

**G-MAGSULPH INJECTION**  
**G-MAGSULPH INFUSION**  
(Magnesium sulphate heptahydrate BP)

**DESCRIPTION**

Magnesium is an essential constituent of many enzyme systems, particularly those involved in energy generation; the largest stores are in the skeleton.  
In each 5 ml ampoule of G-Magsulph Injection contains 50% solution of Magnesium sulphate heptahydrate BP ( $Mg^{2+}$  approx. 2 mmol/ml), total 2.47gm.  
In each 100 ml bottle of G-Magsulph Infusion contains 4% solution of Magnesium sulphate heptahydrate BP ( $Mg^{2+}$  approx. 0.16 mmol/ml), total 4g.

**HYPOMAGNEAEMIA**

Since magnesium is secreted in large amounts in the gastro-intestinal fluid, excessive losses in diarrhoea, stoma or fistula are the most common causes of hypomagnesaemia, deficiency may also occur in alcoholism or as a result of treatment with certain drugs. Hypomagnesaemia often causes secondary hypocalcaemia and also hypokalaemia and hyponatraemia.

**PRECAUTION**

Magnesium salts should be administered with caution to patients with impaired renal function or those receiving digitalis glycosides. Parenteral administration of magnesium salts may enhance the effect of neuromuscular blocking agents or of central nervous system depressants.  
Monitor blood pressure, respiratory rate, urinary output and for signs of over dosage like loss of patellar reflex, weakness, nausea, sensation of warmth, flushing of skin, drowsiness, double, vision and slurred speech.

**CONTRA-INDICATIONS**

Excessive administration of magnesium sulphate is contraindicated in renal failure.

**SIDE-EFFECTS**

Excessive administration of magnesium leads to the development of hypermagnesaemia. Symptoms of hypermagnesaemia may include nausea, vomiting, flushing of the skin, thirst, hypotension due to peripheral vasodilatation, drowsiness, confusion, muscle weakness etc.

**CLINICAL PHARMACOLOGY AND USES**

Magnesium is given initially by intravenous infusion or by intramuscular injection of Magnesium sulphate. The intramuscular injection is painful. Plasma magnesium concentration should be measured to determine the rate and duration of infusion and the dose should be reduced in renal impairment. Intravenous administration concentration

of magnesium sulphate should not exceed 20%. Dilute 1 part of magnesium sulphate injection 50% with at least 1.5 parts of water for injection.

**Eclampsia and pre-eclampsia**

Magnesium sulphate is the drug of choice for the prevention of recurrent seizures in eclampsia, initially by intravenous injection over 5-15 minutes, 4g followed by intravenous infusion, 1g/hour for at least 24 hours after last seizure; if seizure occurs, additional dose of intravenous injection of 2g. (Regimens may vary between hospitals; calcium gluconate injection is used for the management of magnesium toxicity).

**Arrhythmias**

Magnesium sulphate has also been recommended for the emergency treatment of serious arrhythmias, especially in the presence of hypokalaemia (when hypomagnesaemia may also be present) and when salvos of rapid ventricular tachycardia show the characteristic twisting wave front known as torsades de pointes. The usual dose of magnesium sulphate by intravenous injection is 8 mmol  $Mg^{2+}$  over 10-15 minutes (repeated if necessary).

**Myocardial Infarction**

Evidence suggesting a sustained reduction in mortality in patients with suspected myocardial infarction given an initial intravenous injection of magnesium sulphate 8 mmol  $Mg^{2+}$  over 20 minutes followed by an intravenous infusion of 65-72 mmol  $Mg^{2+}$  over the following 24 hours, has not been borne out by a larger study. Some, however, continue to hold the view that magnesium is beneficial if given immediately (and for as long as beneficial likelihood of reperfusion taking place).

**Severe Asthma**

Severe asthma may be helped by intravenous infusion of magnesium sulphate 1.2-2g over 20 minutes.

**USES IN PREGNANCY**

Magnesium sulphate is not known to be harmful for short-term intravenous administration in eclampsia but excessive doses cause neonatal respiratory depression,.

**PACKING**

G-Magsulph Injection : 5 ml ampoule x 5 in a box.  
G-Magsulph infusion : 100 ml bottle x 1 in a carton.



Included in WHO  
Essential Drugs List

Manufactured by :

**Gonoshasthaya Pharmaceuticals Ltd.**  
Mirzanagar via Savar Cantt., Savar, Dhaka-1344, Bangladesh