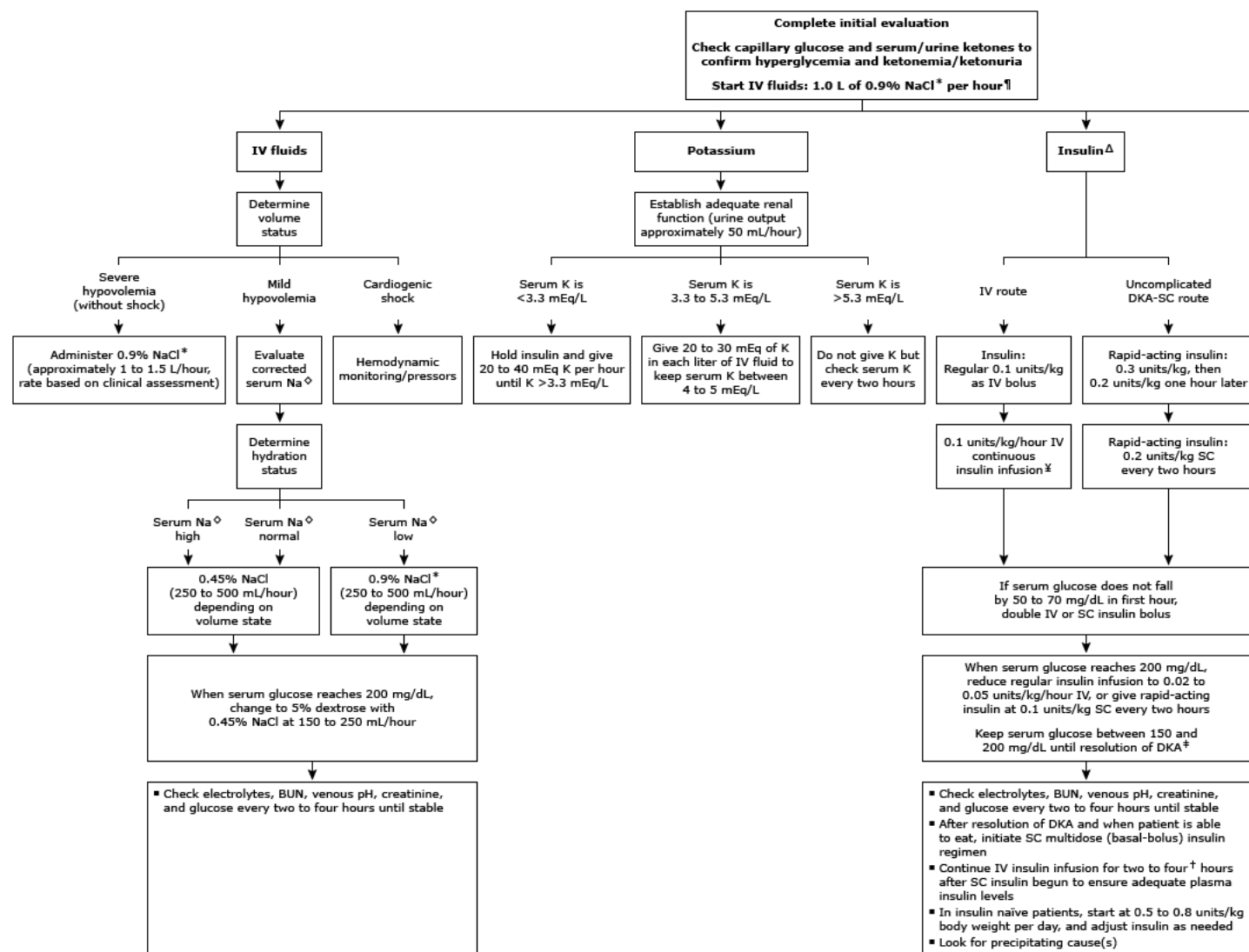




Treatment of diabetic ketoacidosis in adults



DKA diagnostic criteria: Serum glucose >250 mg/dL, arterial pH <7.3, serum bicarbonate <18 mEq/L, and at least moderate ketonuria or ketonemia. Normal laboratory values vary; check local lab normal ranges for all electrolytes.

BUN: blood urea nitrogen; DKA: diabetic ketoacidosis; H₂O: water; HCO₃: bicarbonate; IV: intravenous; K: potassium; KCl: potassium chloride; Na: sodium; NaCl: sodium chloride; NaHCO₃: sodium bicarbonate; SC: subcutaneous.

* Isotonic buffered crystalloid (eg, Lactated Ringer) is a reasonable alternative.

¶ After history and physical examination, obtain capillary glucose and serum or urine ketones. Begin 1 L of 0.9% NaCl (or buffered crystalloid) over 1 hour, and draw arterial blood gas (or mixed venous blood gas), complete blood count with differential, urinalysis, serum glucose, BUN, electrolytes, chemistry profile, and creatinine levels STAT. Obtain electrocardiogram and, if needed, chest radiograph and specimens for bacterial cultures.

Δ If initial serum K is <3.3 mEq/L, hold insulin and give KCl until K is >3.3 mEq/L.

◇ Serum Na⁺ should be corrected for hyperglycemia (for each 100 mg/dL glucose >100 mg/dL, add 2 mEq to sodium value for corrected serum sodium value).

§ 100 mmol NaHCO₃ = 100 mEq NaHCO₃.

‡ An alternative IV insulin regimen is to give a continuous IV infusion of regular insulin at 0.14 units/kg/hour; at this dose, an initial IV bolus is not necessary.

† Please refer to the UpToDate topic on DKA for the definition of DKA resolution.

† This is an UpToDate clinical suggestion.

Adapted from: Kitabchi AE, Umpierrez GE, Murphy MB, Kreisberg RA. Hyperglycemic crises in adult patients with diabetes: a consensus statement from the American Diabetes Association. Diabetes Care 2006; 29:2739.

Updated with additional information from:

- 1. Kitabchi AE, Umpierrez GE, Miles JM, Fisher JN. Hyperglycemic crises in adult patients with diabetes. Diabetes Care 2009; 32:1335.*
 - 2. Umpierrez GE, Cuervo R, Karabell A, et al. Treatment of diabetic ketoacidosis with subcutaneous insulin aspart. Diabetes Care 2004; 27:1873.*
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