# PREECLAMPSIA QUICK REFERENCE GUIDE



## HIGH RISK FOR PREECLAMPSIA

Preeclampsia in a previous pregnancy, multiple pregnancy, pre-existing medical condition.

## ADDITIONAL RISK FACTORS

Obesity, BMI > 35, vascular & connective tissue disorders, maternal age <18 or >35, nulliparity, family history of preeclampsia, new partner.

## PREVENTATIVE SUPPLEMENTS

Low dose Aspirin 75-150mg/day.
Calcium 1g/day.

## DIAGNOSING PREECLAMPSIA

**Renal:** proteinuria: ≥ 1+ on dipstick, proteinuria confirmed by laboratory testing of a spot urine protein/creatinine ratio of ≥ 30mg/mmol or 24 hour urine collection ≥ 300mg, oliguria i.e. <500mL/24 hours or <20mL/hour, serum or plasma creatinine > 0.09mmol/L or 90µmol/L., rapid weight gain with or without generalised oedema.
**Haematological:** thrombocytopaenia: platelet count < $100x10^9$, coagulation profile derangement **(only taken if platelet count is low)** HELLP syndrome, disseminated intravascular coagulation.
**Hepatic:** nausea and/or vomiting, upper abdominal pain, often at the right upper quadrant, raised transaminase >70iu/L.
**Neurological:** headache and/or visual disturbances, hyperreflexia with clonus, convulsions (eclampsia).

## POTENTIAL FETAL CONSEQUENCES

Reduced fetal movements. Abnormal fetal heart rate on CTG, AFI, Asymmetrical growth restriction, Increased resistance, absent or reversed end diastolic flow on umbilical artery Dopplers, low BPP score.

## MATERNAL AND FETAL SURVEILLANCE

Maternal: Bloods - Daily to weekly.
Review for new symptoms or signs. Blood pressure, urinalysis for protein, bloods for preeclampsia screen. i.e. FBE, urea and creatinine, liver function tests.
Fetal: Daily to fortnightly CTG, umbilical artery Dopplers, AFI, growth and biometry.

## ANTIHYPERTENSIVE THERAPY

When B/P exceeds 140/90mmHg, increase surveillance and consult with experienced colleagues before considering therapy. Definitely commence therapy with B/P > 160/100mmHg.

| Medication | Dose | 24 hrs max. |
|---|---|---|
| Methyldopa | 250mg-500mg bd-qid | 3-4g |
| Labetalol | 100-400mg bd-qid | 1600mg |
| Nifedipine SR | 10mg-20mg bd-tds | 120mg |

## URGENT CONTROL OF BLOOD PRESSURE

| Medication | Dose | 24 hrs max. |
|---|---|---|
| **IV Labetalol (Avoid in Asthmatics)** | **20mg in 2 mins Repeat every 10 mins.** | **300mg** |
| **Labetalol Infusion** | **20-160mg/hr titrated until optimal B/P is achieved** | **300mg** |

**Add 40mL labetalol to 160mL of .9% NaCl. This = 200mL of solution & = 200mg Labetalol - 1mg/mL.**

**IV Hydralazine 5-10mg in 5-20 mins. Repeat every 20-30 mins. for 2 doses. Hydralazine infusion 5mg/hr until optimal B/P control.**

## PROPHYLAXIS FOR ECLAMPSIA

**Medication**

**Loading dose; $MgSO_4$ IV 4g over 10-15 mins.**

**Maintenance infusion: $MgSO_4$ IV 1g/hour.**

**Recurrent seizures: $MgSO_4$ IV 2g bolus or increase maintenance infusion to 1.5-2g/hr.**

## MONITORING DURING A $MgSO_4$ INFUSION

- ½ hourly blood pressure, pulse, respiratory rate in the acute phase.
- 1 hourly patellar reflexes.
- 1 hourly urine output measurement, via IDC + 4 hourly testing of urinary protein.
- 2 hourly temperature.
- Continuous electronic fetal monitoring.
- ECG and $O_2$ saturation monitoring should be considered.

## $MgSO_4$ SIGNS OF TOXICITY

- Suppression or loss of patellar reflexes
- Drowsiness.
- Respiratory depression.
- Loss of consciousness.

To treat toxicity, stop the infusion and give Calcium Gluconate 1 g (10 ml) IV over 10 mins. Take Magnesium levels to confirm that altered state is due to $MgSO_4$ and not another cause.

## STEROIDS FOR FETAL LUNG MATURATION

Recommended if <34 weeks gestation. Betamethasone 11.4mg I.M. injection daily, for two days. Clinicians may also consider administering antenatal glucocorticoids to women at 34-36weeks.

## INDICATIONS FOR EXPEDITING BIRTH

Deliver if severe regardless of gestation. In mild or moderate preeclampsia, conservative management should be considered, particularly if <34 weeks gestation.
If 34–36 weeks gestation with non-severe preeclampsia, there is insufficient evidence to make a recommendation about the benefits or risks of expectant management.
If ≥ 37 weeks, women with severe or non-severe preeclampsia – consider expediting birth.

## MODE OF BIRTH

If ≥ 34 weeks gestation, vaginal birth is optimal if not contraindicated. If <32 weeks gestation, the success of induction is reduced and a caesarean section may be necessary.

## THIRD STAGE OF LABOUR

Active management of the 3rd stage, with 10iu of intramuscular oxytocin. (Syntocinon) Or alternatively, 5iu may be given as a **slow** intravenous injection.

## FLUID MANAGEMENT

- Strict fluid balance charting.
- Restrict total fluid intake to 80mL/hr.
- In severe preeclampsia/eclampsia – An indwelling urinary catheter with hourly readings.
- Observe for oliguria - <20mL/hour for 3 or more hours.
- Observe for pulmonary oedema.

## REGIONAL ANALGESIA/ANAESTHESIA

- Regional analgesia/anaesthesia is considered appropriate in the absence of a coagulopathy.
- Preloading of fluids is not advised.
- Early referral to an anaesthetist is recommended.

## POST PARTUM CARE

- MgSO4 should continue for a minimum of 24 hours following birth or after the last seizure whichever is later.
- Titrate down antihypertensive therapy.
- Maintain blood pressure at less than 160/110mmHg. For cases of severe preeclampsia, the woman should remain in hospital for at least 4 days.

## FOLLOW UP

- Appropriate and timely communication with the community health provider, who should continue to monitor B/P and manage antihypertensive therapy.
- Severe preeclampsia - 6 week obstetric review.
- Refer to appropriate specialist if there is persistent hypertension or proteinuria.
- Preconception counselling for subsequent pregnancies.