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Chapter 7:
Maintenance Fluid Therapy

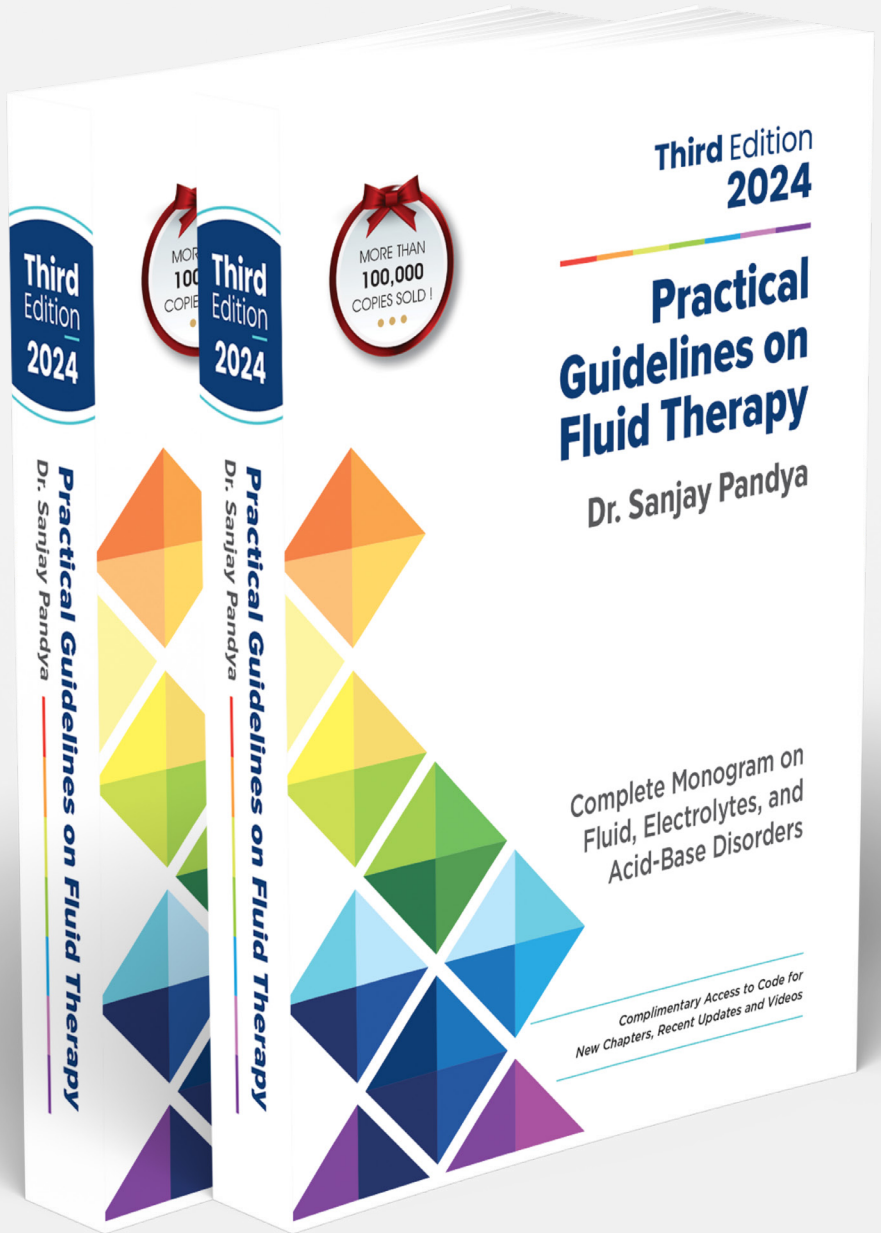

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Table of Contents

Part 1 Physiology
Overview of total body fluid distribution, water balance, and electrolyte compartments.
Chapter 1

Part 2 Basics of Intravenous Fluids and Solutions
Introduction to crystalloids and colloids, their composition, clinical use, precautions, and contraindications.
Chapter 2-5

Part 3 Fluid Replacement Strategies
Principles of fluid therapy, including maintenance, resuscitation, and special considerations for the elderly.
Chapter 6-9

Part 4 Parenteral Additives
Composition, clinical applications, and precautions for various parenteral additives.
Chapter 10-14

Part 5 Hemodynamic Monitoring
Principles and techniques for assessing fluid status and cardiac output, using basic and advanced methods.
Chapter 15-19

Part 6 Electrolyte Disorders
Causes, presentation, diagnosis, and management of various electrolyte imbalances.
Chapter 20-29

Part 7 Acid-Base Disorders
Concepts, interpretation, and management of metabolic and respiratory acid-base disorders.
Chapter 30-33

Part 8 Fluid Therapy in Medical Disorders
Guidelines for fluid management in conditions like GI diseases, liver disorders, respiratory issues, and diabetic emergencies.
Chapter 34-41

Part 9 Fluid Therapy in Surgical Disorders
Fluid management before, during, and after surgery, including TURP syndrome and burns.
Chapter 42-47

Part 10 Fluid Therapy in Pediatrics
Special considerations for fluid management in children and neonates, including resuscitation, maintenance, and oral rehydration.
Chapter 48-50

Part 11 Fluid Therapy in Obstetrics
Fluid management strategies for pregnancy, cesarean delivery, preeclampsia, and labor-related hyponatremia.
Chapter 51-54

Part 12 Parenteral Nutrition
Principles, indications, and administration of parenteral nutrition, with disease-specific guidelines and complication management.
Chapter 55-57

7 Maintenance Fluid Therapy

Physiological Basis 74
- Sodium concentration of maintenance fluids 74
- Avoid iatrogenic fluid overload 76
- What is fluid creep? 76

Prescribing Maintenance IV Fluids .. 76
- Indications of maintenance IV fluids. 76
- Selection of maintenance IV fluids .. 76
- Type of fluids 77
  - Hypotonic fluids 77
  - Monitoring and modification 77
- The volume of maintenance fluids .. 78
- The rate of administration 78
- Cautions while using maintenance fluid 78

Patients who are euvolemic, hemodynamically stable but unable to take adequate fluid by oral or enteral route need maintenance intravenous (IV) fluids to replace anticipated insensible (such as respiration, perspiration, and stools) and sensible (such as urine) losses [1].

PHYSIOLOGICAL BASIS

The goal of maintenance IV fluid is to replace the ongoing daily physiologic losses such as urine, feces, and sweat, maintain normal water and electrolyte balance and provide adequate calories to avoid starvation ketosis [1, 2].

Ideal maintenance IV fluid should provide adequate water and electrolytes to preserve the extracellular volume and ensure proper tissue perfusion without causing volume depletion, fluid overload, or electrolyte disturbances, along with supplementation for optimal calories [1].

Sodium concentration of maintenance fluids

Sodium concentration of maintenance IV fluids is a crucial but debatable issue discussed in many studies, which needs special consideration because of its two common and potentially harmful effects, hyponatremia [3, 4] and volume overload [5, 6].

How much sodium concentration is appropriate for the maintenance IV fluids in adult patients?

The concepts of appropriate sodium concentration of maintenance IV fluids in adults are changing like a pendulum shift.

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