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## Can our brains help our pain? Psychological interventions for chronic low back pain

### CLINICAL QUESTION

**In adults with chronic low back pain, do psychological interventions improve pain?**

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### BOTTOM LINE

**Psychological interventions, specifically cognitive behavioral therapy and mindfulness-based stress reduction, lead to clinical improvements in pain for approximately 30-60% of patients compared to 20-30% with control at 18 to 52 weeks. The specific intervention chosen should be guided by patient preference and accessibility.**

### EVIDENCE

- Results statistically significant unless otherwise noted.
- One randomized controlled trial (RCT)<sup>1</sup> [342 patients, baseline “pain-bothersomeness” 6 on 10-point scale (lower score=better)] compared 8 weekly sessions of cognitive behavioral therapy (CBT) to 8 weekly sessions (with optional retreat) of mindfulness-based stress reduction (MBSR) or usual medical care.
  - Global Improvement (pain “much better” or “completely gone”) at 52 weeks.
    - 32% CBT, 30% MBSR, 18% control; number needed to treat (NNT) versus control: 7 to 8.

- ≥30% reduction in pain-bothersomeness scale:
  - 40% CBT (not statistically different from either), 49% MBSR, 31% control at 52 weeks, NNT 6 for MBSR over control.
- No difference for either outcome at 104 weeks.<sup>2</sup>
- One RCT<sup>3</sup> (701 patients, baseline pain 59/100) randomized to receive up to 6 sessions of group CBT or usual care/education. After 12 months:
  - Proportion “recovered”: 59% versus 31% (control), NNT 4.
- One RCT<sup>4</sup> [156 patients, baseline pain ~56 on 100-point scale (lower=better)]; 10-14 one-hour CBT sessions versus waitlist. At 18 weeks:
  - Clinically meaningful pain improvement (≥18-point decrease): 44% versus 23% waitlist, NNT 4.
- Three systematic reviews reported similar results.<sup>5-7</sup>
- Limitations:
  - Systematic reviews report standard mean differences.
  - Control interventions not consistent and not always well defined.

## CONTEXT

- No RCTs were found for Acceptance Commitment Therapy (ACT).
- MBSR is a mind-body approach which focuses on increasing awareness and acceptance of moment-to-moment experiences including physical discomfort and difficult emotions.<sup>1</sup>
- Psychological interventions were provided by a trained healthcare professional.
- Can be delivered online or in-person, with limited evidence on best delivery model. Patient preference should guide decision on specific therapy chosen.
- Interactive tools such as decision aids<sup>8</sup> or pain calculators<sup>9</sup> can be helpful in discussing management options with patients.

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