

Magnesium sulfate relaxes the central nervous system, decreases hyperreflexia and may result in decreased deep tendon reflexes. The patient should be assessed for skeletal muscle weakness and hypotonia.

### Decreased Respiratory Rate

[Down-arrow Lungs](#)

Magnesium sulfate causes respiratory depression as a result of its impact on the central nervous system. A slower respiratory rate can contribute to hypercapnia and hypoxemia.

### Decreased Urine Output

[Down-arrow Urinal](#)

Magnesium sulfate increases incidence of hypotension leading to decreased cardiac and urine output. Urine output decreases when renal perfusion is altered as a result of lowered blood pressure and cardiac output. Magnesium toxicity can develop if the kidneys cannot effectively manage magnesium in the bloodstream due to falling renal perfusion.

### Paralytic Ileus

[Wheelchair Eels](#)

At high doses, parenteral administration of magnesium sulfate has been associated with the development of a paralytic ileus, although this is a rare side effect.

## Antidote

### Calcium Gluconate

[Calcium-cow with Glue-cone](#)

Magnesium toxicity is managed through administration of intravenous calcium gluconate. Untreated magnesium toxicity may lead to cardiac arrest. Calcium opposes the effect of magnesium: increasing muscular contractions and reversing the effect of hypermagnesemia.