

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

Appendix 1

Threshold for referral should depend on local obstetric, anaesthetic and other specialist expertise. Women with conditions that fall into Tiers B and C should be considered for referral for discussion or transfer of care to an MDT pre-conceptionally (where possible) for advice and in early pregnancy.

Where women meeting criteria for referral are not referred this should be agreed by the responsible local obstetrician, anaesthetist and relevant physician, and preferably neonatology services.

The MDTs are of course happy to receive referrals for advice and guidance or discussion for conditions that fall outside those listed.

Please complete all referrals via this link. An NHS.net or NHS Trust email address is required.

<https://east-midlands-maternal-medicine-network.nhs.uk>

Cardiology

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for discussion and advice	Refer to MDT Consider transfer of Care
Congenital Heart Disease		
<ul style="list-style-type: none"> Successfully repaired or device closed ASD/VSD/PDA/partial or total anomalous pulmonary venous connection with no arrhythmia or LV/RV dysfunction Repaired AVSD with no or mild left AV valve regurgitation 	<ul style="list-style-type: none"> Tetralogy of Fallot Successfully repaired or stented coarctation AVSD with residual moderate or greater left AV valve regurgitation 	<ul style="list-style-type: none"> Unrepaired ASD/VSD/PDA Systemic right ventricle Fontan circulation Cyanotic heart disease Unrepaired coarctation or severe recoarctation Other complex congenital heart disease

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

Arrhythmias and Channelopathies		
<ul style="list-style-type: none"> • SVT • Successfully ablated atrial arrhythmias 	<ul style="list-style-type: none"> • Arrhythmias that are problematic or requiring 2 or more agents • Channelopathies including Brugada syndrome, Long QT syndrome, CPVT and other ion channel diseases linked to heart rhythm disturbance 	<ul style="list-style-type: none"> • Poorly controlled ventricular arrhythmias
Aortic Disease		
	<ul style="list-style-type: none"> • Marfan syndrome with normal aorta • Bicuspid AV with Aorta <45 mm • Previous aortic dissection • Turner Syndrome (irrespective of aortic dimensions) 	<ul style="list-style-type: none"> • Marfan syndrome with dilated aorta • Loeys-Dietz syndrome, Takayasu's Disease (irrespective of aortic dimensions) • Turner's syndrome with aortic dimensions) Aorta >45 mm in association with bicuspid aortic valve • Vascular Ehlers-Danlos Syndrome (all patients)
Valvular Heart Disease		
<ul style="list-style-type: none"> • Mild to moderate AS/AR, MR, PS/PR with no evidence of LV/RV dysfunction • Mild mitral stenosis with no current atrial arrhythmia 	<ul style="list-style-type: none"> • Any bioprosthetic valve • MR severe or with evidence of LV • PS/PR severe or with evidence of RV dysfunction 	<ul style="list-style-type: none"> • Any mechanical valve • AS/AR – moderate or severe or with evidence of LV dysfunction • Mitral stenosis or symptomatic moderate mitral stenosis

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

Myocardial Disease		
<ul style="list-style-type: none"> Left ventricular impairment that is mild and stable but with a low threshold for MDT referral 	<ul style="list-style-type: none"> Cardiomyopathies including hypertrophic cardiomyopathy, dilated cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy, left ventricular non-compaction and other inherited disorders of heart muscle Left ventricular impairment of any cause that is moderate Previous or current peripartum cardiomyopathy (including if LV function normal after previous peripartum cardiomyopathy) 	<ul style="list-style-type: none"> Left ventricular impairment of any cause that is moderate-severe or severe Cardiomyopathies with significant adverse features e.g. severe LVOT obstruction with HCM, poor RV function or ventricular arrhythmia with ARVC
Coronary Disease		
	<ul style="list-style-type: none"> Previous myocardial infarction related to acquired coronary disease (NSTEMI or STEMI) Previous myocardial infarction related to spontaneous coronary artery dissection Previous myocardial infarction related to thrombotic coronary artery occlusion (paradoxical embolus, thrombus in situ) 	

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

Pace Makers and Defibrillators		
<ul style="list-style-type: none"> Normally functioning devices with sufficient battery longevity to complete pregnancy 	<ul style="list-style-type: none"> Active device complications including lead malfunction, system infection, insufficient battery longevity to complete pregnancy Appropriate and inappropriate therapy for ventricular tachycardia 	<ul style="list-style-type: none"> Device related complications that require tertiary cardiology care
Other		
		<ul style="list-style-type: none"> Pulmonary Hypertension Heart Transplant

Renal

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for Discussion	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Uncomplicated CKD stage 1-2 	<ul style="list-style-type: none"> CKD stage G3a-3b Significant baseline proteinuria (eg >1g/day, PCR>100mg/mmol) Glomerulonephritis Lupus nephritis Inherited kidney disease Kidney transplant recipient 	<ul style="list-style-type: none"> CKD stage G4-5 Dialysis recipient

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

Diabetes & Endocrinology

Diabetes

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for discussion and advice	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Gestational Diabetes Type 2 Diabetes Uncomplicated Type 1 diabetes 	<ul style="list-style-type: none"> Diabetes with CKD 3 Type 1 Diabetes with autonomic neuropathy Previous bariatric surgery MODY (maturity-onset diabetes of the young) 	<ul style="list-style-type: none"> Cystic Fibrosis with Type 1 Diabetes Diabetes with CKD 4 or 5 Diabetes and retinopathy requiring treatment during pregnancy and/or kidney impairment (CKD 2 with significant proteinuria i.e. PCR>30; or CKD 3 or more)

Endocrinology

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for discussion and advice	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Hyperthyroidism – well controlled Hypothyroidism Pituitary Microadenoma (not secreting dopamine) 	<ul style="list-style-type: none"> Pituitary macroadenoma Dopamine producing pituitary microadenoma Acromegaly Uncontrolled Hyperthyroidism Hyperparathyroidism with raised calcium Functioning adrenal tumours 	<ul style="list-style-type: none"> Pheochromocytoma Cushing Syndrome Acromegaly Pituitary macroadenoma MEN (multiple endocrine neoplasia)

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

	<ul style="list-style-type: none"> • Congenital adrenal hyperplasia • Addison's disease 	
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Gastroenterology, Hepatology & Nutrition

Luminal Gastroenterology

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider refer to MDT for discussion and advice	Refer to MDT Consider Transfer of Care
	<ul style="list-style-type: none"> • IBD with plans to continue biologics into third trimester • IBD with active perianal disease • Treated GI malignancy 	<ul style="list-style-type: none"> • Bowel Transplant • Active GI malignancy • Complex pancreatitis

Hepatology

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for discussion and advice	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> • Stable Autoimmune Hepatitis • Chronic Liver disease without Cirrhosis • Gall Stones 	<ul style="list-style-type: none"> • Liver transplant – managed in conjunction with transplant centre • Cirrhosis • Portal Hypertension without varices • Acute fatty liver of pregnancy • Autoimmune hepatitis • Liver infarction / haematoma 	<ul style="list-style-type: none"> • On Liver Transplant List • Liver transplant not jointly managed with transplant centre • Portal Hypertension with varices

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Nutrition

Category A	Category B	Category C
Local hospital planned care Refer to MDT for opinion if required	Consider referral to MDT for discussion and advice	Refer to MDT Consider Transfer of Care
	<ul style="list-style-type: none"> Enteral or parenteral nutrition 	

Haematology

Category A	Category B	Category C
Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion unless local haematology expertise available	Refer to MDT Consider Transfer of Care
Haemoglobinopathy		<i>Refer to Haemoglobinopathy Treating Centre</i>
<ul style="list-style-type: none"> Sickle cell trait 		<ul style="list-style-type: none"> Sickle cell disease
<ul style="list-style-type: none"> Alpha thalassaemia carriers Beta thalassaemia carriers, not requiring transfusions 	<ul style="list-style-type: none"> Non transfusion-dependent thalassaemia such as HbH or thalassaemia intermedia 	<ul style="list-style-type: none"> Beta thalassaemia major Transfusion dependent thalassaemia (including intermedia requiring transfusions during pregnancy)
<ul style="list-style-type: none"> Uncomplicated enzyme or membrane disorders without iron overload 		<ul style="list-style-type: none"> Rare inherited anaemias

Referral Pathways and Referral Criteria for the East Midlands Maternal Medicine Network

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Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion unless local haematology expertise available	Refer to MDT Consider Transfer of Care
Bleeding Disorders		<i>Refer to Haemophilia Comprehensive Care Centre HCC</i>
	<ul style="list-style-type: none"> Haemophilia carrier with normal levels and female fetus 	<ul style="list-style-type: none"> Low-level haemophilia carrier All carriers of severe haemophilia A or B Carriers of haemophilia with a male fetus (or gender unknown)
	<ul style="list-style-type: none"> Type 1 VWD 	<ul style="list-style-type: none"> Type 2 and 3 VWD
	<ul style="list-style-type: none"> Other mild bleeding disorders 	<ul style="list-style-type: none"> FXI deficiency with bleeding phenotype
		<ul style="list-style-type: none"> Any other severe bleeding disorder eg Glanzmann's, Bernard Soulier
Malignancy, MPN, other haematological disorders		
<ul style="list-style-type: none"> Previous haem malignancy in remission without late effects 	<ul style="list-style-type: none"> Previous haem malignancy with late effects or post bone marrow transplant 	<ul style="list-style-type: none"> Active haematological malignancy
<ul style="list-style-type: none"> Haematinic deficiencies and iron deficiency anaemia 	<ul style="list-style-type: none"> Autoimmune haemolytic anaemia (AIHA) 	<ul style="list-style-type: none"> Aplastic anaemia Paroxysmal nocturnal haemoglobinuria (PNH) Myeloproliferative conditions (ET/PV/MF)
Mechanical Heart Valves		
		<ul style="list-style-type: none"> All mechanical heart valves
VTE		
<ul style="list-style-type: none"> VTE in previous pregnancy High risk VTE (RCOG guidelines RA) 	<ul style="list-style-type: none"> Acute VTE in current pregnancy at <32 weeks gestation 	<ul style="list-style-type: none"> Acute VTE at >32 weeks gestation Complex VTE

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Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion unless local haematology expertise available	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Inherited thrombophilia (except antithrombin deficiency) 		<ul style="list-style-type: none"> Antithrombin deficiency
<ul style="list-style-type: none"> Obstetric antiphospholipid syndrome 		<ul style="list-style-type: none"> Thrombotic antiphospholipid syndrome
Thrombocytopenia		
<ul style="list-style-type: none"> Gestational thrombocytopenia All other ITP 	<ul style="list-style-type: none"> ITP requiring treatment in pregnancy (previous or current) ITP with previous neonatal thrombocytopenia or bleeding 	<ul style="list-style-type: none"> Complicated ITP or platelet count consistently <50
		<ul style="list-style-type: none"> Women with history of TTP or atypical HUS
Antibody mediated conditions		
<ul style="list-style-type: none"> Low risk red cell antibodies 		<ul style="list-style-type: none"> Previous NAIT HDFN requiring IVIG antenatally

Rheumatology

Category A	Category B	Category C
Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Any other rheumatological condition not in 2 or 3 	<ul style="list-style-type: none"> Any Connective Tissue Disease on DMARD or biologic therapy except if only on hydroxychloroquine 	<ul style="list-style-type: none"> Systemic sclerosis Any Connective Tissue Disease with Lung involvement

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	<ul style="list-style-type: none"> Any Connective Tissue Disease with extra-articular manifestations involving heart or kidneys SLE with cerebral, renal or cardiac involvement Any vasculitis Any rheumatological condition or connective tissue disease with plans to continue biologics into third trimester Behçets on DMARDs 	<ul style="list-style-type: none"> Ehlers Danlos type VI (vascular type)
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Neurology & Neurosurgery

Category A	Category B	Category C
Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> Epilepsy managed in a combined clinic including specialist neurology and obstetrics Migraine Previous brain tumour 	<ul style="list-style-type: none"> Previous ischaemic stroke Previous intracranial haemorrhage Untreated intracranial aneurysm Myotonic dystrophy Pituitary apoplexy Poorly controlled epilepsy on multiple AEDs Multiple sclerosis on disease modifying therapy Current brain tumour Neurofibromatosis 	<ul style="list-style-type: none"> Myasthenia Gravis All epilepsy without local access to a combined clinic including specialist neurology and obstetrics Progressive brain tumour Acute stroke New-onset Guillain-Barre Progressive brain tumour

Respiratory

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Local Hospital Planned Care Refer to MDT for opinion if required	Refer to MDT for Discussion	Refer to MDT Consider Transfer of Care
<ul style="list-style-type: none"> • Asthma not on immunotherapy • Pneumonia • TB • Chronic obstructive Airways Disease • Pneumothorax • Sarcoidosis without restrictive lung disease, no renal involvement • Managed obstructive sleep/ obesity hypoventilation • Pulmonary embolus 	<ul style="list-style-type: none"> • Restrictive lung disease with FVC < 50% predicted including scoliosis • Any respiratory condition currently receiving immunotherapy / biologics • Complicated asthma: <ol style="list-style-type: none"> a) Repeated presentations of asthma (≥ 3) in pregnancy b) Asthma receiving biologics c) Long-term corticosteroids • Bronchiectasis • New diagnosis of obstructive sleep apnoea/ obesity hypoventilation in pregnancy • Covid Pneumonitis • Lung cancer 	<ul style="list-style-type: none"> • Cystic Fibrosis • Lung Transplant • Restrictive lung disease (eg ILD, kyphoscoliosis) with FVC <50% • Neuromuscular disorders with respiratory muscle involvement eg myasthenia gravis, Guillain-Barré syndrome • Pulmonary Vasculitis

All postnatal readmissions to hospital where the cause may be related to a maternal medical condition in category B or C should be notified to the maternal medicine network. This applies to all women who have delivered within 12 months and any diagnosis of a medical condition that may be related to / exacerbated by pregnancy should also be notified.

Please complete all referrals via this link

<https://east-midlands-maternal-medicine-network.nhs.uk>