Delaware Valley Institute of Fertility & Genetics
Conceptions
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Treating Hypothyroidism in Pregnancy

Among the most common endocrine disorders, thyroid disease affects millions of people. It occurs when the thyroid gland doesn't function properly. When the gland produces either too much (hyperthyroidism) or too little hormone (hypothyroidism), this can affect heart rate, cholesterol levels, body weight energy level, muscle strength, skin conditions, vision, menstrual regularity, and mental state.

In hypothyroidism, the body's normal functioning rate (basal metabolic rate) is slowed because of a shortage of thyroid hormone. Individuals with the condition usually feel mentally and physically sluggish. Other symptoms are weight gain, constipation, intolerance to cold, hoarseness, hair thinning, and puffy eyes and face. Some people with the condition experience many of these symptoms, while others only experience a few. Since many of the symptoms are often confused with hormonal changes from PMS or depression, the condition can often go undetected. If left untreated, hypothyroidism can lead to mental retardation and other cognitive problems in newborns.

"That's why early testing and the proper treatment is necessary. According to new research published in the New England Journal of Medicine, the timing and level of thyroid replacement medication given to pregnant women should be closely monitored to take into account the extent of changes that occur during pregnancy," says George S. Taliadouros, MD, FACOG, an expert on infertility and founder of the Delaware Valley Institute of Fertility & Genetics (DVIF&G). "Due to the potential effects of the condition on the growing fetus, it is recommended that pregnant women be screened for hypothyroidism."

Dr. Taliadouros also recommends that any woman who has a family history of thyroid disease or an autoimmune disease such as diabetes mellitus type I or lupus trying to conceive should be screened for hypothyroidism. In most cases hypothyroidism can be treated effectively with hormone replacement therapy daily to normalize the blood level of thyroid stimulating hormone (TSH). Hypothryoidism can be diagnosed with blood tests to check for abnormally low levels of the thyroid hormones and for antibodies that can attack the thyroid gland. These tests may involve measuring TSH levels, and possibly serum free T4 and T3 resin uptake or other measures of thyroid hormone binding protein, T3 RIA or free T3, thyroid autoantibodies including TSH receptor antibody, and radioactive iodine uptake, among others.

What Causes Hypothyroidism?

To understand thyroid disease, it's important to know how the thyroid gland functions and its relationship to the rest of the body. The thyroid and parathyroid glands are found close to each other in the front of the neck. The thyroid gland is part of a chain reaction that also involves the hypothalamus and the pituitary gland. The hypothalamus sends a signal to the pituitary gland via a hormone called TRH (thyrotropin releasing hormone). When the pituitary gland receives this message, it answers the signal by producing thyroid-stimulating hormone (TSH). TSH proceeds by stimulating the thyroid gland to produce another hormone called thyroxine (T4) and its more

active form T3. Thyroxine then sends signals to body cells to regulate metabolism (the chemical reactions constantly happening in the body). The "chain reaction" continues with the pituitary gland constantly monitoring the level of thyroid hormone in the blood by raising or lowering the amount of TSH released. Iodine from a person's diet is used to make the hormones T3 and T4.

Hypothyroidism develops for any of the following reasons:

- autoimmune thyroiditis (inflammation of the thyroid gland), including Hashimoto's thyroiditis, an inherited condition where the body produces antibodies that attack the thyroid gland
- radiation or surgery
- some drugs, including lithium, amiodarone, antiseizure agents, and antidepressants

There are three types of hypothyroidism:

1. Primary hypothyroidism is where the production of thyroid hormone is insufficient to meet metabolic needs.

2. Secondary hypothyroidism is a condition where the TSH level is either low or undetectable.

3. Tertiary hypothyroidism, also known as subclinical hypothyroidism, occurs when a patient has elevated TSH and normal T4 and T3 with none or few symptoms.

"Treating pregnant women with varying types of hypothyroidism in specific ways is imperative to safeguard the proper development of the fetus. It must be detected early and treated successfully," says Dr. Taliadouros. "The development of the fetal thyroid starts at approximately six weeks. By the 13th week the thyroid has the capacity of synthesizing thyroid hormones. Therefore, during the first three months the fetus is undergoing development without having its own thyroid hormones. The thyroid hormone that is available to the fetus must come from the mother. If she has not been treated for her hypothyroidism, this lack of thyroid hormone to the fetus can have a serious impact on brain development and can lead to mental retardation, feeble-mindedness, and other mental deficiencies."

Pregnant women who are being treated for hypothyroidism also should make sure that they're getting enough iodine in their diet. "According to a recent study only 1 out of 7 women get enough iodine in their diets. The daily requirements for a pregnant woman is 200 to 300 mcg," notes Dr. Taliadouros. "This lack of iodine disrupts normal thyroid functioning and can therefore harm the developing fetal brain. Pregnant women with hypothyroidism should be monitored closely by their physician for proper iodine intake."

Healthy sources of iodine are kelp (brown seaweed) and shrimp. According to a study presented at the American Thyroid Association (ATA) oral intake of calcium carbonate significantly reduces the absorption of levothyroxine and T4. If absorption is poor, patients will not be able to keep their serum thyroid levels stable. It is recommended that patients should not take oral calcium carbonate at the same time as levothyroxine. To be safe, they recommend waiting several hours before taking calcium carbonate after levothyroxine. The same goes for soy products and iron, which is usually included in prenatal vitamins.

"Treating pregnant women with varying types of hypothyroidism in specific ways is imperative to safeguard the proper development of the fetus."
— George S. Taliadouros, M.D.

George S. Taliadouros, MD, FACOG, an expert in infertility and founder of DVIF&G, plans to publish his findings on "Treating Hypothyroidism in Pregnancy" in a medical journal later this year. He will speak on the subject as a guest lecturer in the OB/GYN department at the new Regional Medical Center in Vineland in April. To make an appointment with Dr. Taliadouros, please call (856) 988-0072.

Increase Your Activity Level With a Pedometer

By Lisa J. Fries, MS, RD

Unknown to most women, being at a healthy weight can affect their chances of conceiving. My role as a medical nutrition therapist is to motivate patients to make lifestyle changes, specifically related to exercise and meal planning. By doing so, they can optimize their health and also their ability to conceive. Research has shown that overall health can boost fertility.

I enjoy helping patients lead an active lifestyle. It's sometimes difficult to motivate everyone, but new research has found that something as simple as a pedometer can help people increase their physical activity levels. This handy device measures how many steps you take and can even calculate those steps into miles logged on a daily basis. According to research conducted by Dr. Steven Stovitz presented at the American College of Sports Medicine, people who use a pedometer correctly are significantly more likely to increase their physical activity than those that receive encouragement to exercise but no pedometer.

"With a pedometer, it's easy to track your exercise progress."

In his pilot study of 94 patients, the researcher found that patients using the pedometer logged at least 1,500 more steps per day (an additional 15 minutes of walking), a 52 percent improvement in physical activity; 28.6 percent of these pedometer users added at least 10,000 steps per day to their daily routines.

With a pedometer, it's easy to track your progress step by step. Every little bit of activity throughout the day can add up to big rewards. We now know that three short 15-minute walks throughout the day are just as effective as one 45-minute walk. In fact, any activity that becomes a part of your daily routine is the best because you are more likely to continue it throughout your life.

Here at DVIF&G we know the many benefits of increased activity. It will increase your metabolism, which will help you lose weight and keep it off for a lifetime. Physically active people require less sleep, have less stress, enjoy an improved lipid profile, and exude confidence. The DVIF&G medical staff is always researching ways to motivate our patients to become more active because we understand these health benefits. We care about overall health, and increased daily activity is part of a healthy lifestyle.

If you're thinking of buying a treadmill or joining a gym, you may want to first consider a simple, cheaper approach to fitness—the pedometer. Park further away from the mall, take the stairs instead of the elevator, and track your progress. You'll be surprised how these small steps will add up to BIG HEALTH REWARDS.

Lisa J. Fries, a registered dietitian, is a medical nutrition therapist with the Delaware Valley Institute of Fertility & Genetics. To schedule a weight-management consultation with her, please call (856)988-0072.

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Visit our web site at:
www.startfertility.com

Happy Birthday to . . .

Rose Victoria Santos, born on August 19, 2004, to Joy and Cecilio Santos.
Abigail Forest, born on September 25, 2004, to Angela and Mark Forest.
Paris Frank and Nicki Frank, born on September 29, 2004, to Mona and George Frank.
Madden Jane Langdon, Rylee Anne Langdon, and Kelsey Marie Langdon, born on September 30, 2004, to John and Kristina Langdon.
John Patrick Santoro, born on October 6, 2004, to Colleen and Christopher Santoro.
Collin John Cuomo, born on October 9, 2004, to Lenora and John Cuomo.
Royce Michael Jacobs, born on October 18, 2004, to Mimi and Jason Jacobs.
Michele Kale Louie, born on December 5, 2004, to Elan and Dan Louie.
Taylor Ann Johnson, born on December 5, 2004, to Lynn and Craig Johnson.
Lillian Fox, born on December 8, 2004, to Debra and Mark Fox.
Isabella Dycki Tulasi, born on December 10, 2004, to Cynthia Cann and Shine Tulasi.
Michael Aaron Carnivale, born on December 13, 2004, to Michelle and Michael Carnivale.
Diana Sophia Suralik, born on December 14, 2004, to Nancy and Michael Suralik.
Isabella Rose Lockhead and Connor Joseph Lockhead, born on December 28, 2004 to Carmel Rose Caporale and Andrew Lockhead.
Luzaurea Torres, born on December 28, 2004, to Lillian and Edgardo Torres.

All the babies and parents are doing well. Thank you, DVIF&G!

Share Your Baby Pictures

If you would like to share your baby's photos with other DVIF&G patients, you can upload them at startfertility.com, the DVIF&G website. Just fill out the necessary information, upload your photo, and your child's picture will be included. What a great way to share your joy and to give others hope.