GUIDELINE FOR POWYS MIDWIVES SUPPORTING WOMEN WITH MEDICAL CONDITIONS

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The latest approved version of this document is online.
If the review date has passed please contact the Author for advice.

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Version Control

Version	Summary of Changes/Amendments	Issue Date
1	Initial Issue	May 2021

Groups approved at
Maternity Policies group – Virtual approval – 16th April 2021
Women and Children's – 17th May 2021

Engagement & Consultation

Key Individuals/Groups Involved in Developing this Document

Role / Designation
Consultant Midwife

Circulated to the following for Consultation

Date	Role / Designation
23/3/2021	Powys Midwives
23/3/2021	Powys Leadership and Management
23/3/2021	SaTH – Transformation Lead
23/3/2021	CTMUHB – South Powys Pathway sub group 1
23/3/2021	ABUHB - link consultant
23/3/2021	WVT – antenatal clinic manager
23/3/2021	Hywel Dda – senior midwifery manager and link consultant
23/3/2021	BCU – Clinic manager
23/3/2021	Swansea Bay UHB – Consultant midwife
30/04/2021	Safeguarding team

Evidence Base
Please list any National Guidelines, Legislation or Health and Care Standards relating to this subject area? National Institute for Health and Care Excellence (2008) Guidance CG62: Antenatal care for uncomplicated pregnancies National Institute for Health and Care Excellence (2015) Diabetes in pregnancy: management from pre-conception to the postnatal period. National Institute for Health and Care Excellence Guidance (2019) NG133 Hypertension in pregnancy: diagnosis and management National Institute for Health and Care Excellence Guidance (2019) NG136 Hypertension in adults Health and Care Standards: Theme 1 – Staying Healthy

Theme 3 – Effective care Theme 4 – Dignified care Theme 5 – Timely care

Impact Assessments

Equality Impact Assessment Summary					
	No impact	**Adverse**	**Differential**	**Positive**	**Statement** Please remember policy documents are published to both the **intranet** and **internet.** The version on the internet must be translated to Welsh.
Age	X				
Disability	X				
Gender reassignment	X				
Pregnancy and maternity				X	
Race	X				
Religion/ Belief	X				
Sex	X				
Sexual Orientation	X				
Marriage and civil partnership	X				
Welsh Language	X				
Human Rights	X				

Risk Assessment Summary
Have you identified any risks arising from the implementation of this policy / procedure / written control document? No
Have you identified any Information Governance issues arising from the implementation of this policy / procedure / written control document? No
Have you identified any training and / or resource implications as a result of implementing this? No

1 Introduction

This guideline covers the identification and care of women who have medical conditions. Risk assessment and care planning are key components of individualised care for pregnant women, so that any factors likely to affect pregnancy and/or birth can be identified in a timely manner. Women with medical conditions can be at increased risk of maternal death; 66% of women who died in 2016-18 were known to have pre-existing medical conditions (Knight et al, 2020). Cardiac disease remains the largest single cause of indirect maternal deaths with neurological causes (epilepsy and stroke) as the second most common indirect cause of maternal death (Knight et al, 2020).

With appropriate risk assessment and care planning, care can be delivered to maximise the chances of good outcomes for both woman and her baby. Maternity services must therefore ensure clear pathways and referral processes for women with medical conditions (Knight et al, 2020).

2 Objective

The overall aim must be to provide safe and effective care of a pregnant woman with medical conditions in pregnancy, whilst allowing her to make an informed choice from the care options available to her. Powys midwives are responsible for identifying woman with additional medical needs and referring to an appropriately trained medical professional.

The appendices to this document contain reference guides for the most common medical conditions pregnant women may present with. These aim to provide an overview of key aspects of care that women with pre-existing medical conditions will require. This will support care planning and demonstrates care or requirements in addition to that routinely provided to all pregnant women.

3 Definitions

- **PTHB** – Powys Teaching Health Board
- **DGH** – District General Hospital
- **WPAS** – Welsh Patient Administration System

4 Responsibilities

4.1 Head of Midwifery and Sexual Health Services

The Head of Midwifery and Sexual Health Services must:

- Ensure all staff read and understand this procedure

	• Arrange regular review to monitor compliance with this procedure
	4.2 Assistant Head of Midwifery and Sexual Health Services The Assistant Head of Midwifery and Sexual Health Services has responsibility for: • Ensuring dissemination of this document to all relevant staff • Liaising with District General Hospitals (DGH) to feedback where care has fallen outside of this guideline
	4.3 Band 7 operational team lead (OTL) The OTL has responsibility for: • Ensuring compliance with this document by the teams that they manage • Discussion about management of women with medical conditions during PADR process
	4.4 Consultant Midwife The consultant midwife has responsibility for: • Supporting implementation of this document • Reviewing any new evidence or guidance that is produced that may influence the service • Communicating any key changes in advice that might influence service provision to the Midwifery Leadership and Management team for consideration.
	4.5 Clinical Supervisor for Midwives (CSfM) The CSfM has responsibility for: • Supporting implementation of this document through group supervision sessions • Offering opportunity for discussion of management of medical conditions in relation to content of this guideline through group and individual supervision • Leading record keeping audits with discussion about women with medical conditions and ensuring cases have been managed appropriately
	4.6 Women and Children's Risk and Governance Lead The Women and Children's Risk and Governance Lead has responsibility for: • Monitoring review of incidents in relation to content of this document

	4.7 All Staff working within maternity services All staff working the maternity services have responsibility for: • Reading and being familiar with contents of this document • Referring women appropriately for additional care where required

5 Pre-conception care

Women with pre-existing medical conditions should have pre-pregnancy counselling by doctors with experience of managing their disorder in pregnancy (Knight et al, 2014).
In these instances, women should be directed to the primary care provider and/or specialist consultant where appropriate for discussions about preparing for pregnancy. On discharge from postnatal care from Powys maternity services all women should be notified of the importance of accessing pre-conceptual care to ensure optimum health prior to conception in any future planned pregnancy.

6 Antenatal care

All pregnant women will have a brief medical, obstetric, mental health and social history taken at first contact with maternity services. All pregnant women identified as having a medical condition should be referred for obstetric-led care. This enables early multidisciplinary care planning for the pregnancy.

Referral following the first midwifery contact for obstetric review should be completed for pregnant women with:
Severe asthma – Appendix B
Cardiac disease – Appendix C
Chronic hypertension – Appendix D
Chronic kidney disease – Appendix E
Diabetes – Appendix F
Epilepsy – Appendix G
Malignant disease – Appendix H
Thyroid disease – Appendix I

In addition, women with autoimmune conditions and/or haemtaological conditions should be referred early in pregnancy.
This list is not exhaustive and if there are any concerns regarding a medical condition that a pregnant woman has, early referral should be completed. For all other medical conditions, a referral can be completed following completion of the dating scan in Powys.

Following the full booking appointment, a notification of booking will be printed from WPAS and sent to the GP (see MAT 048). If a woman has a known medical condition the GP should be followed up for a medical history handover to midwifery.

Pregnant women will be provided with the relevant phone numbers for the obstetric unit they are booked under in addition to the Powys Maternity Services contact number.

	6.1 Scheduling antenatal appointments The named midwife will continue to provide midwifery-care for pregnant women with medical conditions who should be seen at the intervals as per NICE Guidance CG62: Antenatal care for uncomplicated pregnancies (2008). These women will have additional care from their obstetrician and multidisciplinary team, which should occur through joint clinics. The named midwife does not need to see a pregnant woman if a routine appointment falls the same week as an obstetric/medical review. At a minimum, pregnant women with medical conditions should have four antenatal checks with their named midwife or buddy midwife, including booking and birth plan (Welsh Government, 2019). The named midwife should be included in communication relating to plans of care to ensure appropriate follow up of the pregnant woman. Care plans can be emailed or posted from the obstetric unit to the relevant midwifery team.
	6.2 Day Assessment Unit and Ultrasound Scanning in Powys Women with medical conditions may require serial growth scans to assess fetal well-being. In women with pre-existing medical conditions, who will be having regular review by the medical/obstetric team it may be most appropriate for growth scans to be conducted at those appointments. Serial growth scans can be conducted in Powys however. In these instances the obstetric team will be expected to request the scans in Powys using the appropriate referral form.

7 Intrapartum care

Pregnant women with medical conditions will be advised to give birth in an obstetric unit. When labour commences the pregnant woman will be advised to contact the obstetric unit directly. If the woman rings through to Powys maternity services the midwife will take a history and arrange referral to the obstetric unit.

In circumstances where a pregnant woman with a medical condition chooses to give birth in Powys, a robust plan must be put in place in conjunction with the woman and in discussion with her named obstetrician/medical team. Support in care planning in Powys will be sought from the OTL and/or consultant midwife. On agreement of the plan, Clinical Information Sharing (CIS) paperwork will be completed and circulated to Powys midwives and to the obstetric unit. If this decision is against medical advice, all actions taken to ensure that the woman is fully informed about the potential risk to herself or her unborn baby must be documented. if there are concerns about the mother's ability to consent or her understanding then the PTHB Safeguarding team can be contacted for advice. Depending on individual circumstances CIS cases may be shared with the Welsh Ambulance Service NHS Trust as well as escalated within PTHB to the Quality & Safety team and appropriate Executive lead.

8 Postnatal care

Powys midwives will provide routine postnatal care to families. Discharge is expected to occur around 10-14 days postnatal unless there are concerns, in which case care may be extended up to 28-days postnatal. Handover of care will occur with the health visitor as per MAT048 guideline.

Contraceptive advice is provided to all women postnatally. The importance of this must be reiterated in cases where women have pre-existing medical conditions. A contraceptive method can be provided prior to discharge from maternity services where clinically appropriate and acceptable to the woman. Where this is not possible the woman will be signposted to alternative service providers (GP/Sexual Health Service) to enable commencement of her chosen method.

Women who require follow up related to existing medical conditions or those that have arisen in pregnancy should have plans communicated from the DGH at discharge and documented in the discharge paperwork. Follow up of women in these circumstances will initially be with the named midwife and where required clear handover to the GP for follow up required beyond maternity care.
The appendices detail any additional care required for women with medical conditions.

9 Monitoring Compliance, Audit & Review

Compliance with this guideline will be monitored through datix reporting. Compliance will also be assessed on an annual basis through the record keeping audits.
Each midwife will be required to reflect on a case related to this guideline as part of clinical supervision.
This document will be reviewed every three years or earlier should audit results or changes to legislation / practice within PTHB indicate otherwise.

10 References / Bibliography

BTS/SIGN. (2019). "British Guideline on the management of asthma." from *https://www.brit-thoracic.org.uk/qualityimprovement/guidelines/asthma/*

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Knight M, Nair M, Tuffnell D, Kenyon S, Shakespeare J, Brocklehurst P, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care - Surveillance of maternal deaths in the UK 2012-14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-14. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2016.

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National Institute for Health and Care Excellence (2008) Guidance CG62: Antenatal care for uncomplicated pregnancies

National Institute for Health and Care Excellence (2015) Diabetes in pregnancy: management from pre-conception to the postnatal period.

National Institute for Health and Care Excellence Guidance (2019) NG133 Hypertension in pregnancy: diagnosis and management

National Institute for Health and Care Excellence Guidance (2019) NG136 Hypertension in adults

PTHB MAT048 – Pregnancy Information Sharing Guideline

PTHB MAT072 – Aspirin in Pregnancy Guideline

Royal College of Obstetricians and Gynaecologists (2016) Greentop Guideline 68: epilepsy

Royal College of Obstetricians and Gynaecologists (2011) Good Practice No.13 Cardiac Disease in Pregnancy

Welsh Government (2019) Maternity Care in Wales: a five year vision for the future (2019-2024).

Appendix A

Introduction to Clinical Reference Guides

These reference guides aim to provide an overview of key aspects of care that women with pre-existing medical conditions will require. This will support care planning and demonstrates care or requirements in addition to that routinely provided to all pregnant women.

Each midwifery team has access to 'Medical conditions in Pregnancy: A Manual for Midwives' Robson & Waugh. Further resources are listed in the clinical reference guides for specific conditions. Additional information and support can be obtained through discussion and liaison with the obstetric and medical team at the DGH caring for the client.

Advice about specific medications in pregnancy, the postnatal period and breastfeeding can be sought from:
Pharmacy teams in obstetric units
The Breastfeeding Network Drugs Factsheets - The Breastfeeding Network

Appendix B

Severe asthma

Asthma is an extremely common respiratory condition, but has a wide range of severity. Studies have shown that many patients do not understand the respective roles of their reliever or preventer treatment, or how to escalate their therapy to control worsening symptoms. In pregnancy many women will reduce or stop their medication. Informed discussion with women about their treatment plays an important role in ensuring adherence and guidance on the management of asthma in pregnancy is available (BTS/SIGN 2019).

Uncontrolled asthma includes daytime symptoms, night time awakening due to asthma, need for rescue medication, i.e. requiring add on therapy, asthma attacks/exacerbations, limited daily activity.

Pre-conception
• Women should be advised to contact their primary care provider to discuss preparing for planned pregnancies if they have severe asthma. • Women with asthma should be specifically advised NOT to stop or decrease their asthma medication when they find out they are pregnant. • Control of asthma should be optimised before pregnancy.
Antenatal
• Women should be advised of the importance of maintaining good control of their asthma during pregnancy. • Women with mild asthma are unlikely to experience problems. • Women with uncontrolled and/or severe asthma should be referred for OLC • Women who have well managed asthma can remain under midwife-led care
Intrapartum
• Asthma attacks are exceedingly rare in labour. • Women should continue with asthma medication in labour. • All options for pain relief are available. • Caesarean section will only be advised for obstetric reasons only (or maternal request). • Symtometrine does not appear to worsen asthma. • Where women require an increase in treatment or hospital treatment due to asthma they should be advised to birth in an obstetric unit. • Women with well managed asthma are eligible to give birth in a midwife-led setting or at home

Postnatal
• All drugs routinely used in asthma, including oral steroids are safe in breastfeeding mothers. • There is some evidence that breastfeeding may reduce the risk of asthma in baby

Appendix C

Cardiac disease:

Cardiac disease remains the largest single cause of indirect maternal deaths (Knight et al, 2020). The incidence of congenital heart disease in pregnancy is rising as women with more severe defects, who have undergone corrective surgery as children are now able to have children themselves. The most common of these are corrected patent ductus arteriosus, arterial septal defect and ventricular septal defect. With no other complications, these women will generally have a healthy pregnancy.
A raised respiratory rate, chest pain, persistent tachycardia and orthopnoea are important signs and symptoms of cardiac disease which should always be fully investigated in any woman. The emphasis should be on making a diagnosis, not simply excluding a diagnosis. (Knight et al. 2016).

In addition to the key points below, further guidance (including patient information) can be found at:
RCOG (2011) Good Practice No.13 Cardiac Disease in Pregnancy.

Pre-conception
• Women should be advised to contact their primary care provider or physician to discuss preparing for planned pregnancies. • Genetic counselling may be required for inheritable conditions eg Marfan's syndrome or cardiomyopathy.
Antenatal
• Women with history of cardiac disease should be seen in a multidisciplinary clinic setting as early as possible in pregnancy. This will enable prompt care planning for pregnancy as there are a broad spectrum of types and severity of cardiac disease in pregnancy. • Women at low-risk may be returned to routine care. • Women should also have an anaesthetic review in pregnancy, arranged by the obstetric team. • Women may require fetal cardiac scan, which should be arranged by the obstetric team. • If growth scans are required these can be conducted in Powys following request from the obstetrician.
Intrapartum
• Advise birth in an obstetric unit.

- Appropriate analgesia to manage labour will be advised to reduce any additional cardiac stress.
- Women may require additional cardiac monitoring in labour.
- Oxytocics will be used with caution.

Postnatal

- Women with cardiac disease should have a medication review postpartum to assess any medication and doses. The named midwife should ensure this has been arranged prior to discharge from the DGH.
- Women should be provided with clear choices around contraception.
- Reiterate the importance of pre-conceptual care if planning future pregnancies.

Appendix D

Chronic hypertension

In addition to the key points below, further information and guidance can be found at:
NICE (2019) Guideline NG133 Hypertension in pregnancy: diagnosis and management.
NICE (2019) NG136 Hypertension in adults

Newly diagnosed chronic hypertension must be managed to reduce the risk of cardiovascular disease including stroke.
Be alert to stroke or transient ischaemic attack where women present with sudden onset of neurological symptoms

Pre-conception
• Women should be advised to contact their primary care provider to discuss preparing for planned pregnancies. • Many medicinal therapies are not suitable for pregnancy and therefore review with the GP prior to pregnancy should occur to amend medication where required.
Antenatal
• Women should be recommended to have obstetric-led care so that medication can be reviewed and plan of care commenced. • Women should have antihypertensive treatment if not already on it if they have sustained systolic blood pressure of 140 mmHg or higher, or sustained diastolic blood pressure of 90 mmHg or higher – midwife to liaise with the GP and/or obstetrician. • When using antihypertensives the aim is for target blood pressure of 135/85 mmHg. • Commence aspirin as per aspirin guideline (MAT 072) and PGD0171. • If there is proteinuria early in pregnancy bloods should also be taken for renal function (U & E's) and urine sent for PCR test. • Serial growth scans should be advised. These can be conducted in Powys following discussion with the obstetrician. • Advise women on weight management, exercise and healthy eating. • Where hypertension is well controlled women may require appointments every 2-4 weeks to review blood pressure. • Recommend antenatal colostrum harvesting, especially if the baby will require hypoglycaemic pathway due to medication.
Intrapartum
• Advised birth in an obstetric unit. • Blood pressure will be monitored at least hourly in labour.

- Active third stage with syntocinon will be advised. Ergometrine should be avoided.

Postnatal

- Blood pressure should be monitored daily for the first two days postnatal and at least once between day three and five.
- For women who have been on labetalol, the baby will need to follow the hypoglycaemia pathway in the DGH.
- In women with chronic hypertension aim to keep blood pressure lower than 140/90mmHg; continue with antihypertensive treatment if required.
- Advise a review of antihypertensive treatment 2 weeks after birth with the GP or specialist – midwife to liaise with GP and ensure follow up is arranged.
- Women with chronic hypertension should be advised to make an appointment with their GP for 6-8 weeks after birth for a medical review – document this in the notes.

Appendix E

Chronic Kidney Disease (CKD)

Additional detail can be found at:
Project Mandate Template (renal.org)
CKD is estimated to effect 3% of pregnancies. Although CKD is not a barrier to reproduction in most women, the risk of adverse pregnancy outcomes is increased in women with CKD including pre-eclampsia, fetal growth restriction, preterm delivery and accelerated loss of maternal renal function.

Pre-conception
• Women should be advised to contact their primary care provider to discuss preparing for planned pregnancies. • Plans for pregnancy may be discussed with the woman's nephrology team. • Genetic counselling will be offered in cases if a known or suspected inheritable renal disease. • Medications will need to be reviewed as certain treatment may need to be discontinued prior to pregnancy.
Antenatal

• Early referral for obstetric and medical review.
• Women should expect to be reviewed by a MDT.
• Booking bloods should include U&E and LFT.
• Women may require monthly MSU.
• There may be the need for fetal medicine referral if medication has not been discontinued prior to pregnancy.
• CKD is associated with:
  ○ IUGR
  ○ Pre-eclampsia
  ○ Pre-term delivery
  ○ Fetal loss
  ○ UTI
  ○ Deteriorating renal function.
• Commence aspirin as per guideline MAT072
• Growth scans will be recommended.
• Target blood pressure will be 135/85 mmHG or less.
• Advise the woman about signs and symptoms of pre-eclampsia.
• Women may require thromboprophylaxis.

Intrapartum
• Women will be advised to birth in the obstetric unit.

- They will require strict fluid balance and close monitoring of BP.
- Electronic fetal monitoring may be required if there are concerns about fetal growth.
- Oxytocin will be used for the third stage, where the woman is experiencing hypertension.

Postnatal

- Women should expect to have a planned early postpartum renal review. Ensure this is in place prior to discharge.
- Medications will need to be considered with breastfeeding, using the drugs in breastfeeding fact sheets.
- Advise regarding contraception and the need for pre-conception care if planning future pregnancies.

Appendix F

Diabetes

The prevalence of both Type 1 and Type 2 diabetes is increasing. In England and Wales 2-5% of pregnancies involve women with diabetes. Diabetes in pregnancy is associated with risks to the woman and to the developing fetus. Miscarriage, pre-eclampsia and preterm labours are more common in women with pre-existing diabetes. In addition, diabetic retinopathy can worsen rapidly during pregnancy. Stillbirth, congenital malformations, macrosomia, birth injury, perinatal mortality and postnatal adaptation problems (such as hypoglycaemia) are more common in babies born to women with pre-existing diabetes (NICE, 2015)
In addition to the key points below, further detail and information can be found at:
NICE (2015) Diabetes in pregnancy: management from pre-conception to the postnatal period.

Pre-conception
• Women should be advised to contact their diabetes specialist team and/or primary care provider to discuss preparing for planned pregnancies. • The importance of avoiding unplanned pregnancy should be emphasised. • Women may be advised to have regular HbA1C when planning a pregnancy. • Women with diabetes should be advised to take folic acid 5mg per day from pre-conception.
Antenatal
• Women with diabetes should be seen in a multidisciplinary clinic as early as possible in pregnancy. • Request a HbA1C level at booking for all pregnant women with pre-existing diabetes. • Women may require retinal assessment early in pregnancy and again at 28 weeks gestation – to be arranged by obstetric/medical team. • Women may require renal assessment in pregnancy if not performed in the past 3 months – to be arranged by obstetric/medical team. • Advise folic acid 5mg per day until 12 weeks gestation. • Commence aspirin as per aspirin guideline (MAT072) and PGD0171. • Routine scans can be arranged in Powys.

- Growth and amniotic fluid scans can be conducted in Powys if requested by obstetrician. These are usually requested at 4-week intervals from 28 weeks.
- Urgent immediate review in a DGH should be arranged for any woman giving a history suggestive of diabetic ketoacidosis – symptoms include nausea, vomiting, abdominal pain, polyuria, leg cramps, dehydration, blurred eyesight, tachypnoea, distinct smell in the breath and coma.
- Women with diabetes will be advised to regularly monitor their blood sugar levels – direction will be given by their specialist team.
- Women with type 1 diabetes should be provided with ketone testing strips and a meter to test for ketonaemia – this should be arranged through their specialist team.
- Colostrum harvesting should be discussed and encouraged antenatally.

Intrapartum

- Advise birth within an obstetric unit.
- Women with diabetes will have an individualised care plan for labour, which will include a sliding scale for women with Type 1 diabetes.
- Delivery will usually be planned for between 37+0 and 38+6 weeks gestation.

Postnatal

- Women with diabetes will have their insulin doses amended in the immediate postnatal period.
- Women with diabetes should not be discharged home until the baby is at least 24-hours old and is maintaining blood glucose levels and is feeding well.
- Women with pre-existing diabetes will be discharged to their routine diabetes care arrangements.
- Women should be advised that they are of increased risk of hypoglycaemia, especially when breastfeeding, and should be advised to have a meal or snack available before or during feeds
- Reiterate the importance of pre-conceptual care prior to planning any future pregnancies.

Appendix G

Epilepsy:

Neurological causes (epilepsy and stroke) are the second most common indirect cause of maternal death, and the third commonest cause of death overall. There has been a statistically significant increase in maternal mortality due to Sudden Unexpected Death in Epilepsy (SUDEP) (Knight et al, 2020).
In addition to the key points below – further detail can be found at:
RCOG (2016) Greentop Guidance 68: Epilepsy

Pre-conception
• Women should be advised to contact their primary care provider to discuss preparing for planned pregnancies. • Women with epilepsy need good contraceptive advice to ensure pregnancies are planned. • They will also require review of anticonvulsant medication. • Folic acid dose of 5mg, once daily should be commenced when planning pregnancy.
Antenatal
• Women should have access to an epilepsy team in pregnancy with access to regular planned antenatal care. • Women with a history of epilepsy who are not considered to have a high risk of unprovoked seizures can be managed as low-risk women in pregnancy (RCOG, 2016). • Medication should never be recommended to be stopped or changed. • Folic acid 5mg should be continued in the first trimester and may be continued beyond this under the advice of the medical team. • All pregnant women with epilepsy should be encouraged to notify their pregnancy (or allow their clinician) to the Epilepsy and Pregnancy Register (www.epilepsyandpregnancy.co.uk) • Offer ultrasound scans and routine antenatal screening as per antenatal guidelines in Powys unless obstetrician request different. • Serial growth scans should be offered – these can be conducted in Powys following discussion with the named obstetrician. • Oral Vitamin K 10mg daily may be prescribed daily by the obstetric team from 34-36 weeks (or earlier if deemed to be of high risk of pre-term delivery). • Advice about personal safety e.g. not taking a bath if alone, recovery position.

- Discuss coping strategies for maintaining safety of baby at birth plan appointment.
- Women should be made aware of SUDEP - details on https://sudep.org
- Any woman with epilepsy who reports nocturnal seizures (this is seen as a 'red flag') should have an urgent referral to her epilepsy team and/or obstetric consultant.
- Medication and safety in breastfeeding should eb discussed antenatally if the woman is planning to breastfeed.

Intrapartum

- Advise birth within an obstetric unit.
- Advise women with epilepsy that continuous electronic fetal monitoring is not required for women who are seizure-free or at low risk of seizure during labour.
- Recommend 1mg IM Vitamin K following birth.

Postnatal

- Women should have a postnatal review to ensure anti-epileptic drug doses are appropriately adjusted – midwife to follow up at discharge from the DGH to ensure that this review is in place.
- Any changes in medication dosage in pregnancy should be reviewed by 10 days postnatal.
- Encourage women with epilepsy to breastfeed their baby. Discuss lying down to feed.
- Discuss safe conduct at home to minimise risk when caring for the baby i.e. changing nappies on the floor, not bathing baby when alone.
- Discuss pre-conceptual care for planning future pregnancies.
- Offer advice on contraception and provide midwife-led contraception where appropriate.

Appendix H

Malignant disease

Cancer in pregnancy is rare, affecting less than 1 in 1,000 live births. It may be specific to pregnancy (gestational trophoblastic disease) or incidental to it, the less infrequent conditions being melanoma, lymphoma, and cervical malignancy. Tumours of the uterine cervix, ovary, breast, or thyroid can metastasize to the placenta, but not to the fetus.

Due to the many body changes experienced over the course of a pregnancy and in the post-partum period, it is possible that some of the early signs of cancers can be mistaken for being pregnancy related.

Pre-conception
• Women should be advised to contact their primary care provider to discuss preparing for planned pregnancies. • Women with a history of malignancy may be advised by their oncology team to delay pregnancy following treatment.
Antenatal
• Early referral for obstetric and medical review if current malignancy. • Where there is history of malignancy, obstetric opinion should be sort but in many cases the woman can be treated under midwife-led care. • In cases of current malignancy, care may be in a tertiary unit. • Families can be signposted to the Mummy's Star charity Mummy's Star | Charity | Cancer and Pregnancy • Staff can also refer families to Mummy's Star charity for support. • Care will be dependent on the type and stage of malignancy. • Provide emotional support to the woman and family.
Intrapartum
• Advise birth in an obstetric unit in cases of current malignant disease. • Delivery may be expedited early to allow treatments to begin if required. • Placenta may be sent for histology.
Postnatal
• Breastfeeding can be supported unless the mother is currently undergoing chemotherapy or radiotherapy. • Ensure any follow up appointments have been arrange prior to discharge. • Ensure follow up contraceptive discussions – certain contraception may not be suitable.

Appendix I

Thyroid disease

Thyroid diseases are the commonest cause of endocrine dysfunction in women of childbearing age and, therefore, encountered commonly in pregnancy. Disorders of thyroid hormone production and their treatment can affect fertility, maternal well-being, fetal growth and development. Whilst hypothyroidism is common, hyperthyroidism has much greater implications for pregnancy.
A woman may present as hypothyroid although actually is hyperthyroid (Graves Disease). These women will require the same pathway as hyperthyroid women.
In addition to detail below further information can be found at:
Pregnancy and thyroid disorders - information for professionals | British Thyroid Foundation (btf-thyroid.org)

Pre-conception
HYPOTHYROID: • Ideally should speak to the GP prior to pregnancy to arrange thyroid blood tests with an aim to have a Thyroid Stimulating Hormone (TSH) level of less than 2.5mU/l at the time of conception **HYPERHTYROID:** • Women who have had radioactive iodine therapy should wait 6-months before trying to conceive. • Women should be advised to seek advice from their GP prior to conceiving to have thyroid blood tests to check levels.
Antenatal
HYPOTHYROID: • Thyroxine requirements may increase in pregnancy (by 30-50%) – at booking pregnant women with hypothyroidism should therefore be advised to obtain a medication review with their GP as soon as possible. If on levothyroxine this will often be increased by 25-50mcg daily. • Thyroid stimulating hormone (TSH) should be taken at booking and in each trimester – this can be conducted in Powys, ensure result is copied to obstetrician and endocrinologist. • Hypothyroid will usually be managed through routine obstetric care • TSH level should be less than 2.5mU/l in the first trimester and less than 3.0m/U/l after that.

HYPERTHYROID:

- Refer for maternal medicine care with MDT
- Thyroid function tests (TFT's) will be taken at booking.
- The pregnant woman should be expected to be seen in a combined endocrine clinic early in pregnancy.
- Risk of thyrotoxicosis – this can lead to heart failure, which can be made worse by pre-eclampsia, infection and anaemia.
- Can be associated with miscarriage, stillbirth, IUGR, neonatal thyrotoxicosis.
- Will require regular blood tests in pregnancy – to be determined by endocrinologist.

Intrapartum

HYPOTHYROID:

- Individual assessment if unstable hypothyroidism such as requiring a change in treatment.
- If no change in treatment can have midwife-led birth.

HYPERHTYROID:

- Advise birth in an obstetric unit.
- Will be recommended to have continuous fetal monitoring.

Postnatal

HYPOTHYROID:

- TFTs should be checked at 6-weeks postnatal through the GP – the client should be advised of this prior to discharge from midwifery services.
- Medication will be reverted to pre-pregnancy dose after birth – ensure this review has taken place during postnatal care.
- Breastfeeding is safe whilst taking levothyroxine.
- Newborn blood spot screening as normal
- Babies born to hypothyroid women who were previously treated with surgery or radioiodine for Graves disease are at risk of neonatal thyrotoxicosis and will require follow up.

HYPERHTYROID:

- Neonate will need a neonatal plan – midwife to ensure this is in place prior to discharge from DGH
- Be alert for signs of thyrotoxicosis which can be delayed and include; weight loss, jitteriness, tachycardia, irritability and poor feeding.