Q/ How can pregnant women safely relieve low-back pain?

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 sacro-spinous 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.34 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.35 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.

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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).8

**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.9

**Recommendeds**
The American College of Obstetricians and Gynecologists suggests the following measures to prevent and treat low-back pain in pregnancy:10

- 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**