Graves' Disease and Pregnancy



The thyroid gland is a butterfly-shaped gland located in the lower front neck. It produces thyroid hormones, which play a key role in regulating the body's metabolism, temperature, heart rate, weight, bone health and fertility.

During pregnancy, the thyroid function changes naturally due to fluctuations in pregnancy-related hormones. Your doctor will review and advise on your thyroid blood test results based on the different stages of pregnancy.

Hyperthyroidism occurs when there is excess thyroid hormone due to overproduction from the thyroid gland. The most common cause of hyperthyroidism is **Graves' disease**, an autoimmune condition caused by elevated thyroid antibodies. Treatment is essential to optimise fertility and pregnancy outcomes.

Complications of uncontrolled hyperthyroidism during pregnancy

Treatment of hyperthyroidism before conception and during pregnancy is important. If not well-controlled, hyperthyroidism may result in complications for both the mother and fetus.

Possible complications for the mother:

- High blood pressure (pre-eclampsia), which may affect other systems in the body
- Placental separation
- Miscarriage
- Heart failure
- Hyperthyroid emergency affecting multiple organs

Possible complications for the fetus:

- Restricted growth
- Preterm delivery
- Stillbirth or fetal death

The fetus may also be affected by the following:

Thyroid antibody transfer

If the mother has high levels of thyroid antibodies from current or previous Graves' disease, these may stimulate the fetal thyroid gland, and cause fetal and/or neonatal hyperthyroidism. This may result in thyroid gland enlargement, increased heart rate, overactive bone growth, prematurity or fetal death.

Anti-thyroid medication effects

Anti-thyroid medication that the mother is taking can impair fetal thyroid function, affecting growth and development. In rare cases, the anti-thyroid medication may also cause congenital malformations including, but not limited to:

- Scalp defects
- Narrowing of nasal tract or food passage
- Urinary tract abnormalities

Preparing for pregnancy with Graves' disease

It is important to inform your doctor at least **six months** before planned pregnancy, if you have any of the following:

- S Currently have or had a history of Graves' disease
- Taking anti-thyroid medication
- Undergone radioactive iodine treatment for Graves' disease previously
- Undergone thyroid surgery

Your doctor can review your thyroid blood test results and optimise your thyroid function to minimise risks when preparing for the pregnancy.

Managing Graves' disease in pregnancy

Medical therapy is the main treatment for expectant mothers with Graves' disease.

- Anti-thyroid medication
 Propylthiouracil (PTU) is
 recommended during early
 pregnancy, due to lower risks of
 congenital malformations
 compared to Carbimazole (CMZ).
- Symptomatic treatment of rapid heart rate with rate-control medication

This may be temporarily used in low doses to manage symptoms of palpitations or hand tremors. Prolonged use should be avoided as it may affect fetal growth.



Radioactive iodine therapy is unsafe and not recommended during pregnancy. Surgery is only considered in rare circumstances, and is typically performed in the second trimester of pregnancy if necessary.

Your care team will work with you to closely monitor your thyroid function throughout pregnancy, and adjust medications to the lowest effective doses to protect both you and your fetus. Thyroid antibodies are also reviewed at intervals to assess the potential risk of hyperthyroidism for the fetus. Multidisciplinary care with your obstetrician is crucial to monitor the thyroid health of the fetus through regular ultrasound scans.

Postpartum care



Graves' disease tends to improve towards late pregnancy, but thyroid dysfunction may worsen or recur after delivery. Therefore, regular monitoring of the thyroid function is vital during the post-delivery period.

Breastfeeding is generally safe for mothers on anti-thyroid medication, as only small amounts are transferred into breast milk. It is also recommended to take the medication after breastfeeding, as an added precaution.

With appropriate treatment and regular monitoring, women with Graves' disease can achieve healthy pregnancies and smooth deliveries.

For more information about Graves' disease and pregnancy, please consult your doctor.





Singapore General Hospital



KK Women's and Children's Hospital



National Cancer Centre Singapore

General Hospital

Changi



Sengkang General Hospital



National Dental Centre Singapore



National Heart Centre Singapore



National Neuroscience Institute



Singapore National Eye Centre





PATIENTS. AT THE HE V RT OF ALL WE DO.®

2 Simei Street 3 Singapore 529889 Tel: (65) 6788 8833 Fax: (65) 6788 0933 Reg No 198904226R

CGH Appointment Centre

For appointments and enquiries, please call: (65) 6850 3333

Operating hours: 8.30am to 5.30pm (Mondays to Fridays) Closed on weekends and public holidays

For more information, please visit www.cgh.com.sg

facebook.com/ChangiGeneralHospital

Information is valid as of March 2025 and subject to revision without prior notice.

All information provided within this publication is intended for general information and is provided on the understanding that no surgical and medical advice or recommendation is being rendered. Please do not disregard the professional advice of your doctor.