Mucous membranes*	Normal (moist)	Dry	Parched
Tears	Present	Decreased	Absent, sunken eyes
Anterior fontanel	Normal	Normal to sunken	Sunken
External jugular vein	Visible when supine	Not visible except with supraclavicular pressure	Not visible even with supraclavicular pressure
Skin*	Capillary refill >2 sec	Slowed capillary refill (2 to 4 seconds [decreased turgor])	Very delayed capillary refill (>4 seconds) and tenting; skin cool, acrocyanotic or mottled
Urine	Decreased	Oliguria	Oliguria or anuria

*These signs are less prominent in patients who have hypernatremia.

Data from Jospe N, Forbes G: Fluids and electrolytes—clinical aspects, *Pediatr Rev* 17(11):395–403, 1996; Steiner MJ, DeWalt DA, Byerley JS: Is this child dehydrated? *JAMA* 291(22):2746–2754, 2004.

TABLE 22-4
Clinical Manifestations of Dehydration

Manifestation	Isotonic (Loss of Water and Sodium)	Hypotonic (Loss of Sodium in Excess of Water)	Hypertonic (Loss of Water in Excess of Sodium)
Skin			
Color	Gray	Gray	Gray
Temperature	Cold	Cold	Cold or hot
Turgor	Poor	Very poor	Fair
Texture	Dry	Clammy	Thickened, doughy
Mucous membranes	Dry	Slightly moist	Parched
Tearing and salivation	Absent	Absent	Absent
Eyeball	Sunken	Sunken	Sunken
Fontanel	Sunken	Sunken	Sunken
Body temperature	Subnormal or elevated	Subnormal or elevated	Subnormal or elevated
Pulse	Rapid	Very rapid	Moderately rapid
Respirations	Rapid	Rapid	Rapid
Behavior	Irritable to lethargic	Lethargic or comatose; seizures	Marked lethargy with extreme hyperirritability on stimulation

Compensatory mechanisms attempt to maintain fluid volume by adjusting to these losses. Interstitial fluid moves into the vascular compartment to maintain the blood volume in response to hemoconcentration and hypovolemia, and vasoconstriction of peripheral arterioles helps maintain pumping pressure. When fluid losses exceed the body's ability to sustain blood volume and blood pressure, circulation is seriously compromised, and the blood pressure falls. This results in tissue hypoxia with accumulation of