STANDARD OPERATING PROCEDURE

TOMMY'S APPLICATION

Placental Dysfunction Screening and Prevention
Pre-term Birth Screening and Prevention
Reduced Movements risk assessment and recommendations
Threatened Preterm Birth

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RATIFIED BY : **Perinatal Governance Group**	**DATE:** **December 2023**
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PURPOSE

To support Ashford and St Peters NHS Trust in the implementation of the Tommy's App.

These pathways will be finalised once the App is launched October 2021 and amended as the roll-out progresses.

OBJECTIVES

To deliver safe and effective care to women to all women by using validated algorithms to more accurately assess a woman's risk of premature birth and of developing pregnancy complications that can lead to stillbirth.

The Tommy's App has been developed in conjunction with the Tommy's National Centre for Maternity Improvement and is supported by both the RCOG and RCM.

SCOPE

This guidance is relevant to following staff groups:

- All midwifery, maternity assistant and administrative staff who work in maternity
- All ultra-sonographers working within Maternity
- All medical staff working within the Obstetrics and Gynaecology team – Consultants, Middle Grades and Juniors
- All staff working to manage the patient pathway – Specialist Nurses, Consultants, Service Manager

COMPETENCIES	
This SOP should be used in conjunction with the following Guidelines: • Antenatal Referral to maternity services, booking appointments and maternity care pathway • Fetal Growth Surveillance • Aspirin SOP • Reduced Fetal Movements • Preterm Birth	
PROCESS	
1.0	**Referral received from woman / GP – Woman advised to download the Tommys App**
	The woman will be sent information to access www.tommysapp.org (via URL or QR code), either via email or post, depending on how they send their referral; The woman will then register with an email and set a password so the woman is registered on the system. Supporting information on how to do this will be sent with the ultrasound appointment and QR code that women receive in order to access online information about screening. Once accessed on an electronic device they will have to confirm the email address and then self-complete the pregnancy history prior to any appointment with the midwife. If a woman does not have an email address HCPs will be able to register her on Tommy's on her behalf.
2.0	**Midwife Booking Appointment**

	• The midwife should advise that in order to screen for placental function in pregnancy they will be offered:
	  ○ A blood test (**PAPP-A**) included in the combined screening for aneuploidy or if declines aneuploidy screening as a separate test,
	  ○ A special scan of the blood flow to the uterus (**uterine artery Dopplers**)
	  ○ Measurement of maternal **blood pressure (BP)**.
	
	• These tests will be completed at 11+2 - 14+1 weeks gestation whilst attending their booking appointment at and ultrasound scan. The results will be discussed at the 14-16 week community midwife appointment
	
	• The booking Midwife is to ensure the woman has registered for the Tommy's App and should support her to do so if she has not registered already
	• The midwife will access the Tommy's platform via the hospital computer / iPad and confirm the history entered.
	• The midwife should arrange a follow-up appointment for 10-14 days after ultrasound appointment.

2.1	**Generate Preterm birth risk assessment**

	○ At this appointment the midwife will generate a **"Pre-term Birth Risk Assessment".** ○ Midwife to document within the Management Plan on BadgerNet and refer to specialist Preterm Birth Clinic if high risk (via Badgernet) ○ **Low risk** – no cervical length measurement required ○ **Moderate Chance:** Transcervical cervical length at time of anomaly scan ○ **High Chance:** refer to Specialist PTB clinic on BadgerNet.
2.2	**Perform Standardised Blood Pressure Measurement**
	○ Four blood pressure readings should be performed using an approved blood pressure monitor with an appropriate cuff size. ○ The final reading (4th) should be taken as the booking blood pressure and should be documented. ○ Refer to the Standardised BP (Document 17b within the Tommys Implementation Toolkit (Implementation toolkit 17b Standardised Blood Pressure Measurement)
2.3	**Pregnancy Associated Plasma Protein A (PAPP-A)**
	• The Midwife should discuss with the woman that as part of combined screening a PAPP-A test is taken. • If the woman does not want combined screening, the midwife should discuss that PAPP-A test will be offered as a standalone test to detect the risk of placental dysfunction (pre-eclampsia, growth restriction and still birth).
2.4	**Non-English speaker**
	The midwife will explain the above at the booking appointment using telephone interpreters and if the woman wishes she can use the application with a trusted family member who can speak English. Any email can be used to register. If the woman does not have an email the community team can support them to set one up and use this for the application or register her on her behalf without an email address. Where possible, the hospital will have support for registration of the patient on the application at the 11-14 week ultrasound appointment, All subsequent outcomes from the application (below) will be communicated via interpreters.
2.5	**Exclusions and Care of women that are not using the application**
	The midwife should document within the Management Plan box if the woman is excluded from the Tommy's App and why but should still recommend the woman registers on the App as a source of information. Chronic hypertension • Aspirin 150mg from 12-36 weeks • Referral to Complex Care Team

	• For uterine artery dopplers at anomaly scan (as per fetal surveillance pathways) and subsequent Ultrasounds dependent on these results Pre-existing Diabetes (Type 1 or type 2) • For Referral to diabetes ANC • Aspirin 150mg from 12-36 weeks • Ultrasound surveillance as per Multiple Pregnancy Guideline Multiple pregnancy • Refer to Multiple Pregnancy Clinic • Aspirin and Ultrasound surveillance as per Multiple Pregnancy Guideline These women do not need PAPP-A if they decline CBT. Other reasons may include: ○ Declines PAPPA testing ○ Transfer from another unit after 14+1 The midwife should document within the Management Plan box if the woman is excluded from the Tommy's App and why but should still recommend the woman registers on the App as a source of information. For these women, care should be provided in line with existing guidelines and pathways If the woman has not registered or is unable to register on Tommy's App by the end of the 14-16 week appointment, then the midwife should register the pregnancy using the HCP **Create new woman** function in the bottom right of the screen on the search page.  **Create new woman** icon Please be mindful that if using this function that the HCP will be able to view the record from the HCP portal but the woman will not be able to view her Tommy's App record from the patient side. **It is always preferable** for the woman to register herself where this is possible. Following this the woman should be updated on her management plan.
3.0	**First trimester Ultrasound: Performing Tests to determine Placental Function**
3.1	**Uterine Artery Doppler Assessment**
	• If the CRL measures 45-84mm the sonographer will request consent for measurement of the nuchal translucency to enable combined screening. They will also request consent for assessment of the Uterine Artery Dopplers (to be performed at the gestation above).

	• The Left and right pulsatility index (PI) of the uterine arteries will be recorded and documented on Viewpoint. This will be visible on the generated report. • If only one result is obtained this will be recorded • If neither are obtained this will also be recorded within the free text of the Viewpoint report
3.2	**Pregnancy Associated Plasma Protein A (PAPP-A)**
	• The booking midwife should have discussed this with the woman that as part of combined screening a PAPP-A test is taken. • If the woman does not want combined screening PAPP-A test will be offered as a standalone test to detect the risk of placental dysfunction (pre-eclampsia, growth restriction and still birth). • The sonographer will complete the information on the combined screening request form but place a sticker with **FOR PAPPA ONLY** to ensure only a PAPPA is done. • For women who accept CBT, the PappA can be found within the Blood tests and results tab on BadgerNet. • For women who decline CBT, the screening midwives will document the PappA result within the Management Plan on Badgernet. Additionally, it can also be found within the PDF uploaded by the screening team. • The results of this blood test will be assessed by the community midwife at the 15 weeks appointment. At this stage the risk assessment for placental dysfunction will be completed and discussed. If combined screening is accepted no further action is required regarding PAPP-A. If the woman declines PAPPA then the screening for placental dysfunction cannot be done. All these women therefore must follow the moderate risk pathway.
3.3	**Special Circumstances**
	Women for whom SFH measurement is not possible **(fibroids >5cm, BMI>35) w**ill be managed on a moderate risk fetal surveillance pathway as a minimum. A full assessment cannot be completed for people **booking beyond 14+1** weeks because PAPP-A cannot be taken. These patients will be considered Late Bookers. If women have their ultrasound prior to 14 weeks (and therefore uterine artery dopplers / pappA as part of CBT) but their booking MW appt after 14 weeks, they can still be registered onto the Tommy's App. If PAPPA is declined then Tommy's cannot be completed. All these patients should follow the moderate risk pathway and existing hospital guidance should be used throughout.
3.4	**Indications for a Consultant Antenatal Clinic**

	• The woman will be assessed for need for growth scans +/- aspirin at the 14-16 week midwife appointment. The information will be provided on the Tommy's App and she will be able to access this information and speak to her midwife. • Indications for referral to an Obstetric clinic remain unchanged
4.0	**The 14-16 week Midwife Appointment**
4.1	**Generate the placental function assessment** • The midwife will access the Tommy's Platform at the 14-16 week appointment and the uterine artery PIs, booking BP and PAPP-A values (MoM) inputted to generate **a placental function assessment** o If Uterine Artery Dopplers not, performed can use PAPPA only o If only one Uterine Artery Doppler enter that value for both left and right • Woman with a high risk of aneuploidy will be managed in the same way as above and interventions offered if high chance of placental dysfunction. This pathway maybe altered depending on their pregnancy choices and after discussion with the fetal medicine team. • If standalone PAPP-A requested it will be expressed as a MoM (see section 3.2). If a request for a stand-alone PAPPA generates a risk of T21/T18/T13, a datix must be filled and the screening team must be informed. These cases will be dealt with on an individual basis. **Low Chance Screen** o Continue care with Community team for fundal height measurements as per guidelines. o Consultant Antenatal clinic appointments only required as per booking consultation (eg previous Caesarean section, previous PPH) o <u>If a woman is low risk she will not need any additional routine growth scans or any additional care such as early Induction of labour.</u> **Moderate Chance** <u>Growth scans and clinic appointment:</u> o Document within Management Plan box on Badgernet o Sonographers will book fetal surveillance ultrasound when the woman attends for her anomaly scan o Do not start aspirin o Refer to a general Consultant ANC for an appointment at 37 weeks for a Timing Of Birth Assessment to take place (see 5.1.2) o Additional referral criteria to an Obstetric Clinic earlier in pregnancy (as per Antenatal Obstetric Referral SOP) remain unchanged. **High Chance** <u>Growth scans and clinic appointments:</u> o Document within Management Plan box on Badgernet o Sonographers will book fetal surveillance ultrasound when the woman attends for her anomaly scan

	○ Refer to a general Consultant ANC for an appointment at 37 weeks for a Timing Of Birth Assessment to take place (see 5.1.2) ○ Additional referral criteria to an Obstetric Clinic earlier in pregnancy (as per Antenatal Obstetric Referral SOP) remain unchanged. <u>Aspirin:</u> ○ Midwife to prescribe and dispense initial 4 week supply of aspirin ○ Woman to take Aspirin GP letter to GP surgery to arrange her ongoing supply ○ Explain the importance of aspirin use to reduce risk of pre-eclampsia, intrauterine growth restriction and still birth. A patient information leaflet will be given to support this. <u>Collecting Aspirin</u> ○ Midwives who do not have immediate access to Aspirin can take the equivalent of a month's supply of aspirin for a maximum of four women from the Antenatal Clinic TTO stock. ○ The TTO book should be completed with a line allocated for each month's supply and include the midwife's name and signature. ○ Once the Aspirin has been issued, the patient details can be added to the TTO book. **IT IS EXTREMELY IMPORTANT THAT THIS IS COMPLETED AFTER ISSUING THE ASPIRIN** **Please note all patients on serial growth scan pathways (moderate/high risk) do not need <u>any</u> SFH measurements** If the woman has not registered or is unable to register on Tommy's App by the end of the 14-16 week appointment, then the midwife should register the pregnancy using the HCP **Create new woman** function in the bottom right of the screen on the search page.  **Create new woman** icon Please be mindful that if using this function the HCP will be able to view the record from the HCP portal but the woman will not be able to view her Tommy's App record from the patient side. It is always preferable for the woman to register herself where this is possible. Following this the woman should be updated on her management plan.
4.2	**DNA (Did Not Attend appointment) for placental function appointment**
	• The chance for placental dysfunction should be generated in the patients absence and urgency of action will depend on chance of placental dysfunction: ○ Low Chance: Continue to contact patient as per DNA current guidance to inform them of low chance and ongoing care.

	○ Moderate Chance: Document chance of placental dysfunction within Management Plan on Badgernet and continue to try contact patient to inform them as per current guidance. ○ High Chance: <u>It is very important to contact the woman urgently to start aspirin</u>. They should also be counselled and the chance of placental dysfunction within Management Plan on Badgernet so that the sonographers can arrange scans at the appropriate gestation at the time of the anomaly scan.
4.3	**High Risk T21/T18/T13 Screening result**
	• These women will be contacted in the same way by the screening team • If high risk for T21/13/18, the process for screening/diagnosing aneuploidy will be completed alongside the screening for placental function. • A placental dysfunction assessment will be completed and communicated as normal, but the plan of care may be modified by the fetal medicine team.
5.0	**Care in Antenatal Clinic and interpretation of growth scans**

5.1	• The result of the placental dysfunction risk assessment will be recorded in the management plan box on BadgerNet (as per section 4.1)
	• The medical staff can log into the Tommy's Application and see the chance of placental dysfunction. This is expressed numerically as 1 in xxxx.
	• Woman cannot see the numerical chance on their application, but may wish to further discuss chance at antenatal appointments.
	
	• **Moderate Risk**
	  • Scans booked at **30** weeks and **37** weeks (first scan on pathway booked by USS at the time of the anomaly scan)
	  • Generate report on Viewpoint, if normal rescan at 37 weeks
	  • Follow guideline 'Fetal Growth Surveillance Pathways: Risk Assessment for fetal growth restriction and Management of the small / large for gestational age fetus' for interpretation of scans.
	
	• **High Risk**
	  • Scans booked at **26**, **32** and **37** weeks (first scan on pathway booked by USS at the time of the anomaly scan)
	  • Generate report on Viewpoint, if normal rescan at 32 and 37 weeks
	  • Follow guideline 'Fetal Growth Surveillance Pathways: Risk Assessment for fetal growth restriction and Management of the small / large for gestational age fetus' for interpretation of scans.

5.2	**Moderate and High risk placental dysfunction: Timing of birth assessment (36 to 41 weeks)**
	All women who are at moderate or high risk of placental dysfunction require a consultant ANC appointment after the 37 week scan (referral made via BadgerNet by midwife at time of 14-16 week appointment) Timing of Birth should be offered in line with the Tommy's App support information

	More information on the rationale for the Timing of Birth recommendations can be found with the 'Scripts for Healthcare Professionals' Tommys App information pack. • The 37 week scan (may occur 36+), including EFW, umbilical artery Doppler PI and MCA PI should be performed and a Viewpoint report generated. • Obstetrician to enter data into the Tommy's app and **a timing of delivery clinical decision support** will be generated. • This will recommend delivery at 37, 39, 40 or 41+ weeks. • Individual clinical judgement should be used where an alternate clinical indication for earlier delivery such as a plan for caesarean birth, APH, GDM etc • Further scans are not required after this appointment, unless the woman declines the advice from the algorithm.
5.3	**Low risk placental dysfunction: Timing of birth assessment (36 to 41 weeks)**
	Every woman who has a scan after 36 weeks and is using the Tommy's Platform (even if low risk and has a scan for e.g. placental site or reduced movements) will need to have a timing of birth assessment generated. **If the woman has a scan after 36 weeks and does not have a booked Consultant appointment for Timing of birth assessment, the sonographer should send the woman to DAU for this assessment to be completed by the attending Obstetrician.** If a woman has an ultrasound planned at the time of her anomaly scan (such as placental site, 2 vessel cord), an obstetric review should be requested for after this appointment. Other women such as a scan following a reduced SFH or reduced fetal movements, should be seen in DAU. The episodes of reduced movements and risk assessment at the time will have been added to the Tommy's Platform and captured within the BadgerNet record
5.4	**Women who decline timing of birth intervention**
	Woman may choose expectant management rather than induction or caesarean birth after counselling. If the woman declines intervention an individualised plan of care must be discussed and agreed with the woman by an obstetrician (ST3 or above). This will take place ideally in ANC or DAU / triage if this is not possible. This may include further scans to monitor fetal wellbeing or CTG assessment. The agreed plan of care will be documented on BadgerNet. If there are concerns about maternal or fetal wellbeing then a Consultant review should occur.
6.0	**Late Bookers after 14 weeks**
	• Women who book after 14+1 should be risk assessed in line with existing local guidance and the NICE guideline for antenatal care.

	• A placental dysfunction assessment via will not be possible and these women should have the PET and FGR risk asessments (SBL assessments) completed within BadgerNet • Where aspirin is recommended – follow the SOP and PGD • Growth surveillance pathway where the risk is moderate or high - assess uterine artery Doppler at the anomaly scan and assign to a moderate or high pathway in line with existing guidelines • The Tommy's Platform will suggest the moderate risk pathway as a full assessment cannot be made. **21 weeks onwards:** • These women will be on the moderate risk pathway according to Tommy's Platform • An individual clinical plan may be made to assign a high risk pathway. Fetal medicine input can be sought for these cases to determine the appropriate pathway. • There is no benefit in aspirin at this gestation
7.0	**Transfer of care from other units**
	• Often women will have been risk assessed and on pathways from the hospital previously booked under. • If risk assessed as high risk by the referring hospital, scans should follow the 26, 32, 37 weeks schedule and the obstetric team will determine timing of delivery. Most women will have a clinical indication to offer delivery by 40-41 weeks. IF there is no indication for this then an extra scan should be booked at 40-41 weeks. • If deemed moderate risk by referring hospital scans should follow the 30, 37week schedule. If these scans are normal no further scans are necessary. • The Tommy's application will not be able to be used for PTB, RFM or clinical decision support. The decisions for management will be using existing local and national guidance.
8.0	**Reduced fetal movements:**

	All women are advised to contact the advice line and attend Maternity Triage or DAU if they have an episode of reduced movements (see reduced movements guideline):
	• The application will already have made an assessment of "risk" based on history already entered
	• The antenatal risk tick box assessment is integrated on the Tommy's Application and should be completed for every attendance with reduced movements.
	• Computerised CTG/auscultation and scan requirement will be advised by the application.
	• See Reduced Fetal Movements Guideline: http://trustweb.asph.nhs.uk/docsdata/maternity/Reduced%20Fetal%20Movement%20Nov%202023.pdf
	• Attendance must be recorded on the Tommy's App
	  ○ The Tommy's App will advise on additional scans if high risk **or** 2nd episode in low risk and no scan within the last 2 weeks has been performed.
	  ○ If the scan is >36 weeks gestation a **timing of delivery clinical decision support** should be generated

9.0	**Threatened Preterm Labour:**

	• Risk of preterm birth is already generated at 12 weeks, this assessment is used to ascertain risk. • The Tommy's App should be completed for everyone attending maternity triage with threatened preterm labour. • This has the QUiPP algorithm embedded in it to help support decisions for admission, steroids and magnesium administration.
10.0	**Pregnancy Outcome Survey**

	• This must be completed immediately after any delivery occurs, by the midwife on either ABC or Labour Ward.
	
	• If the pregnancy ends in a miscarriage or Termination of Pregnancy, the date of the delivery is all that needs to be recorded:
	  ○ If occurs prior to or at the booking scan (<12weeks) no outcome needs to be recorded
	  ○ If >12 weeks the delivering midwife will complete at time of documenting the delivery.
	
	• If the woman transfers her care to another unit the date of transfer can be entered at the time of transfer or when books in subsequent pregnancy.
	• If a live birth there are some simple questions to answer including:
	  ○ Mode of delivery
	  ○ Onset of labour
	  ○ Need for Neonatal unit admission
	  ○ Babies sex and weight
	  ○ NHS number

11.0	**Education and Training**
	• Should there be any non-urgent queries about the application please contact: Asp-tr.TommysApp@nhs.net All information regarding Tommy's including videos of how to complete each section is available on the T-drive • **Tommy's Implementation Toolkit** For information about organising training or new starters: **Tommy's Team Leaders:** **Antenatal Clinic Midwives / DAU** **Community Midwives** **Labour Ward/ Triage**