



Nursing Care Plan

A Client with ARDS

Peggy Adamson is a 36-year-old single woman admitted to the hospital following a near-drowning in a local lake. On admission to the emergency department, Ms. Adamson is alert and oriented, having been rescued and resuscitated within 2 minutes of the accident. Rescuers report that she seemed to have aspirated “a lot” of water as she was water-skiing when the accident occurred. She is admitted to the intensive care unit for observation. Oxygen is started per nasal cannula at 6 L/min, intravenous fluids are administered to correct electrolyte imbalances, and 40 mg of furosemide (Lasix) is given intravenously for hypervolemia.

ASSESSMENT

Nadia Mucha cares for Ms. Adamson the evening of the day after her admission. Throughout her stay, Ms. Adamson has remained alert and oriented with stable vital signs. Her respiratory rate has been 20 to 24 per minute, with scattered crackles, oxygen saturations of around 94%, and a P_{O_2} of 75 to 80 mmHg on 6 L/min of oxygen. Her pulse has been 96 to 100 and regular. On her initial assessment, Ms. Mucha notes that Ms. Adamson seems apprehensive and anxious. Although her blood pressure is 116/74, unchanged from previous levels, her heart rate is up to 106 and respiratory rate is 28 per minute. Her lungs have scattered crackles but good breath sounds throughout, unchanged from previous assessments. Ms. Adamson's oxygen saturation has dropped to 84%, so Ms. Mucha orders ABGs and increases the oxygen to 8 L/min. ABG results show P_{O_2} 65 mmHg and respiratory alkalosis pH 7.48, and P_{CO_2} 32 mmHg.

Ms. Mucha orders a portable chest X-ray and notifies the physician of the arterial blood gas results and the change in Ms. Adamson's status. The physician orders a nonrebreather mask at 8 L/min and repeat ABGs in 1 hour. The chest X-ray reveals scattered infiltrates and a normal heart size.

Ms. Adamson's oxygen saturation continues to fall, and subsequent blood gases show a P_{O_2} of 55 mmHg. The attending physician diagnoses probable ARDS and orders nasotracheal intubation and mechanical ventilation.

DIAGNOSES

Ms. Mucha identifies the following nursing diagnoses for Ms. Adamson.

- *Ineffective breathing pattern* related to anxiety
- *Impaired gas exchange* related to effects of near-drowning
- *Anxiety* related to hypoxemia
- *Risk for decreased cardiac output* related to mechanical ventilation
- *Risk for injury* related to endotracheal intubation

EXPECTED OUTCOMES

As outcomes for the plan of care, Ms. Mucha indicates that Ms. Adamson will:

- Breathe effectively with the mechanical ventilator.
- Demonstrate improved oxygen saturation, $ETCO_2$, and ABG values.
- Express fears related to intubation and mechanical ventilation.
- Demonstrate reduced anxiety levels (relaxed facial expression, ability to rest).
- Maintain adequate cardiac output and tissue perfusion.
- Tolerate endotracheal intubation and mechanical ventilation without evidence of infection or barotrauma.

PLANNING AND IMPLEMENTATION

Ms. Mucha plans and begins to implement the following nursing interventions.

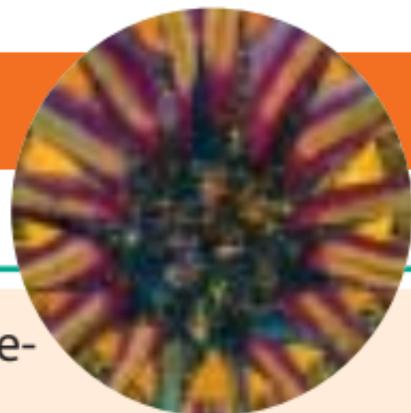
- Obtain all necessary supplies and notify respiratory therapy and radiology in preparation for intubation and mechanical ventilation.
- Explain the purpose and procedure of intubation.
- Provide an opportunity to express fears related to intubation and mechanical ventilation; answer questions and provide reassurance.
- Discuss communication strategies while intubated; obtain a magic slate.
- Administer analgesics and/or sedatives as ordered.
- Monitor oxygen saturation and $ETCO_2$ levels every 30 to 60 minutes initially after instituting mechanical ventilation; report changes to the physician.
- Obtain ABGs as ordered or indicated; monitor and report results.
- Suction via endotracheal tube as needed to maintain clear airways.
- Allow periods of uninterrupted rest.
- Monitor vital signs every 1 to 2 hours.
- Assess skin color, capillary refill, and the presence of edema every 4 hours.
- Monitor urine output hourly; report output of less than 30 mL per hour.
- Assess lung sounds and chest excursion every 1 to 2 hours.

EVALUATION

Ms. Adamson is intubated and placed on a volume-cycled ventilator at 50% F_{IO_2} and a tidal volume of 700 mL in the assist-control mode at 16 breaths per minute. She has difficulty working with the ventilator initially, so a fentanyl drip is ordered to reduce her anxiety. Ms. Adamson's oxygen saturation, $ETCO_2$, and ABG results do not begin to improve until 5 mmHg of PEEP is added to ventilator settings. After 3 days of mechanical ventilation with PEEP and aggressive fluid and diuretic therapy, Ms. Adamson begins to improve. She is placed on SIMV, and over the course of another 3 days she is gradually weaned off the ventila-

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A Client with ARDS *(continued)*



tor to a face mask with CPAP. She eventually recovers fully, with minimal apparent long-term effects.

Critical Thinking in the Nursing Process

1. Endotracheal intubation and mechanical ventilation were effective in supporting Ms. Adamson's respiratory status as she recovered from ARDS. Discuss a possible sequence of events had it not been possible to wean her from the ventilator.
2. How might the presentation and management of an acute episode of respiratory failure due to ARDS differ from respiratory failure related to COPD?

3. What measures can nurses take to prevent the development of ARDS?
4. Develop a nursing care plan for Ms. Adamson for the nursing diagnosis, *Powerlessness* related to endotracheal intubation and mechanical ventilation.

See Critical Thinking in the Nursing Process in Appendix C.