MANAGEMENT OF WOMEN

WITH PRE-ECLAMPSIA AND ECLAMPSIA

WHO recommendations for the use of Magnesium Sulphate
at the primary health care level

Extract from WHO’s Essential Care Practice Guidelines for Pregnancy and Childbirth

May 2006
# Antenatal Care

## CHECK FOR PRE-ECLAMPSIA

<table>
<thead>
<tr>
<th><strong>ASK:</strong></th>
<th><strong>LOOK AND FEEL:</strong></th>
</tr>
</thead>
</table>
|  | • Measure blood pressure in sitting position.  
  • If diastolic blood pressure is 90 mmHg or greater, repeat after 1 hour rest and |

Do you have -  
- Severe headache  
- Blurred vision  
- Epigastric pain  

If abnormal  

### SIGNS  |  **CLASSIFY**  |  **TREAT AND ADVISE**
--- | --- | ---
• Diastolic blood pressure 110 mmHg or greater and 3+ proteinuria, or  
• Diastolic blood pressure 90 mmHg or greater and 2+ proteinuria, and any of:  
  - severe headache or  
  - blurred vision or  
  - epigastric pain  | SEVERE PRE-ECLAMPSIA | ➢ Give magnesium sulphate (p.4)  
➢ Refer URGENTLY to hospital. |
• Diastolic blood pressure 90 - 110 mmHg on two readings and 2+ proteinuria  | PRE-ECLAMPSIA | ➢ Refer to hospital. |
• Diastolic blood pressure 90 mmHg or greater on two settings  | HYPERTENSION | ➢ Advise to reduce workload and rest.  
➢ Advise on danger signs.  
➢ Reassess at the next antenatal visit or in 1 week if >8 months pregnant.  
➢ If hypertension persists after 1 week or at next visit, refer to hospital or discuss case with doctor or midwife, if available. |
**CHECK FOR PRE-ECLAMPSIA**

**ASK**
- Do you have -
  - Severe headache
  - Blurred vision
  - Epigastric pain

**LOOK, FEEL, CHECK RECORD:**
- If diastolic blood pressure is 90 mmHg or greater, repeat after 1 hour rest.
- Check protein in urine
- History of pre-eclampsia or eclampsia in pregnancy, during delivery or after delivery?

If abnormal

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<tr>
<th>SIGNS</th>
<th>CLASSIFY</th>
<th>TREAT AND ADVISE</th>
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</thead>
<tbody>
<tr>
<td>• Diastolic BP 110 mmHg or greater or</td>
<td>SEVERE</td>
<td>➢ Give magnesium sulphate (p.4)</td>
</tr>
<tr>
<td>• Diastolic BP 90 mmHg or greater and 2+ proteinuria and any of:</td>
<td>PRE-ECLAMPSIA</td>
<td>➢ If in early labour or postpartum, refer URGENTLY to hospital</td>
</tr>
<tr>
<td>- severe headache or</td>
<td></td>
<td>➢ If late labour:</td>
</tr>
<tr>
<td>- blurred vision or</td>
<td></td>
<td>- Continue magnesium sulphate treatment</td>
</tr>
<tr>
<td>- epigastric pain</td>
<td></td>
<td>- Monitor blood pressure every hour</td>
</tr>
<tr>
<td>• Diastolic blood pressure 90 - 110 mmHg on two readings</td>
<td>PRE-ECLAMPSIA</td>
<td>- DO NOT give ergometrine after delivery.</td>
</tr>
<tr>
<td>• 2+ proteinuria (on admission)</td>
<td></td>
<td>➢ Refer URGENTLY to hospital after delivery</td>
</tr>
<tr>
<td>• Diastolic blood pressure 90 mmHg or greater on two readings</td>
<td>HYPERTENSION</td>
<td>➢ Monitor blood pressure every hour</td>
</tr>
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<td></td>
<td></td>
<td>➢ DO NOT give ergometrine after delivery</td>
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<tr>
<td></td>
<td></td>
<td>➢ If blood pressure remains high after delivery, refer to hospital.</td>
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</tbody>
</table>

2
Give magnesium sulphate
If eclampsia or severe pre-eclampsia

IV/IM combined dose (loading dose)

- Insert IV-line and give fluids slowly (normal saline or Ringer’s lactate)
- Give 4 g of magnesium sulphate (20 ml of 20% MgSO4 solution) IV slowly over 5-10 minutes. (Patient may feel warm during injection.)

AND:

- Give 10 g of magnesium sulphate IM: give 5 g (10 ml of 50% MgSO4 solution) IM deep in upper outer quadrant of each buttock with 1 ml of 2% lignocaine in the same syringe.

If unable to give IV, give IM only (loading dose)

- Give 10 g of magnesium sulphate IM: give 5 g (10 ml of 50% MgSO4 solution) IM deep in upper outer quadrant of each buttock with 1 ml of 2% lignocaine in the same syringe.

If convulsions persist/recur

- After 15 minutes give an additional 2g of magnesium sulphate (10 ml of 20% MgSO4 solution) IV over 20 minutes. If convulsions still continue, give diazepam.

If referral is delayed for long or the woman is in late labour, continue treatment

- Give 5 grams of 50% magnesium sulphate solution IM with 1 ml of 2% lignocaine every 4 hours in alternate buttocks until 24 hours after birth or after last convulsion (whichever is later).
- Monitor urine output: collect urine and measure the quantity
- Before giving the next dose of magnesium sulphate, ensure:
  - knee jerk is present
  - urine output > 100ml/4hrs
  - respiratory rate > 16/min
- **DO NOT** give the next dose if any of these signs:
  - knee jerk is absent
  - urine output < 100ml/4hrs
  - respiratory rate < 16/min
- Record findings and drugs given.

<table>
<thead>
<tr>
<th>Dose</th>
<th>Formulation of magnesium sulphate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>50% solution:</td>
</tr>
<tr>
<td></td>
<td>vial containing 5 g in 10 ml (1g/2ml)</td>
</tr>
<tr>
<td>IM</td>
<td>5 g</td>
</tr>
<tr>
<td>IV</td>
<td>4 g</td>
</tr>
<tr>
<td></td>
<td>2 g</td>
</tr>
<tr>
<td></td>
<td>20% solution:</td>
</tr>
<tr>
<td></td>
<td>to make 10 ml of 20% solution, add</td>
</tr>
<tr>
<td></td>
<td>4 ml of 50% solution to 6 ml of</td>
</tr>
<tr>
<td></td>
<td>sterile water</td>
</tr>
<tr>
<td>IM</td>
<td>Not applicable</td>
</tr>
<tr>
<td>IV</td>
<td>20 ml</td>
</tr>
<tr>
<td></td>
<td>10 ml</td>
</tr>
</tbody>
</table>

After receiving magnesium sulphate a woman may feel flushing, thirst, headache, nausea or may vomit.
**Important considerations in caring for a woman with eclampsia or pre-eclampsia:**

- Do not leave the woman on her own
  - Help her into the left side position and protect her from fall and injury
  - Place padded tongue blades between her teeth to prevent a tongue bite, and secure it to prevent aspiration (DO NOT try this during a convulsion).

- **The only effective treatment for eclampsia is delivery.**

- Give magnesium sulphate slowly over 20 minutes. **Rapid injection can cause respiratory failure or death.**

- If respiratory depression (breathing less than 16/min) occurs after magnesium sulphate, do not give any more magnesium sulphate. **Give the antidote: calcium gluconate 1 gram IV (10 ml of 10% solution) over 10 minutes**

- **DO NOT** give IV fluids rapidly

- **Refer urgently to hospital** unless delivery is imminent
  - If delivery is imminent, deliver the baby first and accompany the woman during transport to the hospital
  - Keep her in the left side position
  - If a convulsion occurs during the journey, give magnesium sulphate and protect her from fall or injury