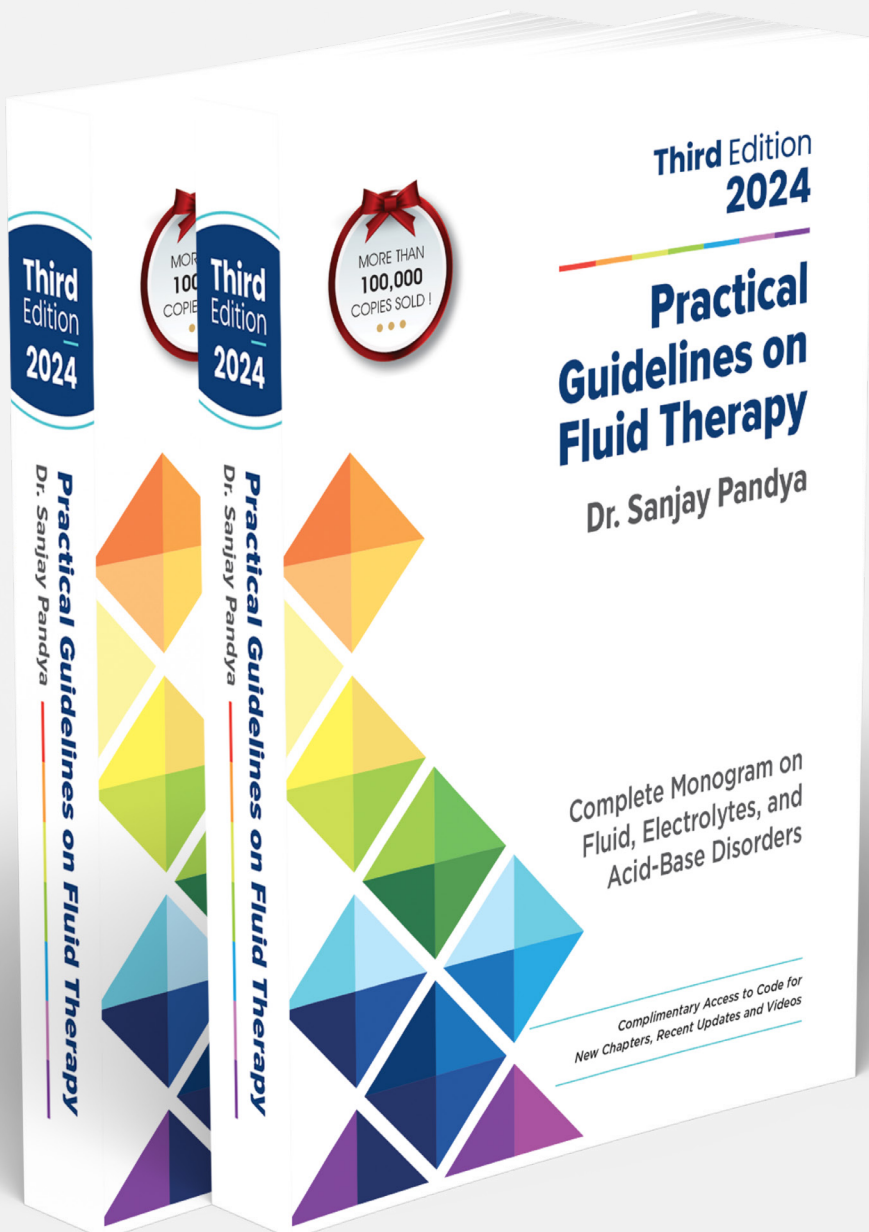




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Chapter 39:

Fluid Therapy in Bronchial Asthma,
ARDS, and in Mechanical Ventilation



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39

Fluid Therapy in Bronchial Asthma, ARDS, and in Mechanical Ventilation

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Fluid therapy in common respiratory disorders such as acute respiratory distress syndrome, bronchial asthma, and patients receiving mechanical ventilation is discussed.

BRONCHIAL ASTHMA

In patients with bronchial asthma, important aspects of fluid therapy, electrolyte disorders, and acid-base disorders are discussed.

A. Fluid therapy

Adequate hydration protects the lung epithelium and helps in promoting effec-

tive mucociliary clearance [1, 2]. In dehydration, cough is significantly more prevalent, even in healthy individuals [3]. Poor oral intake during illness, increased work of breathing due to airway obstruction, increased insensible fluid losses due to hyperventilation, cold sweat during an asthma attack, and fluid loss due to associated fever all contribute to the loss of body water and sodium chloride during an asthma attack [4].

Proper hydration is essential because dehydration worsens respiratory symptoms and lung function in patients with bronchial asthma [5].

Dehydration carries problems such as:

1. Thickened secretions, which can lead to mucus plugging and airway obstruction.
2. Stimulates the production of inflammatory markers like histamine that

leads to airway obstruction via smooth muscle contraction, bronchial secretion, and airway mucosal edema [6, 7].

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