

ANTIDEPRESSANTS

CLINICAL QUESTION

Are antidepressants effective in the management of non-malignant low back pain?

THE EVIDENCE

Treatment	Condition	Comparator	Relevant Results/Authors' Conclusions [#]
Norepinephrine reuptake inhibitors (tricyclics and tetracyclics) [†]	Non-malignant low back pain for > 6 weeks or > 2 weeks with a previous episode > 2 weeks	Placebo	Strong evidence that norepinephrine reuptake inhibitors (tricyclics and tetracyclics: nortriptyline ^a 25 mg to 100 mg daily; imipramine ^a 75 mg to 150 mg daily; amitriptyline ^a 50 mg to 150 mg daily; and maprotiline ^a 50 mg to 150 mg daily) are mildly to moderately effective in reducing pain after 4 to 8 weeks of treatment. Safety was not assessed.
Selective serotonin reuptake inhibitors (SSRIs) (antidepressants that do not inhibit norepinephrine reuptake) [‡]	Non-malignant low back pain for > 6 months or > 2 weeks and a previous episode > 2 weeks	Placebo	Moderate evidence that antidepressants which do not inhibit norepinephrine reuptake (paroxetine ^a 20 mg daily and trazodone ^a 50 mg to 600 mg daily) have no analgesic benefit after 6 to 8 weeks of treatment. Safety was not assessed.
SSRIs [§]	Non-malignant low back pain for > 6 months	Maprotiline ^a (50 mg to 150 mg) (norepinephrine reuptake inhibitor)	Moderate evidence that SSRIs (paroxetine ^a 10 mg to 30 mg) have no analgesic benefit, compared to a norepinephrine reuptake inhibitor (maprotiline ^a), after 8 weeks of treatment. Safety was not assessed.

[†]Based on two **GOOD***, one **AVERAGE***, and two **POOR*** quality randomised controlled trials (RCTs), as assessed by the authors of this review, published between 1976 and 1999; [‡]Based on one **GOOD***, one **AVERAGE***, and one **POOR*** quality RCT published between 1990 and 2000; [§]Based on one **GOOD*** quality RCT published in 1999; [#]Refer to Grading Key document for explanation of evidence grading

ADDITIONAL NOTES

^aDrugs included in the Compendium of Pharmaceuticals and Specialties (2004) that are used for indications other than chronic pain: nortriptyline (Aventyl[®]), imipramine (Tofranil[®]), paroxetine (Paxil[®]), and trazodone (Desyrel[®]). Amitriptyline (Apo[®]-Amitriptyline) is widely used as an atypical analgesic in the management of several chronic pain conditions (fibromyalgia and various neuropathies), although this is not a labelled indication.

IMPLICATIONS FOR PRACTICE

What we don't know:

- What is the mechanism of action of tricyclic and tetracyclic antidepressants on low back pain?
- Do tricyclic medications improve the functional status of patients with low back pain?
- What are the benefits and risks of antidepressants in the treatment of patients with low back pain?
- What is the efficacy of other 'dual action' norepinephrine reuptake inhibitors, such as mirtazipine (Remeron[®]), and norepinephrine serotonin reuptake inhibitors, such as venlafaxine (Effexor[®])?

Research Evidence: What we know

In patients with non-malignant low back pain, the evidence indicates that:

- antidepressants which inhibit norepinephrine reuptake (tricyclics and tetracyclics) are moderately effective in reducing pain;
- selective serotonin reuptake inhibitors (SSRIs) have no analgesic benefit.

Since acute back pain usually resolves in 1 to 3 months, antidepressants should not be used routinely for acute back pain.

Recommendation from Clinical Ambassadors

Old fashioned tricyclic antidepressants are an effective treatment for chronic back pain, at much lower doses than might be used for depression.

The Clinical Ambassadors: Dr Pamela Barton, Dr Saifee Rashid, Dr Paul Taenzer

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Reference: This Evidence Brief is based on results from a **POOR*** quality systematic review (SR).
Staiger TO, Gaster B, Sullivan MD, Deyo RA. Systematic review of antidepressants in the treatment of chronic low back pain.
Spine 2003;28(22):2540-45.

***Quality ratings for RCTs & SR:** Good ● Average ● Poor ●

[Key to Evidence Gradings](#)

[Glossary](#)

[Methodology](#)