

# Hypertension in pregnancy: criteria for choice of critical care level (hypertension, pre-eclampsia and eclampsia)

## Level 1

- Pre-eclampsia with mild or moderate hypertension.
- Ongoing conservative antenatal management of severe preterm hypertension.
- Step-down treatment after the birth.

## Level 2

- Step-down from level 3 or severe pre-eclampsia with any of following additional features:
- eclampsia
  - HELLP syndrome
  - haemorrhage
  - hyperkalaemia
  - severe oliguria
  - coagulation support
  - intravenous anti-hypertensive treatment
  - initial stabilisation of severe hypertension
  - evidence of cardiac failure
  - abnormal neurology.

## Level 3

Severe pre-eclampsia and needing ventilation.

See the next page on severe hypertension, severe pre-eclampsia and eclampsia in critical care



Originally adapted by the 2010 Guideline Development Group for NICE guideline CG107 from Intensive Care Society (2002) Standards and Guidelines.

# Hypertension in pregnancy: severe hypertension, severe pre-eclampsia and eclampsia in critical care

## Medical management

- Measure BP hourly in women with hypertension, and every 15 to 30 minutes until BP is less than 160/110 mmHg in women with severe hypertension
- Treat women admitted to critical care during pregnancy or after birth immediately with one of:
  - labetalol (oral or intravenous)
  - oral nifedipine
  - intravenous hydralazine
- Continue appropriate ongoing antihypertensive treatment after initial management
- Monitor response to treatment to:
  - ensure BP falls
  - identify adverse effects for woman and fetus
  - modify treatment according to response
- If BP controlled within target ranges, do not routinely limit duration of second stage of labour
- If BP does not respond to initial treatment, consider operative or assisted birth

## Fluid balance and volume expansion

In women with severe pre-eclampsia:

- limit maintenance fluids to 80 ml/hour unless there are other ongoing fluid losses (for example, haemorrhage)
- do not preload with intravenous fluids before establishing low-dose epidural analgesia and combined spinal epidural analgesia
- do not use volume expansion unless hydralazine is antenatal antihypertensive; consider using 500 ml or less crystalloid fluid before or at same time as first dose of hydralazine in antenatal period.

## Magnesium sulfate

- Give intravenous magnesium sulfate if a woman with severe hypertension or severe preeclampsia is having or has recently had an eclamptic fit.
- Consider giving intravenous magnesium sulfate if birth planned within 24 hours in woman with severe pre-eclampsia.
- Do not use diazepam, phenytoin or other anticonvulsants as alternatives to magnesium sulfate in women with eclampsia.

## Regimen for magnesium sulfate

- Loading dose of 4 g given intravenously over 5 to 15 minutes, followed by infusion of 1 g/hour for 24 hours
- Further dose of 2 to 4 g given over 5 to 15 minutes if recurrent seizures



Nifedipine: at the time of publication (June 2019), some brands of nifedipine were specifically contraindicated during pregnancy by the manufacturer in its summary of product characteristics (SPC). Refer to the individual SPCs for each preparation of nifedipine for further details.

Magnesium sulfate regimen: also see The Eclampsia Trial Collaborative Group (1995) Which anticonvulsant for women with eclampsia? Evidence from the Collaborative Eclampsia Trial. *Lancet* 345:1455–1463.

The MHRA has issued a warning about the risk of skeletal adverse effects in the neonate following prolonged or repeated use of magnesium sulfate in pregnancy. Maternal administration of magnesium sulfate for longer than 5 to 7 days in pregnancy has been associated with skeletal adverse effects and hypocalcaemia and hypermagnesaemia in neonates. If use of magnesium sulfate in pregnancy is prolonged or repeated, consider monitoring of neonates for abnormal calcium and magnesium levels and skeletal adverse effects.