



**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

**CHECK FOR PRE-ECLAMPSIA**

<p><b>ASK:</b></p>   <p><b>Do you have -</b></p> <ul style="list-style-type: none"> <li>• Severe headache</li> <li>• Blurred vision</li> <li>• Epigastric pain</li> </ul>	<p><b>LOOK AND FEEL:</b></p> <ul style="list-style-type: none"> <li>• Measure blood pressure in sitting position.</li> <li>• If diastolic blood pressure is 90 mmHg or greater, repeat after 1 hour rest and</li> </ul>   <ul style="list-style-type: none"> <li>• Check protein in urine</li> </ul>
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SIGNS	CLASSIFY	TREAT AND ADVISE
<ul style="list-style-type: none"> <li>• Diastolic blood pressure 110 mmHg or greater and 3+ proteinuria,</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>• Diastolic blood pressure 90 mmHg or greater and 2+ proteinuria, and any of:                             <ul style="list-style-type: none"> <li>– severe headache or</li> <li>– blurred vision or</li> <li>– epigastric pain</li> </ul> </li> </ul>	<p><b>SEVERE PRE-ECLAMPSIA</b></p>	<ul style="list-style-type: none"> <li>➤ Give magnesium sulphate (p.4)</li> <li>➤ Refer <b>URGENTLY</b> to hospital.</li> </ul>
<ul style="list-style-type: none"> <li>• Diastolic blood pressure 90 - 110 mmHg on two readings and 2+ proteinuria</li> </ul>	<p><b>PRE-ECLAMPSIA</b></p>	<ul style="list-style-type: none"> <li>➤ Refer to hospital.</li> </ul>
<ul style="list-style-type: none"> <li>• Diastolic blood pressure 90 mmHg or greater on two settings</li> </ul>	<p><b>HYPERTENSION</b></p>	<ul style="list-style-type: none"> <li>➤ Advise to reduce workload and rest.</li> <li>➤ Advise on danger signs.</li> <li>➤ Reassess at the next antenatal visit or in 1 week if &gt;8 months pregnant.</li> <li>➤ If hypertension persists after 1 week or at next visit, refer to hospital or discuss case with doctor or midwife, if available.</li> </ul>

## Labour, Delivery and Immediate Postpartum Care

### CHECK FOR PRE-ECLAMPSIA

<p><b>ASK</b></p>   <p><b>Do you have -</b></p> <ul style="list-style-type: none"> <li>• Severe headache</li> <li>• Blurred vision</li> <li>• Epigastric pain</li> </ul>	<p><b>LOOK, FEEL, CHECK RECORD:</b></p> <ul style="list-style-type: none"> <li>• If diastolic blood pressure is 90 mmHg or greater, repeat after 1 hour rest.</li> <li>• Check protein in urine</li> <li>• History of pre-eclampsia or eclampsia in pregnancy, during delivery or after delivery?</li> </ul>
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***If abnormal***

SIGNS	CLASSIFY	TREAT AND ADVISE
<ul style="list-style-type: none"> <li>• Diastolic BP 110 mmHg or greater or</li> <li>• Diastolic BP 90 mmHg or greater and 2+ proteinuria and any of:               <ul style="list-style-type: none"> <li>- severe headache or</li> <li>- blurred vision or</li> <li>- epigastric pain</li> </ul> </li> </ul>	<p><b>SEVERE PRE-ECLAMPSIA</b></p>	<ul style="list-style-type: none"> <li>➤ <b>Give magnesium sulphate (p.4)</b></li> <li>➤ If in early labour or postpartum, <b>refer URGENTLY to hospital</b></li> <li>➤ <b>If late labour:</b> <ul style="list-style-type: none"> <li>- Continue magnesium sulphate treatment</li> <li>- Monitor blood pressure every hour</li> <li>- <b>DO NOT</b> give ergometrine after delivery.</li> </ul> </li> <li>➤ <b>Refer URGENTLY to hospital after delivery</b></li> </ul>
<ul style="list-style-type: none"> <li>• Diastolic blood pressure 90 - 110 mmHg on two readings</li> <li>• 2+ proteinuria (on admission)</li> </ul>	<p><b>PRE-ECLAMPSIA</b></p>	<ul style="list-style-type: none"> <li>➤ If early labour, <b>refer URGENTLY to hospital.</b></li> <li>➤ If late labour:               <ul style="list-style-type: none"> <li>- Monitor intensively</li> <li>- <b>DO NOT</b> give ergometrine after delivery</li> </ul> </li> <li>➤ -If blood pressure remains high after delivery, <b>refer to hospital.</b></li> </ul>
<ul style="list-style-type: none"> <li>• Diastolic blood pressure 90 mmHg or greater on two readings</li> </ul>	<p><b>HYPERTENSION</b></p>	<ul style="list-style-type: none"> <li>➤ Monitor blood pressure every hour</li> <li>➤ <b>DO NOT</b> give ergometrine after delivery</li> <li>➤ -If blood pressure remains high after delivery, <b>refer to hospital.</b></li> </ul>

## **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% MgSO<sub>4</sub> 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% MgSO<sub>4</sub> 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% MgSO<sub>4</sub> 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% MgSO<sub>4</sub> solution) IV over 20 minutes. If convulsions still continue, give diazepam.

#### **If referral is delayed for long or the women 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.

Dose		Formulation of magnesium sulphate	
		50% solution: vial containing 5 g in 10 ml (1g/2ml)	20% solution: to make 10 ml of 20% solution, add 4 ml of 50% solution to 6 ml of sterile water
<b>IM</b>	5 g	10 ml and 1 ml 2% lignocaine	Not applicable
<b>IV</b>	4 g	8 ml	20 ml
	2 g	4 ml	10 ml

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