

Chapter 49:

Replacement Fluid Therapy and its Monitoring in Children

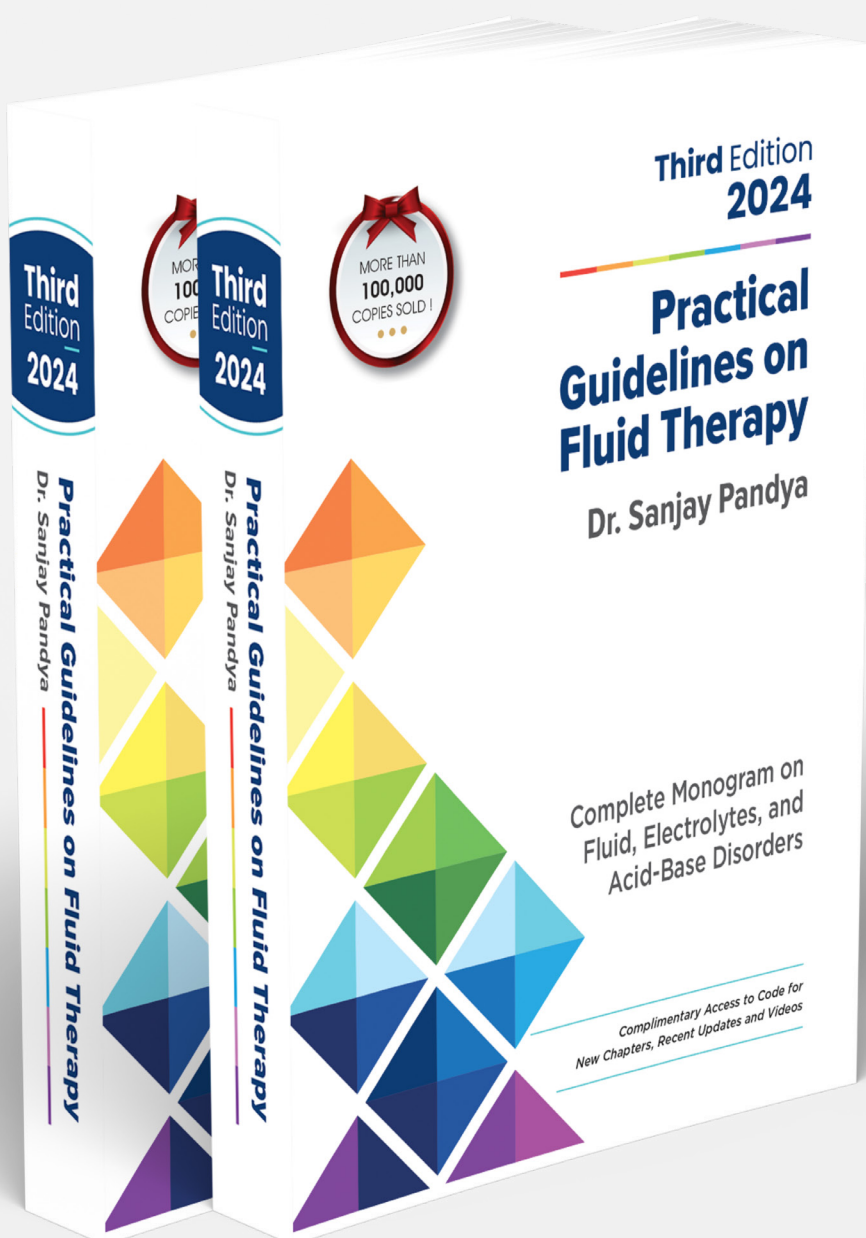


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Replacement fluid therapy represents the third crucial pillar in comprehensive fluid management for children, complementing fluid resuscitation and maintenance strategies. IV fluids replacement aims to replenish preexisting deficits (fluids lost before treatment) and address ongoing losses, such as gastrointestinal issues due to vomiting and diarrhea, by administering the appropriate solutions to correct fluid, electrolyte, and acid-base disorders.

The five crucial steps to planning optimal and effective replacement fluid therapy in children are as follows:

1. Severity assessment: Assess the severity of dehydration, which can be categorized as mild, moderate, or severe.
2. Laboratory assessment: Utilize labo-

ratory tests to evaluate dehydration in children.

3. Establish the type of dehydration: Determine the type of dehydration based on sodium concentration, specifically identifying if it is hyponatremic, isonatremic, or hypernatremic. Plan treatment based on this differentiation.
4. Identifying the underlying cause: Identify the etiology of fluid loss, such as diarrhea, vomiting, diabetic ketoacidosis, etc., and individualize treatment based on it.
5. Monitoring: Close clinical assessments, periodic laboratory tests, strict measurement of urine volume, and maintaining a daily weight chart help to assess the child's response to therapy, facilitating necessary adjustments based on their condition.

ASSESSMENT OF THE SEVERITY OF DEHYDRATION

The first step in replacement fluid management is to assess the severity of dehydration, which helps to decide both the urgency of intervention and the

volume of fluid necessary for effective rehydration.

Determining the extent of dehydration involves three assessment steps: Asking specific questions, looking at visible signs, and physical examinations, as summarized in Table 49.1.

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