Management of hypertension in pregnancy

**Risk factors for pre-eclampsia**
- Previous history of pre-eclampsia
- Family history of pre-eclampsia
- Inter-pregnancy interval ≥ 10 years
- Nulliparity and/or multiple pregnancy
- Pre-existing medical conditions
  - Congenital heart defects
  - Pre-existing diabetes
  - Renal disease
  - Chronic hypertension
  - Chronic autoimmune disease
- Age ≥ 40 years
- BMI ≥ 30 kg/m²
- Maternal depression or anxiety
- Assisted reproductive technology
- Gestational trophoblastic disease
- Fetal triploidy

**Indications to consider birth**
- Non-reassuring fetal status
- Severe fetal growth restriction
- Uncontrollable pre-eclampsia
- Eclampsia
- Uncontrollable hypertension
- Placental abruption
- Acute pulmonary oedema
- Deteriorating platelet count, liver and/or renal function
- Persistent neurological symptoms
- Persistent epigastric pain, nausea or vomiting with abnormal liver function tests

**Severe hypertension/pre-eclampsia**
- Multidisciplinary team approach
- Manage in birth suite/HDU
- Strict control of BP
- Maternal and fetal assessments
- Continuous #CTG
- Consider magnesium sulfate
- Consider corticosteroids if preterm labour anticipated
- Strict fluid management
- FBC, ELFT including urate & LDH
- Coagulations screen
- Urine for protein to creatinine ratio if:
  - Spot urine protein to creatinine
  - Urine dipstick for proteinuria
- Fetal wellbeing is of concern
- Consider transfer to higher level facility, if required

**Stabilise prior to birth**
- Control hypertension
- Correct coagulopathy
- Consider eclampsia prophylaxis
- Attention to fluid status

**Postpartum**
- Close clinical surveillance for postpartum hypertension
- Consider VTE prophylaxis
- Consider timing of discharge
- Arrange follow up
- Maternal screening as indicated

**Maternal investigations**
- Urine dipstick for proteinuria
- Spot urine protein to creatinine ratio if:
  - o ≥ 2+ or recurrent 1+ on dipstick
- Full blood count
- Urea, creatinine electrolytes and urate
- LFT including LDH

**Fetal assessment**
- #CTG
- USS for fetal growth & wellbeing

**Initiate antihypertensives**
Commence if:
- sBP ≥ 160 or dBP ≥ 110 mmHg
Consider if:
- sBP ≥ 140 or dBP ≥ 90 mmHg
- Choice of antihypertensive drug as per local preferences/protocols

**Oral antihypertensive (initial dose – adjust as clinically indicated)**
- Methyldopa 125–250 mg bd
- Labelalol 100 mg bd
- Nifedipine (SR) 20–30 mg daily
- Hydralazine 25 mg bd
- Nifedipine (IR) 10–20 mg bd
- Prazosin 0.5 mg bd
- Clonidine 50–100 micrograms bd

**Outpatient care**
- If mild-moderate hypertension without preeclampsia
- Individualise of appointments

**Consider admission if:**
- Fetal wellbeing is of concern
- sBP ≥ 140 mmHg or
- dBP ≥ 90 mmHg or
- Symptoms of pre-eclampsia, or proteinuria or pathology results abnormal

**Inpatient monitoring**
- BP 4 hourly if stable
- #CTG daily
- Ward urinary analysis, as required
- Maintain accurate fluid balance
- Daily review (minimum) by obstetrician
- Normal diet
- Bedrest is not usually recommended
- Consider VTE prophylaxis

ALPS: antiphospholipid syndrome
BMI: body mass index
BP: blood pressure
CTG: cardiotocograph
dBP: diastolic BP
ELFT: electrolytes and liver function test
FBC: full blood count
FHR: fetal heart rate
HDU: high dependency unit
LDH: lactate dehydrogenase
sBP: systolic BP
USS: ultrasound scan
VTE: venous thromboembolism
≥: greater than or equal to
<: less than or equal to