Intravenous Fluid Comparison

Type	Solution	Uses	Special Considerations
Isotonic	Dextrose 5% in water (D5W)	• Fluid loss • Dehydration • Hypernatremia	• Use cautiously in renal and cardiac patients • Can cause fluid overload
Isotonic	0.9% sodium chloride (Normal Saline) (NaCl)	• Shock • Hyponatremia • Blood transfusions • Resuscitation • Fluid challenges • DKA	• Can lead to overload • Use with caution in patients with heart failure or edema
Isotonic	Lactated Ringer's (LR)	• Dehydration • Burns • Lower GI fluid loss • Acute blood loss • Hypovolemia due to third spacing	• Contains potassium, don't use with renal failure patients • Don't use with liver disease, can't metabolize lactate
Hypotonic	0.45% sodium chloride (1/2 normal saline)	• Water replacement • DKA • Gastric fluid loss from NG or vomiting	• Use with caution • May cause cardiovascular collapse or increased intracranial pressure • Don't use with liver disease, trauma, or burns
Hypertonic	Dextrose 5% in ½ normal saline	• Later in DKA treatment	• Use only when blood sugar falls below 250 mg/dL
Hypertonic	Dextrose 5% in normal saline	• Temporary treatment for shock if plasma expanders aren't available • Addison's crisis	• Don't use n cardiac or renal patients
Hypertonic	Dextrose 10% in water	• Water replacement • Conditions where some nutrition with glucose is required	• Monitor blood sugar levels