

## Standard Operating Procedure

### Self-monitoring of blood pressure by antenatal and postnatal women in the community

<b>CATEGORY:</b>	Procedural Document
<b>CLASSIFICATION:</b>	Clinical
<b>PURPOSE</b>	This document is to guide the journey through theatres for patients during the COVID19 (C19) pandemic
<b>Controlled Document Number:</b>	C141
<b>Version Number:</b>	V1
<b>Document Author:</b>	Jo Wright, Consultant Midwife
<b>Approved By:</b>	Medical Scientific Advisory Group (COVID-19)
<b>Date / Time:</b>	04/11/2020
<b>Review Date:</b>	05/08/2022
<b>Distribution:</b>	ALL obstetricians, midwives, maternity support staff, and neonates across UHB
<ul style="list-style-type: none"> <li>• <b>Recommended Reading for:</b></li> <li>• <b>Information for:</b></li> </ul>	

**COVID-19 DOCUMENT**

**CLINICAL APPROVAL FOR:**  
**Standard Operating Procedure**

Community surveillance of suspected and confirmed Covid-19 maternity cases

<b>Name:</b>	<b>Title:</b>	<b>Signature</b>

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## 1.0 Procedure Statement

- 1.1. This standard operating procedure outlines the process for antenatal and postnatal women to self-monitor their blood pressure (BP) in the community setting. This is an interim measure in response to the current COVID-19 Pandemic and will be reviewed every 6 weeks to enable updates to be made and review whether this procedure is still required.
- 1.2. This procedure aims to provide clear and concise instructions for obstetricians, midwives, maternity support workers and maternity assistants to support women to monitor their BP at home. This document has been written using the latest Royal College of Obstetrics and Gynaecology, NHS England and NICE guidance.

## 2.0 Introduction

- 2.1 This SOP is for pregnant women who currently require blood pressure monitoring throughout the antenatal and postnatal period during the COVID-19 pandemic.
- 2.2 Antenatal care is a critical opportunity for health professionals to deliver care, support and information to pregnant women. Antenatal care also allows for the detection and treatment of diseases.
- 2.3 In the current COVID-19 pandemic the traditional schedule of antenatal visits have been reduced. This is to decrease the face to face contacts between women and health care professionals in an effort to reduce the transmission of COVID-19.
- 2.4 Hypertension in pregnancy covers 3 main categories.
  - Chronic hypertension, hypertension that is present at the booking visit or before 20 weeks' gestation.
  - Gestational hypertension, hypertension starting after 20 weeks and
  - Pre-eclampsia hypertension in the presence of proteinuria.
- 2.5 Pre-eclampsia is relatively common, affecting between 2-8% of women during pregnancy. It is usually mild and normally does not affect pregnancy. However approximately 0.5% develop severe pre-eclampsia during pregnancy

## 3.1 Key Priorities

- To minimise face-to-face patient contact where possible and maintain safety

- The multiprofessional teams' midwives, obstetricians, and maternity support workers to work closely together to provide optimum care for women identified as having preexisting hypertension and those at risk and currently experiencing gestational hypertension and pre-eclampsia.
- Provide a process whereby women who are identified as having or being at risk of hypertensive disorders are recognised and given the means of self-monitoring their blood pressure.
- Ensure that women with actual and suspected hypertensive disorders of pregnancy have appropriate and timely clinical review by the appropriate health care professionals.
- Escalate any concerns if the process of identifying women who are in need of self-monitoring of blood pressure are not identified.

#### 4.0. Identification of women for self-monitoring of blood pressure

The Royal College of Obstetrics and Gynaecology (RCOG) have released guidance relating to self-monitoring of blood pressure. Three groups of women have been identified.

4.2 **Level 1 Priority:** Currently hypertensive women with chronic hypertension, gestational hypertension or pre-eclampsia.

4.3 **Level 2:** Normotensive women considered at higher risk of pregnancy hypertension by NICE guidelines. Women with one of the following risk factors:

- hypertensive disease during a previous pregnancy
- chronic kidney disease
- autoimmune disease (e.g. systemic lupus erythematosus or antiphospholipid Syndrome)
- type 1 or type 2 diabetes

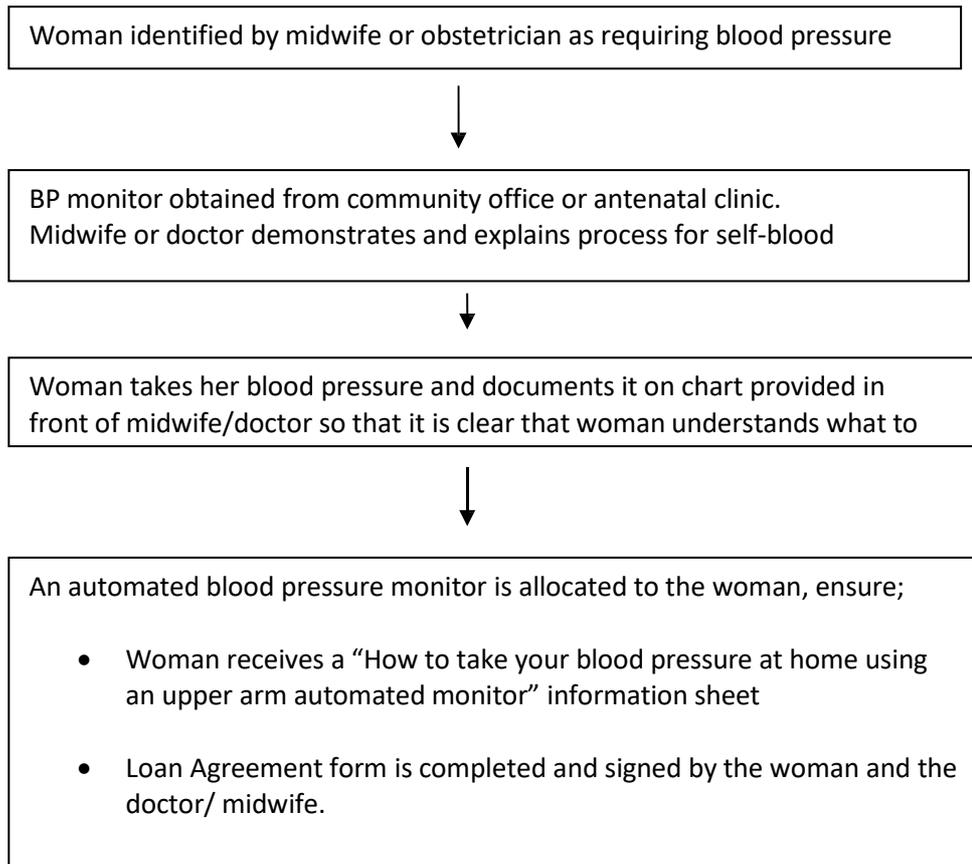
Women with two of the following risk factors:

- First pregnancy
- Age 40 years or older
- Pregnancy interval of more than 10 years
- Body mass index (BMI) of 35 kg/m<sup>2</sup> or more
- Family history of pre-eclampsia
- Multiple pregnancy

4.4 **Level 3:** Normotensive women as part of standard antenatal care (including those who may need to self-isolate for a period).

- 4.5 BP self-monitoring should not be offered or continued for women who require admission under local Trust guidelines (e.g. severe hypertension, pre-eclampsia with adverse features)
- 4.6 Self-blood pressure monitoring must not be offered to those who do not have the capacity to understand the process and procedure.

## 5.0 Pathway for implementation



- 5.1 Arrange for a woman to attend face to face appointment in maternity assessment unit or antenatal clinic and check eligibility for self-monitoring of blood pressure. These appointments can include preexisting contacts with midwives and obstetricians.
- 5.2 Provide antenatal (or postnatal) check as agreed with the woman. Please check if women have their own validated for pregnancy blood pressure monitor, as this can be used. There are certain blood pressure monitors validated for use in pregnancy (Appendix A). Please ensure if that is woman has her own blood pressure machine it is validated.
- 5.3 Ensure that women's contact details are up to date on hospital electronic system (home, mobile phone number, email) and update these if necessary.
- 5.4. Provide a woman with an automated home blood pressure monitor, validated for use in pregnancy and pre-eclampsia (Appendix A). Label the blood pressure monitor with

name of the hospital NHS Trust. Blood pressure monitors are available in the antenatal

clinics and community offices at Good Hope, Heartlands, and Solihull Hospitals.

- 5.5 Give written instructions on how to take a blood pressure reading (Appendix B). Ask the woman to take her blood pressure twice, at least one minute apart and write the blood pressure readings down on the blood pressure sheet provided (Appendix C).
- 5.6 Provide written instructions on expected frequency of blood pressure monitoring (Appendix C), making it clear whether this will be done in place of usual care (e.g. on the morning of a scheduled telephone/ virtual clinic appointment) or in addition to usual care (e.g. once a week or three times a week).
- 5.6. Show the woman the written instructions within Appendix A (rainbow colored chart) on how to interpret blood pressure readings and check that the woman understands who to contact with an abnormal reading.
- 5.6 If a woman requires additional investigations (e.g. growth scan), arrange these as indicated. If a woman is asked to self-monitor urine for proteinuria, arrange this.
- 5.7 Once the woman has forwarded her blood pressure reading via telephone call or text to the community midwife this must be recorded in the BadgerNet electronic records. Ensure that all Self Monitoring sheets are Scanned and added to the BadgerNet records when complete. Outside of community midwives working hour's women are to contact maternity triage with reading. These numbers are provided on the blood pressure record sheet (Appendix C).
- 5.8 Confirm next appointment with the woman, and whether this will be telephone (or other remote working) or face-to-face. Ask the woman to call her midwife or the maternity unit as she would normally if she has any concerns about herself or her baby or if she thinks that she needs medical attention.
- 5.9 Arrangements for antenatal and postnatal self monitoring of blood pressure will remain the same until the 6/52 period whereby the woman will be handed over to the care of her GP. If blood pressure continues to be raised at this point the woman should be referred to specialist services prior to transfer to GP by the obstetric consultant who the woman has been booked with.
- 5.9 Explain arrangements to the woman for return of the blood pressure monitor, either at the time of coming in for birth, or at a time postnatally if a woman needs postnatal blood pressure monitoring.

Once the blood pressure monitor is returned, it needs to be cleaned by the woman's community midwife using a Clinell Wipe and left to air dry. A green sticker is to be applied to the case stating when and by who the monitor and the case were cleaned

## 6.0 Urine testing

- 6.1 Urinalysis during pregnancy can be a means of detecting several conditions and confirming diagnosis.
- 6.2 One of the most prevalent pregnancy related conditions is pre-eclampsia. Early diagnosis, treatment and management of this condition are potentially life-saving. A diagnosis of pre-eclampsia can be made when there is hypertension in the presence of proteinuria.
- 6.3 Provide the woman with a pack of urinalysis sticks and explain the process of testing urine.
- 6.4 Provide the woman with written information regarding testing urine at home (Appendix E
- 6.5 Ask the woman to document the urinalysis findings. (On the BP sheet) If the woman detects a “+” or more of protein in her urine she is to contact her midwife.

## 7.0 References

DOH (2020) Guidance on social distancing for everyone in the UK, Updated 30 March 2020 , accessed 15<sup>th</sup> April 2020

<https://www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-vulnerable-people/guidance-on-social-distancing-for-everyone-in-the-uk-and-protecting-older-people-and-vulnerable-adults> accessed 15th April 2020

NICE (2019) Hypertension in pregnancy: diagnosis and management NICE, London

RCOG (2020) Coronavirus (COVID-19) Infection in Pregnancy ver 8

<https://www.rcog.org.uk/globalassets/documents/guidelines/2020-04-17-coronavirus-covid-19-infection-in-pregnancy.pdf> accessed 15th April 2020

RCOG (2020) Guidance for maternal medicine services in the evolving coronavirus (COVID-19) pandemic

<https://www.rcog.org.uk/globalassets/documents/guidelines/2020-04-24-guidance-for-maternal-medicine.pdf> accessed 15th April 2020

RCOG (2020) Self-monitoring of blood pressure in pregnancy

<https://www.rcog.org.uk/globalassets/documents/guidelines/2020-03-30-self-monitoring-of-blood-pressure-in-pregnancy.pdf> accessed 15th April 2020

## Appendix A

### **Blood pressure monitors which can be used in pregnancy**

The following devices are all known to give accurate blood pressure readings in pregnancy;

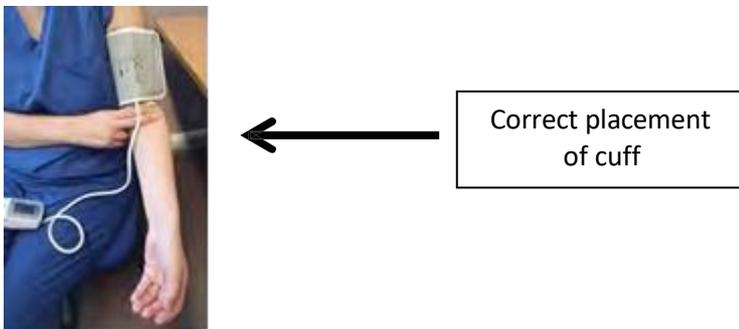
- Andon health Track
- Microlife 3AS1-2 (Cradle VSA)
- Microlife WatchBP Home
- Microlife WatchBP Home A
- Microlife WatchBP Home A BT
- Microlife WatchBP Home S
- Omron MIT Elite
- Omron BP760N (HEM-7320-Z)
- Omron Evolv (HEM-7600T-E)
- Omron HEM-9210T
- Omron M3 Comfort (HEM-7134-E)
- Omron M6 Comfort (HEM-7321-E)
- Omron M7 Intelli IT (HEM-7322T-E)
- Microlife BP 3BTO-A
- Omron MIT
- Omron M7 (HEM-780-E)

## Appendix B

### How to take your blood pressure at home using an upper arm automated monitor

You are being asked to take your blood pressure as you;

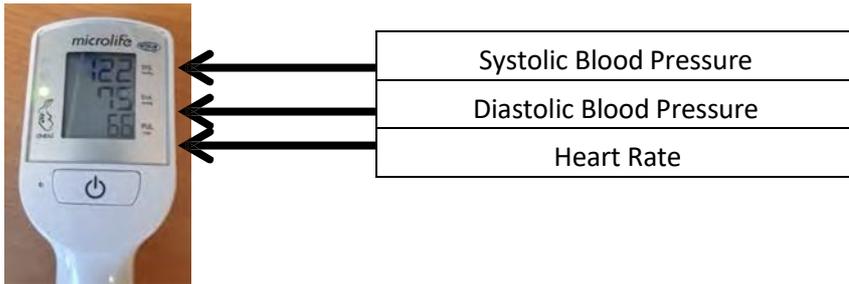
- May already have raised blood pressure prior to pregnancy
- Have developed or are at increased risk of raised blood pressure in pregnancy
- Have or you are at risk of getting pre-eclampsia (Pre-eclampsia is a condition that you can only get in pregnancy. It is a problem that originates in the placenta and can cause problems for both mother and baby. Women with pre-eclampsia have raised blood pressure and protein in the urine.
- You will be asked to take your blood pressure at specified times by your midwife or doctor:
  - Always measure your blood pressure using the same arm (normally the left arm). Wear loose clothing with sleeves that roll up easily and do not feel tight when rolled up (you will need to fit the cuff onto your bare arm) or take your arm out of the clothing.



- Sit on a chair with your back supported and both feet flat on the floor. Rest for 5 minutes before beginning to take blood pressure readings.
- Slip the cuff onto your arm so that the air tube points towards your wrist. The line on the cuff should be over the inside of your elbow.
- Adjust the bottom edge of the cuff so that it is about 2cm above the inside of the elbow joint.
- Tighten the cuff around the arm and secure using the Velcro.
- Rest your arm on a table or across your lap with your hand slightly open and the palm facing upward.
- Once the machine is set up and you have the cuff in the correct position, and you are ready to start, press the "start" button on the front of the machine to take a reading.
- Relax, do not move your arm muscles and do not talk until the measurement is completed.

Each time you measure your blood pressure you will get two readings:

- The top number (usually called SYS, short for systolic),
- The bottom number of your blood pressure, (usually called DIA, short for diastolic)



- You may also get the heart rate (pulse) displayed, usually called PUL
- Measure your blood pressure twice, at least one minute apart.
- Write down the second blood pressure reading on the form provided. If your blood pressure is in the red or orange zone you need to inform your midwife. This can be done by telephone call or text message, please include your full name and hospital number when contacting your midwife so that they can clearly identify you.
- If you are unable to contact your midwife and your blood pressure is in the red or orange zone contact the maternity department where you are booked at Heartlands Hospital on 0121 424 1514 or Good Hope Hospital on 0121 424 7055

If you experience symptoms such as

- Headache,
- Epigastric pain (beneath the rib cage),
- Visual disturbance
- Sickness and vomiting or
- If you notice a decrease in your baby's normal movements

**You should immediately contact your maternity unit and arrange to be assessed.**

Level	Blood pressure /mmHg	Action
High	SYS 150 or more OR DIA 100 or more	Your blood pressure is high. Sit quietly for 5 minutes then measure it again and note the reading. If your repeated reading is raised, please contact your maternity unit for review today (within 4 hours) and continue to monitor your BP daily. <b>If your repeated SYS (systolic) reading is 160 or more, make sure that you make contact with a healthcare professional in this time.</b>
Raised	SYS 140-149 OR DIA 90-99	Your blood pressure is raised. Sit quietly for 5 minutes then measure it again and note the reading. If your repeated reading is raised, please contact your maternity unit within 24 hours and continue to monitor your BP daily.
High Normal	SYS 135-139 OR DIA 85-89	Your blood pressure is normal but moving towards the raised threshold. Sit quietly for 5 minutes then measure it again and note the reading. If your repeat reading is still high end of normal, please monitor your blood pressure daily.
Normal	SYS 110-134 AND DIA 70-84	Your blood pressure is normal. Continue blood pressure monitoring and your current care.
Low	SYS 109 or less AND DIA 69 or less	<b>If you are not taking blood pressure medication:</b> Your blood pressure is normal. If you are feeling well this blood pressure does not need any further action. <b>If you are taking blood pressure medication:</b> Your blood pressure is low. Repeat once more in 5 minutes. If you repeat reading is still low, contact your maternity unit within 24 hours or within 4 hours if you feel unwell (e.g. dizzy or faint).

If your blood pressure is in the **RAISED ZONE** please call your community midwife Monday to Friday 0900-1700. Alternatively outside of these hours please contact Heartlands Maternity PAER 0121 424 1514 or Good Hope Hospital MAC on 0121 424 7055.

If your blood pressure is in the **RED ZONE** please contact the healthcare professionals in the Pregnancy Assessment Examination Room (PAER) on Delivery Suite Heartlands 0121 4241514 . If you are booked at Good Hope Hospital please contact the Maternity Assessment Centre (MAC) on ward 4 on 0121 4247057 **within 4 hours**. Ensure that you are assessed in the maternity unit where you are booked **within 6 hours**

If your blood pressure is in the **AMBER ZONE** again ZONE please contact the healthcare professionals in the Pregnancy Assessment Examination Room (PAER) on Delivery Suite Heartlands 0121 42 41514 . If you are booked at Good Hope Hospital please contact the Maternity Assessment Centre (MAC) on ward 4 on 0121 4247057 **within 24hrs**. Ensure that you are assessed in the maternity unit where you are booked **within 30 hours**

If you are feeling unwell and your blood pressure is higher or lower than normal you must inform the area's highlighted above and you will be invited in for an assessment straight away.






**Appendix D**

**Loan agreement for blood pressure monitor**

**Blood pressure monitor number:**

**Cuff size:**

**Declaration:**

Name
PID
DOB
Address

I accept responsibility for the above equipment and understand I have been asked to monitor my blood pressure through pregnancy (and postnatally) and /or after the baby is born. I will return the blood pressure monitor as requested. If the blood pressure monitor becomes damaged, lost or stolen, I understand that I must report this information to the Maternity Unit on the below number and as soon as possible.

Name

Hospital number

Date of birth

Signature of agreement to conditions:

Staff name:

Staff signature:

Date:

**Maternity team contact:**

**Telephone:**

Give one copy to the woman and retain one copy (if no access to photocopying please ask the woman to complete 2 forms and retain one to scan into BadgerNet

## Appendix E

### Testing your urine at home

Please test the protein in urine as per instructions below:

- After passing urine into the container provided, take one stick and immerse it fully until the two squares are covered with urine
- Remove stick and wait for 30-60 seconds
- Compare the top square with the top squares on the colour chart provided on the side of the test protein container



- If the square remains yellow as per the first square- this means there is no protein in your urine.
- If the square matches any of the green squares, it will be measured as per above each square using '+' signs.
- Please inform your midwife if you develop any + of protein in your urine.
- You do not need to measure 'pH' (orange square- please ignore)