Neuropathic pain may be relieved in the majority of patients by multimodal management.

A careful history and examination are essential. Investigations such as CT and MRI may be appropriate.

It is important to have a logical and rational approach to prescribing. Pain diaries may be useful to assess the effect of intervention.

Chemotherapy or radiotherapy may be indicated if the tumour is chemosensitive or radiosensitive.

Non-pharmacological approaches should be considered including TENS, acupuncture, hydrotherapy, and psychological interventions.

Anaesthetic interventions may be indicated and should always be discussed at an early stage with the Anaesthetic Pain Specialist.
GUIDELINES

- Carry out regular clinical reviews to assess and monitor the effectiveness of the treatment. Each review should include an assessment of:
  - Pain control
  - Impact on lifestyle, daily activities (including sleep disturbance) and participation
  - Physical and psychological wellbeing
  - Adverse affects
  - Continued need for treatment (Level 4)

- The WHO analgesic ladder should be followed (level 2)

- Strong opioids should be titrated against response. There is no evidence to suggest the superiority of one opioid over another.

- Adjuvants and non-opioids should be used as appropriate.

- There is no evidence to recommend the routine use of NSAIDs in neuropathic cancer pain.
• When using opioids, if dose limiting or intolerable side effects occur despite the use of adjuvants or other interventions, a switch of opioid should be considered (level 3)

• Figure 28.1 features a flow diagram which may be a useful guide for adjuvant prescribing in neuropathic pain (level 1+)

• If nerve compression is suspected, a trial of corticosteroids could be considered but the evidence is weak (level 4)

• Consider referring to a anaesthetic pain specialist at any stage, including at initial presentation and at the regular clinical reviews if:
  • The patient has severe pain and or escalating pain OR
  • Their pain significantly limits their lifestyle, daily activities (including sleep disturbance) and participation OR
  • Urgent control is needed (Level 4)
• For anaesthetic approaches see MCCN Guidelines on Interventional Pain Techniques

• Anaesthetic intervention should not be considered a last resort

• In patients with symptoms that are difficult to control or who have severe allodynia / hyperalgesia, consider admission to a specialist centre (level 4)

• For treatment of resistant cancer-related neuropathic pain Methadone and or Ketamine could be considered in a Specialist Palliative Care setting (See MCCN Guidelines for Methadone and Ketamine use).
In patients who continue to have uncontrolled pain despite opioids, anticonvulsants and TCA then medications which have been shown to be helpful in neuropathic pain not related to cancer could be tried (See Table 1.2)

Patients who are unable to take oral analgesics and have ongoing pain should be discussed with a Specialist in Palliative Care.

Opioids may be given as a continuous subcutaneous infusion but there are no injectable options for the more commonly used adjuvants such as anticonvulsants and antidepressants

Clonazepam may be given by continuous subcutaneous infusion but the evidence is weak.

Ketamine may be an option in the Specialist Palliative Care setting (see MCCN Guidelines for Ketamine use).
GUIDELINES (CONT.)

• Discontinuation of medication

• Duloxetine should be gradually tapered over a period of no less than 2 weeks, according to the patient's needs

• Gabapentin or Pregabalin should be discontinued gradually over a minimum of 1 week independent of the indication.

• There is no clear guidance for Amitriptyline but it is recommended that it is discontinued gradually
FIG 28.1 APPROACHES TO THE ADJUVANT ANALGESICS IN CANCER RELATED NEUROPATHIC PAIN

Commence Amitriptyline OR Gabapentin OR Pregablin & TITRATE

NO RESPONSE

PARTIAL RESPONSE

Refer SPCT & Consider Pain intervention review

SWITCH CLASS OF MEDICATION

Consider adding second different class of drug

NO / PARTIAL RESPONSE

INSUFFICIENT RESPONSE

Consider:
- Alternative Medications / Approaches
- Refer for Anaesthetic Intervention assessment if patient well enough
# Table 28.1 Medication for Cancer Related Neuropathic Pain

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramadol</td>
<td>50mg</td>
<td>PO</td>
<td>Drowsiness, Constipation</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>100mg</td>
<td>PO</td>
<td>Dizziness, Nystagmus</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>100mg</td>
<td>PO</td>
<td>Blurred Vision, Fatigue</td>
</tr>
</tbody>
</table>

*Note: The above table is a simplified example of medication for cancer-related neuropathic pain. For detailed information, consult a healthcare professional.*
<table>
<thead>
<tr>
<th>Drug Name (Level of Evidence)</th>
<th>Initial Dose</th>
<th>Titration</th>
<th>Side Effects</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amitriptyline (Level 1++)</strong></td>
<td>10-25mg nocte 10mg at night in the elderly. Median preferred dose of 75mg daily</td>
<td>Increase every 3 days as tolerated</td>
<td>Occur in 33% of patients. Include drowsiness and dry mouth</td>
<td>Speed of onset 1-7 days. May get improved sleep pattern and mood. Use with caution in the following: cardiac disease; arrhythmias; epilepsy; concurrent use of SSRIs; angle closure glaucoma; history of urinary retention</td>
</tr>
<tr>
<td><strong>Gabapentin (Level 1++)</strong></td>
<td>300mg nocte. 100mg nocte if elderly</td>
<td>Increase after 3 days to 300mg bd. Increase to 300mg tds after a further 3 days. Maximum dose is 2400mg. Note: May need to use slower titration regimen e.g. start at 100mg od and increase by 100mg every 2 days</td>
<td>Sedation, dizziness.</td>
<td>Reduce dose in renal failure / impairment. Use in caution in patients with CCF. Diabetic patients may need to adjust hypoglycaemic treatment as weight gain may occur.</td>
</tr>
<tr>
<td><strong>Pregabalin (Level 1++)</strong></td>
<td>Day 1: 25mg od Day 2: 25mg bd Increase every 2 days by 25mg bd</td>
<td>150mg-600mg daily in 2 divided doses. Avoid tds dosing. Treatment costs increase with no benefit.</td>
<td>Sedation, dizziness</td>
<td>Potential pharmacodynamic interactions with all opioids and sedatives. Caution may be required in patients with chronic heart failure. Diabetic patients may need to adjust hypoglycaemic treatment as weight gain may occur.</td>
</tr>
</tbody>
</table>
| **Morphine**<sup>*</sup>  
| **(Level 1+)** | **Oramorph 2.5 - 5mg PRN** | **Convert to a sustained release Morphine preparation as clinically indicated** | **Beware of Opioid toxicity** |

| **Oxycodone**<sup>*</sup>  
| **(Level 1+)** | **Oxynorm 1-2mg PRN if opioid naive** | **Convert to a sustained release Oxycodone preparation as clinically indicated** | **Beware of Opioid toxicity** |

* Other opioids can be used as clinically indicated.
<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Dosing Instructions</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam (Level 3)</td>
<td>500 micrograms</td>
<td>Increase by 500mcg every 3 days. Maximum dose is 8mg</td>
<td>Sedation</td>
</tr>
<tr>
<td></td>
<td>nocte</td>
<td></td>
<td>May be given subcutaneously via a syringe driver. May adsorb to PVC so use non PVC equipment for infusions. A CSCI containing clonazepam should only run for a maximum of 12 hours as stability of diluted clonazepam currently only confirmed for 12 hours.</td>
</tr>
<tr>
<td>Dexamethasone (Level 2-)</td>
<td>8mg daily</td>
<td>Give for 5 days. Discontinue if no response. Reduce to lowest dose to maintain effect (see Guidelines on Corticosteroids)</td>
<td>If good response then may benefit from radiotherapy. Monitor blood sugar levels. Consider gastric protection.</td>
</tr>
</tbody>
</table>
## Medications with an evidence base in non-malignant neuropathic pain

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosing Information</th>
<th>Dosage Information</th>
<th>Side Effects</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| **Lidocaine patch**  
(Level 1-) | One strength. Apply for 12 hours daily over painful area and then remove.           | Can use up to 3 patches at any one time.                                         | Skin reaction | Current evidence is for post herpetic neuropathic pain. May be useful for post thoracotomy pain. |
| **Carbamazepine**  
(Level 1+)  | 200mg daily. 100mg daily in elderly                                                 | Increase by 100mg-200mg every 3 days. Give in divided doses.                    | Nausea, drowsiness, confusion and ataxia. | Beware of drug interactions.                                       |
| **Duloxetine**    | 60mg od                                                                            | Maximum 120mg daily in divided doses                                              | Headache, somnolence, nausea, dry mouth | Licenced for use in diabetic peripheral neuropathic pain           |
## Medications with an evidence base in non-malignant neuropathic pain

<table>
<thead>
<tr>
<th>Medication</th>
<th>Instructions</th>
<th>Side Effects</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsaicin 0.075% cream</td>
<td>Apply topically 3 or 4 times daily</td>
<td>Skin burning and redness</td>
<td>May take up to 10 days to have an effect. Always wear gloves when applying</td>
</tr>
<tr>
<td>(Level 1-)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Valproate</td>
<td>200mg nocte</td>
<td>Increase by 200mg every 3 days. Maximum dose is 1000mg daily.</td>
<td>Nausea, ataxia.</td>
</tr>
<tr>
<td>(Level 2-)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Response to intervention for NP should be monitored with pain scores or VAS before and after intervention.

Patients with severe pain or pain that is affecting ADLs should have at least weekly follow-up if an outpatient, and 24 hourly reassessment if an inpatient.

If neuropathic pain is escalating (despite appropriate medical treatment), an Anaesthetic Pain Specialist should be contacted for advice within 1 week where available.