2.17 HYPERKALEMIA

BLS – FAQ Link

- **Primary Survey**: Identify and immediately correct life threats
- ABCs, vital signs and oxygen as indicated
- **Secondary Survey**: Relevent physical examination of the patient

ALS

Is patient in cardiac arrest?

- **YES** → See protocol **2.04-Cardiac Arrest**
- **NO** ↓

ECG Changes?

- **YES** →

Stabilize cardiac membrane:

Calcium Chloride
Adult: 1g IV/IO

May repeat every 5 minutes until ECG changes improve
Maximum cumulative dose of 4 g

Pediatric:
20 mg/kg IVP or IOP up to 1g per dose over 5 minutes

May repeat every 5 minutes up to cumulative dose of 4g

- **NO** →

Shift potassium intracellularly:

Albuterol
5mg/6mL nebulizer over 5-15 minutes
Repeat x3

Sodium Bicarbonate
Adult: 50 mEq IV/IO one time dose

Pediatric: 1mEq/kg (max 50mEq) IV/IO one time dose

Notes

Suspect hyperkalemia in patients with history of kidney disease, dialysis, or crush syndrome with any ECG findings:

- Bradycardia
- Peaked T waves
- Prolonged QRS (>0.12 sec) that may progress to sine wave in severe cases

And/or

- Recent potassium value >6.0mEq (with or without above ECG findings)

- Anytime Sodium Bicarbonate is administered, the IV should be flushed before and after.
- In cases of ECG changes in hyperkalemia, Calcium should **always** be given prior to Sodium Bicarbonate
- Calcium should always be given first with any ECG changes

2.17 Hyperkalemia

BLS Treatment

- **Primary survey**: Identify and immediately correct life threats
- ABCs, vital signs and oxygen as indicated
- **Secondary survey**: Relevant physical examination of the patient

ALS Treatment

HYPERKALEMIA WITHOUT CARDIAC ARREST

Suspect hyperkalemia in patients with a history of kidney disease, dialysis, or crush syndrome with any of the following clinical findings on ECG or cardiac monitor:

- Bradycardia
- Peaked T waves
- Prolonged QRS (> 0.12 sec), that may progress to sine wave in severe cases (see example below)

And/or

- Recent potassium value > 6.0 mEq (with or without the presence of above ECG findings)

The following approach should be taken for a patient in suspected hyperkalemia especially with ECG findings:

Calcium Chloride

Adult: 1g IV/IO. May repeat every 5 minutes until ECG changes improve, up to a cumulative amount of 4g

Pediatric: 20 mg/kg IV/IO up to 1g per dose over 5 minutes. May repeat every 5 minutes up to cumulative dose of 4g

Lastly, give medication to shift potassium intracellularly:

Albuterol 5mg/6ml NS via nebulizer over 5 to 15 minutes, repeated 3 times.

Sodium Bicarbonate:

Adult: 50mEq IV/IO one time dose

Pediatric: 1mEq/kg (max 50mEq) IV/IO one time dose

The following approach should be taken for a patient in suspected hyperkalemia without ECG changes,

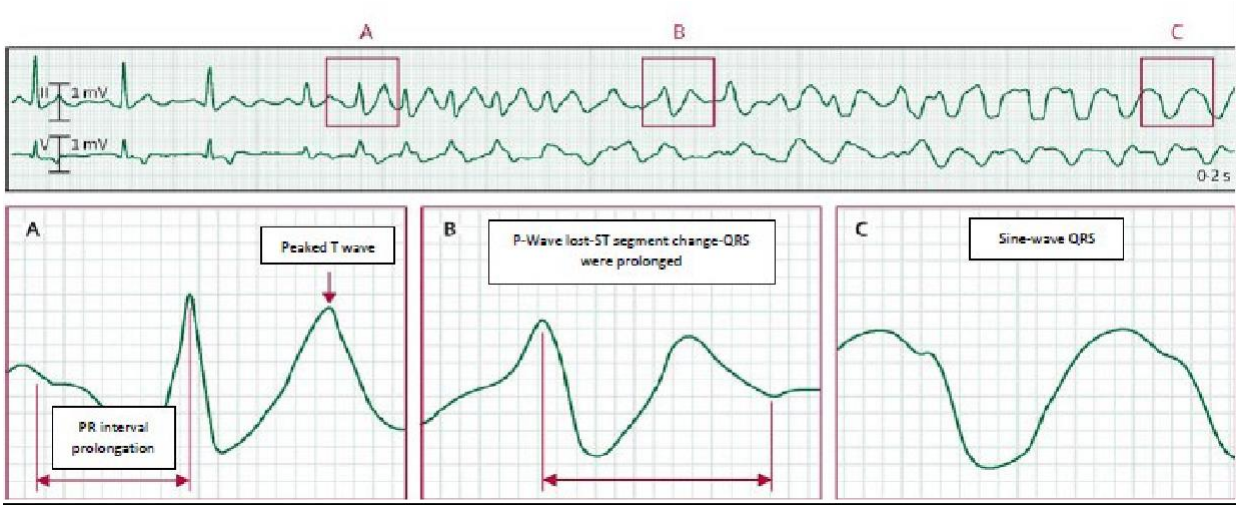
Give medication to shift potassium intracellularly:

Albuterol:5mg/6ml NS via nebulizer over 5 to 15 minutes, repeated 3 times.
Sodium Bicarbonate:

Adult 50mEq IV/IO one time dose
Pediatric: 1mEq/kg (max 50mEq) IV/IO one time dose

HYPERKALEMIA WITH CARDIAC ARREST

Refer to protocol **2.04 – Cardiac Arrest** for detailed treatment information.

Notes

- Calcium should always be given first with any of the ECG findings noted above
- Anytime **Sodium Bicarbonate** is administered, the IV should be flushed before and after. In cases of ECG changes in hyperkalemia, Calcium should always be given prior to Sodium Bicarbonate