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Thyroid Disorders in Pregnancy – care of the mother and newborn

Introduction and Aims

Disorders of maternal thyroid function can affect maternal health during and after pregnancy and have potential for effects on the child's physical and intellectual development. The ideal is to optimise maternal condition prior to conception while recognising that many pregnancies are unplanned.

This guideline is aimed at healthcare professionals working with women with thyroid disorders and their babies. Appropriate management can reduce risk of harm. The woman should be involved in all decisions about her care, and given information to assist in making choices where this is possible.

Aims of this joint guideline are:

- **To give guidance for safe, effective and evidence based care for the pregnant woman with thyroid disorders**
- **To use targeted and timely investigation to monitor maternal thyroid function during pregnancy thereby minimising effects of maternal thyroid disorder on the mother, the fetus and newborn**
- **To harmonise with the guideline Management of babies born to mothers with thyroid disease.**

Scope
This policy applies to all healthcare professionals in all locations including those with honorary contracts

Equality Health Impact Assessment	*An Equality Health Impact Assessment (EHIA) has not been completed.*
Documents to read alongside this Procedure	*Endocrine Society Guideline 2012 (Thyroid UK)* *CAV Management of babies born to mothers with thyroid disease*
Approved by	*Maternity Professional Forum*

Accountable Executive or Clinical Board Director	*Ruth Walker, Executive Nurse Director*
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Disclaimer

If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.

Summary of reviews/amendments			
Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
1	Aug 2007	Aug 2007	
2	Dec 2010	Dec 2010	Reviewed and amended by Pina Amin
3	April 2013	April 2013	Reviewed and amended by Alex Rees and Sybil Barr
4	Sept 2018	Dec 2018	Reviewed and amended by Marion Beard and P Taylor
4a	Jan 2019	Jan 2019	Virtual Thyroid Antenatal Clinic Appendix added (Annie Burrin)

Hypothyroidism

Hypothyroidism in women of reproductive age is relatively common (> 1%). Consequences of untreated hypothyroidism for the mother include early miscarriage, higher risk of anaemia, pre-eclampsia, and depressive disorder with the known sequelae of these complications. For the fetus and neonate, growth can be restricted leading to low birthweight, and impaired cognitive development.

Some women with hypothyroidism will have a past history of hyperthyroidism. All women with hypothyroidism at booking should be asked the following:-

Is there a personal:

- history of thyroidectomy or other thyroid surgery, including previous thyroid cancer?
- history of thyroid blockade with propylthiouracil (PTU) or carbimazole (CBZ)?

- history of ablation using radioactive iodine (RAI)?
- history of Graves' disease, goitre, thyroid nodule or thyroiditis?

If the answer is NO to all of the above then continue with management of hypothyroidism as detailed below.

If there is a personal history of any of the above then please refer this woman to the combined endocrine antenatal clinic.

If diagnosis has been made prior to conception, the woman's thyroid function will have been optimised by replacement with levothyroxine and monitoring in primary care.

Thyroid function (TFT) should be checked in early pregnancy and each trimester. There is no evidence for routine monitoring of antibody levels. Early titration of thyroxine dose is recommended to keep thyroid stimulating hormone (TSH) less than 2.5 miu/litre. In general this means an increase in dose of between 25% and 50%.

This change may be instigated in early pregnancy by the General Practitioner, O&G specialist or trainee, or via the Hypothyroid in Pregnancy (HIP) Virtual Clinic. Examples of dosing change are set out below. The woman should be involved in the decision to increase her thyroxine dose, reassuring her that this is routine and based on good evidence of benefit for herself and her baby.

Prepregnancy dose	New dose
50 mcg	75 mcg
75 mcg	125 mcg
100 mcg	150 mcg
150 mcg	200 mcg
200 mcg	300 mcg

When the thyroxine dose is increased as above to maintain appropriate replacement, these are not high risk pregnancies and following uneventful monitoring by virtual clinic, can be normalised following consultation in general Antenatal Clinic at 36 to 38 weeks. There is no indication for scanning for growth if no other obstetric concerns are reported from the community. If third trimester TSH remains < 2.5, the woman can be discharged to MLC at 36 – 38 weeks if there are no other concerns.

Following birth, the infant can be observed and managed normally.

Thyroid disorder developing during pregnancy

A woman presenting with:

- symptoms of fatigue, slowness of cognition and subjective feelings of cold, **or**

- thyrotoxicosis (symptoms including anxiety, tremor, fatigue, loose bowel motions, palpitations and irritability) with or without neck swelling should have FBC and TFT checked and reviewed as soon as possible.

If the TSH is suppressed or above range she should be seen at the earliest available appointment at the joint Endocrine Antenatal Clinic (EANC) at either UHL or UHW. A careful history, examination and management should be by an endocrinologist with assessment of levels of circulating thyroid antibodies including TRAb.

Obstetric care via the joint clinic will include serial scanning of fetal growth and fetal heart rate. Clinical information on the request form should include detail of thyroid disorder found during pregnancy. If an enlarged fetal thyroid (goitre) is seen at scan, this should be discussed with the Fetal Medicine Unit (FMU).
A neonatal alert should be documented in the notes, for early review of the baby's condition and a plan for ongoing care if needed.

Hyperthyroidism

A woman with a history of any disease as follows should have early referral to EANC at UHL or UHW with an up to date TFT and TRAb:

- history of thyroidectomy or other thyroid surgery, including previous thyroid cancer
- history of thyroid blockade with propylthiouracil (PTU) or carbimazole (CBZ)
- history of ablation using radioactive iodine (RAI)
- history of Graves' disease, goitre, thyroid nodule or thyroiditis.

Even if the history is many years ago and the woman now has stable thyroid function with thyroxine replacement, her previous disease may give rise to elevated or depressed levels of circulating hormone and potential for transplacental passage of maternal thyroid antibodies. This can have effects on the developing fetal thyroid affecting its function and potentially the health of the child after birth.

Full history and investigation should be taken by an endocrinologist including assay for levels of thyroid antibodies. Obstetric care via the joint clinic will include serial scanning of fetal growth. Clinical information on the request form should include detail of hypothyroidism found during pregnancy. If an enlarged fetal thyroid (goitre) is seen at scan, this should be discussed with the Fetal Medicine Unit (FMU).

A neonatal alert should be documented in the notes, for early review of the baby's condition and a plan for ongoing care if needed.

Appendix 1

Community Midwife Referral for Virtual Endocrine Antenatal Clinic

Standard Operating Procedure

In order to utilise resources in Antenatal Clinic more effectively, an electronic system of referral for an endocrinology opinion has been created in order to reduce pressure on Medical ANC

CMW identifies woman with endocrine disorder

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CMW explains to woman that an opinion is being sought and that if she needs to attend ANC an appointment will be sent to her.

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CMW emails referral to ThyroidANC.UHW@wales.nhs.uk using template (see Appendix 2)

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Endocrinology staff will assess each referral and communicate as necessary with CMW via email and/or send appointment to woman

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CMW follows up referral at 15 week appointment to ensure all appropriate actions taken

Email address will be checked at least every two working days and replies sent directly to midwife

Where urgent intervention is required (eg medication dose change) endocrinology will liaise directly with women's GP

Appendix 2 - Email Template

Virtual Thyroid Antenatal Clinic Referral – Primary Hypothyroidism

This form is to refer patients to our virtual thyroid clinic for management of hypothyroidism during pregnancy. Completed forms are to be emailed to thyroidanc.uhw@wales.nhs.uk. Patients meeting the criteria below can be referred. Please complete as many details as you can. Sections in **bold** MUST be completed. Patients will be contacted within 2 working days of referral. Referrer will be copied in to original correspondence at least.

Inclusion criteria

- Patient reports current hypothyroidism or previous hypothyroidism
- Patient is on levothyroxine (liothyronine or armour thyroid)

Exclusion criteria (these patients to be referred to Endocrine ANC as before)

- Reports previous Graves disease, or overactive thyroid or hyperthyroidism
- Previous radio-iodine or thyroid surgery

Patient information		Referrer information
Name of patient		**Name and Job Title of Referrer**
Patient Address		Referrer Address
Patient contact information: Email and a phone number **must** be provided Patient Landline: Patient Mobile: Patient Email:		**Referral contact information** Email and a phone number **must** be provided: Landline**:** Mobile: Referrers email:
NHS number	**Hospital number**	**Gestational age and EDD**
Dose of Levothyroxine if known mcg	Year hypothyroidism diagnosed	Recent bloods Date of test TSH mU/l T4 pmol/l

Outlook Template for Referral

References

De Groot, L. Abalovich, M. Alexander, EK. Amino, N. Management of thyroid dysfunction during pregnancy and postpartum: Endocrine Society Clinical Guideline /Thyroid UK. August 2012. Access via http://Academic.oup.com/jcem/article/97/8/2543/2823170

Lazarus, J. Brown, R. Daumerie, C. European thyroid association guidelines for the management of subclinical hypothyroidism in pregnancy and in children. European Thyroid Journal, 2014 , 3(2), 76-94.