

# CRYSTALLOID IV SOLUTIONS

IVF	Content	Tonicity	Osmolality (mOsm/L)	Uses
D5W	<ul style="list-style-type: none"> <li>- 50 g/L glucose</li> <li>- 170 Kcals/L</li> <li>- no electrolytes</li> </ul>	Isotonic	252	<ul style="list-style-type: none"> <li>- treat hypernatremia, replace water loss</li> <li>- free water (helps renal excretion of solutes)</li> <li>- used to administer medications</li> </ul>
D10W	<ul style="list-style-type: none"> <li>- 100 g/L glucose</li> <li>- 340 Kcals/L</li> <li>- no electrolytes</li> </ul>	Hypertonic	505	<ul style="list-style-type: none"> <li>- free water only</li> </ul>
½NS	<ul style="list-style-type: none"> <li>- 0.45% saline</li> <li>- 77 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> <li>- no electrolytes</li> </ul>	Hypotonic	154	<ul style="list-style-type: none"> <li>- maintenance solution, but doesn't replace other daily electrolytes</li> <li>- free water and NaCl</li> <li>- replace hypotonic fluid loss</li> <li>- can cause IVF overload if infused too rapidly</li> </ul>
NS	<ul style="list-style-type: none"> <li>- 0.9% saline</li> <li>- 154 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> <li>- no calories</li> </ul>	Isotonic	308	<ul style="list-style-type: none"> <li>- used for postoperative fluids</li> <li>- increase IVF and replace ECF fluid losses</li> <li>- NaCl in higher concentration than blood levels</li> <li>- no free water</li> <li>- can cause IVF overload</li> <li>- only solution that can be administered with blood products</li> </ul>
3%NS	<ul style="list-style-type: none"> <li>- 3.0% saline</li> <li>- 513 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> </ul>	Hypertonic	1026	<ul style="list-style-type: none"> <li>- administer cautiously, slowly</li> <li>- treatment for symptomatic hyponatremia</li> <li>- cerebral edema</li> </ul>
D5-¼NS	<ul style="list-style-type: none"> <li>- 0.225% saline</li> <li>- 50 g/L glucose</li> <li>- 170 kcals/L</li> <li>- 38.5 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> </ul>	Isotonic	330	<ul style="list-style-type: none"> <li>- Provides NaCl and free water</li> <li>- treatment of hypernatremia</li> <li>- replace hypotonic fluid loss</li> </ul>
D5-½NS	<ul style="list-style-type: none"> <li>- 0.45% saline</li> <li>- 50 g/L glucose</li> <li>- 170 kcals/L</li> <li>- 77 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> </ul>	Hypertonic	406	<ul style="list-style-type: none"> <li>- maintenance solution, but doesn't replace other daily electrolytes</li> <li>- free water and NaCl</li> <li>- replace hypotonic fluid loss</li> <li>- can cause IVF overload if infused too rapidly</li> </ul>
D5-NS	<ul style="list-style-type: none"> <li>- 0.9% saline</li> <li>- 50 g/L glucose</li> <li>- 170 kcals/L</li> <li>- 154 mMol/L of Na<sup>+</sup> and Cl<sup>-</sup></li> </ul>	Hypertonic	560	<ul style="list-style-type: none"> <li>- increase IVF and replace ECF fluid losses</li> <li>- used for postoperative fluids</li> <li>- NaCl in higher concentration than blood levels</li> <li>- no free water</li> <li>- can cause IVF overload</li> </ul>