximum 75mg. Take an hour before bedtime to reduce morning hangover.
- Pregabalin 75mg nocte for a few days, then 75mg bd for a few days and so on, to maximum 300mg bd. (Note pricing!)

# NICE diabetic peripheral neuropathy

- Duloxetine 60 to 120mg at night
- Amitriptyline, imipramine or nortriptyline (all 10 to 75mg an hour before bedtime) if duloxetine not tolerated.

# Remember the mind

- Anxiety and depression will both worsen the effects of pain
- Pregabalin, gabapentin, duloxetine & venlafaxine are all licensed for generalised anxiety disorder
- TLC from our numerous, caring and highly-trained nurses

# Strong opioids

- All equally effective in equianalgesic doses
- Pethidine used in post-anaesthetic recovery to treat shivering; should be its only use!
  - Norpethidine accumulation with repeated doses
  - Interaction with MAOI
  - Relaxes biliary ducts (and other fairy stories)

# To patch or not to patch?

- Inflexible
- Slow onset (several hours)
- Titration hard
- Increased dosage in fever (? In hot weather too?)
- Fixed dose can be good for patients prone to escalate their strong opioids
- Hospital admissions may be scary....

# Patch quiz

1. What daily dose of oramorph is equivalent to a 25 mcg/hr fentanyl patch?

A: 90mg

2. What daily dose of A:codeine phosphate, B: morphine, C: tramadol, is equivalent to a 20 mcg/hr buprenorphine patch?

A: 240mg codeine

B: 40mg morphine

C: 200mg tramadol

# Patches in hospital

- Doses often very large—if you remove the patch, be ready to make up shortfall
- Fever will speed release of the drug
- Remove the patch if patient drowsy, but be prepared for excess pain and withdrawal
- When was the patch last changed?

# Decreased renal function

- eGFR < 30 ml/min/1.73m<sup>2</sup>
  - Reduce morphine dose (M6G around 30 times more potent than morphine)
  - Duloxetine not to be used
  - IV paracetamol no more than 6-hrly
- NSAIDs oppose tonic dilatation of afferent glomerular arterioles seen in dehydration



# Chronic pain patients

- Drugs often do not work
  - Central sensitisation
  - Plastic changes
  - Pain imprint
  - Psychosocial component of pain perception
- Beware temptation to add things
  - Natural instinct is to try and relieve original pain
  - Original pain may not be treatable—explore pain management techniques already taught

Fig. 1

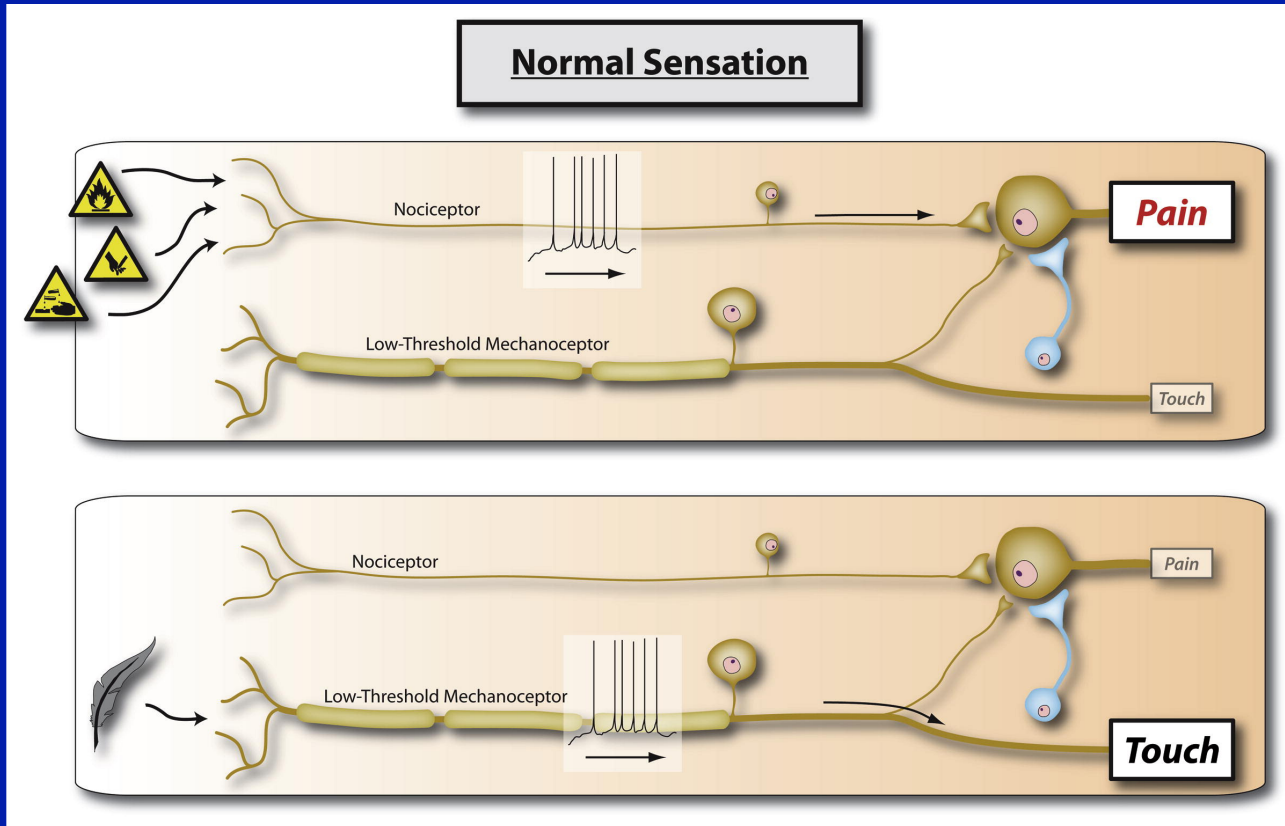
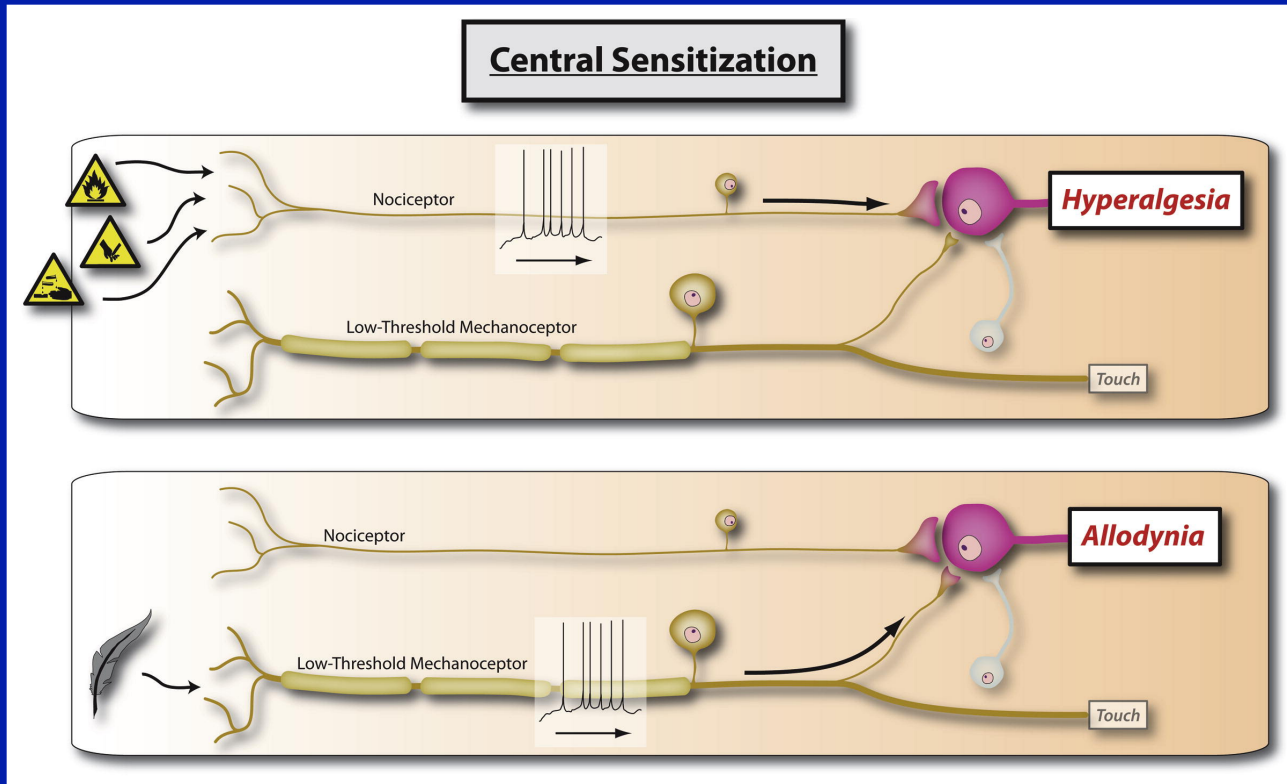


Fig. 2



# Planned Surgery for Patients with Chronic Pain

- Pre-operative assessment alerts anaesthetist to history of chronic pain
- Care planned jointly with chronic pain consultants
- Do not stop pain clinic drugs before surgery without careful consideration
- Pain relief needs to be immaculate, just like your attention to oxygenation

# Post-operative pain in chronic pain patients

- If at all possible use catheter-based regional anaesthesia—get help if needed
  - Most likely to work
  - May reduce risk of wind-up
  - May reduce risk of worse long-term pain
- Prescribe regular paracetamol 1g qds **plus usual drugs (unless contra-indicated)**
- Consider strong opioid orally, regularly, plus prn for breakthrough pain.

# Failure of post-operative pain relief in a patient with chronic pain is an emergency!

- Meticulous planning and education will spill-over into the care of everyday patients
- “I turned the pump down because she was comfortable....”

# Severe pain-parenteral management (regional failed/not feasible)

- Control pain urgently by IV titration first, then consider using oral route
- If not absorbing/NBM, PCA is safest approach, with analgesia being titrated by the patient but may need non-standard bolus size

# Ketamine Infusion

- Safe and well-proven
- No hallucinations at these doses
- Lifeboat for patients where “nothing’s working”
- Use in conjunction with usual post-operative pain relief and patient’s usual long-term medication.



# Ketamine Infusion II

- 0.2 mg/kg with induction drugs
- Infusion: 1,000ml Hartmann's solution with 200mg ketamine added will provide 0.1mg/kg/hr when half body weight in mls/hr is used, e.g. 35ml/hr for 70kg man.  
Dose range 0.1 to 0.25 mg/kg/hr

*Anesth Analg December 2003 97:1730* REVIEW ARTICLE: Ketamine in Chronic Pain Management: An Evidence-Based Review

# Don't forget

- The paracetamol (morphine sparing)
- The anti-emetics and laxatives
- Review pain scores
- Leave patches *in situ* and change when due; if removed, make-up the loss!
- Talk to pain team to introduce unusual drugs and wild-side doses of usual drugs

# Surprise!

- Spinal cord stimulators and intrathecal pumps
    - Intrathecal pumps deliver 1/100<sup>th</sup> of the parenteral dose of morphine to give the same effect
    - Spinal cord stimulators have wire electrodes in the epidural space
- Both devices have a pacemaker-like control unit placed in a subcutaneous pocket

# Implants II

- Like pacemakers, these devices:
  - Can give the patient an explosive send-off if cremated...
  - Can fail in an MRI scanner, possibly resulting in permanent malfunction of the device
  - Are safe in CT scanners
- The implanting neurosurgeon or pain clinic will have full details on the safety precautions needed for each device

# Useful websites

- Bandolier pain site at Oxford
- NICE
- British Pain Society
- Royal College of Anaesthetists (massive download of scientific background to acute pain management)
- This talk is at: <http://tinyurl.com/4xp4z5q>