

Type	IV Solution	Uses	Nursing Considerations
<b>Isotonic</b>	0.9% Normal Saline (0.9% NaCl)	Fluid resuscitation for hemorrhaging, severe vomiting, diarrhea, GI suctioning losses, wound drainage, mild hyponatremia, or blood transfusions.	Monitor closely for hypervolemia, especially with heart failure or renal failure.
<b>Isotonic</b>	Lactated Ringer's Solution (LR)	Fluid resuscitation, GI tract fluid losses, burns, traumas, or metabolic acidosis. Often used during surgery.	Should not be used if serum pH is greater than 7.5 because it will worsen alkalosis. May elevate potassium levels if used with renal failure.
<b>Isotonic</b>	5% Dextrose in Water (D5W) *starts as isotonic and then changes to hypotonic when dextrose is metabolized	Provides free water to help renal excretion of solutes, hypernatremia, and some dextrose supplementation.	Should not be used for fluid resuscitation because after dextrose is metabolized, it becomes hypotonic and leaves the intravascular space, causing brain swelling. Used to dilute plasma electrolyte concentrations.
<b>Hypotonic</b>	0.45% Sodium Chloride (0.45% NaCl)	Used to treat intracellular dehydration and hypernatremia and to provide fluid for renal excretion of solutes.	Monitor closely for hypovolemia, hypotension, or confusion due to fluid shifting into the intracellular space, which can be life-threatening. Avoid use in patients with liver disease, trauma, and burns to prevent hypovolemia from worsening. Monitor closely for cerebral edema.
<b>Hypotonic</b>	5% Dextrose in Water (D5W)	Provides free water to promote renal excretion of solutes and treat hypernatremia, as well as some dextrose supplementation.	Monitor closely for hypovolemia, hypotension, or confusion due to fluid shifting out of the intravascular space, which can be life-threatening. Avoid use in patients with liver disease, trauma, and burns to prevent hypovolemia from worsening. Monitor closely for cerebral edema.
<b>Hypertonic</b>	3% Sodium Chloride (3% NaCl)	Used to treat severe hyponatremia and cerebral edema.	Monitor closely for hypervolemia, hypernatremia, and associated respiratory distress. Do not use it with patients experiencing heart failure, renal failure, or conditions caused by cellular dehydration because it will worsen these conditions.
<b>Hypertonic</b>	5% Dextrose and 0.45% Sodium Chloride (D50.45% NaCl)	Used to treat severe hyponatremia and cerebral edema.	Monitor closely for hypervolemia, hypernatremia, and associated respiratory distress. Do not use it with patients experiencing heart failure, renal failure, or conditions caused by cellular dehydration because it will worsen these conditions.
<b>Hypertonic</b>	5% Dextrose and Lactated Ringer's (D5LR) D10	Used to treat severe hyponatremia and cerebral edema.	Monitor closely for hypervolemia, hypernatremia, and associated respiratory distress. Do not use it with patients experiencing heart failure, renal failure, or conditions caused by cellular dehydration because it will worsen these conditions.