

CRYSTALLOID IV SOLUTIONS

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