Hyperglycemia

San Mateo County Emergency Medical Services

General Weakness
For non-focal weakness, general malaise, and any nonspecific 'sick' symptoms

History
- Age
- Duration of symptoms
- Severity of symptoms
- Past medical history (e.g., cancer, heart disease, adrenal disease, diabetes, thyroid, dialysis)
- Medications (hypoglycemic agents/diuretics)

Signs and Symptoms
- General malaise
- Fatigue
- Isolated or general weakness
Associated Symptoms (helpful to localize source)
- Cough, chest pain, headache, dysuria, abdominal pain, mental status changes, rash

Differential
- Infection/sepsis
- Medication/drug/toxin reaction
- Myocardial infarction
- Hypothermia/hyperthermia
- Electrolyte imbalance (i.e., hyperkalemia)
- Hypoglycemia/hyperglycemia
- Thyroid disorder
- Stroke/TIA
- Dehydration
- Myasthenia gravis/Guillain-Barre

Temperature measurement
Blood glucose analysis
Cardiac monitor
Establish IV
Perform 12-Lead ECG
Perform Cincinnati Prehospital Stroke Scale
Consider,
Normal Saline bolus 500ml IV/IO
Maximum 2L
Consider,
Sodium Bicarbonate and Calcium Chloride for signs of hyperkalemia
Consider,
Albuterol or Albuterol MDI with spacer or Levalbuterol for signs of hyperkalemia

Notify receiving facility.
Consider Base Hospital for medical direction

Hypothermia/Cold Injury
Hyperthermia
Sepsis
Hypoglycemia
Hyperglycemia
Chest Pain: STEMI
Stroke/CVA/TIA
Peaked T-waves or bradycardia are signs of hyperkalemia. Increased extracellular potassium reduces myocardial excitability, which results in the depression of both pace making and conducting tissues. Progressively worsening hyperkalemia leads to suppression of impulse generation by the SA node and reduced conduction by the AV node and HIS-Purkinje system, resulting in bradycardia and conduction blocks that ultimately lead to cardiac arrest.

In order to treat hyperkalemia in the prehospital setting, the QRS must be $\geq 0.12$ seconds. If the patient has not yet arrested, be prepared for the patient to do so. Early recognition and treatment is essential to helping reverse this critical condition.

**Pearls**
- Diabetics, geriatric, and female patients often have atypical pain, or only generalized complaints. Suspect cardiac etiology in these patients, and perform a 12-Lead ECG.
- Patients taking potassium supplements or who are on dialysis or with a history of severe renal dysfunction have a higher risk of hyperkalemia.