

OPTIMAL HEALTH UNIVERSITY™

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Stress and Pregnancy

Pregnancy can be a stressful time in a woman's life. There are many physical changes, followed by a major life-changing event: the birth of a child.

Your doctor at Hinterland Chiropractic acknowledges that some stress during pregnancy is natural. However, prolonged, elevated levels of stress can have a lifelong effect on a fetus. Your doctor at Hinterland Chiropractic wants to share with you how maternal stress affects a baby, as well as stress-busting techniques sure to calm any mom-to-be.

The best time to prepare for a low-stress pregnancy is before you are pregnant. However, if you are already pregnant, your doctor at Hinterland Chiropractic urges you not to let the following research worry you. Even making small changes in stress levels late in pregnancy can make a tremendous difference!

Asthma and Allergies

Research indicates that babies born to stressed-out moms have an elevated risk of developing asthma and allergies.

The scientists, who studied 387 mothers and their infants, found bolstered levels of a class of antibodies, which are responsible for allergic reactions, among babies of stressed-out moms.

The researchers theorize that the mother's stress magnifies the effect of dust exposure on the child's immune system. Thus, a child's immune re-



sponse at birth may be altered even with lower levels of dust exposure in the home (*Amer Thorac Soc* 2008;Epub).

Brain Development and Behavior

Chronic maternal stress compromises a mom's normal hormone regulation and increases production of a hormone called cortisol. Research is starting to uncover how excess cortisol may influence a fetus' brain development. These changes could potentially alter a baby's personality and trigger attention problems.

According to one report, "Excess amounts of CRH [corticotrophin-releasing hormone] and cortisol reaching the human fetal brain during periods of chronic maternal stress could alter personality and predispose to attention deficits and depressive illness through changes in neurotransmitter activity." (*Brain Behav Immun* 2005;19:296-308.)

It's possible that a mom's level of anxiety during pregnancy will affect a child's behavior and his or her responses to stress. A brand-new report links prenatal stress to behavior problems, such as attention and learning deficits, generalized anxiety and depression.

"Excess circulating maternal stress hormones alter the programming of

foetal neurons, and together with genetic factors, the postnatal environment and quality of maternal attention, determine the behaviour of the offspring." (*Neurosci Biobehav Rev* 2008;Epub.)

Adolescent Depression

Can maternal stress predispose a baby to later pediatric depression? Yes, say researchers who just completed a long-term study that followed mothers and babies until adolescence.

Adolescents of moms who were stressed during the majority of the second trimester (12 to 22 weeks) all exhibited a high level of cortisol. Teenage girls in the study also displayed symptoms of depression. Results remained true after the researchers controlled for factors such as maternal smoking, birth weight, maternal postnatal anxiety and puberty (*Neropsychopharmacology* 2008;33:536-45).

Diabetes

Type I diabetes is a chronic condition in which the pancreas produces little or no insulin. It typically appears during childhood or adolescence, and sadly there is no cure.

In a large-scale study — performed in Sweden — 20,920 nondiabetic mothers completed psychological questionnaires during pregnancy. Later, at the time of birth, the newborns' cord blood was tested for factors related to diabetes.

High levels of chemical markers for Type I diabetes were found in newborns whose mothers were more worried than usual or endured a stressful event during pregnancy (*Ann N Y Acad Sci* 2006;1079:345-9).

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Surefire Ways to Reduce Stress During Pregnancy

Continue Chiropractic Care. Regular chiropractic appointments throughout pregnancy not only keep spinal alignment in check, but also slash stress. It's a myth that pregnancy and back pain are synonymous. Pregnant women who visit their doctor of chiropractic regularly are much less likely to suffer from neck and back pain or have elevated stress levels, and they are more likely to have optimal spinal and hip alignment for birthing.

Engage in Exercise. Exercise is a fabulous stress reliever, especially during pregnancy. One report, which tracked 180 pregnant women, documented that even low-intensity, regular exercise decreased stress and anxiety during each trimester. Exercisers had "significantly less depressed mood, daily hassles, state-anxiety and pregnancy-specific stress in the first and second trimester. Women who exercised in the third trimester reported less state-anxiety in that trimester compared to non-exercisers." (*J Psychosom Obstet Gynaecol* 2003;24:111-9.)

Meditate. Meditation allows the mind and body to unwind, simultaneously. Researchers reviewed 12 published studies regarding mind-body interventions, such as meditation, yoga and progressive muscle relaxation. Moms who meditated or practiced other mind-body exercises had shorter labors, fewer instrument-assisted births, reduced stress and babies with higher birth weights. "There is evidence that pregnant women have health benefits from mind-body therapies used in conjunction with conventional prenatal care," summarize the authors (*J Obstet Gynecol Neonatal Nurs* 2008;37:165-75). Some birthing preparation techniques, such as Hypnobirthing™, include meditation instruction specific for pregnancy.

Enroll in a Childbirth Preparation Class. Taking a birthing prep class is an effective way to reduce stress regarding fear of birth. Even if you are taking a class at a hospital, it's important to take an independently run one as well, taught in an out-of-hospital setting. Independently run classes taught by midwives or doulas are more likely to focus on relaxation techniques and recognize childbirth as a natural, positive event, needing little intervention.

Consider Acupuncture. Acupuncture may help alleviate stress by releasing natural pain-killing chemicals in the brain, called endorphins. Throughout pregnancy, acupuncture helps relax muscles, decrease heart rate, lower blood pressure and improve circulation of blood throughout the body. In addition, acupuncture may reduce pregnancy-related pelvic and back pain (*Am J Obstet Gynecol* 2008;198:254-9).

Don't Be an Ostrich. Sticking your head in the sand, as an ostrich would, and avoiding a problem is a surefire way to trigger maternal stress. Researchers investigated coping strategies in 321 early, midterm and late pregnancies, and found that subjects predominantly followed one of three behaviors: planning, avoidance or spiritual coping. Planning and spiritual support proved helpful, but avoiding or ignoring the problem caused the most stress. "Avoidance was most strongly predicted by high state anxiety and pregnancy-specific distress." (*J Psychosom Obstet Gynaecol* 2008;29:97-104.)

Stillbirth

Serious anxiety during pregnancy ups the risk of stillbirth. In a 10-year, prospective study, researchers from Denmark analyzed stress-questionnaire responses from 19,282 pregnant women.

Women in the highest stress category had an 80 percent increased risk of stillbirth compared to those with an intermediate level of stress.

Results held true even after researchers adjusted for preterm deliveries; maternal age; pre-pregnancy weight; smoking habits; alcohol and caffeine intake during pregnancy; and complications during pregnancy such as diabetes, hypertension and vaginal bleeding (*BJOG* 2008;115:882-5).

Preterm Birth

Severe stress, anxiety and depression all elevate risks for preemies and low birth weight.

Researchers measured anxiety levels of 3,149 pregnant women using a 28-item psychosocial scale covering self-esteem, mastery, worry and stress.

Women with profiles indicating high stress were at 40 percent higher risks for both low birth weight and preterm deliveries compared to women with limited anxiety. Average birth weight of infants was 51 grams lower for moms with high levels of emotional distress compared to those with lower stress (*Acta Obstet Gynecol Scand* 2006;85:277-85).

Research shows that chronic stress on the job may cause the most anxiety. According to one study, "An analysis of available literature confirms a significantly higher PTD [preterm delivery] odds ratio among pregnant women working in adverse psychosocial conditions. Low birth weight (LBW) in newborns of this group of mothers occurs more frequently than in the general population." (*Med Pr* 2006;57:281-90.)

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