Guideline for Epilepsy Referral and Subsequent Antenatal, Intrapartum and Postnatal Care

Author/Owner	Consultant obstetrician lead for labour ward, Specialist Registrar, Specialist Epilepsy Midwife	
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Table of Contents

1.0 Introduction

Epilepsy is a serious and complex neurological disorder which requires individualised care during the antenatal, intrapartum and postnatal period. This document will provide step-by-step recommendations for how to manage women with Epilepsy.

2.0 Objective

The aim of this guideline is:

- To provide safe and effective care for women who have epilepsy and are pregnant
- To provide relevant and factual information
- To decrease the rates of pregnancy complications associated with both epilepsy and Anti-epileptic drugs (AEDs) through appropriate control and management
- To improve fetal outcome in relation to epilepsy and AEDs by minimising the risks to the fetus

3.0 Scope

This document is for all medical and midwifery staff who are involved in the care of Epileptic women during the antenatal, intrapartum and postnatal period.

4.0 Main body of the document

Epilepsy

- Epilepsy is the term used to describe a common and diverse set of chronic neurological disorders in which a person has recurrent unprovoked seizures. These seizures are the result of a sudden, unexpected, disturbance in the electrical activity in the brain. Seizures are categorized by seizure onset site
    - Generalised seizures - originate from some point within and rapidly engage bilateral networks in both hemispheres of the brain
    - Focal seizures - originate from networks limited to one hemisphere of the brain
- The diagnosis of epilepsy should be made by a neurologist or epilepsy specialist.
- Epilepsy is a common serious neurological condition affecting 139,000 (2.9%) women of childbearing age in the UK. Approximately 2,500 babies are born per annum to women who have taken AEDs to control their epilepsy.
- The majority of women with epilepsy experience an uneventful pregnancy, normal labour and give birth to a healthy baby.
- There is a small increased risk of fetal malformations; developmental delay; fetal and maternal death either associated with the condition itself or the medication used to treat it. Fortunately, such complications are rare, but warrant extra caution in monitoring aspects of maternal and fetal wellbeing.
- Twenty-two maternal deaths due to epilepsy were identified in 2016-2018 in the 2020 MBRRACE report. Eighteen of these were due to sudden unexplained death in pregnancy (SUDEP) with poorly controlled seizures a contributing factor. Coordinated multidisciplinary care and safety advice can reduce the risk to pregnant women with epilepsy.
- Women who have been seizure free for 10 years (5 years off AED) may be considered low risk in pregnancy.

4.1 Non-epileptic attack disorder

Psychogenic non-epileptic seizures are events resembling an epileptic seizure, but without the characteristic electrical discharges associated with epilepsy. These are a type of non-epileptic seizure and are also known as non-epileptic attack disorder. Diagnosis depends on excluding epilepsy as a cause of seizures.

These attacks are not dangerous to pregnancy. However, women who have a diagnosis of non-epileptic attack disorder should have access to specialist psychiatric and psychological services during pregnancy.

Inappropriate medical intervention including AED administration and iatrogenic early delivery should be avoided where there is a firm diagnosis of non-epileptic attack disorder.

4.2 Anti-epileptic drugs

Evidence suggests the risks of AEDs affecting an unborn baby are small and are associated with the number, type and dose of AEDs taken (see appendix 1). These include major congenital malformations, minor malformations and neurodevelopmental impairments.

Sodium Valproate contains valproic acid which has known teratogenic effects and may cause congenital malformations. Women who become pregnant whilst taking Sodium Valproate require urgent referral to both their neurologist and obstetrician. Early booking appointment is therefore advocated.

In the interim period women should be advised not to stop their medication.
Making changes to AED therapy after the first three months of pregnancy does not increase the risk of major congenital malformations to the fetus. This is because the fetus will have already developed all of their major organs.
However, there is some evidence that sodium valproate continues to affect the fetal brain and it should therefore be used with caution even beyond this time.

4.3 Seizures in Pregnancy

Two thirds of women will experience no deterioration in seizure control during pregnancy. Women who have had a seizure in the year prior to conception require closer monitoring of their epilepsy.

Women should be encouraged to keep a seizure diary during pregnancy.
There is no evidence that focal, absence and myoclonic seizures themselves will harm an unborn child.

Tonic clonic seizures pose a low risk of harm to mother and baby, but this risk increases with seizure frequency. Uncontrolled tonic clonic seizures are the strongest risk factor for SUDEP which are the main cause of death for pregnant women with epilepsy. Sudden unexpected death in epilepsy (SUDEP) occurs in 1:1000 cases of epilepsy. Status epilepticus can be a cause of maternal and fetal death.

The woman should have a SUDEP risk assessment, and an action plan should be developed for high risk women to minimize the risk.

4.4 Risk factors for SUDEP include:

Seizure-related factors:
- Uncontrolled seizures
- Tonic clonic seizures
- Nocturnal seizures
- Epilepsy starting before the age of 16
- Increasing frequency of seizures

Treatment factors:
- Infrequent epilepsy reviews and engagement with an epilepsy clinician
- Ineffective AED treatment
- Frequent medication changes
- Sub-therapeutic doses of AEDs

Individual factors:
- Living alone or sleeping alone
- Not taking medication as prescribed
- Sleep deprivation
- Stress
- Alcohol or substance misuse
- Learning disability

Women with deteriorating seizure control should be seen urgently by both an obstetrician and a neurologist.

4.5 Possible causes of increased seizure frequency
- Poor compliance with AEDs
- Vomiting or morning sickness
- Poor sleep
- Stress
- Exhaustion
- Pain
- Hyperventilation
- Pethidine - there is anecdotal evidence suggesting this may be seizure provoking. Diamorphine is a suitable alternative in labour.

4.6 Management in the Antenatal period

- If the woman is already booked and known to the Epilepsy Team, the Epilepsy Midwife will arrange an urgent review with the Epilepsy Nurse and Obstetric Consultant.
- If the woman is a new booker and is not known to the Epilepsy Services then an urgent referral to the Epilepsy Consultant will be made by the Obstetric Consultant and the women will be seen within two weeks.
- If the woman is admitted as an emergency with on-going seizures to the antenatal ward the Emergency Team can contact the Neurology Registrar at the Royal Hallamshire Hospital (via switchboard) for urgent advice.

4.6.1 Recommendations for referral of pregnant women to the Neurology department

- Ideally any woman with epilepsy considering becoming pregnant should be referred for pre-conceptual counselling to the Epilepsy Service.
- Women already pregnant who are known to the Epilepsy Service can be managed by the Epilepsy Nurse Specialists.
- Women who are pregnant and who have active epilepsy but are not already known to the Service should be referred to the Epilepsy Clinic. These women should be referred to the Antenatal Clinic urgently, even before their dating scan to assess their risk and for early referral to the Epilepsy team.
- Any women being treated with sodium valproate whatever the stage in pregnancy should be referred to the Epilepsy Clinic urgently for advice
- Women with a history of childhood epilepsy, who are seizure free in adulthood and not on AEDs, need not be referred to the Epilepsy Clinic when pregnant.
- Women who have complex Epilepsy or difficult to manage Epilepsy, may have their care transferred to Sheffield for a joint Neurology/pregnancy clinic at the discretion of the Epilepsy Consultant.

4.6.2 Antenatal care

The GP/ community midwife should identify a history of epilepsy and commence the epilepsy care pathway (See appendix 3). Women may be directed to additional sources of information from the RCOG and epilepsy action.

https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-epilepsy-in-pregnancy.pdf

https://www.epilepsy.org.uk/sites/epilepsy/files/K176%20-%20BOOKLET%20-%20EPILEPSY%20AND%20HAVING%20A%20BABY_0.pdf

Women will be prescribed folic acid **5mg,** ideally pre-conceptually but as soon as possible after pregnancy is confirmed

The woman should be booked under a Consultant with a specialist interest in epilepsy.

Care should be multidisciplinary involving the epilepsy nurse, neurologist, community midwife and obstetrician. The shared care toolkit should be utilised to facilitate this.

Women should be given information about the UK pregnancy and epilepsy register and invited to join:
https://www.epilepsyandpregnancy.co.uk/pages/registrationChoice.htm

The midwife supporting the epilepsy pathway will register the patient once consent has been given.

The woman should where applicable follow a normal pattern of antenatal visits.

Missed appointments should be followed up by telephone or a visit, as it may indicate a deterioration in epilepsy or poor compliance with the management plan.

Women will be offered a detailed ultrasound in line with the NHS fetal anomaly screening programme standard, to identify possible congenital anomalies
Growth scans are recommended for women who are poorly controlled on AEDs or who are on polytherapy.

There is a 3.5 times increased risk of small for gestational age babies for women on AEDs. Therefore, serial growth scans should be offered every 4 weeks from 28 weeks.
No monitoring of AED level in pregnancy is currently recommended, but individual circumstances should be taken into account.

Consider referral for genetic counselling if the woman has previous children with congenital anomalies.

Women should be monitored for risk factors for seizures: sleep deprivation, compliance with medication and seizure frequency.

If admitted, women should bring a supply of their own medication and be accommodated in an area that allows for continuous observation by carer, partner or nursing staff.
Epilepsy in itself should not influence timing or mode of delivery.

4.7 Management in the Intrapartum period

The risk of having a seizure in labour is small (for every 100 women with epilepsy in labour, only one or two will have a seizure). However, for safety reasons the woman is not suitable for a home birth.
The woman will be encouraged to continue her AEDs to minimise her risk of having a seizure in labour.

Anti-emetics should be prescribed if the woman is complaining of nausea and/or vomiting.

AEDs may be given parentally if not tolerated orally.

NB: All new onset seizures in labour are to be treated as potentially eclamptic in nature. Please follow the guideline for the management of severe pre-eclampsia and eclampsia.

For patients who are known to be epileptic experiencing a seizure in labour see management flowchart Appendix 4.

4.7.1 Pain relief during labour

The following methods of pain relief are suitable for women with epilepsy:

- Breathing exercises and self-administered inhalation of Entonox (50% oxygen,50% nitrous oxide) can help women manage their pain in labour, and reduce the possibility of hyperventilation which may trigger a seizure
- TENS machines are a non-invasive method of pain relief
- Diamorphine is safe to use. However, Pethidine should be avoided as it may potentially trigger seizures in some women
- Epidural anaesthesia may be offered early to minimise precipitating factors for seizures e.g. sleep deprivation, hyperventilation, and pain

4.7.2 Water birth

It is not recommended that women with epilepsy labour or birth in water. However, if a woman requests to do so, the decision must be made based on the seizure risk status of the mother, and after discussion between the parents and team caring for the woman, with attention given to how the risk of drowning can be minimised in the unlikely event of a seizure.

Women with epilepsy who are not taking AEDs and who have been seizure free for a significant period may be offered a water birth after discussion with their epilepsy specialist.

Healthcare professionals and parents will need to be aware of the difficulties in managing a seizure in labour in this situation and the small potential risk of drowning. [RCOG]

4.8 Postnatal care

Women with epilepsy and their caregivers need to be aware that although the overall chance of seizures during and immediately after delivery is low, it is relatively higher than during pregnancy.

Women should be advised to continue their AEDs postnatally.
If the AED dose was increased in pregnancy, it should be reviewed by the Epilepsy Nurse Specialist within 2-4 weeks of delivery to avoid postpartum toxicity. The midwife on the Birthing Centre should email the Epilepsy Midwife to inform them of the delivery, this will then be given to the Epilepsy Nurse Specialist.

Rates of postpartum depression are higher in women with epilepsy than women without epilepsy, 29% versus 11% in controls.
Therefore, these women should be screened for depressive disorder in the puerperium. Mothers should be informed about the symptoms and provided with contact details for any assistance.

4.8.1 General Safety issues

Women with epilepsy should be accommodated in an area that allows for continuous observation by carer, partner or nursing staff.

In addition to the routine advice given to women in the postnatal period, the following advice should be offered to the woman to maximise maternal and infant safety:

- To shower rather than a bath
- To share the care of baby, especially at night
- When breast/bottle feeding to sit on the floor holding baby, surrounded by cushions
- To bath the baby when someone else is present
- To change baby on a changing mat on the floor
- To consider using a car seat when transporting baby up and down stairs
- To consider the use of a pram with a brake that comes on when you release the handle

4.8.2 Breastfeeding whilst taking AEDs

Breastfeeding should be encouraged; a study of babies exposed to AEDs in utero demonstrated better psychomotor development in babies who were breastfed than those who were not breastfed.

Although maternal AEDs can pass into the breast milk, breastfeeding whilst taking AEDs is generally safe and has not been associated with intellectual impairment in the child.

Infants should be monitored for sedation (in particular with primidone, phenobarbital, and benzodiazepines), feeding difficulties, and weight gain.
Infants should also be monitored for adverse side effects associated with the individual anti-epileptic drug. Serum blood concentration can be taken to determine levels. Mixed or formula feeding may be recommended if toxicity is suspected.

Parents should be advised to promptly report to the midwife, paediatrician or GP if the breast-fed baby appears excessively sleepy or has a poor feeding pattern.

NB: Withdrawal effects may occur in infants if there is sudden cessation of breastfeeding, in particular with phenobarbital, primidone and lamotrigine.

Mothers should be given the opportunity to discuss feeding choices with an infant feeding advisor e.g. midwife. Information regarding drug interactions and breastfeeding can be obtained from the BHNFT Formulary and Medicines Information Pharmacist (ext. 2857) or BHNFT pharmacy website (http://sv-netformula/netformulary).

Changes to AED medication to facilitate breastfeeding should be made in conjunction with the woman's neurologist.

4.8.3 Contraception and AEDs

Women should be given the following additional advice when discussing contraception in the postnatal period:

- **Non-enzyme inducing AEDs** e.g. clobazam, clonazepam, lamotrigine, levetiracetam and valproate do not affect the efficacy of hormonal contraception, including emergency contraceptives.
- **Enzyme inducing AEDs** e.g. carbamazepine, phenytoin, primidone and topiramate, do affect the efficacy of some forms of hormone therapy including the combined oral contraceptive, progesterone only pill, progesterone implant, combined contraceptive patches, vaginal ring and morning after pill. Depot injection should be administered every 10 weeks rather than 12 weeks.
- See Appendix 2 for full list of enzyme inducing and non-enzyme inducing AEDs

4.9 Care of the Neonate

4.9.1 Vitamin K

Vitamin K is recommended as there may be a link between maternal AEDs and reduced levels of neonatal vitamin K.

The woman will be given advice and information regarding post-delivery administration of Vitamin K, preferably via the intra-muscular route.

4.9.2 Withdrawal

The infant may suffer from withdrawal effects with some AEDs, in particular benzodiazepines and phenobarbital and should be monitored using the Newborn Early Warning Trigger and Track system (NEWTT).

4.9.3 Examination of the Newborn

All babies born to women with epilepsy should be examined at the earliest opportunity by a paediatrician to exclude major and/or minor malformations. If no abnormalities are found the newborn examination can be completed by a midwife.

5.0 Associated documents and references

Baker G, Bagshaw J et al. Malformation risks of anti-epileptic drugs in pregnancy: A prospective study from the UK epilepsy and pregnancy register.

Bhatia M, Adcock JE, Mackillop L. The management of pregnant women with epilepsy: a multidisciplinary collaborative approach to care. The Obstetrician & Gynaecologist 2017; 19:279–88. DOI: 10.1111/tog.12413
GTG 68 –RCOG 2016 https://www.rcog.org.uk/globalassets/documents/guidelines/green-top-guidelines/gtg68_epilepsy.pdf

Clinical Guidelines and Evidence Review for the Epilepsies: diagnosis and management in adults and children in primary and secondary care. Clinical guideline [CG137] Published: 11 January 2012 Last updated: 11 February 2020 https://www.nice.org.uk/guidance/cg137 <accessed> 04/05/2021

Cognitive and neurodevelopment effects of antiepileptic drugs. Cognitive and neurodevelopment effects of antiepileptic drugs. Bromley RL et al. Epilepsy and Behavior 22 (2011) 9-16. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6320692/ <accessed> 04/05/2021

Epilepsy in pregnancy: Resource pack for obstetric professionals. Epilepsy Action 2013. https://what0-18.nhs.uk/application/files/6115/0765/0136/Pregnant_women_with_epilepsy_-_maternity_toolkit.pdf. <accessed 04/05/2021

Epilepsy in Action (2013) SUDEP [online] https://www.epilepsy.org.uk/info/sudep-sudden-unexpected-death-in-epilepsy <accessed> 04/05/2021

ILAE Proposal for Revised Terminology for Organization of Seizures and Epilepsies 2017 https://www.ilae.org/files/dmfile/Operational-Classification--Fisher_et_al-2017-Epilepsia.pdf <accessed> 04/05/2021

In utero antiepileptic drug exposure – fetal death and malformations. K J Meador, G A Baker et al NEAD study group. Neurology 2006;67:407-412. https://pubmed.ncbi.nlm.nih.gov/16894099/ <accessed> 04/05/2021Kim Morley – womenwithepilepsy.co.uk. https://www.womenwithepilepsy.co.uk/ <accessed> 04/05/2021

Managing Epilepsy with Women in Mind. Betts T. 2005. https://jnnp.bmj.com/content/77/9/1102.2.full <accessed> 04/05/2021

Morrow J et al. J Neurol. Neurosurg. Psychiatry published online12 Sep 2005. https://pubmed.ncbi.nlm.nih.gov/16157661/ <accessed> 04/05/2021

MBRRACE-UK (2020). Maternal, Newborn and Infant Clinical Outcome Review Programme. Saving Lives, Improving Mothers' Care [online] https://www.npeu.ox.ac.uk/mbrrace-uk <accessed> 17/03/2021

Medicines and Healthcare products Regulatory Agency> Medicines related to valproate: risk of abnormal pregnancy outcomes [online]https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=102287 <accessed> 04/05/2021

NICE clinical guideline 137 Epilepsies: diagnosis and management

Clinical guideline [CG137]Published: 11 January 2012 Last updated: 11 February 2020.. National Institute for Health and Clinical Excellence (2021) https://www.nice.org.uk/guidance/cg137/chapter/Introduction <accessed>04/05/2021

Pregnancy with epilepsy: Obstetric and neonatal outcome of a controlled study. Mawer G, Briggs M, Baker GA et al (Liverpool and Manchester Neurodevelopment Group) Seizure 2010;19:112-119. https://pubmed.ncbi.nlm.nih.gov/20036166/ <accessed> 04/05/2021.

Primary Care Guidance for the Management of Women taking AED's 2011. https://www.nice.org.uk/guidance/cg137/documents/epilepsy-update-nice-version2. <accessed>04/05/2021

Review Management of women with epilepsy during pregnancy. Adab N, Chadwick DW. The obstetrician & Gynaecologist 2006; 8:20-25.https://obgyn.onlinelibrary.wiley.com/doi/abs/10.1576/toag.8.1.020.27204

Seizure control and treatment in pregnancy: observations from The EURAP Epilepsy Pregnancy Registry. T Thomson et al EURAP study group. Neurology 2006;66:354-360. https://pubmed.ncbi.nlm.nih.gov/16382034/. <accessed> 04/05/2021

Stokes T, Shaw EJ, Juarez-Garcia A, Camosso-Stefinovic J, Baker R. London: Royal College of General Practitioners, 2004. https://www.seizure-journal.com/article/S1059-1311(06)00163-4/fulltext. <accessed> 04/05/2021.

The longer term outcome of children born to mothers with epilepsy. Adab N et al. L Neurol, Neuro Surg. Psych 2004:75:1575-1583. https://pubmed.ncbi.nlm.nih.gov/15491979/. <accessed> 04/05/2021

6.0 Training and resources

Training will be delivered as outlined in the Maternity Training Needs Analysis. This is updated on an annual basis.

7.0 Monitoring and audit

The Table below helps to focus the author on the monitoring requirements and must be used for all Trust Approved Documents. Assistance can be obtained from the Clinical Governance and Compliance Manager.

Minimum requirement to be monitored	Process for monitoring e.g. audit	Responsible individual/ group/ committee	Frequency of monitoring	Responsible individual/ group/ committee for review of results	Responsible individual/ group/ committee for development of action plan	Responsible individual/group/ committee for monitoring of action plan and Implementation
(Example) Care is delivered in line with this guideline	**(Example)** Review of Datix incident reports related to this guideline	**(Example)** Author	**(Example)** Six monthly	**(Example)** Specialty governance meeting	**(Example)** Specialty governance meeting	**(Example)** Overarching CBU governance meeting

8.0 Equality and Diversity

The Trust is committed to an environment that promotes equality and embraces diversity in its performance as an employer and service provider. It will adhere to legal and performance requirements and will mainstream equality, diversity and inclusion principles through its policies, procedures and processes. This guideline should be implemented with due regard to this commitment.

To ensure that the implementation of this guideline does not have an adverse impact in response to the requirements of the Equality Act 2010 this policy has been screened for relevance during the policy development process and a full equality impact assessment is conducted where necessary prior to consultation. The Trust will take remedial action when necessary to address any unexpected or unwarranted disparities and monitor practice to ensure that this policy is fairly implemented.

This guideline can be made available in alternative formats on request including large print, Braille, moon, audio, and different languages. To arrange this please refer to the Trust translation and interpretation policy in the first instance.

The Trust will endeavor to make reasonable adjustments to accommodate any employee/patient with particular equality, diversity and inclusion requirements in implementing this guideline This may include accessibility of meeting/appointment venues, providing translation, arranging an interpreter to attend appointments/meetings, extending policy timeframes to enable translation to be undertaken, or assistance with formulating any written statements.

8.1 Recording and Monitoring of Equality & Diversity

The Trust understands the business case for equality, diversity and inclusion and will make sure that this is translated into practice. Accordingly, all guidelines will be monitored to ensure their effectiveness.

Monitoring information will be collated, analysed and published on an annual basis as part of Equality Delivery System. The monitoring will cover the nine protected characteristics and will meet statutory employment duties under the Equality Act 2010. Where adverse impact is identified through the monitoring process the Trust will investigate and take corrective action to mitigate and prevent any negative impact.

Appendix 1

Risk of congenital malformations and safety of breastfeeding by AED

	Risk of congenital malformation			
No AED	2.0–2.3%			
Monotherapy	3–5%			
Polytherapy	6–8%			
Polytherapy with valproate	Up to 10%			
AED	**Safety in pregnancy**	**Possible congenital malformations**	**Risk of congenital malformation**	**Breastfeeding safety**
Carbamazepine	Considered safest	Cardiac defects Facial clefts	2–5% dose-dependent risk	Safe
Lamotrigine	Considered safest; may need dose adjustment in third trimester (check plasma levels)	Cardiac defects Facial clefts	2–5% dose - dependent risk	Safe
Levetiracetam	Considered safest	Cardiac defects Neural tube defects	1–2%	Safe
Oxcarbazepine	Relatively safe	Cardiac defects Facial clefts	1–3%	Safe
Phenobarbital	Relatively safe	Cardiac defects	2%	**Avoid - drowsiness**
Phenytoin	Relatively safe	Facial clefts Poor cognition and neurodevelopment	1–2%	Safe
Sodium valproate	**Avoid if possible**	Neural tube defects Facial clefts Hypospadias Poor cognition and neurodevelopment	6–10% Dose-dependent risk	Safe
Topiramate	**Less safe, avoid if possible**	Cardiac defects Facial clefts Hypospadias	4–6%	Safe

Modified from TOG article

Contraception and AED's

Enzyme Inducing AEDs	Non Enzyme Inducing AED	
Carbamazepine (Tegratol)	Clobazam (Frisium)	Pregabalin (Lyrica)
Oxcarbazepine (Trileptal)	Clonazepam (Klonopin)	Sodium valproate (Epilium)
Phenobarbital	Ethosuximide (Zarontin)	Tiagabine (Gabitril)
Phenytoin (Dilantin)	Gabapentin (Neurontin)	Vigabatrin (Sabril)
Primidone (Mysoline)	Lacosamide (Vimpat)	Zonisamide (Zonegran)
Topiramate (Topamax)	Lamotrigine (Lamictal)	
	Levetiracetam (Keppra)	

*Research on a small group of women has shown that lamotrigine may reduce the efficacy of hormone therapies.

Appendix 3

Name: ……

D.O.B: ……

Unit No. ……

NHS Number: ……

CARE PATHWAY FOR OBSTETRIC WOMEN WITH EPILEPSY

ANTENATAL CARE					
Type of Epilepsy:	Generalised	Yes/No	Details:		
	Partial/Focal	Yes/No			
	Unclassified	Yes/No			
Contact details for Neurologist:			Date of Last Review:		
Date Folic Acid Commenced and dosage:					
Date of last seizure:			Seizure Frequency:		
Symptoms before onset of seizures:					
What happens during a seizure?					
Length of Seizure:			History of Status epilepticus: yes/no		
Medication and dose prior to pregnancy: *Confirm this has not been stopped without medical advice*					
Current Medication:					

Advice given by Medical team (tick when complete):					
General Safety of Mum		Safety of baby during seizure		Leaflets (RCOG/Valproate)	
Seizure Triggers Discussed		Seizures Discussed – 96.5% won't have seizure in labour		SUDEP discussed	
Medication Compliance		Labour		Pain Relief	
If on Polytherapy or poorly controlled extra scans arranged		Potential effects of AED's on the developing fetus		Paediatric alert completed	
Advice given by Midwife (tick when complete):					
Vitamin K for Baby		Breastfeeding (refer to Infant Feeding coordinator)		To share baby cares – especially during the night	
To shower rather than bathe		To sit on the floor when feeding and attending to baby (bathing and nappy change)		To bath the baby when someone else is present	
Consider using a car seat when carrying baby		Consider a pram with a safety brake (auto stop)		Consents to Epilepsy Drug Register	

ANTENATAL CARE

AED changes during pregnancy

Date	Medication	Recommended Change	Signature

Progress:

Seizure control in pregnancy:		Seizure frequency:				
Anatomy Scan reviewed:		Growth Scans indicated:	Yes		No	

Details of Neurology Review:

Plan for Postnatal Medication Review/Changes:

LABOUR CARE

Treat all seizures in labour as a potential Eclamptic fit.
The triggers for a seizure are:

- Stress
- Exhaustion
- Pain
- Lack of sleep
- Hyperventilation

Be aware of seizure description

Medication:

- Ensure medication is given in labour - ask patient to bring own supply
- Give medication at the prescribed time
- Give Antiemetics if vomiting
- Give timely analgesia as it reduces the risk of seizures
- Diamorphine should be used rather than Pethidine for pain relief as Pethidine is potentially seizure provoking

POSTNATAL CARE

SEIZURES

- Reiterate general safety of mother during a seizure
- Reiterate the importance of child safety during a parental seizure
- Refer to postnatal medication review for changes
- Ensure medication compliance
- Recommend neurology review if seizures uncontrolled or patient stopped AED in Pregnancy

FEEDING

- If woman is breastfeeding patient should be referred to infant feeding co-ordinator or infant feeding facilitator on warding.
- Breastfeeding should generally be encourages even though AEDs can pass through the breast milk. If the baby shows any signs of toxicity or is excessively sleepy inform paediatrician to review.

CONTRACEPTION

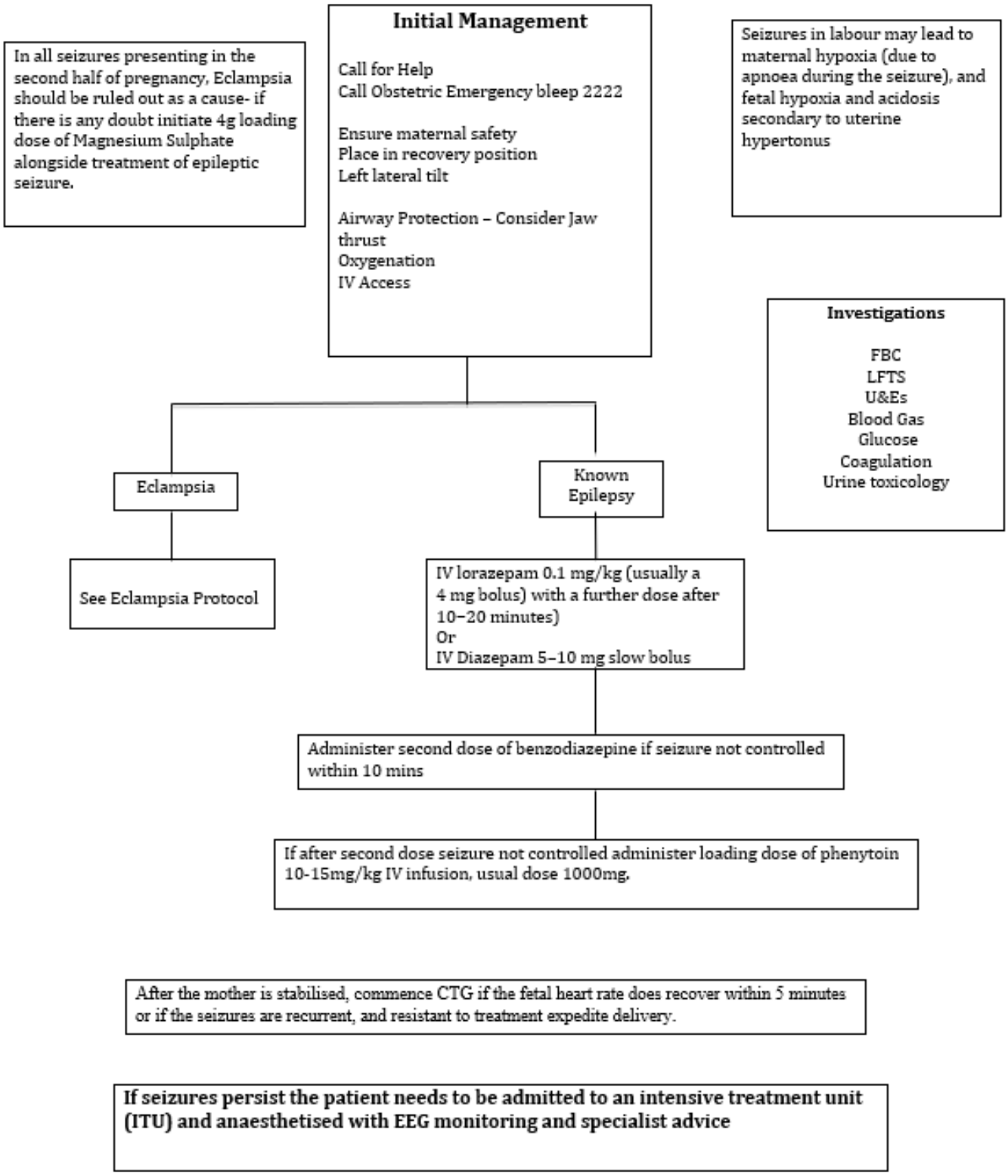
- Non-enzyme inducing AEDs do not affect the efficacy of hormone contraception – including the morning after pill.
- Enzyme inducing AEDs **DO** affect the efficacy of some forms of hormone therapy as detailed below:

AFFECTED METHODS OF CONTRACEPTION	**UNAFFECTED METHODS OF CONTRACEPTION**
• Combined oral contraceptive • Progesterone only pill • Progesterone implant • Combined contraceptive patches • Vaginal ring • Morning after pill	• Intra uterine device • Depo-Provera
Enzyme Inducing AED's: Carbamazepine (Tegratol) Oxcarbazepine (Trileptal) Phenobarbital Phenytoin (Dilantin) Primidone (Mysoline) Topiramate (Topamax)	**Non Enzyme Inducing AED:** Clobazam (Frisium) Clonazepam (Klonopin) Ethosuximide (Zarontin) Pregabalin (Lyrica) Sodium Valporate (Epilium) Tiagabine (Gabitril) Gabapentin (Neurontin) Lacosamide (Vimpat) Lamotrigine (Lamictal) *research on a small group of Women has shown it may reduce the efficiency of hormone therapies Vigabatrin (Sabril) Zonisamide (Zonegran) Levetiracetam (Keppra)

FUTURE PREGNANCY PLANNING:
Inform the woman of the importance of pre-conceptual advice and early commencement of Folic Acid (5mg) in future pregnancies.

Appendix 4

PATHWAY FOR THE MANAGEMENT OF EPILEPTIC SEIZURES IN PREGNANCY



Appendix 5

Glossary of terms
AED – Anti- epileptic drugs
BHNFT – Barnsley Hospital NHS Foundation Trust
NHS – National Health Service
SUDEP – Sudden Unexpected Death in Epilepsy
UK – United Kingdom
WWE- Women with Epilepsy

Appendix 6 (must always be the last appendix)

Maintain a record of the document history, reviews and key changes made (including versions and dates)

Version	Date	Comments	Author

Review Process Prior to Ratification:

Name of Group/Department/Committee	Date
Maternity guideline group	Date: 03/03/2022
Women's Business and Governance Meeting	Date: 03/02/2022
CBU 3 Overarching Governance Meeting	Date: 30/03/2022

Trust Approved Documents (policies, clinical guidelines and procedures)

Approval Form

Please complete the following information and attach to your document when submitting a policy, clinical guideline or procedure for approval.

Document type (policy, clinical guideline or procedure)	Guideline
Document title	Guideline for Epilepsy Referral and Subsequent Antenatal, Intrapartum and Postnatal Care
Document author (Job title and team)	Consultant obstetrician lead for labour ward, Specialist Registrar, Specialist Epilepsy Midwife
New or reviewed document	Reviewed
List staff groups/departments consulted with during document development	Consultant obstetrician lead for labour ward, Specialist Registrar, Specialist Epilepsy Midwife, senior midwives
Approval recommended by (meeting and dates):	Maternity guideline group — Date: 03/03/2022 Women's Business and Governance Meeting — Date: 03/02/2022 CBU 3 Overarching Governance Meeting — Date: 30/03/2022
Date of next review (maximum 3 years)	30/03/2025
Key words for search criteria on intranet (max 10 words)	Epilepsy, epileptic
Key messages for staff (consider changes from previous versions and any impact on patient safety)	
I confirm that this is the <u>FINAL</u> version of this document	**Name: Charlotte Cole** **Designation: Practice Educator Midwife**

FOR COMPLETION BY THE CLINICAL GOVERNANCE TEAM

Approved by (group/committee): CBU3 Overarching Governance Meeting
Date approved: 03/03/2022
Date Clinical Governance Administrator informed of approval: 21/04/2022
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