

 Shared health Soins communs Manitoba	M20 - HIGH DOSE INSULIN & DEXTROSE THERAPY	
	Version date: 2025-04-17	Effective date: 2025-04-30 (07:00)
ERS HIGH-ALERT MEDICATION (A03)		

INDICATIONS	
<ul style="list-style-type: none"> Beta blocker (BB) and calcium channel blocker (CCB) toxicity 	For treatment of hyperkalemia, refer to M30

WARNINGS
ABSOLUTE CONTRAINDICATIONS: <ul style="list-style-type: none"> Hypoglycemia ² Hypokalemia ³

ADMINISTRATION	
INTRAVENOUS (INTRAOSSEOUS)	ACP
ALL AGES: <ul style="list-style-type: none"> Loading dose = 1.0 unit/kg by slow push over 1 minute with 50 ml (25 gm) of 50% dextrose by slow push over 2 minutes If the time to medical care will be delayed, initiate a continuous insulin infusion at 1 unit/kg/hr with 0.5 gm/kg/hr (5 ml/kg/hr) of 10% dextrose The dose of insulin can be increased by 50 percent every 20 minutes until the bradycardia and hypotension are corrected (maximum infusion rate = 10 units/kg/hr) If an infusion pump is not available, the loading dose of insulin & dextrose can be repeated as required 	

NOTES
<ol style="list-style-type: none"> The management of BB and CCB overdoses can be complex, and high-dose insulin therapy can potentially cause life-threatening hypoglycemia and hypokalemia. Paramedics should call the Virtual Emergency Care and Transport Resource Service (VECTRS) and consult on-line medical support (OLMS) as soon as possible. OLMS can enlist toxicological or critical care expertise as required. Low blood glucose (BG) must be excluded / corrected before initiating high-dose insulin. <u>The BG must be checked every time the insulin infusion is increased, every 30 minutes until the stability is established, and then hourly thereafter.</u> Hypoglycemia should be managed with boluses of 50% dextrose in adults & adolescents, and 25% in infants and children. Do not increase the 10% dextrose infusion rate as this may result in fluid overload and pulmonary edema.

3. Continuous electrocardiographic (ECG) monitoring for signs of hypokalemia is required. Signs of hypokalemia can include ST segment depression, reduced T wave amplitude, and the appearance of U waves, but may not be seen in all patients.
4. Regular insulin will adsorb to plastic IV tubing. Flush the tubing with 10 to 20 ml of solution before administration.

LINKS

- A03 - High Alert Medications
- C12 - Beta Blocker & Calcium Channel Blocker Toxicity
- M06.2 - Dextrose
- M30 - Hyperkalemia Therapy

APPROVED BY



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VERSION CHANGES (refer to X08 for change tracking)

- New