HSHS St. John's SAMIC EMS

ADULT CARDIAC 2105

Routine Cardiac Care

E M R	• Determine level of consciousness. • Evaluate airway and confirm patency • Assess breathing and circulation • Evaluate SpO_2 • Oxygen titrate O_2 to maintain $SpO_2 \geq 94\%$ • Administer **Aspirin** • **324 mg PO**. If the patient has taken an aspirin tablet in the last four hours, subtract that dose to administer a total dose of 324 mg.
E M T	• Continue EMR care. • Apply cardiac monitor and obtain 12-lead ECG and transmit to receiving facility, if equipped. • Administer **Nitroglycerin** • **0.4 mg SL** (If SBP > 100 mmHg, and patient continues to have chest pain may repeat x3 every 5 minutes). • For nausea/vomiting, refer to **Nausea/Vomiting Protocol 1135.** • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Perform 12-lead ECG and transmit to receiving facility. • If STEMI identified go to **STEMI Protocol 2110.** • Initiate IV/IO normal saline or lactated ringer TKO or saline lock. • **Nitroglycerin 0.4 mg SL** may be administered if SBP > 90 mmHg and IV established. • If patient continues to have pain, refer to **Acute Pain Management Protocol 1115.** • Consider ALS intercept should the situation warrant additional medications. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Transport as soon as possible. • Contact receiving hospital as soon as possible.

Critical Thinking Elements

- Cardiac Related Signs and Symptoms
  - Substernal Chest pain
  - Heaviness, tightness, or discomfort in the chest
  - Radiation and/or discomfort to the neck or jaw
  - Pain, discomfort, or weakness in the shoulders/arms
  - Nausea and/or vomiting
  - Diaphoresis
  - Dyspnea

- If the patient's chest pain is not eliminated with oxygen or nitroglycerin, initiate an ALS intercept.
- Consider cardiogenic shock if the patient presents with:
  - Dyspnea
  - Diaphoresis
  - SBP < 100 mmHg
  - Signs of congestive heart failure
- A 12/15 lead ECG should be obtained as soon as possible, preferably within 5 minutes of first medical contact and immediately transmitted to medical control if possible.
- Limb leads should be place on the patient's limbs.
- Medications should not be administered IM to patients suspected of having an AMI.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2110

ST Elevation Myocardial Infarction

EMR	• Perform **Routine Cardiac Care Protocol 2105**
EMT	• Continue EMR care. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Once STEMI confirmed by **Medical Control**: • Establish second IV • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

P	• Continue ILS care.
	• Once STEMI confirmed by **Medical Control**:
	  • Establish second IV
	  • Administer **Morphine**
	  • **2 mg IV** Q10 min for continued pain
	  • Administer **Ticagrelor (Brilinta)**
	  • **180 mg PO**
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

ADULT MEDICAL 2115

Cardiogenic Shock

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Establish an IV and administer fluid bolus to maintain a systolic blood pressure of 90 mmHg. Be cautious of pulmonary edema. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

P	• Continue ILS care.
	• Treat dysrhythmias according to appropriate protocol.
	• If patient remains hypotensive:
	  ○ Administer **Dopamine**
	  ▪ **2 – 20 mcg/kg/min**
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2120

Cardiac Arrest

EMR	• Initiate CPR in accordance to AHA guidelines • Follow **High Quality CPR Procedure 9026.** • Apply AED and follow prompts • Ensure transporting ALS unit has been dispatched.
EMT	• Continue EMR Care. • Place BIAD and ventilate at a rate of 10 – 12 breaths per minute. • Initiate ALS intercept. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Treat according to ACLS guidelines. • Transition to cardiac monitor. Defibrillate as indicated according to monitor guidelines. • Initiate vascular access. Give **Epinephrine 0.1mg/mL** • **1 mg IV/IO. Repeat every 3 – 5 minutes.** • Secure airway with ETT or BIAD, if not already done. • Consider underlying etiology. • Continue to work the patient until ROSC occurs or a cease efforts order is given. • Contact receiving facility as soon as possible. • Follow appropriate protocol regarding patient's rhythm. • If ROSC achieved, follow **ROSC Protocol 2125.**

P	• Continue ILS care.
	• Place OG tube if time permits.
	• Administer **Sodium Bicarbonate.**
	  • **50 – 100 mEq IV** for suspected TCA or ASA overdose.
	• Administer **Calcium Chloride**
	  • **0.5 – 1g over 2 to 5 minutes** for cardiac arrest in dialysis patients or suspected hyperkalemia, hypocalcemia, or hypermagnesemia.
	• Contact receiving facility as soon as possible.

Critical Thinking Elements

- Pregnancy and cardiac arrest.
  - Continuous manual Left Uterine Displacement should be performed on all pregnant women who are in cardiac arrest in which the uterus is palpated at or above the umbilicus to relieve aortocaval compression during resuscitation.
  - If the uterus is difficult to assess (eg, in the morbidly obese), attempts should be made to perform manual LUD if technically feasible.

>20 weeks gestational size or uterus is palpable or visible

Left Uterine Displacement
One handed Technique

Left uterine Displacement
- 2 Handed Technique

Figure 4. Patient in a 30° left-lateral tilt using a firm wedge to support pelvis and thorax.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2125

Ventricular Fibrillation / Pulseless Ventricular Tachycardia

EMR	• Follow **Cardiac Arrest Protocol 2120.**

EMT	• Follow **Cardiac Arrest Protocol 2120.**

I	• Continue EMT care.
	• Treat according to ACLS guidelines.
	• Perform two minutes of CPR. Evaluate rhythm. If VF or pulseless VT defibrillate per manufactures recommendation for biphasic monitors or 360 J for monophasic defibrillator.
	• Immediately resume compressions after defibrillation.
	• Initiate IV/IO access. Administer fluid bolus. Be cautious with dialysis patients.
	• Administer **Epinephrine 0.1mg/mL**
	  • **1 mg IV/IO. Repeat every 3 – 5 minutes.**
	• Repeat CPR in two minute cycles. Evaluate rhythm. If VF or pulseless VT defibrillate per manufactures recommendation for biphasic monitors or 360 J for monophasic defibrillator. If rhythm converts, refer to appropriate protocol.
	• After three cycles and patient remains in VF / pulseless VT, administer **Amiodarone.**
	  • **300 mg IV.** Second dose of **Amiodarone 150 mg IV** if initial dose does not convert arrhythmia.
	• Intubate if able to perform without interrupting chest compressions. If unable to intubate place BIAD.
	• Monitor ETCO2.
	• Consider possible causes and treat appropriately.
	• Initiate ALS intercept if indicated.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care. • Administer **Sodium Bicarbonate** • **1 mEq / kg** for tricyclic antidepressant overdose, aspirin overdose, or known chronic renal failure patient. • Contact the receiving hospital as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2130

Pulseless Electrical Activity

EMR	• Follow **Cardiac Arrest Protocol 2120.**

EMT	• Follow **Cardiac Arrest Protocol 2120.**

I	• Continue EMT care. • Treat according to ACLS guidelines. • Perform two minutes of CPR. Evaluate rhythm. • Initiate IV/IO access. Administer fluid bolus. Be cautious with dialysis patients. • Administer **Epinephrine 0.1 mg/mL.** • **1mg IV/IO. Repeat every 3 – 5 minutes.** • Repeat CPR in two minute cycles. Evaluate rhythm. If rhythm converts, refer to appropriate protocol. • Intubate if able to perform without interrupting chest compressions. If unable to intubate place BIAD. • Monitor ETCO2. • Consider possible causes and treat appropriately. • Initiate ALS intercept if indicated. • Contact receiving facility as soon as possible.

P	• Continue ILS care. • Administer **Sodium Bicarbonate** • **1 mEq / kg** for tricyclic antidepressant overdose, aspirin overdose, or known chronic renal failure patient. • Contact the receiving hospital as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2135

Asystole

EMR	• Follow **Cardiac Arrest Protocol 2120.**
EMT	• Follow **Cardiac Arrest Protocol 2120.**
I	• Continue EMT care. • Confirm Asystole in 2 leads. • Go to **Cardiac Arrest Protocol 2120.** If resuscitation efforts are indicated. • Consider cease efforts order, see **Resuscitation vs Cease Efforts Policy 0058.**
P	• Continue ILS care.

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ADULT CARDIAC 2140

Return of Spontaneous Circulation

EMR	• Open and/or maintain an open airway. • Continue ventilations (1 breath every 6 seconds). • If patient is breathing, titrate O2 to 94 – 99% SpO2. • Monitor vitals for any acute changes. •
EMT	• Continue EMR care. • Insert BIAD if applicable. Monitor ETCO2, target range 35 – 45 mmHg if applicable. • Obtain and transmit a 12 lead ECG, if applicable. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Attempt to intubate if the patient is not regaining consciousness. Monitor ETCO2, target range 35 – 45 mmHg. • Establish IV/IO access and infuse 1 – 2 L of normal saline or lactated ringers as a bolus. • Patients on dialysis and/or history of CHF, be cautious of fluid overload. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Apply ice packs to arm pits, behind neck, and groin area. If patient regains consciousness, do not continue cooling process. Treat symptoms as appropriate. • Transport as soon as possible. • Contact receiving facility as soon as possible.

Return of Spontaneous Circulation

Critical Thinking Elements

- Indications for therapeutic hypothermia:
  - Return of spontaneous circulation post cardiac arrest of medical origin, near drowning or strangulation (hanging).
  - Age greater than 18 years of age.
  - Perisistent coma with no eye opening to pain or GCS < 9
  - Initial temperature > 34°C (93.2°F)
  - Advanced airway in place (King LTS-D, ETT)
- Contraindications for therapeutic hypothermia:
  - Traumatic arrest due to penetrating or blunt trauma.
  - Inability to place advanced airway.
  - Presence of DNR or other advanced directive
  - Known patient pregnancy.
- If patient regains consciousness, discontinue cooling process.

- It's imperative to obtain a 12 lead ECG and complete set of vitals following return of spontaneous circulation.

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ADULT CARDIAC 2145

Unstable Bradycardia

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Obtain and transmit 12 lead ECG if possible. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

I	• Continue EMT care.
	• Establish IV/IO and administer 500 mL fluid bolus.
	• Administer **Atropine**
	  • **0.5 mg IV/IO Medical Control Order Required.** May repeat every 5 minutes with **Medical Control Order to a max dose of 3 mg.**
	• Begin transcutaneous pacing if the patient is in a 3rd degree AV block or 2nd degree type II block.
	  • Rate should be 70 bpm.
	  • Start current low and increase until mechanical and electrical capture is obtained.
	• Consider sedation
	  • **Versed 2 mg IV**, if time permits
	• Initiate ALS intercept if indicated.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care.
	• Begin transcutaneous pacing if the patient is in a 3rd degree AV block or 2nd degree type II block.
	  • Rate should be 70 bpm.
	  • Start current low and increase until mechanical and electrical capture is obtained.
	• Consider sedation
	  • **Ketamine 4-5 mg/kg IM or 1-2 mg/kg IV.**
	• Administer **Dopamine**
	  • **2-20 mcg/kg/min**.
	• Transport as soon as possible.
	• Contact the receiving hospital as soon as possible.

Unstable Bradycardia

Critical Thinking Elements

- Bradycardia does not necessarily mean that a patient is unstable or requires interventions.
- Patients are considered stable if they are asymptomatic (i.e. alert, oriented, normal skin, and SBP > 100 mmHg).
- The patient is unstable if he/she presents with:
  - Altered level of consciousness
  - Diaphoresis
  - Dizziness
  - Chest pain or discomfort
  - Ventricular ectopy
  - Hypotension (SBP < 100 mmHg)

- Treat underlying etiologies according to appropriate protocol.
- Atropine is contraindicated in patients with normal or elevated blood pressure.
- Consider other factors when assessing bradycardic patients such as:
  - Health and physical condition (Athlete)
  - Current medications (Beta blockers)
  - Head trauma or injury (Cushing's triad)

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2150

Narrow Complex Tachycardia (>150 BPM) - Stable

EMR	• Perform **Routine Cardiac Care Protocol 2105**
EMT	• Continue EMR care. • Apply 12 lead ECG. Obtain a 12 lead ECG and transmit, if available. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible. If patient becomes unstable, refer to 2155 **Narrow Complex Tachycardia – Unstable.**

I	• Continue EMT care.
	• Establish IV access.
	• Administer a 500 cc IV fluid bolus.
	• If the patient is stable and pulse is greater than 150 beats per minute. Administer **Adenosine.**
	  • **6 mg IVP.**
	• If no response after 2 minutes. Administer **Adenosine.**
	  • **12 mg IVP.**
	• Initiate ALS intercept if indicated.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care.
	• If the patient is stable and pulse is greater than 150 beats per minute. Administer **Adenosine**
	  • **6 mg IVP.**
	• If no response after 2 minutes. Administer **Adenosine.**
	  • **12 mg IVP.**
	• Transport as soon as possible.
	• Contact the receiving hospital as soon as possible.

ADULT CARDIAC 2150

Narrow Complex Tachycardia (>150 BPM) - Stable

Critical Thinking Elements

- Tachycardia does not necessarily mean that a patient is unstable or requires interventions.
- Patients are considered stable if they are asymptomatic (i.e. alert, oriented, normal skin, and SBP > 100 mmHg).
- The patient is unstable if he/she presents with:
  - Altered level of consciousness
  - Diaphoresis
  - Dizziness
  - Chest pain or discomfort
  - Ventricular ectopy
  - Hypotension (SBP < 100 mmHg)

- Treat underlying etiologies according to appropriate protocol.

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ADULT CARDIAC 2155

Narrow Complex Tachycardia (>150 BPM) – Unstable

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Apply 12 lead ECG. Obtain a 12 lead ECG and transmit, if available. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

I	• Continue EMT care.
	• Establish IV access.
	• Administer 500 cc IV fluid bolus.
	• Consider sedation
	  • **Versed 2 mg IV** if time permits
	• **Synchronize Cardioversion** – Apply defibrillator pads and limb leads. Ensure synchronize mode is selected.
	  • For narrow and regular rhythm, administer 50 – 100 J.
	  • For narrow and irregular rhythm, administer 100 – 120 J.
	• Initiate ALS intercept if indicated.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care.
	• Consider sedation
	  • **Ketamine 4-5 mg/kg IM or 1-2 mg/kg IV.**
	• **Synchronize Cardioversion** – Apply defibrillator pads and limb leads. Ensure synchronize mode is selected.
	  • For narrow and regular rhythm, administer 50 – 100 J.
	  • For narrow and irregular rhythm, administer 100 – 120 J.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2160

Wide Complex Tachycardia (QRS ≥ 0.12)- Stable

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Apply cardiac monitor and obtain 12-lead ECG and transmit to receiving facility, if equipped. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Place defibrillation patches as soon as possible in the event that the patient becomes unstable. • Perform 12-lead ECG and transmit to receiving facility. • Initiate IV/IO normal saline or lactated ringer TKO or saline lock. • Consult **Medical Control.** Medical control may order **Amiodarone** ○ **150 mg IV** over 10 minutes. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2165

Wide Complex Tachycardia (QRS ≥ 0.12)- Unstable

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Apply cardiac monitor and obtain 12-lead ECG and transmit to receiving facility, if equipped. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Place defibrillation patches. • Perform 12-lead ECG and transmit to receiving facility. • Initiate IV/IO normal saline or lactated ringer TKO or saline lock. • Consider sedation • **Versed 2 mg IV**, if time permits; • If wide complex and regular, perform synchronized cardioversion at 100J. • If wide complex and irregular, defibrillate. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Consider sedation • **Ketamine 4-5 mg/kg IM or 1-2 mg/kg IV.** • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

ADULT CARDIAC 2170

Implanted Cardiac Defibrillator

EMR	• Perform **Routine Cardiac Care Protocol 2105.**
EMT	• Continue EMR care. • Apply cardiac monitor and obtain 12-lead ECG and transmit to receiving facility, if equipped. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Treat arrhythmias according to appropriate protocol. • Initiate ALS intercept if indicated. • Consider sedation • **Versed 2 mg IV**, if time permits • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Initiate ALS intercept if indicated. • Consider sedation • **Ketamine 4-5 mg/kg IM or 1-2 mg/kg IV.** • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2205

Cardiac Arrest

EMR	• Initiate CPR in accordance to AHA guidelines • Follow **High Quality CPR Procedure 9095.** • Apply AED and follow prompts • Ensure transporting ALS unit has been dispatched.
EMT	• Continue EMR Care. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Treat according to PALS guidelines. • Transition to cardiac monitor. Defibrillate as indicated according to monitor guidelines. • Initiate vascular access. Give **Epinephrine 0.1mg/mL** • **1 mg IV/IO. Repeat every 3 – 5 minutes.** • Secure airway with ETT or King Airway. • Consider underlying etiology. • Continue to work the patient until ROSC occurs or a cease efforts order is given. • Contact receiving facility as soon as possible. • Follow appropriate protocol regarding patient's rhythm. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • Place OG tube if time permits. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2210

Ventricular Fibrillation / Pulseless Ventricular Tachycardia

EMR	• Follow **Cardiac Arrest Protocol 2205.**

EMT	• Follow **Cardiac Arrest Protocol 2205.**

I	• Continue EMT care.
	• Treat according to PALS guidelines.
	• Perform two minutes of CPR. Evaluate rhythm. If VF or pulseless VT defibrillate at 2 j/kg, subsequent defibrillations should increase by 2 j/kg each time with a max dose of 10j/kg.
	• Immediately resume compressions after defibrillation.
	• Initiate IV/IO access. Administer fluid bolus. Be cautious with dialysis patients.
	• Administer **Epinephrine 0.1mg/mL**
	  • **0.01 mg/kg IV/IO. Repeat every 3 – 5 minutes.**
	• Repeat CPR in two minute cycles. Evaluate rhythm. If VF or pulseless VT defibrillate.
	• After three cycles and patient remains in VF / pulseless VT, administer **Amiodarone**
	  • **5mg/kg IV** may repeat twice if initial dose does not convert arrhythmia.
	• Intubate in able to perform without interrupting chest compressions. If unable to intubate place BIAD.
	• Monitor ETCO2.
	• Consider possible causes and treat appropriately.
	• Initiate ALS intercept if indicated.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care. • Place OG tube if time permits. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2215

Pulseless Electrical Activity and Asystole

EMR	• Follow **Cardiac Arrest Protocol 2205.**

EMT	• Follow **Cardiac Arrest Protocol 2205.**

I	• Continue EMT care. • Treat according to PALS guidelines. • Initiate IV/IO access. Administer fluid bolus 20mL/kg, may repeat once. Any bolus >40mL/kg, consult **Medical Control**. • Administer **Epinephrine 0.1 mg/mL** • **0.01 mg/kg IV/IO. Repeat every 3 – 5 minutes.** • Intubate in able to perform without interrupting chest compressions. If unable to intubate place King Airway. • Monitor $ETCO_2$. • Consider possible causes and treat appropriately. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

P	• Continue ILS care. • Place OG tube if time permits. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2220

Bradycardia

E
M
R
	• Follow **Routine Patient Care 1205**.
	• Identify state of Hypoperfusion
	  • Respiratory Difficulty
	  • Cyanosis
	  • Cool Skin
	  • Hypotension
	  • Decreased Level of Consciousness
	• Support respirations, if indicated.
	• If the child is less than 12 months old and despite oxygen and ventilation the child continues to be hypo-perfused and has pulse less than 60 beats per minute, initiate chest compressions.

E M T	• Continue EMR care. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

I	• Continue EMT care.
	• Initiate IV/IO access. Administer fluid bolus 20mL/kg, may repeat once. Any bolus >40mL/kg, consult **Medical Control**.
	• Administer **Epinephrine 0.1 mg/mL**
	  • **0.01 mg/kg IV/IO. Medical Control** order required. Repeat every 3-5 minutes as necessary.
	• Administer **Atropine**
	  • **0.02 mg/kg IV/IO. Medical Control** order required.
	• Initiate ALS intercept if indicated.
	• Transport as soon as possible.
	• Contact receiving facility as soon as possible.

P	• Continue ILS care. • If patient continues to be bradycardic with hypo-perfusion, initiate transcutaneous pacing. Contact **Medical Control** for rate. May administer **Midazolam** for sedation. • **0.1 mg/kg IV**. • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2225

Narrow Complex Tachycardia

EMR	• Follow **Routine Patient Care 1205**.
EMT	• Continue EMR care. • Attempt vagal maneuver. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Initiate IV/IO access. Administer fluid bolus 20mL/kg, may repeat once. Any bolus >40mL/kg, consult **Medical Control**. • Administer **Adenosine** • **0.1 mg/kg IV**. **Medical Control** order required. Repeat at **0.2 mg/kg IV** with **Medical Control** order. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • If patient continues to be tachycardic with hypo-perfusion, initiate synchronized cardioversion, begin with 1 J/kg and then increase to 2 J/kg if needed. May administer **Midazolam** for sedation. • **0.1 mg/kg IV.** • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2230

Wide Complex Tachycardia

EMR	• Follow **Routine Patient Care 1205**.
EMT	• Continue EMR care. • Attempt vagal maneuver. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
I	• Continue EMT care. • Initiate IV/IO access. Administer fluid bolus 20mL/kg, may repeat once. Any bolus >40mL/kg, consult **Medical Control**. • Administer **Lidocaine** • **1 mg/kg IV over 2 minutes**. **Medical Control** order required. Repeat every 5 minutes at **0.5 mg/kg IV** with **Medical Control** order. Max dose administered is 3 mg/kg. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.
P	• Continue ILS care. • If patient continues to be tachycardic with hypo-perfusion, initiate synchronized cardioversion, begin with 1 J/kg and then increase to 2 J/kg if needed. May administer **Midazolam** for sedation. • **0.1 mg/kg IV.** • Transport as soon as possible. • Contact receiving facility as soon as possible.

HSHS St. John's SAMIC EMS

PEDIATRIC CARDIAC 2235

Neonatal Resuscitation

E
M
R
	• Follow **Routine Patient Care 1205**.
	• Warm and maintain normal temperature, position airway, clear secretions if needed, dry and, stimulate.
	• After stimulation:
	  • If the baby develops labored breathing or persistent cyanosis: position and clear airway, monitor SpO2, administer supplemental O2.
	  • If the baby continues to be apneic, is gasping, or heart rate is below 100 bpm: administer positive pressure ventilations and monitor SpO2.
	• If the baby's heart rate stays below 100 bpm: check chest movement, and ventilate.
	• If the heart rate is below 60 bpm: begin chest compressions, coordinate with positive pressure ventilations with 100% oxygen.

E M T	• Continue EMR care. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

I	• Continue EMT care. • Initiate IV/IO access. Administer fluid bolus 20mL/kg, may repeat once. Any bolus >40mL/kg, consult **Medical Control**. • Administer **Epinephrine 0.1 mg/mL** • **0.01 mg/kg IV**. • Initiate ALS intercept if indicated. • Transport as soon as possible. • Contact receiving facility as soon as possible.

P	• Continue ILS care. • Transport as soon as possible. • Contact receiving facility as soon as possible.