Antenatal Care - Full Clinical Guideline

Reference No.: UHDB/MAT/09:22/A5

Contents

1. Introduction

Women should be the focus of maternity care, with an emphasis on providing choice, easy access and continuity of care. Care during pregnancy should enable a woman to make informed decisions, based on her needs, having discussed matters fully with the healthcare professionals involved.

Poor or non-engagement in routine antenatal care is associated with poor outcomes for both mothers and babies (see full clinical guideline).
Maintaining an overview of a caseload ensures the Non-Engagement In Maternity Care Guideline can be followed as required and vulnerable women identified and offered additional support.

Be aware that, according to the 2020 MBRRACE-UK reports on maternal and perinatal mortality, women and babies from some minority ethnic backgrounds and those who live in

deprived areas have an increased risk of death and may need closer monitoring and additional support. The reports showed that:

- compared with white women (8/100,000), the risk of maternal death during pregnancy and up to 6 weeks after birth is:
  - 4 times higher in black women (34/100,000)
  - 3 times higher in women with mixed ethnic background (25/100,000)
  - 2 times higher in Asian women (15/100,000; does not include Chinese women)
- compared with white babies (34/10,000), the stillbirth rate is
  - more than twice as high in black babies (74/10,000)
  - around 50% higher in Asian babies (53/10,000)
- women living in the most deprived areas (15/100,000) are more than 2.5 times more likely to die compared with women living in the least deprived areas (6/100,000)
- the stillbirth rate increases according to the level of deprivation in the area the mother lives in, with almost twice as many stillbirths for women living in the most deprived areas (47/10,000) compared with the least deprived areas (26/10,000).

2. Purpose and Outcomes

The aim of antenatal care is to monitor normal pregnancy, at the same time identifying those pregnancies which are complicated and will benefit from specialised obstetric care.
The purpose of this guideline is to provide health professionals with information and guidance for antenatal care (AN) to enable them to identify risks and requirements appropriate to the needs of the woman and the fetus.

3. Abbreviations

AN	-	Antenatal
ANC	-	Antenatal Clinic
BBV	-	Blood born virus
BMI	-	Body Mass Index
CLC	-	Consultant lead care
EDD	-	Expected date of delivery
HELLP	-	Haemolysis Elevated Liver enzymes, Low Platelet count
HIV	-	Human Immunodeficiency Virus
IDPS	-	Infectious diseases in pregnancy screening
IOL	-	of labour
IVF	-	Invitro fertilisation
LGA	-	Large for gestational age
MHHR	-	Maternity Hand Held Records
MLC	-	Midwife lead care
PET	-	Pre-eclampsia (toxaemia)
SGA	-	Small for gestational age

4. Documentation

Documentation of Antenatal care in:

- Maternity Handheld records
- Lorenzo / Meditech V6
- Alert sheet
- Obstetric records
- AN Care record sheet

The aim of the AN care record sheet is to record key points of care to ensure that care is planned and managed safely. The use of this tool will standardise that and ensure that any Midwife can review the care and ensure that it is offered at the appropriate gestation and identify any disengagement from care.

5. Key responsibilities

All women, even those who regularly attend the maternity unit, should be encouraged to see their community midwife throughout the pregnancy to ensure all areas of need are addressed including social, educational and psychological.

It is the responsibility of midwives to arrange timely referrals to the consultant or the assessment unit based on risk assessments at booking and throughout the pregnancy.

It is the responsibility of the consultant to clearly document and discuss an individual management plan for women referred to them for consultant opinion or consultant led care.

It is the responsibility of all staff caring for the woman to discuss the management / care plan as recommended to her based on her personal risk.

Caseload management must be kept up to date so in the event the named midwife is unavailable another midwife can easily identify any women who need to be contacted for appointments who have previously not attended.

The minimum requirement to assess and document at **each antenatal examination / risk assessment** is:

- history of maternal well-being (physical as well as mental)
- history of fetal movements (unless pregnancy less advanced)
- measurement of blood pressure
- Urinalysis: protein and glucose
- Review of new risk factors, update care plan if applicable
- Review of intended place of delivery as part of risk assessment

Key elements for each standard AN appointment can be found in Appendix A.

6. Booking Appointment

Women presenting in pregnancy will ideally have their first full booking appointment between 8-10 weeks gestation.

Women who present at their GP's surgery, a children's centre or maternity unit requesting a booking appointment being nine weeks or more pregnant /late bookers will be seen within two weeks.

Women who have recently moved to the UK may need a full medical examination if this has not been done by their GP.

If a woman books late in pregnancy (after 16 weeks), ask about the reasons for this as it may reveal social, psychological or medical issues that need to be addressed.

Ensure that reliable interpreting services are available when needed, including British Sign Language. Interpreters should be independent of the woman rather than using a family member or friend.

Those responsible for planning and delivering antenatal services should aim to provide continuity of carer.

Ensure that there is effective and prompt communication between healthcare professionals who are involved in the woman's care during pregnancy.

6.1 Involving Partners

A woman can be supported by a partner during her pregnancy so healthcare professionals should:

- involve partners according to the woman's wishes and

- inform the woman that she is welcome to bring a partner to antenatal appointments and classes.

Consider arranging the timing of antenatal classes so that the pregnant woman's partner can attend, if the woman wishes.

When planning and delivering antenatal services, ensure that the environment is welcoming for partners as well as pregnant women by, for example:

- providing information about how partners can be involved in supporting the woman during and after pregnancy
- providing information about pregnancy for partners as well as pregnant women
- displaying positive images of partner involvement (for example, on notice boards and in waiting areas)
- providing seating in consultation rooms for both the woman and her partner
- considering providing opportunities for partners to attend appointments remotely as appropriate.

6.2 Risk assessments at booking

Risk assessments to be completed at booking and updated throughout pregnancy:

- SGA risk assessment (Appendix B)
- PET/Aspirin risk assessment (Appendix C)
- Diabetes risk assessment (Appendix D)
- Preterm risk assessment (Appendix E)
- VTE risk assessment (See guidelines)
- Identification of risk factors requiring consultant led care/consultant opinion (Appendix F)
- Identification of risk factors requiring obstetric anaesthetic referral (appendix G)

6.3 Actions based on booking risk assessments

Identify all risk factors in all risk assessment tools and add the scores to come to cumulative risk for each risk assessment. Clearly document risk in HHR.
After discussion with and agreement from the woman, contact the woman's GP to share information about the pregnancy and potential concerns or complications during pregnancy.

SGA risk assessment:

- CLC booking for fetal growth surveillance management plan if (Appendix B):
  - SGA cumulative risk ≥ 3
  - Factors identified that may affect SFH accuracy (e.g. BMI ≥ 35, h/o fibroids)
- For medical team at booking to:
  - Assess level of risk and factors that may affect SFH accuracy as per SGA guidelines click here for full SGA guidelines
  - Clearly document growth surveillance management plan as per full guideline

PET/Aspirin risk assessment :

- PET ≥2: for CLC booking:
  - More frequent blood pressure measurements to be considered
- Aspirin assessment ≥2: for CLC booking by 12 weeks ($<13^{+0}$ weeks gestation) for medical team to:
  - Confirm assessment based on medical records
  - Assess contraindications
  - If eligible and not contraindicated:
    - Inform and advise woman
    - Prescribe 150mg Aspirin OD to be taken at night, from 12 to 36 weeks (lower dose of 75mg may be indicated as per consultant decision)

Diabetes risk assessment:

- Any risk factor identified at booking: for GTT between 24-28 weeks
- If risk identified at 34 weeks gestation or later, refer to CLC for urgent review

- During consultant booking to check additionally for medication that could impair glucose tolerance, such as glucorticoids; antipsychotics e.g. quetiapine. If taking this medication to arrange a GTT

For pregnancies were Diabetes type 1 or 2 is identified at booking:

- Viability scan between 8-10 weeks preferably combined with AN care appointment with specialist diabetes midwife
- For 5mg of folic acid on prescription
- Pre-existing diabetes is a PET risk (see above guidance)

Preterm risk assessment (see Appendix E for full list of risk factors):

- Any risk factor identified: for CLC booking by 12 weeks (no need to book under Preterm Specialist consultant at this stage) for medical team to:
  - Assess level of risk as per preterm prevention guideline Click her for full clinical guidance
  - Clearly document management plan as per full guidance
  - See the NICE guideline on preterm labour and birth for women at increased risk of, or with symptoms and signs of, preterm labour (before 37 weeks), and women having a planned preterm birth.

VTE risk assessment: refer to VTE during and up to 6 weeks following pregnancy guidelines.

- VTE ≥3: for urgent referral for review of risk and management plan

Identification of risk factors requiring consultant led care/consultant opinion:
In case need for CLC/ consultant opinion identified at booking:

- CMW to contact ANC
- Organise a consultant booking appointment:
  - Aim to combine with dating scan appointment
  - If not on same day as dating scan, at the latest by 24 weeks risk allowing (see risk specific upper thresholds in guidelines)
  - Consider reviewing the woman's previous medical records if needed, including records held by other healthcare providers.

In case of newly identified risk during pregnancy:

- CMW to contact appropriate department (eg ANC or PAU/MAU)
- Organise a timely/urgent appointment based on the risk identified

In case of a change from MLC to CLC or from CLC back to MLC:

- Obstetrician to clearly document and date in:
  - Maternity handheld records
  - Hospital medical records
  - Electronic Maternity System
- Ensure the woman understands the change in model of care
- Document any discussion regarding:
  - Method of fetal growth monitoring
  - Suitability for different fetal monitoring options
  - Recommended place of birth

6.4 Antenatal referral to an Anaesthetist

Women with anticipated anaesthetic problems or medical disorders should be referred to a consultant anaesthetist at an early stage in pregnancy following booking by the obstetric medical team.

See Appendix G for conditions requiring anaesthetic assessment and/or care throughout pregnancy.

7. Screening

Antenatal screening aims to enable parents to make informed choices concerning their pregnancy outcome. All screening test are offered at booking with the CMW or at the woman's first contact with maternity services if she presents later. See Maternal Antenatal Screening Tests – full clinical guideline

8. Urinalysis and MSU

At booking (or at the first AN contact):

- Send off a fresh and clean MSU sample for the diagnosis of asymptomatic bacteriuria (refer to UTI in pregnancy guideline)

Urinalysis at every AN assessment:

- for proteinuria (refer to pre-eclampsia guidelines)
- for glucosuria (refer to diabetes in pregnancy guidelines)

9. Measurement of weight and body mass index

BMI should be calculated:

- for all women at the first antenatal contact
- based on measurement of weight and height by health care professional, not to rely on self-reported data

Consider the use of bariatric scales if weight exceeds limits.

If BMI ≥30 refer to Obesity guideline for repeat of BMI calculation in pregnancy and further guidance on information and management (including advice for 5mg of folic acid)

10. CO monitoring & smoking status

Provide carbon monoxide testing at all planned routine antenatal appointments (see appendix A; for all women, regardless of smoking status or previous CO result).

Refer to 'smoking in pregnancy guideline' for:

- Women who say they smoke or have stopped in the past 2 weeks
- Women who stopped more than 2 weeks ago but have a carbon monoxide reading of ≥4

If the woman does not smoke but has a CO level of 3 or more, help her to identify the source of carbon monoxide and reduce it. Possible reasons are second hand smoke, environmental factors such as pollution from car exhaust fumes, faulty gas appliances. Lactose intolerance may give a false high reading.

If the woman does not smoke but has a high reading of more than 10:

- Advise her about possible carbon monoxide poisoning
- Ask her to contact the Gas Emergency Line (0800 111 999) for gas safety advice
- Phrase any further questions about smoking sensitively to encourage a frank discussion

Ask and document smoking status for ALL women at booking, at the 36 week Antenatal appointment and at time of delivery.

11. Female genital mutilation

Pregnant women who have had female genital mutilation should be identified early in antenatal care through sensitive enquiry. Antenatal examination will then allow planning of intrapartum care. Follow Trust Policy regarding safeguarding.

12. Domestic violence

Healthcare professionals need to be alert to the symptoms or signs of domestic violence and women should be given the opportunity to disclose violence in an environment in which they feel secure. Routine enquiry to be performed twice during the AN period as a minimum.

13. Mental Health

At booking:

- Complete mental health and wellbeing survey
- Document medication (stopped in pregnancy as well as currently taking)
- Refer if appropriate to specialist team

At every AN appointment:

- Ask about mental wellbeing
- Document (box in handheld records)

Refer to Mental Health in Maternity guidelines.

Note: tokophobia pathway SOP can be found within the Perinatal Mental Health guidelines and includes flowcharts including referral and support options. The Fear of Childbirth Questionnaire (titled: 'thoughts and feelings about childbirth') in the handheld records is for women to complete to identify tokophobia.

14. Information

At booking signpost to information available:

- Information booklet within the Handheld records
- Advise to download the Health Zone UK App and select UHDB Maternity for up to date information and alerts
- Using QR codes on smart phones directly providing online information
- UHDB-maternity website
- Printed copies available on request

Discuss essential information e.g. healthy lifestyle, medication and supplements, hygiene and infection prevention, dental care, screening etc.

Ensure that when offering any assessment, intervention or procedure, the risks, benefits and implications are discussed with the woman and she is aware that she has a right to decline. Women's decisions should be respected, even when this is contrary to the views of the healthcare professional.

During pregnancy discuss and document all key point AN discussions as per handheld records overview. When caring for a pregnant woman, listen to her and be responsive to her needs and preferences.

All women should be counselled in the signs and symptoms of preterm labour. Provide appropriate information and support for women whose baby is considered to be at an increased risk of neonatal admission.

When giving women (and their partners) information about antenatal care, use clear language, and tailor the timing, content and delivery of information to the needs and preferences of the woman and her stage of pregnancy. Information should support shared decision making between the woman and her healthcare team, and be:

- offered on a one-to-one or couple basis
- supplemented by group discussions (women only or women and partners)
- supplemented by written information in a suitable format, for example, digital, printed, braille or Easy Read
- offered throughout the woman's care
- individualised and sensitive
- supportive and respectful
- evidence-based and consistent

- translated into other languages if needed.

For more guidance on communication, providing information (including different formats and languages), and shared decision making, see the NICE guideline on patient experience in adult NHS services and the NHS Accessible Information Standard.

14.1 Antenatal Classes

Offer nulliparous women (and their partners) antenatal classes that include topics such as:

- preparing for labour and birth
- supporting each other throughout the pregnancy and after birth
- common events in labour and birth
- how to care for the baby
- how the parents can bond with their baby and the importance of emotional attachment (also see the section on promoting emotional attachment in the NICE guideline on postnatal care)
- planning and managing their baby's feeding (also see the section on planning and supporting babies' feeding in the NICE guideline on postnatal care).

Consider antenatal classes for multiparous women (and their partners) if they could benefit from attending (for example, if they have had a long gap between pregnancies, or have never attended antenatal classes before).

Ensure that antenatal classes are welcoming, accessible and adapted to meet the needs of local communities. Also see the section on young pregnant women aged under 20 in the NICE guideline on pregnancy and complex social factors.

14.2 Peer Support

Discuss the potential benefits of peer support with pregnant women (and their partners), and explain how it may:

- provide practical support
- help to build confidence
- reduce feelings of isolation

Offer pregnant women (and their partners) information about how to access local and national peer support services.

14.3 Heartburn

Give information about lifestyle and dietary changes to pregnant women with heartburn in line with the section on common elements of care in the NICE guideline on gastro-oesophageal reflux disease and dyspepsia in adults.
Consider a trial of an antacid or alginate for pregnant women with heartburn.

14.4 Vaginal Discharge

Advise pregnant women who have vaginal discharge that this is common during pregnancy, but if it is accompanied by symptoms such as itching, soreness, an unpleasant smell or pain on passing urine, there may be an infection that needs to be investigated and treated.

Consider carrying out a vaginal swab for pregnant women with symptomatic vaginal discharge if there is doubt about the cause.
If a sexually transmitted infection is suspected, consider arranging appropriate investigations.

Offer vaginal imidazole (such as clotrimazole or econazole) to treat vaginal candidiasis in pregnant women.

Consider oral or vaginal antibiotics to treat bacterial vaginosis in pregnant women in line with the NICE guideline on antimicrobial stewardship.

14.5 Pelvic Girdle Pain (PGP)

For women with pregnancy-related pelvic girdle pain, consider referral to physiotherapy services for:
• exercise advice **and/or**
• a non-rigid lumbopelvic belt.

15. Symphysis Fundal Height measurements

Fetal growth surveillance by serial measurement of fundal height: ***ONLY*** for pregnancies ***NOT*** monitored by serial scan (at least 3 planned scans in third trimester), as per consultant management plan:

- At each antenatal appointment from 24 weeks of pregnancy
- At no more frequent intervals than two weekly (may deviate from 14 exact days due to clinic days)
- Measure to one decimal, exactly as read from the tape and plot on the Intergrowth21st SFH chart as accurately as possible
- Do not document 'equal to dates'

Prompt referral by community midwife for scan to be carried out within 72 hours if:

- SFH plots <10th centile (where serial SFH continues to measure <10th centile, seek medical review and transfer to CLC)
- SFH plots slowing or static growth

In case of increased growth and growth plotted >90th centile:

- If initially plotted above the 90th centile, referral for USS is not indicated, however, consider risk for diabetes
- Reasons for urgent USS assessment in PAU/MAU:
  - If there is a clinical suspicion of Polyhydramnios
  - The trajectory of growth shows a significant growth acceleration (to >90th centile)

Management following a second growth scan following SFH concerns:

- Review by senior obstetrician to assess suitability of monitoring fetal growth for remainder of pregnancy
- If SFH no longer deemed suitable to monitor growth:
  - MAU/PAU to arrange the next growth scan followed by a consultant appointment
  - Timing in line with serial growth scan pathway unless concerns raised during scan requiring more urgent referral
  - If normal growth in the absence of other risk factors, may be considered for low risk care in labour

Additional screening for GDM if:

- Abdominal circumference (AC) >97th centile, or significant growth acceleration of AC in present pregnancy, compared to HC
- Ultrasound diagnosed Polyhydramnios.

GTT if <34 weeks and >14 days since last GTT and no additional obstetric concerns.
If > 34 weeks or additional obstetric concerns: for discussion with the Obstetric Diabetes Team.
See Diabetes in Pregnancy guidelines

16. Assessment of Fetal Wellbeing during pregnancy

Auscultation of the fetal heart may confirm that the fetus is alive but is unlikely to have any predictive value and routine listening is therefore not recommended. However, when requested by the mother, auscultation of the fetal heart may provide reassurance.

Fetal movements are an important indicator of fetal wellbeing, see full guideline: reduced fetal movements (reduced/altered/absent).

- Signpost to Tommy's information by 28 weeks and discuss what to expect
- signpost to contact details in case of concern regarding fetal movements
- reiterate importance at every AN contact
- in case of concerns expressed during AN contact, refer promptly for assessment in hospital (refer to reduced fetal movements guideline)
- Women should be advised to be aware of their own baby's individual pattern of fetal movements up to and including the onset of labour and should report any decrease or cessation of fetal movements.
- Advise women to contact PAU/MAU immediately if any concerns regarding their baby's movements and not to wait until the next day/appointment.

17. Pre-Eclampsia (PET)

At each visit enquire about the presence of Signs and Symptoms of PET as per definitions below:

- New Hypertension
- New and or Significant proteinuria
- Symptoms of headache or visual disturbance
- Epigastric pain/vomiting
- Reduced fetal movements/ fall in SFH/ SGA infant

In case of any of the above concerns, discuss with the Assessment Unit for further plan of care.

Definitions:

Hypertension: Diastolic blood pressure (DBP) of 90mmHg or greater or Systolic blood pressure (SBP) of 140mmHg or greater

New Hypertension*:* Hypertension at or after 20weeks in a woman with a DBP of less than 90mmHg before 20 weeks

Pre-existing*:* Hypertension pre-pregnancy, at booking (or up to 20 weeks) - follow management of essential/chronic hypertension.

New Proteinuria: Proteinuria 1+ or more on dipstick (confirmed on analyser)

Significant proteinuria: Protein Creatinine Ratio (PCR) >30/mmols

Pre-eclampsia*:* New hypertension and significant proteinuria at or after 20weeks, confirmed if resolves after delivery

Super-imposed Pre eclampsia: Development of features of PET where pre-existing hypertension or proteinuria exists

Refer women over 20+0 weeks with a first episode of hypertension (blood pressure of 140/90 mmHg or higher) to secondary care to be seen within 24 hours. See the recommendations on diagnosing hypertension in the NICE guideline on hypertension in adults.

Urgently refer women with severe hypertension (blood pressure of 160/110 mmHg or higher) to secondary care to be seen on the same day. The urgency of the referral should be determined by an overall clinical assessment.

18. Choice of Place of Birth

Choice of place of birth may change at any time during pregnancy/labour. Using the criteria for assessment of risk see guideline **– Home birth and Care in Labour.** The planned place for birth and the model of care being midwife or consultant led will be discussed and decided.

In hospital

It is recommended that women who need consultant care during their pregnancy have their baby in hospital. We support an early discharge scheme where if all is well with the woman and her baby, they both go home shortly after birth.

At home orat a standalone midwife led unit

Birth at home is safe for low risk women. Any problems identified in the pregnancy or previous pregnancies must be discussed with the woman and a plan of care agreed and clearly documented.

It is recommended that when a woman requests birth at home or in a standalone midwife led unit, she should have an opportunity to discuss all risk factors, both clinical and social/environmental, in order to make an informed decision with the midwife and refer for obstetrician opinion as appropriate.

19. Monitoring Compliance and Effectiveness

Monitoring compliance with this guideline will be as agreed as part of the business unit audit forward programme.

20. References

National Institute for Health and Clinical Excellence NICE (NG201). Antenatal Care. Published 19th August 2021

Routine AN Pathway

Gestation	Aims and Action Taken
6-10 Weeks Or within 2/52 of referral if >12/52 .	Document: • Gynaecological, obstetric, medical, social, family history • Medications & allergies, • Social support network • Smoking status, opt out cessation referral as required • Alcohol, recreational drugs • Mental well being; complete mental health form • VTE risk assessment • SGA risk assessment • PET risk assessment / aspirin assessment • GDM risk assessment • Preterm risk assessment • Domestic abuse see guidelines (D3) • Decline blood and blood products (H1) Investigations • Weigh / calculate BMI • Mid-stream urine specimen (MSU) • Offer and document CO monitoring for all women regardless of smoking status. Discuss and offer, consent & sign • Full blood count • HIV; Hepatitis B testing / See AN screening guidelines • Sickle cell & Thalassaemia screening form/bloods (family origin questionnaire) • ABO/Rh grouping and antibody screen; • Serological tests (syphilis) Discuss and offer: • Dating Scan & first trimester combination screening test options – make appointment and document • Physical abnormalities mid-pregnancy scan at 20 weeks Discuss • Healthy Start vitamins/Healthy start vouchers • Vitamin D and Folic Acid • Vaccines in pregnancy e.g. Whooping cough and flu • Screening: signpost to screening leaflet including newborn blood spot sampling If the woman is uncertain of dates and potential problems identified, an earlier scan (8-10 wks) may be appropriate particularly if any of the following is noted:- • vaginal bleeding • previous ectopic pregnancy • 2 or more consecutive first trimester miscarriages • Diabetes type 1 or 2 (see diabetes in pregnancy guidelines) • Reassure women that mild to moderate nausea and vomiting are common in pregnancy, and are likely to resolve before 16 to 20 weeks. Give general advice on diet, exercise, dental care, antenatal classes, smoking, alcohol, family planning and maternity benefits (as appropriate)
	Complete notes/maternity records Identify other booking risk factors (including those requiring specific or early referral to obstetrician or anaesthetist) If pre-existing diabetes – refer immediately to the midwife with a special interest in diabetes.
10-24 weeks	Booking appointment with consultant, timing dependent on reason for referral

11-14 weeks	Dating Scan +/- first trimester combined Down's, Edwards' and Patau's Syndrome screening

16 weeks	• Take blood for biochemical screening for Downs syndrome and MSAFP (if late booking)
	• Review, discuss & record results of all screening tests undertaken
	• If Hb<110g/l consider iron supplementation
	• Refer to other services as necessary
	• Encourage women to attend AN education
	• Discuss (Key Point AN discussions MHHR):
	  ○ Connecting with baby, taking time out to connect
	  ○ The value of skin contact
	• Offer and document CO monitoring for all women regardless of smoking status
	• Documentation of smoking status: see smoking in pregnancy guideline

20 Weeks	Mid trimester physical abnormality scan Offer flu vaccine in AN clinic in appropriate time of the year when attending for scan
25 Weeks (nullip)	Issue of Mat B1 is appropriate from 21 weeks gestation • Offer and document CO monitoring for all women regardless of smoking status

28 Weeks	• Full blood count (if Hb < 105g/l consider iron therapy)
	• Rh antibody screen for Rh negative women
	• Antibody screen for Rh positive women to detect irregular antibodies of clinical importance
	• Consider re/offering Infectious diseases in pregnancy screening (IDPS)
	• Anti-D prophylaxis in Rh negative women
	• Discuss:
	  ○ fetal movements
	  ○ pregnancy signs which are clinically significant
	  ○ self-referral to the assessment unit
	  ○ give advice on perineal massage
	  ○ infant feeding: responding to baby's needs (brain development, responsive feeding)
	  ○ sleeping position (safer to settle to go to sleep on side than on back) - advise women there may be a link between going to sleep on her back and stillbirth in late pregnancy (after 28 weeks)
	• Weigh / calculate BMI if BMI ≥30 at booking (see obesity guidelines)
	• Offer and document CO monitoring for all women regardless of smoking status
	• Provide information regarding:
	  ○ preparing for labour and birth, including information about coping in labour and creating a birth plan
	  ○ recognising active labour
	  ○ the postnatal period, including:
	  ▪ care of the new baby
	  ▪ the baby's feeding
	  ▪ vitamin K prophylaxis
	  ▪ newborn screening
	  ▪ postnatal self-care, including pelvic floor exercises
	  ▪ awareness of mood changes and postnatal mental health.

31 Weeks (Nulliparous women)	• Review, discuss and record results from 28 week tests.
	• Offer and document CO monitoring for all women regardless of smoking status
	Discuss:
	  ○ Parent education and labour
	  ○ Infant feeding and bonding

34 Weeks	• Review, discuss and record results from 28 week tests if not done at 31 weeks
	• Offer and document CO monitoring for all women regardless of smoking status
	Discuss:
	  ○ Infant feeding and bonding: value of breast feeding and how to get off to a good start
	  ○ Newborn blood spot sampling
	  ○ Consider to discuss birth control following birth

36 Weeks	• Assess Fetal presentation by abdominal palpation at each visit onwards • Arrange scan if suspected breech presentation

	• Repeat scan for low lying placenta • Offer and document CO monitoring for all women regardless of smoking status • Document smoking status and if active smoking: re-offer SSS and discuss as per guideline • Complete homebirth risk assessment if required
38 Weeks	• Assess Fetal presentation by abdominal palpation • Offer and document CO monitoring for all women regardless of smoking status • Discuss post-dates options and give written information. • Review and discuss management if post term.
39 Weeks	• From 39 weeks, offer membrane sweep(s)
40 Weeks	• Offer and document CO monitoring for all women regardless of smoking status • Book date for post dates IOL/ provide a copy of the IOL leaflet and discuss option for outpatient IOL

Offer additional or longer appointments if needed, depending on the woman's medical, social and emotional needs.

Appendix B

SGA Risk assessment (as per SGA guideline)			
Parity	Nulliparity	1	
	Pregnancy interval > 10 years	1	
	Pregnancy interval < 6 months	1	
Age	≤16 years	3	
	>35 years	1	
	≥40 years	3	
BMI	<18	1	
Smoking	Smoking	3	
	Extreme exercise regime / eating disorders	3	
	Substance or alcohol abuse	3	
Medical history	Diabetes	3	
	Chronic hypertension	3	
	Renal impairment	3	
	Autoimmune disorder (Antiphospholipid syndrome, SLE, ALS), thrombophilia	3	
	Solid tissue transplant	3	
	Cyanotic congenital heart disease	3	
	Connective tissue disease	3	
Previous obstetric	Pre-eclampsia	1	
	Severe, early onset pre-eclampsia prior to 34 weeks	3	
	Previous stillbirth	3	
	Previous SGA baby <10th centile / IUGR	3	
	Recurrent miscarriage (3 consecutive medically confirmed < 16 weeks or any ≥ 16 weeks)	3	
	Placental abruption	1	
Current obstetric	Mild PET <30 weeks (normal blood results, asymptomatic, no fetal concerns)	1	
	Severe PIH or Pre-eclampsia	3	
	PAPP-A <0.4 MOM in 1st trimester	3	
	Fetal echogenic bowel or 2-vessel cord	3	
	Heavy bleeding 1st trimester, unexplained APH or placental haematoma on US	3	
Total	**SGA cumulative risk**		

CLC booking for fetal growth surveillance management plan if:

- **SGA cumulative risk ≥ 3**
- **Factors identified that may affect SFH accuracy (e.g. BMI ≥ 35, h/o fibroids)**

Appendix C

PET Risk assessment and Aspirin assessment		PET			Aspirin	
Parity	Nulliparity	1			1	
	Pregnancy interval >10 yrs	1			1	
Age	≥40 years	1			1	
BMI	≥35	2			1	
Medical history	Pre-existing diabetes	2			2	
	Pre-existing hypertension	2			2	
	Pre-existing renal disease	2			2	
	Antiphospholipid antibodies / thrombophilia	2			2	
Previous obstetric	PET mother or sister	1			1	
	PET in any previous pregnancy	2			2	
	Confirmed previous placental dysfunction	2			2	
Current obstetric	Diastolic BP at booking >80	2				
	Proteinuria >1+ dipstick	2				
	Multiple pregnancy	2			1	
Total	**PET cumulative risk / aspirin assessment**					

PET cumulative risk ≥2: CLC
Aspirin cumulative risk ≥2: 150mg Aspirin OD to take at night from 12 -36 weeks (or reduced 75mg if indicated as per consultant decision)

Appendix D

Gestational Diabetes risk	
BMI > 30 in first trimester	
Family origin with a high prevalence of diabetes: South Asian (specifically India, Pakistan or Bangladesh), Black Caribbean, Middle Eastern (specifically Saudi Arabia, UAE, Iraq, Jordan, Syria, Oman, Qatar, Kuwait, Lebanon, Egypt)	
Previous gestational diabetes	
Previous macrosomia (term birth weight ≥ 4.5 kg)	
Previous unexplained stillbirth	
Family history of diabetes in one 1st degree	
PCOS	
For GTT up to 34 weeks (if later, refer to consultant for urgent review)	
1+ glucosuria on more than 1 occasion or 2+ once at routine AN testing	
AC and/or EFW >95th centile (97th depending on chart) or significant AC / EFW growth acceleration in current pregnancy	
Polyhydramnios diagnosed on ultrasound scan	

Any risk identified: for GTT between 24-28 weeks if 34 or later, refer to CLC for urgent review)
At CLC booking to check additionally for medication that could impair glucose intolerance, such as glucorticoids; antipsychotics e.g. quetiapine. (If currently taking to arrange GTT)

Women with pre-existing diabetes type 1 or 2: for immediate referral, viability scan between 8-10 weeks preferably combined with AN care appointment with specialist diabetes midwife, 5mg Folic.

Appendix E

Preterm risk assessment

Risk factors that trigger CLC booking by 12 weeks:

- ☐ Previous spontaneous preterm birth or mid-trimester loss between **16 weeks+0 days & 33 weeks + 6** days weeks gestation
- ☐ Previous use of cervical cerclage
- ☐ Known uterine variant (e.g. unicornuate, bicornuate uterus or uterine septum)
- ☐ Intrauterine adhesions (Ashermann's syndrome)
- ☐ History of trachelectomy (for cervical cancer)
- ☐ Previous prelabour rupture of membranes prior to 34 weeks y
- ☐ Previous delivery by caesarean section at full dilatation
- ☐ History of significant cervical excisional event i.e. LLETZ

Risk Assessment Criteria for Booking for Obstetric Care / Obstetric Opinion or Referral to Appropriate Services
In the absence of these risk factors Midwife Led Care is appropriate

Medical history

☐ abdominal surgery (major)
☐ anaesthetic complications h/o
☐ autoimmune disease (Myasthenia Gravis; Sytemic Lupus Erytheramatosis; Rheuma toid arthritis; Systemic sclerosis; Psoriatic arthropathy; Autoimmune hepatitis; Autoimmune hypothyroidism; ITP (Idiopathic thrombocytopenic purpura)
☐ Blood transfusion (refusing blood products or h/o transfusion
☐ cardiac disease; under current secondary care and/or cyanotic yes / no
☐ cancer; in past 3 years yes / no
☐ central nervous system (myotonic dystrophy, MS, spina bifida, neuropathies, severe migraine, stroke, h/s subarachnoid haemorrhage, other spinal:)
☐ CJD: (familial history, corneal transplant, human growth hormone, brain/spinal surgery) ☐ connective tissue disease
☐ cystic fibrosis
☐ diabetes; type:
☐ disabilities - sensory or physical (Blind or serious visual impairment uncorrected by glasses; Deafness or serious hearing impairment; Cerebral palsy; Difficulty using arms; Using wheelchair or crutches)
☐ endocrine disorder (Addison's, Hyperthyroidism, Cushing's)
☐ epilepsy; requiring anti-convulsants: yes / no
☐ gastrointestinal disorder (Crohns, Ulcerative Colitis, Malabsorption syndromes; Gastric ulcer; Achalasia; Other hepatitis; Other severe GI disorder under secondary care)
☐ Haemoglobinopathy (sickle cell, thalassaemia, Von Willebrands, Haemophilia, Thrombocytopenia, carrier only)
☐ Haemolytic anaemia
☐ HIV / Hep B / Hep C
☐ hypertension
☐ inherited disorder requiring active follow up in secondary care
☐ liver disease
☐ Needle phobia
☐ MRSA confirmed
☐ organ transplant h/o (heart, kidney, liver or bone marrow)
☐ pelvic trauma (significant)
☐ renal disease
☐ respiratory disease (Moderate or severe asthma - under secondary care or hospital admission in last year; Sarcoidosis; Pulmonary fibrosis; Chronic obstructive pulmonary dis-ease; Tubercolosis)
☐ Rhesus isoimmunisation/other significant blood group antibodies
☐ splenectomy
☐ Thromboembolic disorder (h/o VTE, arterial thrombosis or pulmonary embolism)
☐ Thrombophilia / clotting disorder (antiphospholipid antibodies/syndrome, Protein C or S deficiency; Antithrombin deficiency; factor V Leiden hetero/homo-zygosity; Prothrombin gene variant hetero/homo-zygosity; Compound heterozygotes)
☐ varicose veins (symptomatic, bilateral, above the knee or associated with phlebitis, oedema or skin changes
☐ other significant to pregnancy:

Previous Obstetric / Gynae history

☐ cervical suture
☐ uterine surgery (Myomectomy; Septectomy; Endometrial ablation, LSCS)
☐ grand multiparity ≥4
☐ APH on more than 2 occasions
☐ PPH > 1000ml
☐ retained placenta ≥ 2 occasions
☐ 3rd or 4th degree perineal trauma
☐ incontinence; urinary and/or fecal
☐ Eclampsia, Pre-eclampsia, HELLP
☐ Gynae surgery (LLETZ, Cone biopsy, pelvic floor repair)
☐ PCOS
☐ FGM: Grade:
☐ STD or genital herpes, previous or current
☐ Gestational diabetes
☐ Recurrent miscarriage (3 or more consecutive, medically confirmed <16 weeks)
☐ Shoulder dystocia
☐ ≥ 3 TOP
☐ ≥ fetal loss between 16-23^{+6} gestational age

☐ PPROM < 34 weeks
☐ proven CPD
☐ preterm labour <34 weeks
☐ high birth weight term baby > 4.5kg
☐ IUGR / SGA (birth weight < 10th centile, IUGR confirmed placental dysfunction)
☐ low birth weight term baby <2.5kg
☐ placenta accreta
☐ placental abruption
☐ pregnancy induced skin disease h/o
☐ baby affected with neonatal GBS infection
☐ previous stillbirth or neonatal death
☐ previous fetal congenital anomaly
☐ assisted conception

Current pregnancy

☐ multiple pregnancy
☐ recurrent vaginal bleeding
☐ ovarian cyst
☐ IUCD in situ
☐ Medication: risk of teratogenesis or fetal neonatal risk
☐ parental relationship (eg cousins, sharing grandparents)

Significant family history

☐ congenital/genetic anomalies
☐ MCAD deficiency
☐ cardiovascular disease
☐ hypertension ☐ PET (mother/sister)
☐
☐ TB
☐ VTE
☐ poor obstetric outcome:
☐ any other significant family history:

Lifestyle / social factors

☐ alcohol misuse / dependence; units per week:
☐ drug misuse / IV drug user
☐ BMI ≥35
☐ age ≤ 16
☐ age ≥ 40
☐ extreme exercise regime / eating disorders
☐ complex social factors (Safeguarding, domestic abuse, recent migrant/asylum seeker/refugee last 12 months, homeless, difficulty reading or speaking english, learning disability)

Mental health

☐ under primary health services; on medication /previous medication
☐ under care of secondary mental health services; previous suicide at-tempt; previous psychiatric inpatient episode; detention under the Mental Health Act
☐ Puerperal psychosis following previous pregnancy

Risk assessments

☐ SGA risk 3 or more
☐ VTE risk 3 or more
☐ PET risk 2 or more
☐ Preterm risk 1 or more

Conditions requiring antenatal referral to an (Obstetric) Anaesthetist

Anticipated anaesthesia related problems:

- History of difficult / failed intubation, anticipated difficult airway
- Anaphylaxis
- Suxamethonium apnoea
- Malignant Hyperthermia
- Porphyria
- Previous traumatic anaesthetic experience
- Complications after neuraxial blockade
- Spine problems, e.g. congenital abnormalities, previous operations, trauma etc.
- Severe needle phobia
- Women who refuse blood transfusion
- Extensive maxofacial surgery

Cardiovascular Disease

- Congenital heart disease, corrected or uncorrected
- Acquired heart disease: valvular lesions, ischaemic heart disease, cardiomyopathy
- Arrhythmias: congenital or acquired (e.g. complete AV-block)
- Diseases of the aorta (e.g. Marfan's Syndrome)

Haematological Disease

- History of thromboembolism before or during pregnancy
- Hypercoagulability with anticoagulation therapy during pregnancy (e.g. Protein S/C/ATIII deficiency)
- Congenital Coagulopathies (e.g. von Willebrands disease)
- Thrombocytopenic Coagulopathy
- Haemoglobinopathy (e.g. Thalassaemia, Sickle-Cell disease)

Neurological Disorders

- Conditions which may interfere with neuroaxial anaesthesia and analgesia
- Neuromuscular disease which may affect breathing (Myasthenia gravis, Muscular dystrophy)
- Other intracranial pathologies (e.g. AV-malformations, BIH, Neoplasm)
- Previous history of stroke or intracranial bleeding

Respiratory Disease

- Severe obstructive/ restrictive lung disease (e.g. asthma, pulmonary fibrosis) which require special care during pregnancy and childbirth

Renal and hypertensive disorders

- Known renal disease of any sort, impaired renal function or pre-existing hypertension
- Renal Transplant

Endocrinological Disorders

- Acromegaly, Addison's disease and similar disorders
- Poorly controlled or uncontrolled Diabetes mellitus
- Phaeochromocytoma

Autoimmune Disorders

- Systemic Lupus Erythematosus
- Systemic Sclerosis (Scleroderma)
- Antiphospholipid syndrome on high dose LMWH

Other

- Obesity (e.g. BMI $\geq$ 40 kg/m2)
- Any other condition associated with significant pathophysiology

	Intergrowth - Boy		Intergrowth - Girl	
	3rd	10th	3rd	10th
35	1700	1950	1710	1920
35+1	1740	1990	1740	1960
35+2	1770	2020	1770	1990
35+3	1800	2050	1800	2020
35+4	1830	2090	1830	2050
35+5	1870	2120	1860	2080
35+6	1900	2150	1890	2110
36	1930	2180	1920	2140
36+1	1960	2210	1950	2170
36+2	1990	2240	1980	2200
36+3	2020	2270	2000	2230
36+4	2050	2300	2030	2250
36+5	2080	2330	2060	2280
36+6	2110	2360	2080	2310
37	2130	2380	2110	2330
37+1	2160	2410	2140	2360
37+2	2190	2440	2160	2380
37+3	2220	2470	2180	2410
37+4	2240	2490	2210	2430
37+5	2270	2520	2230	2460
37+6	2290	2540	2250	2480
38	2320	2570	2280	2500
38+1	2340	2590	2300	2530
38+2	2370	2620	2320	2550
38+3	2390	2640	2340	2570
38+4	2420	2670	2360	2590
38+5	2440	2690	2380	2610
38+6	2460	2710	2400	2630
39	2490	2730	2420	2650
39+1	2510	2760	2440	2670
39+2	2530	2780	2460	2690
39+3	2550	2800	2480	2710
39+4	2570	2820	2500	2730
39+5	2590	2840	2510	2740
39+6	2610	2860	2530	2760
40	2630	2880	2550	2780
40+1	2650	2900	2560	2800
40+2	2670	2920	2580	2810
40+3	2690	2940	2600	2830
40+4	2710	2960	2610	2840
40+5	2730	2980	2630	2860
40+6	2750	2990	2640	2870
41	2760	3010	2650	2890
41+1	2780	3030	2670	2900
41+2	2800	3050	2680	2910
41+3	2820	3060	2690	2930
41+4	2830	3080	2710	2940
41+5	2850	3090	2720	2950
41+6	2860	3110	2730	2960
42	2880	3120	2740	2980

Documentation Control

Reference Number: UHDB/MAT/09: 22/A5			**Status: Final**	**Version: 3.3 UHDB shared**
Version / Amendment				
	Version	Date	Author	Reason
	1	Feb 2002	Miss A Fowlie. Clinical Director	Review
	2	Nov 2007	Miss A Fowlie. Clinical Director	Review
3	3	Dec 2009	D. Line Lead Midwife Antenatal Clinics Community Lead G. Taylor CNST Midwife	Merging with guidelines **(D4) / (S9) / (P6) / (B9) / (H5a)**
4	4	April 2014	Midwifery & Obstetric Task & Finish Group, Maternity Guideline Group	Revision and update of guideline
4.1	4.1	March 2017	Dr Ashworth, Consultant C. Meijer, RM	To reflect SGA/SFH guideline
5	5	January 2018	S Thompson, AN Services Lead Midwife C. Meijer, MRes/RM, guidelines and audit	Review
5.1	5.1	August 2018	Miss S Rajendran, obstetric consultant C. Meijer C. Meijer, MRes/RM, guidelines and audit	Amended in line with SGA guidelines
5.2	5.2	March 2019	Miss S Rajendran	Sentence added to refer to diabetes guideline for advice in case of LGA or increased velocity
UHDBv1	1	April 2020	Maternity Guidelines Group	Merged AN care guideline COVID pandemic
	2	January 2021		Align risk assessments, introduce preterm risk
	2.2	June 2022	Miss S Rajendran – Obstetric consultant Maternity Guidelines Group	Change to recording SFH 06/06/22
	3	September 2022	Miss S Rajendran, Obstetric Consultant C. Meijer, MRes/RM, guidelines and audit	NICE compliance; Aspirin to 36 weeks; remove COVID deviations;
	3.1	November 2022	C Meijer	Aligned with new Handheld records. 2-tiered risk for smoking and SGA removed. Link to tokophobia. CO monitoring at every routine appointment
	3.2	May 2023	C. Meijer - Digital Midwife J Harrison-Engwell - Lead Midwife for Guidelines, Audit and QI	Alignment of change in HHR's and Booking risk assessment on EPR (preterm risk) To align with new IOL guideline (timing of membrane sweeps and offering IOL)
	3.3	August 2023	Joanna Harrison-Engwell	To be in line with national guidance
	3.4	Nov 2023	J Harrison-Engwell - Lead Midwife for Guidelines, Audit and QI	To ensure full compliance with Baseline Assessment Tool
Intended Recipients: All staff caring for women in the AN period				
Dissemination: Cascaded through lead midwives/doctors, Published on Intranet, NHS mail circulation list. Article in BU newsletter.				

To be read in conjunction with:

- Antenatal screening tests
- Antenatal screening for Downs syndrome
- SFH & referral for scan
- Pregnancy Assessment Unit
- Decline blood products
- Missed appointments
- Home birth
- Needle Phobia
- Prevention of early onset Group B Streptococcus
- Rubella in Pregnancy
- Management of HIV positive women during pregnancy and puerperium
- Infant Feeding Policy

Consultation with:	Obstetric & Midwifery staff, Anaesthetists, Pharmacists
Business Unit sign off:	20/09/2022: Maternity Guidelines Group: Miss A Joshi – Chair **V3.2** 02/05/2023 **V3.4**: 24/11/2023 22/09/2022: Maternity Governance Group: Mr R Deveraj (CD) **V3.2** 19/06/2023 **V3.4**: 04/12/2023 **V3.3** - exceptional ratification - Natasha Stringer, Raymond Devaraj and Sue Whale - 18/08/23
Division sign off: 25/10/2022 **V3.2** Notification Overview sent to TIER 3 Divisional Quality Governance Operations & Performance: 20/06/2023 **V3.4**: 19 /12/2023	
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Key contact	Joanna Harrison-Engwell