**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