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Magnesium sulfate in maternity care Initial assessment

Pharmacology-related Cases | Initial assessment

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Fictional educational example. Individualize using verified patient findings, authorized treatment and current local protocols. No real patient record or observed outcome is claimed.

Patient profile and history

28-year-old woman receiving magnesium sulfate for severe pre-eclampsia. Care stage: At the first supervised assessment.

Medical history: Fictional obstetric history: G1P0 at 34 weeks with severe pre-eclampsia. Magnesium sulfate is being administered under a monitored maternity protocol. No known drug allergy is reported in this fictional interview; this does not replace medicine-by-medicine verification in real care.

Surgical history: No previous major operation is reported in this fictional interview. Confirm procedure details, complications and any relevant devices when applying the exercise.

Personal and family assessment: The patient wants to regain the usual level of independence. Review available support, daily activities, treatment access and preferred language rather than assuming these are the same for every person.

Scenario: The patient or caregiver wants to know which concern needs attention first.

Clinical assessment

Subjective: Feels flushed and asks why close observations are needed.

Objective findings and required checks: Respiration, reflexes, consciousness and urine output require protocol-based monitoring.

Physical examination and investigations: Review the indication, infusion order, renal function and protocol-defined toxicity observations.

Supply actual values, units, timing and trends during supervised application. Do not invent missing clinical data.

Clinical focus and pathophysiology

Magnesium sulfate in maternity care: Magnesium reduces seizure risk in the indicated maternity setting; accumulation may depress neuromuscular and respiratory function.

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Medical / surgical management

Use an appropriately checked infusion, monitor as prescribed and escalate suspected toxicity immediately.

Illustrative drug and treatment study

Medicine / treatment	Purpose	Nursing checks
Magnesium sulfate	Prevent or treat eclamptic seizures when indicated	Verify preparation/rate and monitor respiration, reflexes and urine
prescribed calcium treatment if indicated	Manage magnesium toxicity under emergency orders	Follow the authorized protocol.

Treatment examples are not a prescription. Verify the authorized product, dose, route, timing, contraindications and current local product information.

Nursing process - ADPIE

Assessment

Feels flushed and asks why close observations are needed. Respiration, reflexes, consciousness and urine output require protocol-based monitoring. The patient or caregiver wants to know which concern needs attention first.

Nursing diagnosis

Prioritize possible treatment-related harm requiring prompt assessment; vulnerability to injury during seizure activity; breathing difficulty affecting oxygenation; learning needs about the condition and care plan. Validate each concern against assessment. For an actual problem, link the problem, contributing factors and observed cues; for a risk problem, document the risk factors without invented symptoms.

Planning

After the first indicated intervention, at the documented review time: document a patient-specific baseline and measurable target. Agree short- and longer-term outcomes with the patient/caregiver; physiological safety takes priority over teaching and discharge tasks.

Implementation

Use an appropriately checked infusion, monitor as prescribed and escalate suspected toxicity immediately. Establish the immediate clinical priorities and verify the baseline before assuming a diagnosis. Document care, prescribed treatment, consent and escalation.

Evaluation

Compare reassessment with each stated outcome. Mark met, partly met or not met using observed evidence, document the review time and revise the plan. This

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vignette provides no completed patient outcome.

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Nursing care plan

Nursing diagnoses use original clinical problem wording. They are not the licensed NANDA-I classification. Verify any formal label or code against your institution's licensed current edition; select actual or risk diagnoses only when supported by assessment.

Context task: Establish the immediate clinical priorities and verify the baseline before assuming a diagnosis.

Set individualized measurable targets and an exact review time. Select actual or risk statements only when supported by assessment.

Assessment: subjective / objective	Nursing diagnosis: original problem wording	Short- and longer-term goals	Nursing interventions with rationale	Evaluation
Ask: Ask about medicine names, timing, symptoms and non-prescribed products. Assess: Review observations, medication record and relevant drug-specific investigations.	Possible treatment-related harm requiring prompt assessment. Possible factors: adverse medication effects or an administration problem. Validate against the patient's assessment.	Short-term: After the first indicated intervention, at the documented review time: The suspected adverse event is escalated and no further avoidable exposure occurs. Longer-term: Before the clinically approved transition or agreed follow-up: Explains the revised medication plan and warning symptoms before discharge.	1. Assess airway, breathing, circulation and the time course of symptoms. Rationale: Serious adverse reactions require immediate stabilization. 2. Escalate suspected toxicity and follow the authorized hold, monitoring or antidote instructions. Rationale: Treatment decisions depend on the drug and clinical severity. 3. Document and communicate the reaction and reconcile the medicine list. Rationale: Accurate records reduce repeat exposure and support pharmacovigilance. 4. Use an appropriately checked infusion, monitor as prescribed and escalate suspected toxicity immediately. Rationale: Magnesium reduces seizure risk in the indicated maternity setting; accumulation may depress neuromuscular and respiratory function. The condition-specific plan addresses the underlying problem while response is monitored.	Record the baseline and reassessed finding, the time and whether this goal is met, partly met or not met. If not met, reassess causes and revise or escalate. Do not record an unobserved improvement.

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Assessment: subjective / objective	Nursing diagnosis: original problem wording	Short- and longer-term goals	Nursing interventions with rationale	Evaluation
Ask: Ask about warning symptoms, seizure history and prescribed treatment. Assess: Observe consciousness, seizure features, duration and recovery.	Vulnerability to injury during seizure activity. Possible factors: altered neurological activity or the underlying condition. Validate against the patient's assessment.	Short-term: After the first indicated intervention, at the documented review time: The patient is protected from avoidable injury and urgent prolonged activity is escalated. Longer-term: Before the clinically approved transition or agreed follow-up: Patient or caregiver explains the individualized seizure first-aid and follow-up plan.	1. Time and describe seizure activity and call for urgent help according to protocol. Rationale: Duration and recovery help identify an emergency. 2. Protect from nearby hazards, avoid restraint and place nothing in the mouth. Rationale: These actions reduce avoidable trauma and airway obstruction. 3. Support airway assessment, appropriate recovery positioning and prescribed emergency care. Rationale: Breathing and circulation may be compromised during or after a seizure.	Record the baseline and reassessed finding, the time and whether this goal is met, partly met or not met. If not met, reassess causes and revise or escalate. Do not record an unobserved improvement.
Ask: Ask about breathlessness, chest tightness and activity tolerance. Assess: Record respiratory rate, effort, SpO2 and mental state against the prescribed target.	Breathing difficulty affecting oxygenation. Possible factors: altered ventilation or gas exchange. Validate against the patient's assessment.	Short-term: After the first indicated intervention, at the documented review time: Breathing effort improves and oxygenation remains within the individualized target. Longer-term: Before the clinically approved transition or agreed follow-up: Explains the respiratory action plan and demonstrates the prescribed device technique.	1. Reassess work of breathing and response to each intervention. Rationale: Trend changes identify deterioration earlier than a single reading. 2. Position to ease breathing, cluster care and allow rest. Rationale: This can reduce respiratory demand and distress. 3. Give oxygen and respiratory medicines only according to the clinical prescription or emergency protocol. Rationale: Individualized treatment supports oxygenation without unsafe blanket targets.	Record the baseline and reassessed finding, the time and whether this goal is met, partly met or not met. If not met, reassess causes and revise or escalate. Do not record an unobserved improvement.

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Assessment: subjective / objective	Nursing diagnosis: original problem wording	Short- and longer-term goals	Nursing interventions with rationale	Evaluation
Ask: Ask what the learner already knows and wants to understand. Assess: Use teach-back or demonstration to identify specific gaps.	Learning needs about the condition and care plan. Possible factors: new information, complex treatment or limited prior teaching. Validate against the patient's assessment.	Short-term: After the first indicated intervention, at the documented review time: Explains the most important immediate action in their own words. Longer-term: Before the clinically approved transition or agreed follow-up: Demonstrates the agreed care skills and names follow-up and warning signs.	1. Assess language, literacy, hearing, vision and preferred learning method. Rationale: Accessible teaching improves understanding. 2. Teach a few condition-specific points using plain language and demonstration. Rationale: Focused information is easier to retain and apply. 3. Use teach-back, correct misunderstandings and provide an accessible written plan. Rationale: Checking understanding supports safer self-management. 4. Explain the purpose, observation needs and symptoms to report; continued care follows the maternity team. Rationale: Condition-specific teaching connects the treatment plan to safe continuing care.	Record the baseline and reassessed finding, the time and whether this goal is met, partly met or not met. If not met, reassess causes and revise or escalate. Do not record an unobserved improvement.

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Health education and continuing care

Explain the purpose, observation needs and symptoms to report; continued care follows the maternity team.

Transition only after clinical readiness is confirmed. Reconcile medicines, check access and caregiver support, and document who will review the patient and when.

Urgent warning signs

Respiratory depression, absent reflexes with concern, oliguria or reduced consciousness requires immediate maternity emergency review.

Evaluation and conclusion

For each goal, document met, partly met or not met using observed evidence and the review time. Reassess and revise if progress is inadequate. Individual assessment, prioritized care and coordinated review guide this topic.

Quick Revision

- Magnesium reduces seizure risk in the indicated maternity setting; accumulation may depress neuromuscular and respiratory function.

- Priority concerns: Possible treatment-related harm requiring prompt assessment; Vulnerability to injury during seizure activity; Breathing difficulty affecting oxygenation; Learning needs about the condition and care plan.

- Respiratory depression, absent reflexes with concern, oliguria or reduced consciousness requires immediate maternity emergency review.

- Explain the purpose, observation needs and symptoms to report; continued care follows the maternity team.

Exam / viva: Which finding changes the order of priorities, and what must be escalated immediately?

References

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