CONDITIONS IN PREGNANCY & COMMON ANTENATAL PROBLEMS

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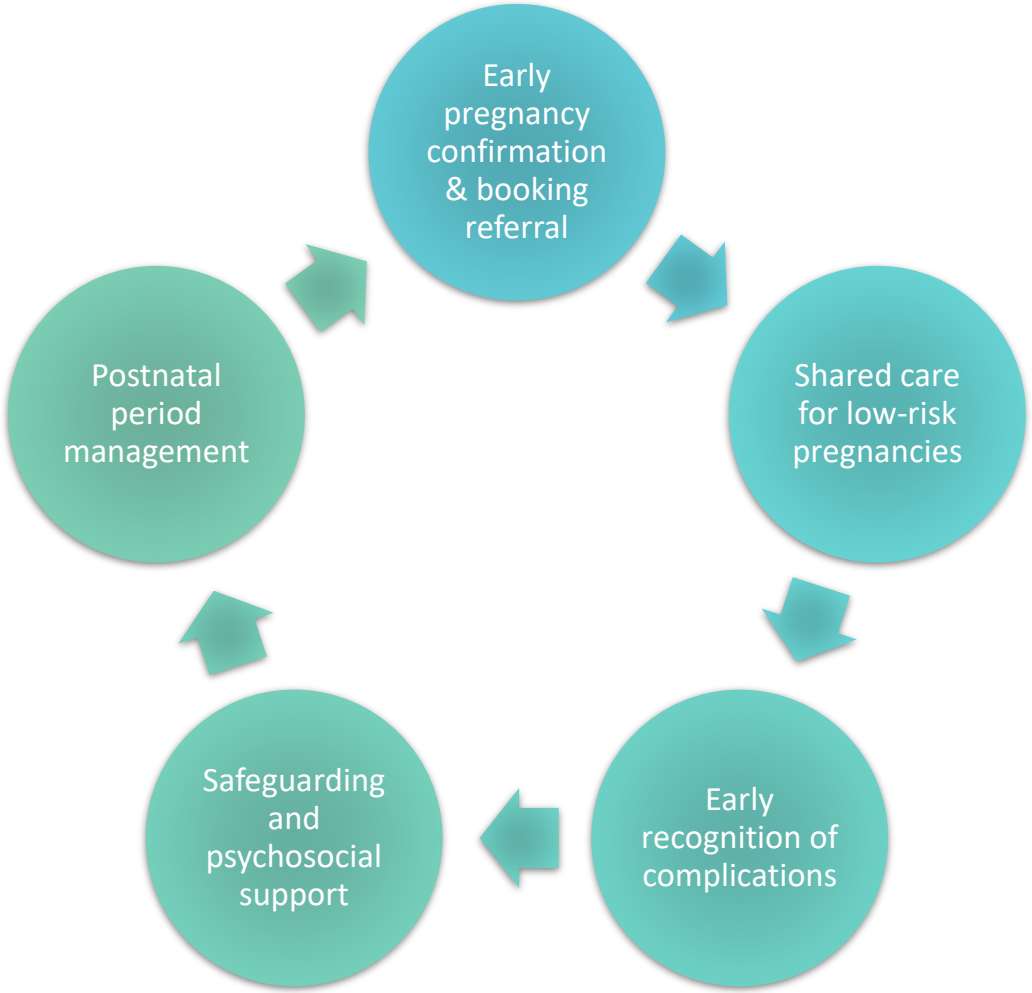
LEARNING OBJECTIVES

- To understand routine antenatal care structure
- To identify and manage common antenatal conditions
- To recognise red flags and appropriate referral pathways
- To apply NICE and RCOG guidance in clinical practice
- To learn through case-based examples

ROLE OF THE GP IN ANTENATAL CARE



Optimising health prior to conception is essential to enhance maternal wellbeing, reduce the risk of pregnancy-related complications, and promote favourable outcomes for both mother and child.

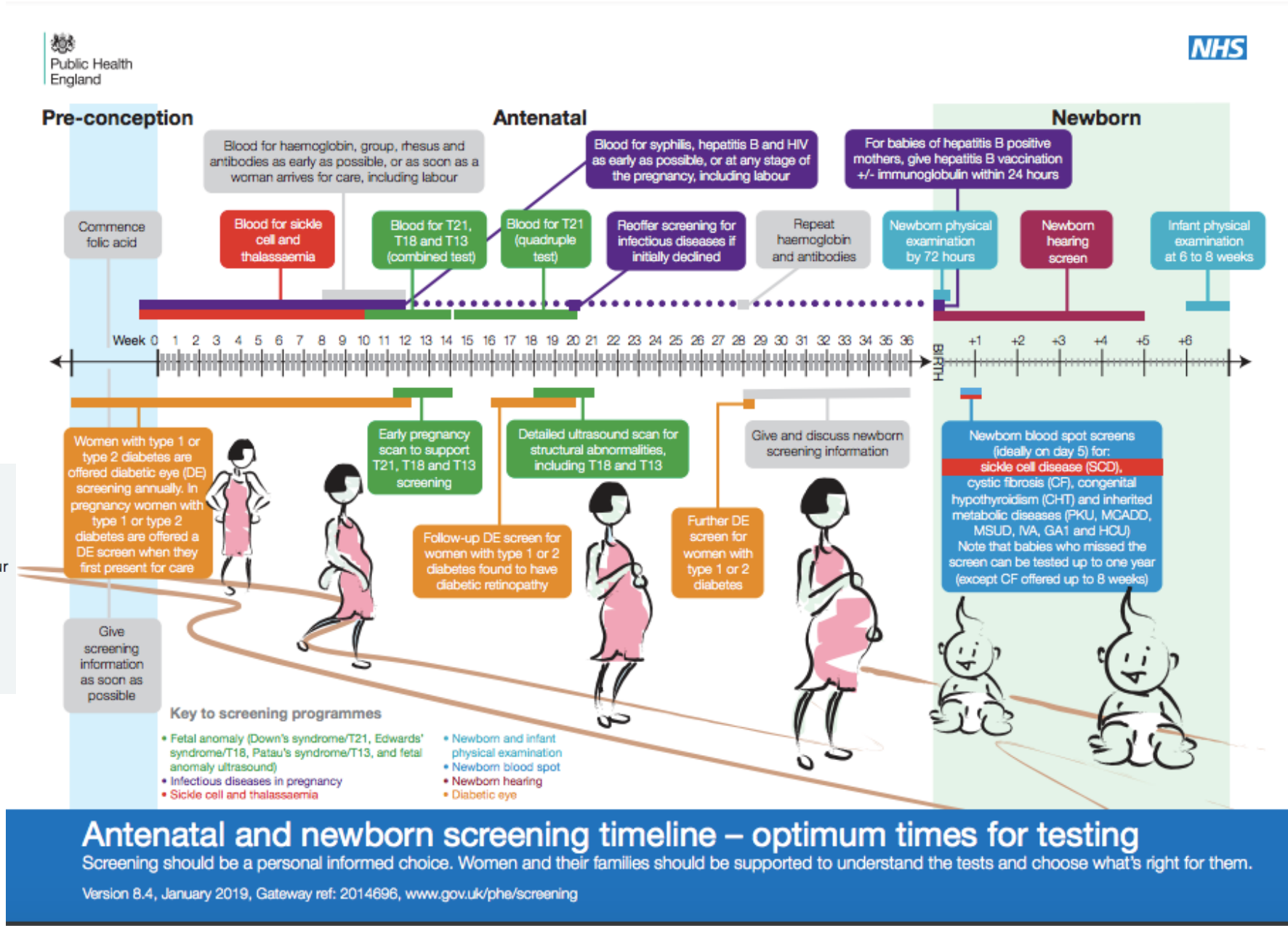
PRECONCEPTION CARE

ROUTINE ANTENATAL CARE TIMELINE

Refer yourself to Barnsley Hospital Maternity Services

By using our self-referral form, your information will be sent directly to our Maternity team and you will not need to contact your GP.

Begin your self-referral here



COMMON CONDITIONS IN PREGNANCY

- Hyperemesis gravidarum
- Pain & bleeding in early pregnancy
- Hypertensive disorders
- Diabetes
- Gestational anaemia
- Infections in pregnancy
- Mental health

NVP & HYPEREMESIS GRAVIDARUM

NVP affects up to 90% of pregnant women1 and is one of the most common indications for hospital admission among pregnant women, with typical stays of between three and four days.

Risk factors:

History of HG in previous pregnancy (**recurrence risk high**)

Multiple pregnancy (twins, triplets)

First pregnancy, young maternal age

Maternal obesity

Genetic predisposition (GDF15 variants)

HG is a severe form of NVP, which affects between 0.3 and 3.6% of pregnant women. Is linked to hypersensitivity to GDF15, a placental hormone causing nausea, vomiting, and weight loss. Genetic variants in GDF15, not hCG, are the main risk factor and predict recurrence in future pregnancies.

Hospital admission criteria:

- Inability to maintain hydration or nutrition orally
- Severe electrolyte disturbance
- Significant weight loss
- Uncontrolled vomiting despite outpatient therapy

The Management of Nausea and Vomiting in Pregnancy and Hyperemesis Gravidarum (Green-top Guideline No. 69)

Line	Medication	Dose&Route
First Line	Doxylamine + Pyridoxine (Vitamin B6)	20/20 mg PO at night; increase to additional 10/10 mg in morning and 10/10 mg at lunchtime if required
	Cyclizine	50 mg PO, IM, or IV every 8 hours
	Prochlorperazine	5–10 mg PO every 6–8 hours (or 3 mg buccal); 12.5 mg IM/IV every 8 hours; 25 mg PR daily
	Promethazine	12.5–25 mg PO, IM, or IV every 4–8 hours
	Chlorpromazine	10–25 mg PO, IM, or IV every 4–6 hours
Second Line	Metoclopramide	5–10 mg PO, IV, IM, or SC every 8 hours
	Domperidone	10 mg PO every 8 hours; 30 mg PR every 12 hours
	Ondansetron	4 mg PO every 8 hours or 8 mg PO every 12 hours; 8 mg IV over 15 min every 12 hours; 16 mg PR daily
Third Line	Hydrocortisone	100 mg IV twice daily; once improved, convert to prednisolone 40–50 mg PO daily, taper by 5–10 mg per week

NVP & HYPEREMESIS GRAVIDARUM

APPENDIX IIa: Pregnancy-Unique Quantification of Emesis (PUQE) index

Total score is sum of replies to each of the three questions. PUQE-24 Score: Mild 6; Moderate = 7–12; Severe = 13–15.

Motherisk PUQE-24 scoring system					
In the last 24 hours, for how long have you felt nauseated or sick to your stomach?	Not at all (1)	1 hour or less (2)	2–3 hours (3)	4–6 hours (4)	More than 6 hours (5)
In the last 24 hours have you vomited or thrown up?	I did not throw up (1)	1–2 times (2)	3–4 times (3)	5–6 times (4)	7 or more times (5)
In the last 24 hours how many times have you had retching or dry heaves without bringing anything up?	No time (1)	1–2 times (2)	3–4 times (3)	5–6 times (4)	7 or more times (5)

PUQE-24 Score: Mild 6; Moderate = 7–12; Severe = 13–15.

How many hours have you slept out of 24 hours? Why?_____

On a scale of 0 to 10, how would you rate your wellbeing?_____
0 (worst possible) 10 (The best you felt before pregnancy)

Can you tell me what causes you to feel that way?_____

PAIN & BLEEDING IN PREGNANCY

Causes:

- Miscarriage
- Ectopic pregnancy
- Molar pregnancy
- Cervical/vaginal/vulvar lesions

Red flags:

- Heavy bleeding, heamodinamically instability
- Severe abdominal pain
- Syncope or dizziness
- Suspected ectopic pregnancy

Ectopic pregnancy and miscarriage: diagnosis and initial management

NICE guideline | NG126 | Published: 17 April 2019 | Last updated: 23 August 2023

Check LMP & Vital signs &Physical examination

EPAU referral criteria:

Pain or > 6 weeks gestation or pregnancy of uncertain gestation

Use expectant management for women < 6 weeks who are in pain only and have no RFs:

- return if bleeding conitnues or pain develops
- repeat UPT after 7-10 days and return if positive

Vaginal progesterone 400mg BD to women with UIP confirmed by scan if they have vaginal bleeding and have previously had a miscarriage. Continue until 16 weeks.

HYPERTENSIVE DISORDERS

Hypertension in pregnancy: diagnosis and management

NICE guideline | NG133 | Published: 25 June 2019 | Last updated: 17 April 2023

Chronic (BP > 140/90) – present before 20 weeks

Gestational – develops after 20 weeks

Pre-eclampsia – hypertension + proteinuria (urine PCR > 30mg/mmol). PLGF - new marker!

Prescribe **Aspirin 150mg OD (from 12 weeks until the birth):**

- Women at high risk are those with any of the following:
  - hypertensive disease during a previous pregnancy
  - chronic kidney disease
  - autoimmune disease such as systemic lupus erythematosus or antiphospholipid syndrome
  - type 1 or type 2 diabetes
  - Chronic hypertension
- Advise pregnant women with more than 1 moderate risk factor for pre-eclampsia:
  - nulliparity
  - age 40 years or older
  - pregnancy interval of more than 10 years
  - body mass index (BMI) of 35 kg/m^2 or more at first visit
  - family history of pre-eclampsia
  - Multi-fetal pregnancy

HYPERTENSIVE DISORDERS

Management:

- Stop antihypertensive treatment in women taking ACE inhibitors or ARBs if they become pregnant (preferably within 2 working days of notification of pregnancy)
- Labetalol (CI: asthma)
- Nifedipine (common SEs: palpitations, headache) – always MR
- Methydopa
- AIM BP < 135/85

HYPERTENSIVE DISORDERS

Chronic Hypertension

- Measure blood pressure:
  - daily for the first 2 days after birth
  - at least once between day 3 and day 5 after birth
  - as clinically indicated if antihypertensive treatment is changed after birth
- Aim to keep blood pressure lower than 140/90 mmHg
- Continue antihypertensive treatment, if required
- Review of antihypertensive treatment 2 weeks and 6-8 after the birth
- Stop methydopa within 2 days after the birth and change to an alternative antihypertensive treatment

Gestational Hypertension

- Measure blood pressure:
  - daily for the first 2 days after birth
  - at least once between day 3 and day 5 after birth
  - as clinically indicated if antihypertensive treatment is changed after birth.
- Continue antihypertensive treatment if required
- Advise women that the duration of their postnatal antihypertensive treatment will usually be similar to the duration of their antenatal treatment (but may be longer)
- Reduce antihypertensive treatment if their blood pressure falls below 130/80 mmHg.
- Review of antihypertensive treatment 2 weeks and 6-8 after the birth

Preeclampsia

- Women who have not taken antihypertensive treatment, measure BP:
  - 4 hourly while inpatient
  - at least once between day 3 and day 5 PN
  - On anternate datays until normal, if abnormal on day 3 to 5
  - Starte treatment of BP> 150/100
- Women who have taken antihypertensive treatment:
  - 4 hourly while inpatient
  - every 1 to 2 days for up to 2 weeks after transfer to the community care until the women is off treatment and has no hypertension
  - Consider reducing treatment if BP <140/90 mmHg
  - Reduce if < 130/80
- Review of antihypertensive treatment 2 weeks and 6-8 after the birth

DIABETES

Diabetes in pregnancy: management from preconception to the postnatal period

NICE guideline | NG3 | Published: 25 February 2015 | Last updated: 16 December 2020

Maternal risks:

- Hypoglycaemia (specially 1st T)
- DKA
- Hypertensive disorders (4x higher)
- Infections
- Polyhydramnios
- Preterm labour (spontaneous & iatrogenic)
- Operative delivey
- Postpartum haemorrhage
- Worsening of pre-existing complications (eg retinopathy, nephropathy)

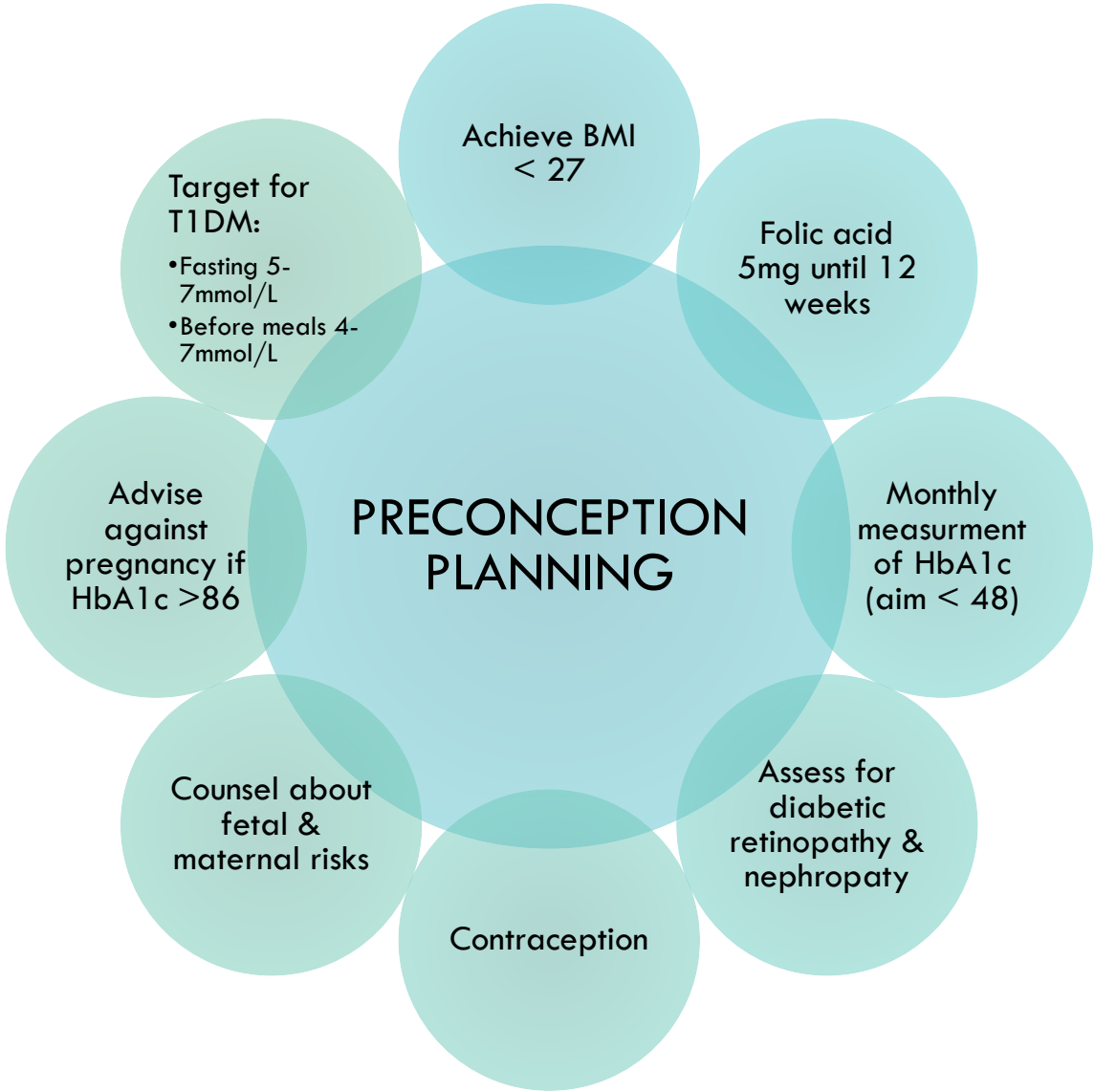
Fetal risks:

- Miscarriage
- Congenital abnormalities (2–4 times higher risk; especially neural tube, cardiac, skeletal, and genitourinary defects. Risk correlates with high HbA1c preconception)
- Fetal growth abnormalities
- Stillbirth
- Birth trauma
- Preterm birth
- Neonatal hypoglycaemia
- Respiratory distress syndrome (even if term, due to delayed lung maturity)
- Neonatal jaundice and polycythaemia (due to chronic intrauterine hypoxia and increased erythropoiesis)
- Perinatal mortality

DIABETES

Refer to nephrologist if:

- serum creatinine is 120 micromol/litre or more **or**
- the urinary albumin:creatinine ratio is greater than 30 mg/mmol **or**
- the estimated glomerular filtration rate (eGFR) is less than 45 ml/minute/1.73 m^2



Stop all oral blood glucose-lowering agents before pregnancy, and use insulin & metformin instead.

Refer to antenatal clinic for counselling if complex!

CASE SCENARIO

Sarah Jones, 30 years old
G2P1
Currently 26 weeks pregnant

Attends her GP with a 2-week history of increased thirst and passing urine more frequently, including waking several times at night. She denies dysuria or abdominal pain. No fever. She feels generally well but more tired than usual.

Relevant History:
Previous pregnancy: uncomplicated, normal vaginal delivery
BMI: 29 kg/m² at booking
No personal history of diabetes, but her mother has type 2 diabetes
Routine anomaly scan at 20 weeks: normal

Examination:
Blood pressure: 110/70 mmHg
Symphysis-fundal height: consistent with dates
No signs of infection
No oedema

GESTATIONAL DIABETES

- Risk factors & indication for screening:
  - BMI of 30 kg/m^2 or over
  - previous macrosomic baby weighing 4.5 kg or more
  - previous gestational diabetes
  - family history of diabetes (first-degree relative with diabetes)
  - an ethnicity with a high prevalence of diabetes.
  - glycosuria of 2+ or above on 1 occasion / glycosuria of 1+ or above on 2 or more occasions.
- Screening methods:
  - OGTT 24-28 weeks until 36 weeks
    - Diagnosis: fasting plasma glucose level of 5.6 mmol/litre or above **or** a 2-hour plasma glucose level of 7.8 mmol/litre or above)
  - Fasting blood glucose & HbA1c after 36 weeks
    - Fasting glucose > 5.6, HbA1c > 39, random glucose >9
  - Finger prick testing if previous bariatric surgery

Aspirin 150mg OD from 12 weeks to T1/T2DM until birth

- **Targets:**
  - fasting: 5.3 mmol/litre **and**
  - 1 hour after meals: 7.8 mmol/litre **or**
  - 2 hours after meals: 6.4 mmol/litre.

GESTATIONAL DIABETES

NHS HEALTHIER YOU
NHS DIABETES PREVENTION PROGRAMME

- **Postnatal management**
  - offer a fasting plasma glucose test 6 to 13 weeks after the birth to exclude diabetes (6-week postnatal check)
  - after 13 weeks offer a fasting plasma glucose test if this has not been done earlier, or an HbA1c test if a fasting plasma glucose test is not possible

- Fasting plasma glucose level below 6.0 mmol/litre
  - low probability of having diabetes at the moment
  - need an annual test to check that their blood glucose levels are normal

- Fasting plasma glucose level between 6.0 mmol/litre and 6.9 mmol/litre that
  - high risk of developing type 2 diabetes
  - interventions in line with the NICE guideline on preventing type 2 diabetes

- Fasting plasma glucose level of 7.0 mmol/litre or above
  - likely to have type 2 diabetes
  - Confirm diagnosis

30 – 50% risk of developing T2DM within 5 years (7x higher)

30 - 80% risk of recurrence in future pregnancies

ANAEMIA IN PREGNANCY

- Physiology:
  - Plasma volume increases by ≈ 40–50% during pregnancy (peaks at ~32 weeks).
  - Red cell mass increases by ≈ 20–30% — but less than plasma volume, leading to haemodilution.
  - This is termed "physiological (dilutional) anaemia of pregnancy."
  - Result: Haemoglobin and haematocrit fall, typically by 10–15%.

- Definition:

Trimester	1st	2nd	3r
Hb (g/L)	<110	<105	<100

- Causes: iron deficiency, folate, B12

- Management:
  - Oral iron (ferrous sulfate)
  - IV iron if intolerant or ineffective – check haematinics!
  - Recheck Hb in 2–4 weeks

INFECTIONS IN PREGNANCY

Urinary Tract Infections

Screen for asymptomatic bacteriuria at booking
Common pathogens: E. coli
Safe antibiotics: Trimethoprim (avoid in 1st trimester), nitrofurantoin (avoid in 3rd trimester), amoxicillin, cephalexin.
Duration of treament: 7 days
Recurrent UTIs: consider prophylaxis
Test of cure

Treat asymptomatic bacteriuria - Risk of preterm birth if untreated

Genital Herpes simplex (BASHH)

Diagnosis prior to pregnancy, incl those with recurrent herpes during pregnancy: aciclovir 400 mg TDS or valaciclovir 500 mg BD from 32 weeks of gestation
Risk of neonatal herpes is 0%–3% for VD
1st and 2nd trimester acquisition (until 27+6): Expectant management (VD) if birth occurs Neonatal traafter 6 weeks; if within 6 weeks of acquisition, recommend caesarean section.
nsmission of HSV is very high at 41%.
Recurrent episodes: 5 day treatment,
Supportive treatment measures using saline bathing, topical lidocaine 2% gel or 5% ointment, and analgesia

Parvovirus/CMV

When to suspect / test
Parvovirus B19: maternal rash, flu-like illness, or known exposure (e.g. nursery/school).
CMV: non-specific viral symptoms, or contact with young children (saliva/urine exposure).

Initial investigations
Send maternal blood for IgM and IgG (both viruses) - cross check with booking bloods
Confirm primary infection with **IgG avidity testing** (CMV) – low IgG avidity: primary infection

CASE SCENARIO

32 years old

G2P1 - previous normal delivery

32 weeks and 3 days

2-day history of fever, malaise, and itchy vesicular rash

Exposed to a child with chickenpox 1 week ago

How would you manage?

INFECTIONS IN PREGNANCY

Chickenpox in Pregnancy

Green-top Guideline no. 13
January 2015 (minor update 2024)

Isolation & Infection Control: Pregnant women with chickenpox should be isolated from other pregnant women and avoid contact with neonates until lesions crust (≈5 days).

Antiviral Therapy: Oral aciclovir recommended if presenting within 24 hours of rash onset and ≥20 weeks gestation; consider earlier if <20 weeks.

Fetal Risk: Infection in the first 28 weeks carries a small risk of fetal varicella syndrome (FVS); refer for discussion and detailed ultrasound at 16–20 weeks or 5 weeks post-infection.

Late Pregnancy Risk: Infection in the last 4 weeks of pregnancy increases neonatal varicella risk. Delay delivery ≥7 days after rash onset to allow maternal antibody transfer, if safe.

Vaccination: Women found seronegative for VZV IgG may receive varicella vaccination pre-pregnancy or postpartum.

Post-Exposure Prophylaxis (PEP): Non-immune women with significant exposure should receive oral aciclovir or valaciclovir from Day 7–14 post-exposure (UKHSA guidance)

- **Urgent hospital referral if:**
  - Respiratory symptoms (e.g., shortness of breath)
  - Neurological symptoms (photophobia, seizures, drowsiness)
  - Haemorrhagic or dense rash, with/without mucosal lesions
- **Consider hospital assessment even without complications if:**
  - Second half of pregnancy
  - Smoking
  - Chronic lung disease
  - Immunosuppressed (including systemic corticosteroids in past 3 months)

MENTAL HEALTH

Antenatal and postnatal mental health: clinical management and service guidance

Clinical guideline | CG192 | Published: 17 December 2014 | Last updated: 11 February 2020

1 in 5 women experience perinatal mental health issues

MBRRACE-UK
Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK

Suicide remains a leading cause of maternal death in the UK, particularly **within the first year after birth.**

- **Screen at booking and postnatally**
  - **Depression screening: Whooley Questions** (2 items)
    - "In the past month, have you often felt down, depressed, or hopeless?"
    - "In the past month, have you often had little interest or pleasure in doing things?"
  - **Positive response / risk / clinical concern:** Full assessment with **EPDS** or **PHQ-9**
    - Referral to GP or mental health professional if severe
  - **Anxiety Screening:**
    - **GAD-2 (2 items)** – initial assessment for anxiety
      - Score ≥3 → **GAD-7** for full assessment or referral
      - Score <3 but concern remains → ask about avoidance; if positive → GAD-7 or referral

- **Red flags: suicidal thoughts, severe anxiety, bonding concerns**

- **Management & Referral:**
  - **Mild:** Monitor, GP support, counselling, CBT
  - **Moderate–Severe:** Refer to **Perinatal Mental Health Team** or secondary mental health services
  - Consider involvement of **midwife, health visitor, obstetric team** for ongoing support

- **Medication:**
  - **Antidepressants:**
    - **SSRIs (e.g. sertraline, citalopram, fluoxetine):** First-line; sertraline preferred (best safety data).
    - **SNRIs (e.g. venlafaxine, duloxetine):** Use if SSRIs not effective; monitor fetal growth.
    - **Tricyclics (e.g. amitriptyline):** Option if SSRIs/SNRIs unsuitable.
    - **B-Blocker (eg.propanolol)** - risk of fetal growth restriction

RED FLAGS

Severe abdominal pain

Vaginal bleeding

Reduced fetal movements

Severe headache, visual changes

BP ≥140/90 mmHg

Suicidal ideation

NEW SERVICE DEVELOPMENTS

Hybrid Closed Loop transitional plan for T1DM

Access to maternal records via badgernet

Ongoing: home BP monitoring

THANK YOU

Any questions?