**Case Study - Chronic Pain – CRPS**

**ILOS** Definition, recognition, investigation and management of CRPS. 4 pillars. Sympathetic blocks.

**Miss Jones is a 24 year old woman who had conservative management for an un-displaced left distal radial fracture 6 months ago following a fall whilst skiing. She complains of on-going left arm pain with reduced function.**

**How would you manage her pain using the RAT approach?**

**Recognise:**

* Patient may have pain from fracture malunion, nerve injury or a combination
* Pain beyond the healing time
* Patient may have neglect of the affect limb
* Patient may have a history of multiple plaster changes
* History of uncontrolled pain in the first 2 weeks whilst in plaster
* She may have a poor understanding of his symptoms
* Types of CRPS- CRPS 1 vs 2

**Assess:**

* Severity
  + May be severe and out of proportion to what would be expected from the type of injury
  + How is it affecting her?
* Type
  + Acute or acute on chronic
  + non-cancer
  + neuropathic – nerve damage following fracture
  + nociceptive - infection, trauma
  + Mixture of neuropathic and nociceptive
* Other factors
  + Physical
    - Reduced function and movement
    - Neglect of the limb
  + Psychological
    - Limb does not feel like her own
    - Change of identity, lifestyle, function, ability to work and participate in hobbies
* Budapest criteria for CRPS diagnosis
  + Disproportionate pain
  + Signs vs symptoms
  + 1 sign in 2 or more of the below categories
  + 1 symptom in 3 or of the below symptoms
  + No other diagnosis can explain the symptoms
    - **Sensory** - allodynia, hyperalgesia
    - **Vasomotor** – temp asymmetry, and/or skins colour changes, and/or skin colour asymmetry
    - **Sudomotor / odema** – Odema and/or sweating changes, and/or sweating asymmetry
    - **Motor / trophic** – reduced range of movement, and/or motor dysfunction, and or trophic changes (nail/hair/skin)
* Investigations
  + No single investigation to confirm diagnosis
  + Imaging may be required to exclude other diagnoses
  + X-Rays, MRI, Bone scans may show changes attributed to CRPS

**Treat:**

* Non-pharmacological
  + Likely to be very important, particularly if there is no remediable cause and this is likely to be chronic pain
  + Explanation of cause and access to psychologist if possible
  + Early physiotherapy +/- occupational therapy - encourage attention to limb, functional rehabilitation, consider Graded Motor Imagery, sensory discrimination/acuity training, mirror work, perceptual rehabilitation, desensitation, pacing + relaxation
  + 85% of early CRPS resolves
* Pharmacological
  + Nociceptive
    - treatment of underlying cause
    - Paracetamol, anti-inflammatories
  + Neuropathic
    - TCA -Amitriptyline / nortriptyline nocte especially if not sleeping
    - Gabapentinoids - gabapentin, pregabalin
    - Alternative agents:, SSRIs-duloxetine, Na Channel – Valproate, Lamotrigine
    - how to choose, benefits and disadvantages of each
    - Topical agents – capsaicin, Versatis, Qutenza
    - NICE guidelines on neuropathic pain management
* Bisphosphonates- when and route of administration
* Steroids- when and for how long
* Ketamine- routine of administration
* Lidocaine- topical, infusions
* Opioids
  + why not?
  + If required which one and why
* Interventions
  + Temporary sympathectomy
    - Indications
    - Drugs used
    - Techniques
  + Nerve blocks
    - Are they indicated?
  + Spinal cord stimulation
    - Mechanism of action
    - Pros and cons

**Additional possible discussion points:**

* Risk factors for CRPS pain
* Prevention of CRPS
* Surgery
  + Surgery with CPRS
  + Surgical sympathectomy
* Other neuromodulation techniques
  + Peripheral nerve stimulation
  + Motor cortex stimulation
  + Deep brain stimulation
  + Transcranial magnetic stimulation therapy
* Amputation
  + Indications
  + Pros and cons