

Type 2 Diabetes - Neuropathy

Usual Presentation: Begins in feet, progresses proximally; is often symmetrical but may present atypically

Symptoms: chronic or undulating pain, numbness, tingling, burning or occasionally shooting or stabbing pain

Prevention and Treatment of Neuropathic Pain Syndrome

- Maintain glycemic control
- Smoking cessation and/or alcohol cessation/reduction
- Consider alpha lipoic acid 600mg daily (OTC supplement)

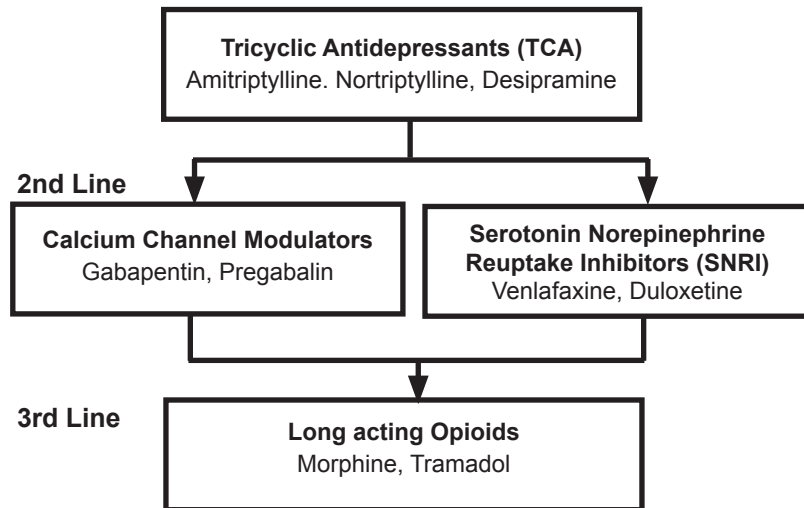
Goal of therapy: Reduce symptoms by ~50%

Non-Prescription therapy

Consider alpha lipoic acid 600mg daily (more effective than vitamin B)

Prescription therapy

1st Line - TCAs are efficacious and low cost; consider contraindications



Common reasons for treatment failure:

- Dosing too low
- Inadequate trial; requires 2-8 weeks of tx to observe symptom reduction
- Expecting elimination of symptoms; treatment reduces symptoms by ~50%
- Incorrect diagnosis; If doubt, refer to pain specialist or neurologist
- If patient does not respond or has adverse effects, change medication class
- If patient has some but inadequate relief, ↑ dose then consider adding or changing medications

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1st Line Tricyclic Antidepressant (TCA)

Amitriptylline 25-150mg daily may help with sleep disorders

Nortriptylline 25-150mg daily less sedating, less anticholinergic

Desipramine 25-150mg daily less sedating, less anticholinergic

Side effects: sedation, dry mouth, blurred vision, weight gain, urinary retention

Other benefits: improvement of depression and insomnia

Caution: personal/family history of dysrhythmia or sudden cardiac death, glaucoma, suicide risk, seizure disorder; caution autonomic neuropathy (may cause orthostatic sx) - get standing BPs

2nd Line Calcium Channel Modulators

Gabapentin (Neurontin®) 100-1,200mg TID

Pregabalin (Lyrica®) 50-200mg TID

Side effects: sedation, dizziness, peripheral edema

Other benefits: improvement of insomnia, fewer drug interactions

Caution: cardiac disease, glaucoma, suicide risk, seizure disorder

Serotonin Norepinephrine Reuptake Inhibitors (SNRI)

Venlafaxine (Effexor®) 75-225 mg daily starting dose: 37.5mg

Duloxetine (Cymbalta®) 60 mg daily starting dose: 30mg

Side effects: sedation, dry mouth, blurred vision, weight gain, urinary retention

Other benefits: improvement of depression and insomnia

Caution: renal insufficiency; do not stop abruptly - taper dose

3rd Line Long Acting Opioids

Morphine (MS Contin®) start at low dose and titrate gradually

Or other long-acting opioid

Tramadol (Ultram®)

Side effects: sedation, nausea, constipation (always prescribe stool softener);

Caution: abuse, suicide risk; short-acting opioids not recommended for long term

Combination therapy not well studied; Some evidence for the combination of gabapentin and nortriptylline. Caution with drug interactions (e.g. serotonin syndrome risk w/ tramadol and many antidepressant meds)

If above medications are not efficacious, contraindicated, or if intolerable adverse events occur, may consider:

- *Bupropion (Wellbutrin®)*
- *Topiramate (Topamax®)*
- *Citalopram (Celexa®)*
- *Paroxetine (Paxil®)*
- *Topical capsaicin (for localized pain)*
- *Topical lidocaine (for localized pain)*

Drug names in *italics* are not included in the IHS National Core Formulary

References: AmJMed 2009;122:S22-S32, Diabetes Care 2009;32:S414-419, JAMA 2009;302:1451-1458, BMJ 2009;339:b3002