



NEUROMUSCULOSKELETAL CONSIDERATIONS DURING PREGNANCY AND POSTPARTUM

What type of pain might I experience throughout my pregnancy?

Musculoskeletal (MSK) pain during pregnancy feels different for each person and changes throughout each trimester. Back and hip pain are common during pregnancy and some pregnant people note pain in other joints.

Where am I most likely to experience pain during pregnancy?

Low back pain is the most common MSK condition in pregnancy; and it becomes more common as pregnancy progresses (especially after week 22).

What can I do to manage my musculoskeletal pain during pregnancy?

MOVE: Physical activity throughout pregnancy can reduce the risk of developing musculoskeletal pain, gestational diabetes, high blood pressure and pre-eclampsia.

STRENGTHEN: Pelvic floor muscle training (e.g., kegel exercises) may be performed daily to reduce risk of urinary incontinence. Ask your clinician for guidance on proper techniques for optimal benefits.

MODIFY: If you experience light-headaches, nausea or feel unwell during exercise, consider modifying your exercise position to avoid the supine position (exercise where you lay on your back).

REDUCE PAIN: To reduce back pain during pregnancy, consider using heating pads or pregnancy support belts, modifying body positions at work, home and while sleeping to increase lumbar support, modifying footwear and stretching.

REFERRAL TO PT: If musculoskeletal pain persists, contact your primary care provider (PCP) for a referral to physical therapy.

What can I do to manage my musculoskeletal pain during postpartum?

- Start diaphragmatic breathing immediately after delivery.
 1. Sit with one hand on chest and other on belly.
 2. Allow belly to expand on inhale and contract on exhale.
- Postpartum patients may resume prior exercise programs as soon as medically safe depending on mode of delivery and complications. In some cases, this can be within a few days of delivery. If resuming certain exercises causes pain or discomfort, then patients should give their bodies more time to recover.
- Pelvic floor muscle training (e.g., kegel exercises) may be performed daily to reduce risk of urinary incontinence. Ask your clinician for guidance on proper techniques for optimal benefits. You may also ask your clinician about pelvic floor therapy or physical therapy as appropriate if urinary incontinence symptoms persist postpartum.
- Abdominal strengthening can reduce incidence of diastasis recti.
- Feed or pump prior to exercise to prevent discomfort with breast engorgement. Aerobic activity is *not* shown to reduce milk supply.



Tips for Exercise During Pregnancy

- **Avoid supine exercise** (exercise where you lay on your back) after first trimester.
- **Start slow** – five minutes a day. Increase movement weekly if sedentary up to 30 minutes daily.
- **Avoid** heat and humidity.
- **Dress comfortably**, loose clothing.
- **Drink** lots of fluids.
- Have **adequate calorie intake**.
- The intensity of your aerobic activity (i.e. running) should be such that you can still **maintain a conversation comfortably** during the activity.
- Remain physically active throughout pregnancy if you do not have contraindications. You should accumulate at **least 150 minutes of moderate-intensity physical activity** each week to achieve clinically meaningful health benefits and reductions in pregnancy and postpartum complications.
- **Continue vigorous – intense aerobic activity** during pregnancy and postpartum period if you habitually engaged in these activities or were physically active before pregnancy.
- Be active everyday if possible. Physical activity should be **accumulated over a minimum of three days per week**.
- Incorporate a variety of **aerobic and resistance training activities to achieve greater benefits**. Recommended activities include stationary cycling, walking, swimming, hydrotherapy and water aerobics, aerobic exercise, dancing, running and resistance training. Incorporating yoga and/or gentle stretching may also be beneficial.
- **Restricted activities include** scuba diving, horseback riding, downhill snow sports, strenuous heat activities (e.g., hot yoga), contact sports and activities with high risk of abdominal trauma or falling.

Where can I go to seek care if I am experiencing musculoskeletal pain during pregnancy and postpartum?

- Your PCP and obstetrician/gynecologist (OB/GYN) can provide specific guidance on pain management techniques and a referral to physical therapy.
- Pelvic floor home exercises can be found at:
 - [US National Institutes of Health – Kegel Exercises](#)
 - [UK National Health Service – Post-Pregnancy Body](#)

Where can I go to seek information about exercise and nutrition guidance during pregnancy and postpartum?

- The [Artemis Program](#) is a Marine Corps-endorsed evidence-based approach to increase the rehabilitation, readiness, and retention of pregnant and postpartum Marines and Sailors.
 - The Artemis Program provides pregnant Marines with additional touchpoints during and following pregnancy to support their readiness and retention.
- Participating Marines can enroll in the Artemis Program upon completion of their first obstetrician visit.
- [U.S. Navy Pregnancy and Postpartum Physical Training and Nutrition Guidebook](#).
- [The Nutrition Guidelines and Recommendations for Service Women](#) resource provides information on general nutrition guidelines, nutrition labels, pregnancy and lactation nutrition.