

Conditions for considerations of referral into a Maternal Medicine Centre

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1. Objective

The Yorkshire and The Humber (Y&H) regions have come together to form The Y&H Maternal Medicine Network (MMN). The aim of the MMN is to provide equitable and expert care to women and birthing people with pre-existing or pregnancy induced medical conditions.

The purpose of the document is to provide guidance to professionals regarding who to refer to the MMN.

2. Background

The criteria for referral has been developed using the NHSE Maternal Medicine Service Specification (2020) as guidance, in consultation with Lead Obstetricians and Physicians at both Maternal Medicine Centres. There have been some amendments to reflect local expertise and capacity at both Maternal Medicine Centres at Leeds Teaching Hospitals Trust and Sheffield Teaching Hospitals.

The criteria for referral for cardiology has been developed in consultation with the Pregnancy Care Guideline for Women in Yorkshire & Humber Network with known Congenital Cardiac Disease (Yorkshire and Humber Congenital Heart Disease Operational Delivery Network 2021).

3. Referral information

For any conditions that are not included in this document that you require advice for/referral to a Maternal Medicine Centre, please email leedsth-tr.maternalmedicine@nhs.net for Leeds or sth.jessopwing.maternalmedicine@nhs.net if referring to Sheffield MMC.

When referring a patient, please take into consideration that those who are from an ethnic minority, have a severe mental illness or are socially deprived, are at higher risk of poor physical health and poor outcomes, compared with the general patient population. The perinatal period adds further complexity, therefore please ensure you consider mental health needs of the patient and refer to your local perinatal mental health service appropriately. The YH Mental Health Clinical Network website provides useful information and signposting: <https://www.yhscn.nhs.uk/mental-health-clinical-network>

4. Definitions

Category A- Local Expertise - Medical conditions that can be managed using local expertise and evidence based maternity care.

Category B- Review, Advice and Guidance from Maternal Medicine Centre - Complex medical conditions where a Maternal Medicine Centre provides clinical review (either virtually or face to face according to clinical need) and ongoing **advice and guidance** to local maternity unit.

Category C- Care led by Maternal Medicine Centre - Highly complex medical conditions where care in pregnancy is **led by the Maternal Medicine Centre** during pregnancy and includes plan for delivery.

Cardiology

Acquired Cardiac Disease

Urgent referral to MMC	Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Pulmonary hypertension – refer to Sheffield	Cardiomyopathies: ➤ Hypertrophic - Dilated or Previous or Peripartum	➤ ICD	➤ Common arrhythmias*
➤ Mod-Severely impaired left ventricular dysfunction	Channelopathies: ➤ Long QT ➤ Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) ➤ Brugada ➤ Other	➤ Common arrhythmias (where concerned)	
		➤ Ischaemic heart disease (stable)	
		➤ Acute coronary syndrome	
		➤ SCAD	
		➤ Previous Cardio toxic chemotherapy with abnormal 1st or 3rd trimester echo	

* Should be reviewed by local Obstetric and Cardiology teams. Refer after local Cardiology review if required

Congenital Heart Disease

Urgent referral to MMC	Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ BAV with aortopathy or Turner's syndrome with max aortic root/ascending aorta diameter $\geq 45\text{mm}$ ng aorta diameter $\geq 45\text{mm}$	➤ Severe aortic or mitral regurgitation	➤ Mild-moderate aortic /mitral regurgitation	
➤ Marfan's syndrome or other CTD* with dilated aortic root	➤ Severe pulmonary stenosis Moderate or severe aortic stenosis	➤ Severe Pulmonary regurgitation	
➤ Severe systemic ventricular impairment	➤ Moderate or severe mitral stenosis Coarctation of aorta, native, operated or intervened on	➤ Moderate aortic stenosis (Pre-pregnancy peak gradient $< 50\text{mmHg}$)	
➤ Mechanical (metal) valve	➤ TGA repair: Mustard/Senning, Arterial switch (not good function/quality)	➤ TGA repair: good quality/function arterial switch	
*Ehlers-Danlos Type 4, Loeys-Dietz, Familial Thoracic Aortic Aneurysm and Dissection syndrome or high suspicion of unidentified cause	➤ Fontan circulation	➤ Mild mitral stenosis	
	➤ Cyanotic heart disease without pulmonary hypertension	➤ Unrepaired ASD	
	➤ Bicuspid Aortic Valve (BAV) with aortopathy or Turner's syndrome with maximum aortic root/ascending aorta	➤ Tetralogy of Fallot	

		➤ Repaired Fallot's Tetralogy	
		➤ Restrictive VSD (unrepaired)	
		➤ Repaired ASD/VSD	
		➤ Isolated Patent Ductus Arteriosus (without pulmonary hypertension)	
		➤ Repaired total anomalous pulmonary venous drainage	
		➤ Bicuspid aortic valve; no aortopathy	
		➤ Mild aortic stenosis Mild/moderate pulmonary stenosis / regurgitation	

*** Should be reviewed by local Obstetric and Cardiology teams. Refer after local Cardiology review if required**

Diabetes and Endocrine

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Pheochromocytoma	➤ Uncontrolled hyperthyroidism	➤ Hyperthyroidism – well controlled
➤ Cushing's syndrome	➤ Adrenal tumours	➤ Hypothyroidism
➤ Acromegaly	➤ Congenital adrenal hyperplasia	➤ Thyroid nodules
➤ Metabolic disorders	➤ Addison's disease	➤ Microprolactinoma
➤ Hyperparathyroidism with raised calcium	➤ Hypopituitarism	➤ Type 1/ 2 diabetes
	➤ Thyroid Cancer	
	➤ Macroprolactinoma	
	➤ Type 1 diabetes with significant renal impairment or autonomic neuropathy	
	➤ Diabetic Nephropathy	
	➤ Monogenic diabetes	
	➤ CVD	

Haematology

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
<ul style="list-style-type: none"> ➤ Fetus affected by moderate to severe haemophilia (or not known whether fetus affected) ➤ Carrier of haemophilia with low levels Factor VIII/IX 	<ul style="list-style-type: none"> ➤ Haemophilia carrier (refer carriers of haemophilia as early as possible) ➤ Partner of pregnant patient with Haemophilia A/B 	<ul style="list-style-type: none"> ➤ Gestational thrombocytopenia ➤ Historical ITP and platelets >75
<ul style="list-style-type: none"> ➤ Type 2 & 3 VWD ➤ Type 1 VWD if VWF not normalised 	<ul style="list-style-type: none"> ➤ Type 1 VWD: VWF normalised in pregnancy 	<ul style="list-style-type: none"> ➤ Inherited thrombophilia (no previous VTE, not antithrombin deficiency)
<ul style="list-style-type: none"> ➤ Any bleeding disorder already under care in MMC, or likely to require haemostatic support antenatally or peripartum to reduce haemorrhage risk (including severe platelet disorders) 	<ul style="list-style-type: none"> ➤ Mild bleeding disorder, or partner of patient with mild bleeding disorder (platelet function defect, other mild coagulation factor deficiency such as Factor XI deficiency) 	<ul style="list-style-type: none"> ➤ Obstetric antiphospholipid syndrome
<ul style="list-style-type: none"> ➤ Antithrombin deficiency 	<ul style="list-style-type: none"> ➤ Current ITP and platelets <75 	<ul style="list-style-type: none"> ➤ Current or previous VTE event ➤
<ul style="list-style-type: none"> ➤ Thrombotic Antiphospholipid Syndrome 	<ul style="list-style-type: none"> ➤ Inherited thrombophilia with previous VTE 	<ul style="list-style-type: none"> ➤ Sickle cell trait
<ul style="list-style-type: none"> ➤ Sickle cell disease 	<ul style="list-style-type: none"> ➤ Current extensive VTE or new VTE > 36/40 gestation 	<ul style="list-style-type: none"> ➤ Alpha/beta thalassaemia trait
<ul style="list-style-type: none"> ➤ Transfusion Dependent Thalassaemia 	<ul style="list-style-type: none"> ➤ Rarer red cell disorders already under MMC care 	<ul style="list-style-type: none"> ➤ Previous treated haematological malignancy
<ul style="list-style-type: none"> ➤ Active haematological malignancy 	<ul style="list-style-type: none"> ➤ Non-transfusion dependent thalassaemia ➤ Thalassaemia trait and Hb <75 	<ul style="list-style-type: none"> ➤ Thrombocytosis
<ul style="list-style-type: none"> ➤ TTP requiring treatment 	<ul style="list-style-type: none"> ➤ Myeloproliferative disorders 	
<ul style="list-style-type: none"> ➤ PNH 	<ul style="list-style-type: none"> ➤ TTP in remission 	

Gastroenterology

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Complex pancreatitis	➤ Complex IBD (Incl perianal disease/pouch/stoma)	➤ Uncomplicated IBD
➤ Hypertriglyceridemia	➤ Acute and chronic pancreatitis	➤ Active IBD controlled on steroids /biologics (Should be reviewed by local Obstetric and Gastro team. Refer after local review if required)
➤ Active GI malignancy	➤ Treated GI malignancy	

Hepatology

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Any degree of portal hypertension	➤ Autoimmune hepatitis	➤ viral hepatitis*
➤ Decompensating Liver disease	➤ Crigler Najjar syndrome	
➤ Cirrhosis	➤ Wilson's disease	
➤ Liver Transplant	➤ Primary sclerosing cholangitis	
	➤ Primary biliary cholangitis	

*Should be reviewed by local Obstetric and Hepatology team. Refer after local review if required.

Infectious Diseases

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
	➤ Malaria	➤ HIV

Neurology

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ New diagnosis/ flare up of Myasthenia gravis	➤ Unstable Multiple Sclerosis or on disease modifying drugs	➤ Previous ischaemic stroke
➤ Acute Stroke	➤ Untreated intracranial aneurysm	➤ Epilepsy
➤ Progressive brain Tumour	➤ Previous intracranial haemorrhage	➤ Previous CVT
➤ Unstable CVM/ AVM/cavernoma/ intracerebral bleed within 2 years	➤ Complex or poorly controlled epilepsy on multiple AEDs	➤ Meningitis /encephalitis *
➤ New onset Guillian barre syndrome	➤ Stable CVM/AVM/Cavernoma	➤ Idiopathic intracranial hypertension
	➤ Current stable brain tumour	➤ Stable MS without disease modifying drugs *
	➤ New CVT	
	➤ Previous Guillian Barre syndrome	
	➤ Stable Myasthenia Gravis	
	➤ Spinal cord injury	
	➤ Spinal Muscular Atrophy	
	➤ MND	
	➤ Symptomatic raised intracranial pressure	
	➤ Myotonic dystrophy	

* Should be reviewed by the local obstetric and neurology teams. Refer after local review if required.

Renal

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ CKD 5	➤ CKD 3-4	➤ CKD 1-2
➤ Combined kidney pancreas transplant	➤ GN on maintenance immunotherapy	➤ AD polycystic kidney disease with normal renal function
➤ New renal vasculitis	➤ Lupus nephritis (stable)	
➤ Active/ Unstable Lupus nephritis	➤ Autosomal dominant polycystic kidney disease (ADPKD)	
➤ Scleroderma renal crisis	➤ Renal dialysis	
	➤ Reflux nephropathy and congenital abnormality of kidney and urinary tract with CKD stage 3-4	
	➤ Renal Transplant	
	➤	

Respiratory

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Cystic Fibrosis	➤ Restrictive lung disease (e.g. ILD)	➤ Asthma
➤ Lung Transplant	➤ Any pulmonary condition currently receiving immunotherapy	
➤ Pulmonary Hypertension		

Rheumatology

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
➤ Scleroderma	➤ Any CTD with evidence of extra-articular manifestations involving heart, lungs or kidneys	➤ Stable inflammatory arthritis on pregnancy appropriate treatment
➤ Vascular/Type IV Ehlers Danlos Syndrome	➤ SLE with renal, cardiac or cerebral involvement	➤ Stable CTD not on biologics
	➤ Vasculitis (anti-GBM or ANCA positive)	➤ Hypermobile Ehlers Danlos type 3
	➤ Sjogren's syndrome with Ro antibody positivity	
	➤ Other Ehlers Danlos syndrome	

Miscellaneous

Care led by Maternal Medicine Centre	Review, advice & guidance from MMC	Local expertise
	➤ Cancer	➤ Polymorphic Eruption of Pregnancy
	➤ Acute illness where the underlying condition is not clear: headache, breathlessness, chest pain, abdominal pain, fever/sepsis	
	➤ Skin Disease e.g. Pemphigoid Gestationis	

5. Declarations of Interests

No declaration of interest.

6. References

Maternal Medicine Service Specification (2021)

NHSE 13th October 2021, version 1

Pregnancy Care Guideline for Women in Yorkshire & Humber Network with known Congenital Cardiac Disease (2021)

Yorkshire and Humber Congenital Heart Disease Operational Delivery Network

7. Contributors

The following Obstetric and Medical leads have been consulted by Dr Tessa Bonnett and Dr Medha Rathod during the development of this document:

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8.Target Professional Group

All professionals caring for women with complex medical conditions.

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