

# Reining in Neuropathic Pain



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## Meet Jodie

Jodie is a 48-year-old non-insulin dependent diabetic who presents with:

- two years of burning pain and numbness in her feet with gradual onset,
- pain that is a six out of 10,
- pain that extends from her toes to her mid-calf, bilaterally and
- pain that is present day and night and it is at its worst at bedtime

Because of this, Jodie is sleeping poorly. She has poor compliance with her diabetic diet and poor glycemic control.

Her medications include:

- 850 mg of metformin, b.i.d.,
- 5 mg of glyburide, b.i.d.,
- 81 mg of acetylsalicylic acid, q.d.
- 20 mg of atorvastatin, q.d.
- 10 mg of ramipril, q.d. and
- up to 5 g of acetaminophen, q.d. and 1600 mg of ibuprofen, q.d.

**For more on Jodie, read on.**

*Neuropathic pain is a significant problem for approximately 25% of all diabetics; however, this problem is not unique to patients with diabetes.*

## What are the clinical features of neuropathic pain?

Neuropathic pain is a significant problem for approximately 25% of all diabetics;<sup>1</sup> however, this problem is not unique to patients with diabetes. It is also found in:

- up to 20% of post-mastectomy patients,<sup>2</sup>
- one-third of cancer patients and
- 7% of all patients with low back pain and numerous other conditions.<sup>3-4</sup>

Recognition of neuropathic pain is the first step in the management of this debilitating condition. Often, pain is initially described as severe; however, when pressed further, patients often describe this symptom as burning, but a variety of other terms are used, including:

- prickling,
- deep,
- sharp,
- aching,
- gnawing and
- cutting.

A key association of neuropathic pain is the presence of altered sensation over the same anatomical location. This can be:

- loss of touch (hypoesthesia),
  - a painful response to non-noxious stimuli (allodynia),
  - an exaggerated response to a noxious stimulus (hyperpathia), or
  - as a prolonged painful response to a mildly noxious stimulus (hyperalgesia)
- (Figure 1).<sup>5</sup>

### *How is neuropathic pain diagnosed?*

The diagnosis of neuropathic pain is largely clinical, with consideration for the underlying cause. It is important that reversible causes be sought, as some forms of structural, nutritional, or medication-induced causes of neuropathy might be treatable, for example:

- radiculopathy,
- vitamin B12 deficiency, or
- thiamine deficiency, or
- chemotherapeutic and
- antiretroviral-induced neuropathies.

After partially reversible causes have been ruled out and individual psychological and medical co-morbidities are considered, management can be tailored to the individual patient.

### *Managing neuropathic pain*

Conservative non-pharmacologic intervention should be emphasized, such as the importance of a regular exercise program and if required, weight loss. For patients with lower limb pain exacerbated by walking, an exercise program consisting of swimming and a recumbent bicycle is an option.

*Neuropathic pain is also found in up to 20% of post-mastectomy patients, one-third of cancer patients and 7% of all patients with low back pain, among numerous other conditions.*

The choice of medication can be tailored to the individual. In Jodie's case, she suffers from disturbed sleep and anxiety. Further investigation might reveal depression, which is another under-recognized, common, comorbidity with neuropathic pain. In this scenario, these factors make a tricyclic antidepressant a good first-line medication. Thirty-six is the number needed to treat for a 50% reduction in pain with amitriptyline. Initiating a low dose of amitriptyline at 10 mg and titrating slowly to 50 mg to 75 mg as tolerated, can be expected to improve the patient's pain, as well as their disordered sleep.<sup>6</sup> At higher doses, it also has the potential to improve co-existent depression. If weight loss is important, topiramate starting at 25 mg, q.h.s. and increasing to 100 mg to 150 mg, q.d., can help with:

- neuropathic pain,
- disordered sleep and
- assist in weight loss.

If anxiety is an important factor, pregabalin starting at 75 mg, b.i.d. and increasing to 300 mg to 600 mg, q.d., can assist:

- neuropathic pain,
- disordered sleep and
- anxiety.<sup>7</sup>

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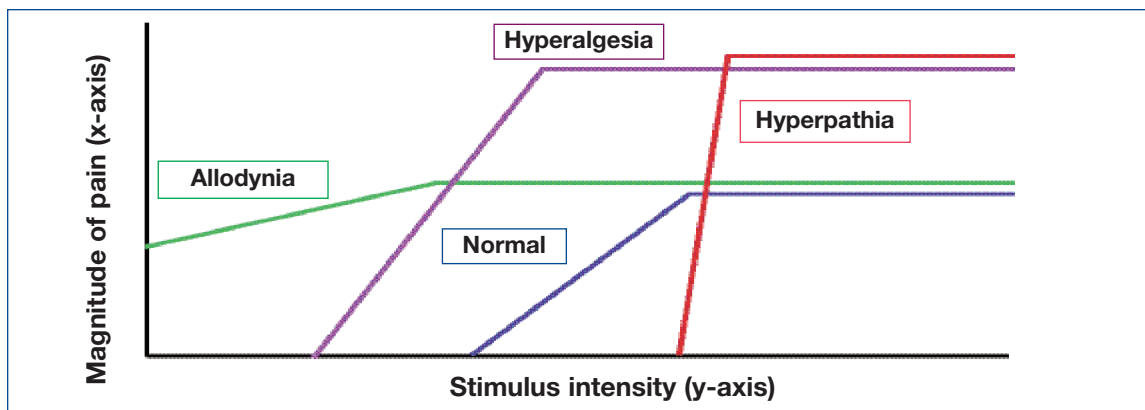


Figure 1. Examples of normal and abnormal responses to sensory stimuli.

Side-effect management is crucial in this patient population. The use of tricyclic antidepressants is often accompanied by anticholinergic side-effects, making them a poor choice in:

- older patients,
- patients with autonomic neuropathy, or
- individuals taking multiple medications.

Anticonvulsants, such as gabapentin or pregabalin are exclusively renally metabolized, thus have very little medication interaction.

It is important not to use an inappropriate dose or duration of therapy as a trial of medication in this population—always attempt to treat for at least one month at an adequate dose before deciding that the medication has failed. In the event that topical medications (*i.e.*, capsaicin, lidocaine patch), tricyclic antidepressants and anticonvulsant medications are inadequate for treatment, some patients will require opioids. In general, for better overall pain control, the use of long-acting opioids is preferred over short-acting ones in those who will require them for long-term use.

Cannabinoids are becoming an established therapy for patients with neuropathic pain, but more studies are required and their use can be limited by cognitive side-effects.<sup>8</sup>

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