GUIDELINE DETAILS: Clinical	
Document Name:	**Shared Care Agreement for Midodrine**
Version:	**1**
Date of Issue:	**January 2018**
Renewal by:	**January 2021**
Lead Director:	**Director Of Pharmacy**
Post Responsible for Update:	**Divisional pharmacist, Medicine**
Approval Committee:	**Area Prescribing Group (APG)**
Approved by them in the minutes of:	**APG 09/01/18**
Distribution to:	**NHS Eastern Cheshire CCG, NHS South Cheshire CCG, NHS Vale Royal Clinical Commissioning Group, East Cheshire NHS Trust, MCHFT & Cheshire and Wirral Partnership NHS Foundation Trust**
Adopted by:	**Area Prescribing Group, MMG & JMMG**

'Delivering Excellence in Healthcare through Innovation and Collaboration'

Please be advised that the Trust discourages the retention of hard copies of policies and procedures and can only guarantee that the policy on the Trust Intranet is the most up to date version

Table of Contents

1. INTRODUCTION / PURPOSE

This shared care agreement is to promote the on-going care and support of patients prescribed long term treatment with midodrine.

The guidance represents a safe level of clinical care for patients assessed as requiring treatment with midodrine.

After initial prescribing, monitoring and objective assessment of effectiveness by hospital clinicians prescribing can be undertaken in general practice under certain circumstances.
The guidance has been approved by the Area Prescribing Group following consultation with GPs local CCGs and trusts.

No one will be discriminated against on grounds of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex or sexual orientation. The Trusts will provide interpretation services or documentation in other mediums as requested and necessary to ensure natural justice and equality of access.

2. SCOPE

To provide a safe shared care pathway for the effective prescribing of midodrine.

3. PROCESS

3.1 Background

Orthostatic (or postural) hypotension results from an inadequate physiological response to postural changes in blood pressure. Postural hypotension is defined as a fall in blood pressure of over 20mmHg systolic, (or 10 mmHg diastolic), on standing or during head-up tilt to at least 60º.
In people with the condition, standing leads to an abnormally large drop in blood pressure, which can result in symptoms such as light-headedness, dizziness, blurring of vision, syncope and falls.
Orthostatic hypotension may be idiopathic or may arise as a result of disorders affecting the autonomic nervous system (for example, Parkinson's disease, multiple system atrophy or diabetic autonomic neuropathy), from a loss of blood volume or dehydration, or because of certain medications such as antihypertensive drugs.

It is important to conduct an overall assessment of falls risk and address all modifiable risk factors, as well as managing orthostatic hypotension. Refer to the NICE Quality Standard for Falls in older people, published in March 2015, and the NICE guideline Falls in Older People: assessing risk and prevention (CG161), published June 2013, for further information.

The NICE guideline for Falls in Older People (CG 161): assessing risk and prevention (2013) identifies that older people who present for medical attention because of a fall, or report recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should be offered a multifactorial falls risk assessment.

For advice on reviewing medicines, please see the NICE guideline on Medicines Optimisation.

The European Federation of Neurological Societies' guideline recommends individually tailored therapy for orthostatic hypertension (Lahrmann et al. 2011) and advises that goals of treatment are improving functional capacity and quality of life, and preventing injury, rather than achieving a target blood pressure.
Note that this considers orthostatic hypotension generally, not just orthostatic hypotension due to autonomic dysfunction. Recommended management options are:

• Patient education on orthostatic hypotension and advice on factors that influence blood pressure (for example, high environmental temperatures, sudden changes in posture, alcohol, and large, carbohydrate‑rich meals).

• Physical measures including raising the head of the bed, moving to upright gradually, leg crossing, bending or squatting, elastic stockings and abdominal compression bands.

• Carefully controlled and individualised exercise training (swimming, aerobics, cycling and walking).

• Blood pressure monitoring and management of raised blood pressure when lying down (supine hypertension), if needed.

• Increased water and salt ingestion.

•Pharmacological treatment, with fludrocortisone first-line (see the NICE evidence summary: off-label medicine on fludrocortisone for orthostatic hypotension).
Midodrine is recommended as a second-line option, alone or in combination with, for example, fludrocortisone.

3.2 Licensed Indication

Midodrine (Bramox®) is licensed for orthostatic hypotension due to autonomic dysfunction: use for other types of orthostatic hypotension is unlicensed. In line with the guidance from the General Medical Council (GMC), it is the responsibility of the prescriber to determine the clinical need of the patient and the suitability of using midodrine or fludrocortisone outside their authorised indications.

Indications for the purposes of this agreement:
Midodrine is recommended for the adjunctive treatment of postural hypotension in those whose postural drop is 20mmHg systolic or more under the following conditions

- The hypotension is due to a neurogenic failure such as Parkinson's disease with autonomic failure and not a physical or pharmacological cause.
- Midodrine is used only after non pharmacological measures are unsuccessful.
- An overall assessment of falls risk assessment, in line with NICE CG 161 is completed and documented which addresses all modifiable risk factors
- Midodrine is used only after the recommended first line treatment, the mineralocorticoid fludrocortisone, has been tried or considered and found to be unsuitable. A dose of 50-300 micrograms of fludrocortisone once a day is recommended. At the higher doses,

hypokalaemia and excessive fluid retention may occur. Its benefits may not be realised until it is stopped.

- Midodrine may be added to ongoing fludrocortisone use. If the latter is not tolerated it would normally be withdrawn slowly. Withdrawal of corticosteroids after prolonged therapy must always be gradual to avoid acute adrenal insufficiency and should be tapered off over weeks or months according to the dose and duration of treatment. This element of the care of the patient is the responsibility of the secondary care team and the patient's medication should be stable at the time of proposed transfer.
- Careful monitoring is needed if fludrocortisone and midodrine are used together and this should be specified in the transfer letter
- The assessment of effectiveness of the trial of treatment should include both objective blood pressure measurements and patient well-being

3.3 Exclusions from the shared care protocol

- Children under 16 years
- Hypersensitivity to the active substance or to any of the excipients in the formulation
- Severe renal impairment (creatinine clearance < 30 ml/min)
- Acute kidney disease.
- Hypertension.
- Serious prostate disorder.
- Urinary retention
- Proliferative diabetic retinopathy
- Pheochromocytoma
- Hyperthyroidism
- Narrow angle glaucoma
- Pregnancy
- Severe organic heart disease (e.g. bradycardia, heart attack, congestive heart failure, cardiac conduction disturbances or aortic aneurysm).
- Serious obliterative blood vessel disease, cerebrovascular occlusions and vessel spasms
- Reflex syncope (remain under the care of the cardiologist)

3.4 Dose

Initial dose: 2.5 mg three times a day.

Depending on the results of supine and standing blood pressure recordings, this dose may be increased weekly until symptomatic improvement is seen. This is up to a dose between 5 - 10 mg three times a day. This is the usual maintenance dosage.

The last daily dose should be taken at least 4 hours before bedtime in order to prevent supine hypertension. Ensure patient is informed.

Midodrine 5 mg tablets may be taken with or without food.

3.5 Monitoring requirements

- Evaluate renal and hepatic function before starting treatment and every 6 months when on long term treatment.

- A period of supine and standing blood pressure monitoring is required daily as an inpatient then weekly within the first month to exclude midodrine induced hypertension. This will be completed in Secondary Care. Midodrine should be stopped if the systolic blood pressure in either position increases above 180mmHg or is considered clinically significant. Patients with persistent labile blood pressure after stabilisation on midodrine should discontinue treatment (consultant team responsibility).

- Monitor for signs or symptoms of bradycardia at review and on an ad hoc basis (consultant team responsibility).

- Monitor supine and standing blood pressure (due to the risk of hypertension in the supine position) every 3 months. Ensure this is clearly specified on GP letter.

- Monitor for symptoms of supine hypertension (see section 3.6 Cautions below): chest pain, palpitations, shortness of breath, headache and blurred vision, and advise patients to self-monitor and report immediately. Document that patient has been counselled to report symptoms (consultant team responsibility).

- Advise patients to report symptoms of supine hypertension immediately.

- A careful evaluation of the response to treatment and of the overall balance of the expected benefits and risks needs to be undertaken before any dose increase and advice to continue therapy for long periods. Ensure documented prior to transferring care.

3.6 Cautions

<u>Severe orthostatic hypotension with supine hypertension</u>
Regular monitoring of supine and standing blood pressure is necessary due to the risk of hypertension in the supine position, e.g. at night. Patients should be told to report symptoms of supine hypertension immediately. These include chest pain, palpitations, headache and shortness of breath. Supine hypertension may often be controlled by an adjustment to the dose. If supine hypertension occurs, which is not overcome by reducing the dose, midodrine must be stopped.
Avoid administration in the late evening. The last daily dose should be taken at least 4 hours before bedtime in order to prevent supine hypertension. The risk of supine hypertension occurring during the night can be reduced by elevating the head.
Note: patients must not be commenced on midodrine if severe orthostatic hypotension with supine hypertension is already present.

<u>Atherosclerotic disease</u>
Caution must be observed in patients with atherosclerotic disease especially with symptoms of intestinal angina or claudication of the legs.

Severe disturbances of the autonomic nervous system
In patients suffering from a severe disturbance of the autonomic nervous system, administration of midodrine may lead to a further reduction of blood pressure when standing. If this occurs, midodrine should be stopped.

Prostate disorders
Caution is advised in patients with prostate disorders, as midodrine may cause urinary retention.

Renal and hepatic function
Midodrine is contraindicated in patients with acute renal impairment or severe renal impairment. Treatment with midodrine has not been studied in patients with hepatic impairment. Evaluate the renal and hepatic parameters before starting treatment with midodrine and on a regular basis.

Heart rate
Bradycardia may occur after midodrine administration, due to vagal reflex. Caution is advised when midodrine is used concomitantly with cardiac glycosides (such as digitalis preparations) and other agents that directly or indirectly reduce heart rate. Monitor for signs or symptoms suggesting bradycardia.

3.7 Adverse effects

The most common adverse effects are piloerection, itchy scalp, paraesthesia of the scalp, urinary retention, supine hypertension, increased supine hypertension, and pruritus.

Consult the BNF or SPC for the most up to date list of adverse effects.

3.8 Drug Interactions

Concomitant treatment with sympathomimetics and other vasoconstrictive substances such as reserpine, guanethidine, tricyclic antidepressants, antihistamines, thyroid hormones and MAO-inhibitors, including treatments that are available without prescription, should be avoided as a pronounced increase in blood pressure may occur.

As with other specific α-adrenergic agonists, the effect of midodrine is blocked by α-adrenergic antagonists such as prazosin and phentolamine.

Monitoring is recommended if midodrine is combined with other drugs that directly or indirectly reduce the heart rate. For example, beta blockers and rate-limiting calcium channel blockers.

Simultaneous use of digitalis preparations is not recommended, as the heart rate reducing effect may be potentiated by midodrine and heart block may occur.

Midodrine may potentiate or enhance the hypertensive effects of corticosteroid preparations. Treatment with midodrine in combination with mineralocorticoids or glucocorticoids (e.g. fludrocortisone) may increase the risk of glaucoma/increased intraocular pressure, and should be carefully monitored.

The potential for pharmacokinetic interaction is limited as the metabolic pathways do not involve cytochrome P450 enzymes. However, decreased clearance of medicinal products metabolised by CYP2D6 (e.g. promethazine) has been reported.

This list is not exhaustive. The manufacturer's summary of product characteristics (SPC) and the most current edition of the British National Formulary should be consulted for full information on contra-indications, warnings, side-effects and drug interactions.

4 RESPONSIBILITIES / DUTIES

This shared care agreement outlines how the clinical responsibility and prescribing of midodrine tablets (Bramox®) can be shared between the specialist setting and the patient's GP.
Once the criteria are met for potential shared care the specialist should write to the GP. If the GP is not confident to undertake these roles, then he or she is under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist.
Sharing of care assumes communication. The intention to share care is usually explained to the patient by the doctor initiating treatment. It is important that patients are consulted about treatment and are in agreement with it.

The doctor who prescribes the medication legally assumes clinical responsibility for the drug and the consequences of its use.

4.1 Medicines Management Groups

To develop, disseminate and review this shared care documentation.

4.2 Hospital Clinician

- To assess the patient and establish the specific diagnosis in line with the licensed indication.
- To carry out appropriate investigations and non-pharmacological interventions and assessments.
- To have used first line therapy: fludrocortisone and review effectiveness.
- Where appropriate to initiate midodrine treatment and provide treatment until an assessment of effectiveness is made and shared care accepted.
- If both objective and subjective measures demonstrate benefit to seek agreement from the patient's GP to transfer responsibility for prescribing.
- To explain the possible side effects of midodrine to the patient.
- Ensure that the patient knows what to do and who to contact if they experience adverse events.
- To provide the GP with appropriate prescribing information, monitoring advice and any additional information requested.
- To agree with the GP arrangements for ongoing monitoring to ensure the safe use of midodrine. This should include responsibility for undertaking any necessary tests as detailed below.
- To be available for advice if the patient's condition changes.

- To ensure there are procedures in place for the rapid re-referral of the patient back to the specialist by the GP.
- To ensure the patient has given informed consent to their treatment.
- To liaise with the GP on any suggested changes in prescribed therapy/notify GP of any changes in the patient's condition.
- To inform the GP if it is considered appropriate to discontinue treatment e.g. if the patient falls despite multifactorial intervention including midodrine, the patient becomes bed-bound or a wheelchair user.

4.3 General Practitioner

- To contact the referring consultant without delay if they do not wish to enter into a shared care agreement.
- Where appropriate to continue the prescriptions of midodrine in accordance with the instructions from the consultant.
- To undertake ongoing monitoring as agreed with the consultant, including monitoring side effects of treatment, and seek advice from the consultant if necessary.
- To deal with the general health issues of the patient.
- To liaise with the consultant regarding any complications of treatment.
- To check for possible drug interactions when newly prescribing or stopping concurrent medication.

4.4 Patient or carer

- Report to the specialist or GP if he/she does not have a clear understanding of the treatment.
- Attend appropriate consultant and GP appointments.
- To have any required monitoring/test carried out at regular intervals, as appropriate.
- Share any concerns in relation to treatment with midodrine.
- Seek help urgently if suspected side effects appear, or otherwise unwell.

5 DEFINITIONS

JMMG – Mid Cheshire NHS Foundation Trust Joint Medicines Management Group
CCG – Clinical Commissioning Group
SPC – Specific Product Characteristics
SMPG – Safe Medicines Practice Group
APG – Area Prescribing Group
MMG – East Cheshire Trust Medicines Management Group

6 ASSOCIATED DOCUMENTS

- Associated trusts medicines policy
- British National Formulary
- SPC for midodrine

7 CONSULTATION AND COMMUNICATION WITH STAKEHOLDERS

- JMMG
- MMG
- APG
- General Practitioners
- CCGs

8 IMPLEMENTATION

This shared care agreement will be available via MCHFT Intranet and the CCG electronic resources. Implementation will be facilitated by the APG members.

9 MONITORING AND REVIEW

Standard/process/issue required to be monitored	Monitoring and Audit			
	Process for monitoring e.g. audit	Responsible individual /group	Frequency of monitoring	Responsible committee
Shared care agreement	Monitoring of medication incidents	SMPG	Monthly	SMPG

10. INTERNAL AND EXTERNAL REFERENCES

10.1 Internal References

MCHFT Medicines Policy

10.2 External Reference

This shared care agreement should be read in conjunction with the Summary of Product Characteristics (SPC, datasheet). The most up to date versions are available at **www.emc.medicines.org.uk**.

1. National Institute of Health and Care Excellence. ESMN61. Orthostatic hypotension due to autonomic dysfunction: midodrine. October 2015. Accessed via **www.nice.org.uk** on 22nd March 2016.

2. Summary of Product Characteristics. Bramox ®. Brancaster Pharma Ltd. Accessed via **www.mhra.gov.uk** on 22nd March 2016

3. Dorset Medicines Advisory Group, Shared Care Guideline for Midodrine Hydrochloride (Bramox® 2.5mg, 5mg Tablets) Accessed via **http://www.dorsetccg.nhs.uk/Downloads/aboutus/medicines-management/Shared%20Care%20Guidelines/Shared%20Care%20midodrine%20Nov%2015.pdf** on 22nd March 2016.

4. Royal Cornwall Hospitals NHS Trust Shared Care Guideline for Midodrine in Postural Hypotension October 2015. Accessed via **http://rcht.nhs.uk/DocumentsLibrary/RoyalCornwallHospitalsTrust/Clinical/Pharmacy/Midodrine.pdf** on 15th April 2016

5. Falls in Older People NICE Quality Standard, Published March 2015

11. Version Control

VERSION CONTROL SHEET			
Date dd/mm/yy	**Version**	**Author**	**Reason for changes**
09/01/18	1	MCHFT Senior Clinical Pharmacist – Medicines Optimisation	New Shared Care Agreement

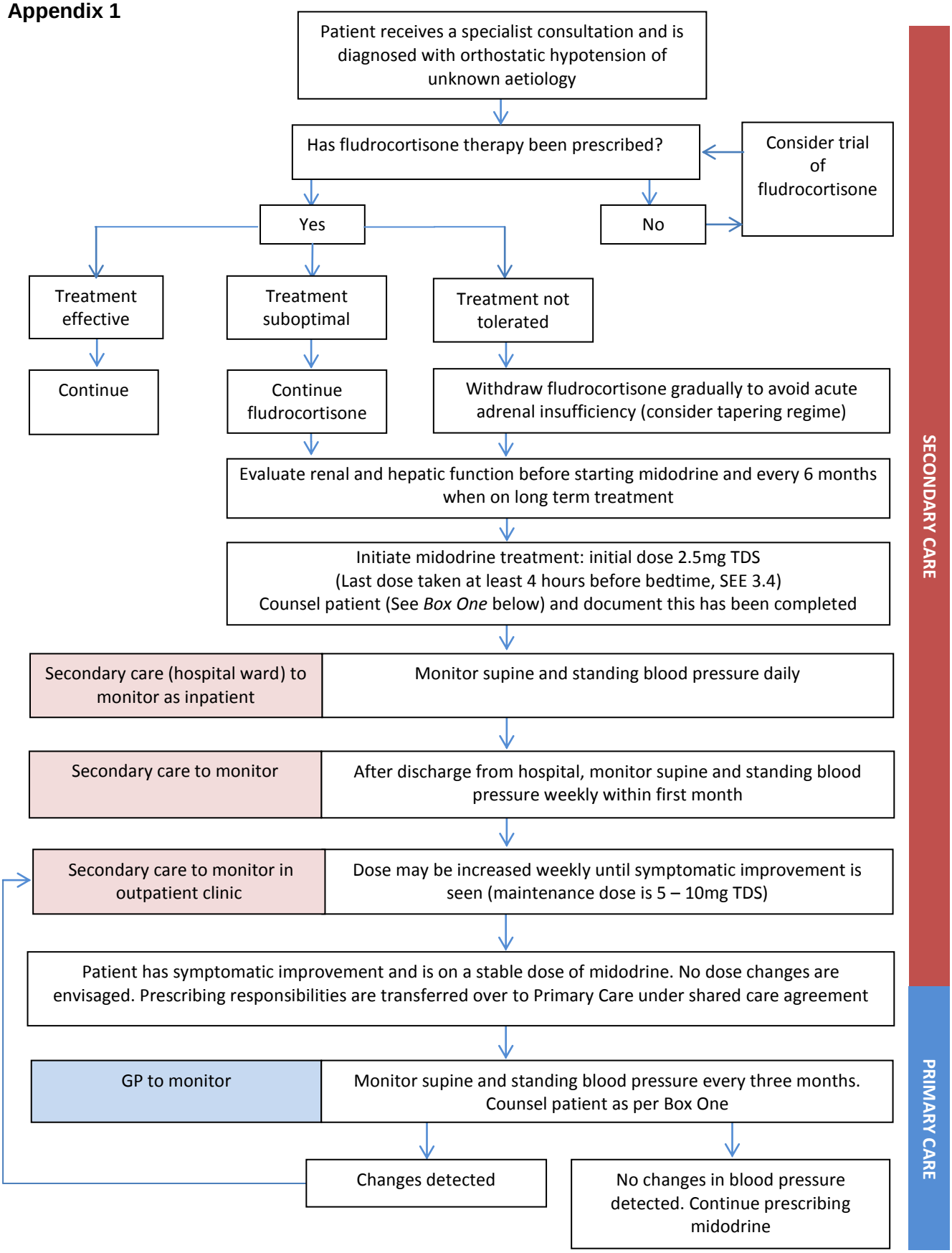
NOTE: Should the Guideline be a cross divisional document then approval must be sought from all affected divisions to ensure it is a valid and sufficient document. It is the responsibility of the lead division to ensure that this is completed and evidence of such is obtained.

NHS Eastern Cheshire Clinical Commissioning Group
NHS South Cheshire Clinical Commissioning Group
NHS Vale Royal Clinical Commissioning Group
East Cheshire NHS Trust
Mid Cheshire NHS Foundation Trust
Cheshire and Wirral Partnership NHS Foundation Trust

Mid Cheshire Hospitals NHS
NHS Foundation Trust

MCHFT
Midodrine monitoring pathway

Appendix 1



BOX ONE

Counsel patient to report symptoms of supine hypertension:

- Chest pain
- Palpitations
- Shortness of breath
- Headache
- Blurred vision

Advise patient to self-monitor and report immediately

Appendix 2. MCHFT Risk Rating

Who will be affected by this procedure?	Trust Employees / Patients / Visitors / General Public / Contractors		
Is there an existing risk assessment related to this procedure?	No		
If **No** is one required?	No		
If **Yes** does it require updating?	Yes/No		
	A Consequence (1-5)	**B Likelihood of Occurrence (1-5)**	**C Risk rating (A x B = C)**
Raw Risk Rating (no control measures in place)	5	4	20
Final Risk Rating (control measures in place)	5	2	10
Name: Monjur Ali	Date: 27/7/17		

Appendix 3. MCHFT Equality Impact Assessment

Please read the Guide to Equality Impact Assessment before completing this form.
The completed assessment is to form part of the policy/proposal/business case appendices when submitted to **governance-policies@mcht.nhs.uk** for consideration and approval.

POLICY/DOCUMENT/SERVICE - Shared care agreement – Midodrine
SECTION A

A	Does the document, proposal or service affect one group less or more favourably than another on the basis of:	Yes/ No	Justification & data sources. Include nature of impact. Also record provisions already in place to mitigate impact.
1	Race, ethnic origins (including gypsies and travellers) or nationality	N	
2	Sex	N	
3	Transgender	N	
4	Pregnancy or maternity	N	
5	Marriage or civil partnership	N	
6	Sexual orientation including lesbian, gay and bisexual people	N	
7	Religion or belief	N	
8	Age	N	
9	Disability - learning disabilities, physical disability, sensory impairment and mental health problems	N	
10	Economic/social background	N	
B	**Human Rights – are there any issues which may affect human rights**		
1	Right to Life	N	
2	Freedom from Degrading Treatment	N	
3	Right to Privacy or Family Life	N	
4	Other Human Rights (see guidance note)	N	

Where an impact has been identified in Section A, please outline the actions that have been agreed to reduce or eliminate risks in Section B.

If there are no impacts identified in Section A, completion of Section B is not necessary.

NHS Eastern Cheshire Clinical Commissioning Group
NHS South Cheshire Clinical Commissioning Group
NHS Vale Royal Clinical Commissioning Group
East Cheshire NHS Trust
Mid Cheshire NHS Foundation Trust
Cheshire and Wirral Partnership NHS Foundation Trust

Mid Cheshire Hospitals NHS
NHS Foundation Trust

SECTION B

Please expand tables below as necessary

SECTION B NUMBER A1-10, B1-4	NATURE OF IMPACT	EVIDENCE	STAKEHOLDER INVOLVEMENT	ACTION	COST	LEAD	TIMESCALE	RISK SCORE