iv has a rapid onset but relatively short duration of action and should be administered simultaneously with other treatments.

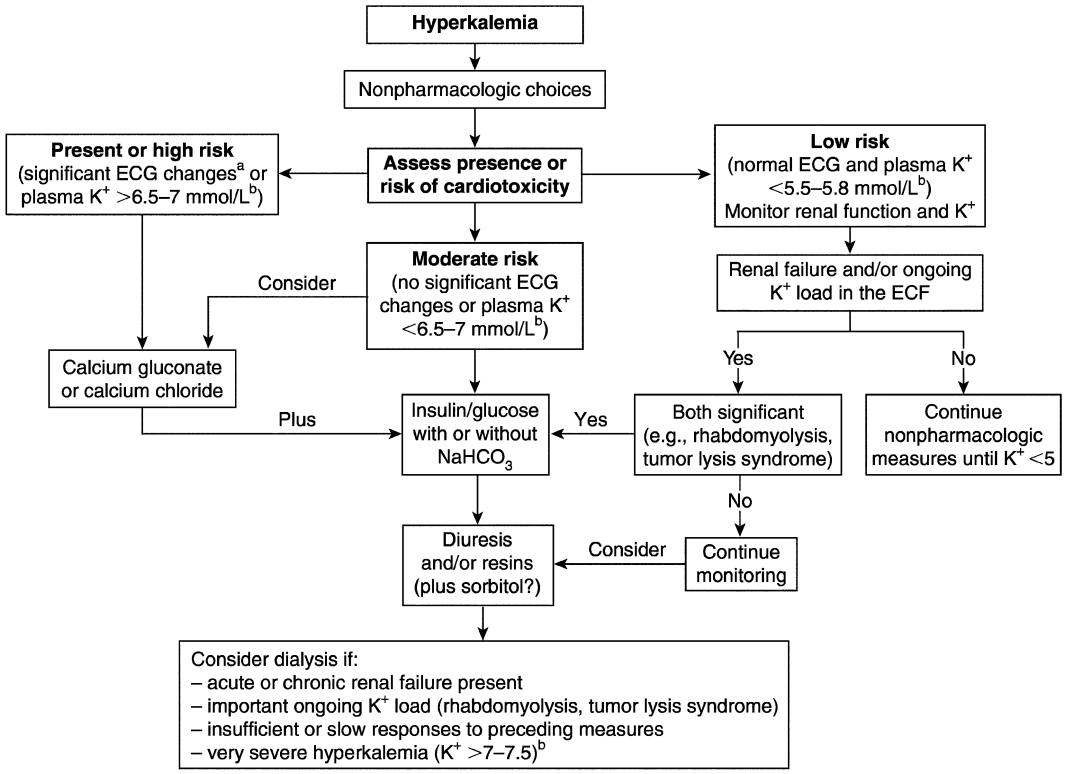
Redistribution Agents

These agents act for a longer period than membrane antagonists. Stimulation of insulin and beta receptors as well as correcting acidosis facilitates the reuptake of K^+ into cells.

Insulin should be the first choice since it is the most effective and reliable agent. Insulin must be administered iv.[2] **Glucose** (40–50 g per 10 units insulin) is given to avoid hypoglycemia, but avoid bolus administration because an acute increase in plasma tonicity can induce a rise in plasma K^+. Expect a 1–1.5 mmol/L fall in plasma K^+ in 60 minutes.

Sodium bicarbonate ($NaHCO_3$) is usually reserved for hyperkalemia associated with significant metabolic acidosis. It has a synergistic effect with insulin in the presence of mild acidosis.[3] In the absence of low serum bicarbonate concentration or pH, sodium bicarbonate has a smaller effect.[4] To avoid an acute increase in plasma K^+ induced by an osmolality change, hypertonic $NaHCO_3$ solutions should not be used.[5] The correction of acidosis in hypocalcemic patients may induce tetany. Insulin administration is faster, more reliable and more effective than sodium bicarbonate.[2]

Figure 1: **Management of Hyperkalemia**



[a] Loss of P waves, widening of QRS complexes or more severe changes are considered significant. Isolated peaked T waves may not be significant. Note that ECG changes have uncertain prognostic significance.
[b] Plasma potassium level is given as a guide; therapy should not rely on the plasma level alone, but consider all other risk factors for cardiotoxicity (see text).
Abbreviations: ECF = extracellular fluid

