How can pregnant women safely relieve low-back pain?

**Evidence-Based Answer**

**Acetaminophen is safe** for use in pregnancy but lacks evidence of efficacy (strength of recommendation [SOR]: C, usual practice).

Both physical therapy and water aerobics reduce sick days caused by low-back pain (strength of recommendation [SOR]: B, randomized controlled trial [RCT]). Acupuncture, including auricular acupuncture, also relieves low-back pain and improves function (SOR: B, 2 RCTs).

Osteopathic manipulative therapy (OMT) slightly improves disability (SOR: B, RCT).

Corticosteroid injection at the sacrospinous ligament insertion decreases pain (SOR: B, RCT).

Insufficient evidence of efficacy exists for support garments (SOR: B, systematic review).

No serious maternal or fetal adverse effects have been reported with any of these therapies.

**Evidence summary**

Even though clinical research is lacking, acetaminophen is widely used to relieve low-back pain with no documented teratogenic effect (US Food and Drug Administration [FDA] category B). Nonsteroidal anti-inflammatory drugs are classified as FDA category D in the third trimester because of their documented association with oligohydramnios, premature closure of the ductus arteriosus, nephrotoxicity, and periventricular hemorrhage in the fetus.1 Opioids are category C and a poor choice to treat low-back pain in pregnancy.2

**Physical therapy and water aerobics relieve pain, reduce sick days**

A 2007 Cochrane review of interventions for treating back pain in pregnancy analyzed 8 studies with a total of 1305 patients that examined the effects of adding physical therapy and acupuncture to usual care.3 In one RCT, 407 patients with and without pain received 5 30-minute individualized physical therapy exercise sessions, 2 45-minute group physical therapy classes, or standard care.4 Low-back pain decreased with group physical therapy (P<.05; number needed to treat [NNT]=3.2) and individual therapy (NNT=2.1). Patients who received individual therapy had a 12% decrease in sick days.

A prospective trial of 258 patients, half of whom did water aerobics and half physical therapy, showed comparable results for the 2 interventions (NNT=11.4 for decreased sick days; odds ratio=0.38, 95% confidence interval [CI], 0.16-0.88).3

**Acupuncture reduces pain and analgesic use**

A prospective, randomized open study cited in the 2007 Cochrane review divided 72 patients at 24 to 37 weeks’ gestational age into a group that received acupuncture plus standard care and a standard-care-only control group.3,5 Treatment sessions occurred one or 2 times per week until delivery or recovery. The acupuncture group reported decreased pain (60% vs 14% for controls; P<.01; NNT=2.2) and improved function (43% vs 9% for controls; P<.001; NNT=2.9). There was also a difference in analgesic use: 0% for the acupuncture group vs 14% for controls; P<.05; NNT=7.1.

**Evidence-based answers from the Family Physicians Inquiries Network**

Roselyn Jan W. Clemente-Fuentes, MD; Heather Pickett, DO Nellis Family Medicine Residency, Nellis Air Force Base, Nev

Misty Carney, MLIS Stimson Library, Fort Sam Houston, Tex

**Assistant Editor**

Paul Crawford, MD Nellis Family Medicine Residency, Nellis Air Force Base, Nev
A 2009 RCT divided 159 patients at 25 to 38 weeks’ gestational age into 3 groups: auricular acupuncture at specific points for one week, sham auricular acupuncture at nonspecific points for one week, and controls. At the end of Week 1, 80% of the acupuncture group had a clinically significant reduction in pain compared with 56% in the sham acupuncture group and 36% in the control group ($P<.001$ acupuncture vs sham, NNT=4.2; $P<.0001$ acupuncture vs controls, NNT=2.3).

Osteopathic manipulative therapy (OMT) decreases disability, but not pain
A 2010 RCT divided 144 third trimester patients into 3 groups that received usual obstetric care, sham ultrasound therapy plus usual obstetric care, or OMT. Pain remained similar among the 3 groups throughout the study. Using the 24-point Roland-Morris Disability Questionnaire, OMT decreased disability by 0.72 points (95% CI, 0.31-1.14; $P<.001$) compared with 0.35 points in the usual obstetric-care-only group (95% CI, −0.06 to 0.76; $P=.09$). Ultrasound had no effect.

Corticosteroid injection reduces pain in a small trial
A small RCT of injection with the corticosteroid triamcinolone at the sacrospinous ligament insertion in 36 women with low-back pain showed significant reduction in pain in 17 of 18 women in the triamcinolone group compared with 9 of 18 women in the control group ($P<.01$; NNT=2).

Evidence lacking on maternity support garments
A poor-quality systematic review of 10 studies (N=1909) of maternity support garments found insufficient evidence because of the heterogeneity of the trials.

Recommendations
The American College of Obstetricians and Gynecologists suggests the following measures to prevent and treat low-back pain in pregnancy:

- wear low-heeled (not flat) shoes with good arch support
- get help when lifting heavy objects
- place one foot on a stool or box when standing for long periods
- place a board between the mattress and box spring if the bed is too soft
- squat down, bend knees, and keep back straight when lifting
- sit in chairs with good back support or use a small pillow to provide support
- sleep on side with pillows between knees for support
- apply heat, cold, or massage to the painful area.

References

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