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This is the property of the St. John’s EMT Squad
It is a private document not intended for use
outside the campus community.
Members will be asked to return them at completion
of service on the squad.
St. John's EMT Squad Mission Statement

St. John's EMT Squad is a volunteer organization designed to provide high quality emergency medical care to the St. John's community. First Responders and EMTs are an integral part of the campus health care team. They provide 24 hour response to all types of medical emergencies in a variety of campus locations. Medical supervision is provided by the campus physician, who serves as the Medical Director.

Code of Conduct

1. St John's EMT Squad members will be expected to maintain high standards of professionalism.

2. **Confidentiality**
   All squad calls become a part of the patient's permanent medical record. The information in the call record is subject to the rules and laws governing medical confidentiality. Squad members will not discuss the nature of any call with any member of the student body or general media.
   Any breach of this confidentiality is grounds for review by the medical director and potential immediate dismissal.

3. **Compassion**
   Squad members will be expected to treat each other and every patient in a respectful and compassionate manner; at all times acknowledging the dignity we share as members of the human community.

4. **Common Sense**
   No educational program can prepare a First Responder or EMT for the wide variety of emergencies which occur in real life. One of the most valuable qualities of an EMT is common sense - the ability to think in unfamiliar situations. Decisions in the field must always be made to protect the health of the patient.

Important Phone Numbers:

- St. John's Security.................................x2144
- Emergency............................................x911
- Gold Cross Ambulance Local..............320-251-8505
- Gold Cross Ambulance Dispatch..........Contact LSS Dispatch
- St. John's Health Center......................x3142
- St Cloud Hospital ER.........................255-5656
- Stearns County Sheriff Dispatch.........320-
- Poison Control.................................1-800-222-1222
- Medical Director..............................Contact Dispatch (available via pager)
- EMS Coordinator..............................Contact Dispatch
Medical Direction

Medical Direction is provided by the campus physician(s) employed by the St John’s Health Center.

Medical direction at St John’s is primarily exercised through delegated authority to the EMS Coordinator and through written guidelines and procedures.

St John’s EMTs are well trained and capable of handling nearly any emergency they should encounter. Members can quickly evaluate life threatening emergencies and confirm advanced care is en route while establishing necessary immediate treatments.

Non-life threatening emergencies and requests for service should be handled per guidelines with appropriate referral for follow up or further care as outlined in these guidelines.

The word guideline and protocol are used interchangeably in this document to reflect the medical direction philosophy that each emergency situation is unique. SJU EMTs are expected to use their best judgment in applying these guidelines to specific patient encounters. It is not expected that deviation from these guidelines should be a common occurrence. Deviation should be thoroughly documented on the patient care record (PCR).

Advanced Life Support Ambulance

St John’s Life Safety Services Dispatchers screen all requests for EMT response for certain types of calls that will likely require Advanced Care. These types of calls are:

- Shortness of breath (unable to speak short sentences and not improving)
- Chest Pain in patients >40 years old
- Active Seizure
- Burns greater than an entire arm or leg
- Obvious broken long bones (i.e. leg)
- Unconscious patients
- Uncontrollable Bleeding
- Choking Patients

When requesting ambulance response for these types of patients, Dispatchers will request a priority or lights and siren response. St John’s EMTs should make every effort to update responding ALS crews if a lower grade response is appropriate or if the call is unfounded.

For all other requests for ALS Ambulance response, St John’s EMTs should give the dispatcher the following information:

- Chief Complaint
- Age and Sex of Patient
- Response Mode Requested (Priority/ Lights and Siren) or Routine
On-Line Medical Direction:

Remember that there are a wide variety of medical personnel on campus: Medical Doctors, Physician’s Assistants, Registered Nurses, and Licensed Practical Nurses. All of these have particular skills and specialties other than those of first responders or EMTs. These other team members may be consulted for assistance when necessary and available.

Consultation:

Should a call be encountered where assessment of injury/illness is unclear or you would like additional advice, the Medical Director or St John’s Health Center PA can be contacted for consultation.

Procedures for consultation:

- During business hours attempt to phone the Health Center directly. Health Center Hours: Monday - Friday: 9:00 a.m. - 5:00 p.m. (except holidays)

- During times other than business hours you may request LSS Dispatcher to page Medical director. Be certain to have LSS Cell phone on and in service. Request Dispatch to page to the LSS phone you are using.

When contacting the Medical Director, Physician’s Assistant, or Health Center Nurse, be prepared with the following information:

- Responder's name
- Patient's name, sex, and approximate age
- Location
- Chief complaint
- History of event
- Duration of symptoms
- Any associated medical history
- Vital signs
- Assessment of problem
- Treatment given so far
- What you’d like from Health Center Staff
Standard Run Protocol

When responding to a call, Squad members will identify themselves by first name and state that they are a member of the St. John's EMT Squad.

1. St John’s EMS is activated.
2. St John’s EMS Duty Squad is paged and begins to respond.
3. Arrive, assess the scene and take any necessary safety precautions (PPE)
4. Identify and introduce yourself and partner(s) as members of the St John’s EMT Squad to the patient and by-standers.
5. Identify chief complaint and mechanism of injury /nature of illness.
6. Conduct Initial Assessment
   IF LIFE THREAT PRESENT, ENSURE ALS ENROUTE

7. Conduct Detailed or Rapid Assessment as indicated. (SAMPLE, OPQRST)
   a. Minimally, one complete set of vital signs on every call is required
   b. Consider checking blood sugar in all patients with altered mental status.
      *EMTS may offer to check blood sugar on all patients as community service
8. Assessment and treatment according to guidelines and/or consultation.
9. Disposition: See Disposition Section

Termination of run:
1. Clean scene. Return the scene to pre-run condition.
   (This includes any biohazard clean up.)
2. Wipe down the exterior of the jump kit.
3. Disinfect any contaminated equipment.
4. Complete the run form.
5. Restock any used supplies.
6. Change oxygen tanks when less than 1200 PSI.
7. Inform Supplies and Equipment Director of any deficient equipment, supplies or needed repairs.
Patient Disposition:
Not all patients encountered will require care and/or transportation beyond that given by the St John’s EMTs. Alternate options are detailed below:

1. **Releasing patient to self.** After thorough assessment of the current complaint, and no threat to life or limb has been determined and current complain has been addressed, St John’s EMTs may release the patient without transporting or ALS evaluation.

2. **Release for immediate or delayed follow up**
   Often times this kind of release will be accompanied with encouragement for the patient to be further evaluated immediately, as soon as practical (i.e. within 24 hrs), or if complications arise. In all cases, the patient should be advised of possible complications as outlined in specific guidelines. Referrals may be to the following:
   a) St John’s Health Center
   b) St Cloud or other ER (immediate by private vehicle)
   c) St Cloud Express Care or other Urgent Care Center
   d) Primary MD / Clinic

3. **Releasing to another responsible person.**
   a) Prep School minors or siblings of SJU/CSB Students may be released to parent/guardian or another responsible adult (i.e. sibling, Faculty Resident, Camp Councilor, or Prep School Staff)
   b) Minor patients who have no ties to SJU should be released to parent / guardian only. St John’s EMTs should request assistance from LSS Officer in determining proper guardian to release the minor patient to.

   **NOTE:** Document well to whom minor patients are released. This may include Drivers License number. Include Life Safety Services Officer is this decision.
   c) Intoxicated patients should be never be released to another responsible person. Intoxicated persons with no medical complaint may be released to Life Safety Services Officer who then will determine disposition.

4. **Releasing Against Medical Advice (AMA).** Competent Adults may elect to refuse care from you, sometimes against your judgment for further evaluation or care. See AMA Section for elaboration.

5. **Release to Ambulance.** Should patient require ambulance transportation or ALS treatment, Gold Cross Ambulance will be paged.
   a) ALS is requested automatically in select emergency cases
   b) Consider ALS treatment for pain relief as well as treatment for Life Threats
   c) ALS ambulance should be requested with an appropriate response (i.e. lights and siren vs. routine)

Consider ambulance transport for cases when the patient cannot safely ambulate or safe transport is not available. Early in each call the responding crew needs to decide whether ALS care and/or transport by ambulance may be necessary. A response of 15-25 minutes from time of request is not uncommon.

**AT NO TIMES SHOULD A PATIENT EXPERIENCING SHORTNESS OF BREATH OR OTHER POTENTIAL THREAT TO LIFE OR LIMB BE TRANSPORTED BY PRIVATE VEHICLE**
Refusal of Care / Against Medical Advice

A competent adult may refuse care and/or transportation by EMS personnel provided they have mental capacity, legal capacity, and sufficient knowledge to make an informed decision.

*Mental Capacity (Competency):*
Mental Capacity may be affected by the current injury or illness, underlying health or mental condition or may be affected by medication, drug or alcohol consumption. Consumption is not of itself a barrier to full capacity. SJU EMTs should use evaluation of patient’s behavior, speech, speech patterns, ability to stand, ability to respond correctly to simple questions and commands to determine mental capacity. As mental capacity is required to consent for treatment, every PCR should contain statements concerning every patient’s mental capacity.

*Legal Capacity (Majority)*
Legal capacity is considered for people who have reached legal age (18 in Minnesota), have become legally emancipated, or females who have become pregnant.

Minors of age 16-18 may be considered pseudo-adults in cases where the individual displays adult-like abilities in living arrangement or in life decisions. Thorough documentation is key when allowing a minor in this age group to be treated as an adult.

*Knowledge*
The patient must understand the present illness or injury, understand the extent and severity of illness/injury and understand the consequences of not seeking aid at this time. EMS personnel are required to educate the patient to the best of their ability about the nature of the illness or injury. Further, EMS personnel should explain reasonable and potential consequences of the patient’s decision to decline care and/or transportation.

St John’s EMTs must document well all attempts to convince a patient of their need further treatment or transportation. Often great description is needed to adequately describe a patient’s Mental Capacity and how you ensured the patient had adequate information to make an informed decision.

Source: The Missing Protocol, A Legally Defensible Report; Denise H Grahm Clemens Publishing
Cardiac Emergencies: Cardiac Arrest:

Defibrillation with the AED should be the primary means of resuscitation along with CPR. If the AED is unavailable, CPR should be performed until the AED arrives.

Ensure ALS is en route and aware of full arrest.
Consider need for addition manpower (EMT Back Up Crew or St John’s Fire Dept)
Universal Precautions with special emphasis on eye and mask protection
Check ABC’s: VERIFY UNCONSCIOUS, PULSELESS AND APNEIC
Initiate CPR, Insert Oral Airway / Ventilate
Placement of the AED Electrodes & ANALYZE as soon as possible

Pediatric Considerations: St John’s AEDs are not capable of supporting reduced energy pediatric electrodes. For children (less than 12 years old) first complete one minute of CPR, evaluate, then begin AED sequence as with an adult

Hypothermic Arrest: Pulse check should be performed for at least 20 seconds. If no pulse is found, up to 3 shocks may be delivered. Additional shocks should NOT be delivered until warming takes place. Continue CPR until ALS arrival.
Cardiac Emergencies: Chest Pain of suspected Cardiac Nature

Follow Standard Run Protocol

Assess for Past Pertinent History:
- Onset
- Duration
- Location
- Radiation
- Character
- Recent Illness
- Trauma
- Medications
- Allergies

Risk Factors:
Previous cardiac conditions
- Age
- Smoker
- Male thru age 50

Risk Factors:
- Family History
- High cholesterol
- Respiratory problems

Consider all females over 40 yrs complaining of shortness of breath to be suffering a cardiac event until proven otherwise

Physical Exam:
- Monitor Vital Signs Frequently

Treatment:
- Ensure ALS en route
- Reassure the Patient
- Place Patient in a Position of Comfort
- Administer High Flow Oxygen via NRB
- Administer 4 baby aspirin (324mg) to patient provided they are not allergic to it
  - If patient currently taking aspirin daily, reduce dosages to one 81 mg tablet.
- Administer Nitroglycerin according to SJU Nitroglycerin protocol
- AED discreetly at patient side
- EMTs prepared to assist ventilations

Nitroglycerin Brief:

If patient’s BP > 110 systolic and chest pain is unrelieved by oxygen, EMT may give ONE metered nitroglycerin spray sublingually.

If chest pain unrelieved in 3 -5 minutes, nitro administration may be repeated up to two times waiting 3 - 5 minutes between each dose as long as systolic blood pressure remains above 110 mmHg

NOTE:
Some patients react to Nitroglycerin with a precipitous drop in blood pressure. Be prepared to elevate legs and assist respirations.
Altered Mental Status:

Many underlying disease or injury states can cause an alteration in a patient’s mental status. A simple differential diagnosis could include all of the following:

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<th>Environmental</th>
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<td>Hypoglycemia</td>
<td>Heat Stroke</td>
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<tr>
<td>Cerebral Contusion</td>
<td>Hyperglycemia</td>
<td>Heat Exhaustion</td>
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<tr>
<td>Epidural hematoma</td>
<td>Ketosis</td>
<td>Hypothermia</td>
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<td>Subdural hematoma</td>
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<td>Intracerebral hemorrhage</td>
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<td>Stroke</td>
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<td>Embolic/Thrombolic Hemorrhag</td>
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<td>TIA</td>
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<td>Tuberculosis</td>
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<td>Muscular Dystrophy</td>
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| Cardiac Causes              |                        |                    |
|------------------------------|                        |                    |
| Cardiac Arrest               |                        |                    |
| Cardiac dysrhythmias         |                        |                    |
| Aortic Stenosis              |                        |                    |
| Carotid Sinus Syncope        |                        |                    |
| Orthostatic hypotension      |                        |                    |
| Left ventricular failure     |                        |                    |
| Cardiogenic Shock            |                        |                    |

Provide Basic Life Support until a likely cause of the altered state can be identified. Priority Response of ALS Ambulance is warranted.
Diabetic Emergencies

Follow standard run procedures

Once a diabetic emergency has been assessed, attempt to ascertain normal insulin dosages, time of last meal, any unusual or excessive physical activity, mental status, breath odor, tachycardia, or tremors.

Treatment

Obtain Glucometer reading

**SYMPTOMATIC LOW GLUCOSE LEVELS**
If conscious, administer oral glucose.

If Unconscious
Oxygen high flow via NRB, when possible.
Administer one unit dose Glucagon

Re-check blood sugar using the glucometer.

Glucagon is to be administered according to the protocol on p.

Glucagon Failure / Unable to administer:
Place unconscious patient on side
Administer oral glucose to patient cheek. Use care, patient may bite.
Prepare to suction secretions.

**SYMPTOMATIC HIGH GLUCOSE LEVELS**
-All "high" readings or readings above 400 mg/dl on glucometer may only be released to Gold Cross Ambulance.

Diabetic emergencies often present as an altered level of consciousness, the patient may look and smell drunk. Most diabetic emergencies encountered on a college campus are caused by low sugar (hypoglycemia).

Patients will often respond in a few seconds to glucose administration.

**Conditions for release:**

*Minor reaction without loss of consciousness*
Two glucometer readings >60 mg/dl, return of normal mental status and discussion of plan of care (i.e. witnessed food consumption) the patient may be released to self after oral glucose is given.

*All patients with loss of consciousness must be evaluated by ALS/Gold Cross. All patients who receive glucagon must be evaluated by ALS/Gold Cross.*

**NORMAL GLUCOSE LEVELS**

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<th>Children</th>
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<td>Levels below 50-60 mg/dl are problematic</td>
<td>80-100 mg/dl</td>
<td>60-80 mg/dl</td>
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<td>Levels higher than 400 also of concern</td>
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**TREATMENT IS BASED ON SYMPTOMATIC COMPLAINTS**
Allergic reactions occur when a sensitized person is exposed to an allergen. Reactions can be local or systemic; minor or serious in nature.

Anaphylactic shock is an acute allergic reaction resulting in a precipitous drop in a person’s ability to regulate blood pressure and resultant shock state.

This guideline addresses systemic reactions involving a patient’s respiratory ability.

Follow Standard Protocol

Determine known allergies.
  Determine Route and Amount of exposure when possible.

Systemic reactions may occur immediately upon exposure, or some time after exposure (typically small amounts ingested orally). Rate of progression of symptoms may help indicate severity of the current episode.

Treatment:
  High Flow Oxygen
  Support ABCs
  Assure Patient comfort

  Ensure ALS enroute, especially for cases with increased respiratory effort.

For patients with respiratory difficulty, falling blood pressure or decrease in consciousness:

Administer epinephrine via Auto-Injector.

Onset of effects of epinephrine administered intramuscularly as with an Auto-Injector can be expected within 2-5 minutes. Onset is recognized by patient reporting increased heart rate or palpitations.

For severe reactions, a second dose may be required. For patients showing no improvement after 10 minutes, or worsening after 5 minutes, first consider alternate cause for current condition. If no other cause found, administer second dose via new Auto-Injector.

Duration of action for epinephrine may last 20-30 minutes. A second dose may be required if ALS response is prolonged.
Psychological & Psychiatric Emergencies

Life Safety Services will page St John’s EMTs only if the medical well being of the patient is compromised, if there are more individuals in crisis than the officer can handle, or if there has been a suicide attempt.

Officers may page and request standby status if the situation warrants.

Life Safety Officers will be activating their psychiatric emergency protocol.

The following people will be notified:
- The Life Safety Director or Assistant Director
- Prep School Dean of Students is notified if the patient is a Prep Student.
- The St. John’s Dean of Students is notified.
- If the patient is a CSB student, the SJU Dean of Students will contact the appropriate CSB Staff.

Counseling and Career Services personnel will be paged and respond.
Gold Cross Ambulance or Stearns County Sheriff’s Department may be requested as well.

Faculty Residents and Resident Assistants may be particularly helpful resources of information or as options to help diffuse a situation.

If paged to a psychiatric emergency:  Follow standard run procedures as well as possible.  Consider
- Previous psychiatric problems
- Recent head trauma
- Chemical dependency (CD)
- Crisis or emotional trauma
- Medications and possible overdose
- Alcohol consumption

Vital signs:
- Pay special attention to size and reactivity of pupils, heart rate and BP in overdose situations.
- Realize that vitals may need to be repeated

Mental Status:
Check for underlying medical cause for alterations in behavior (i.e. diabetes/hypoglycemia)

Special Notes:
- Do not attempt to restrain the patient unless s/he is in imminent danger and you have adequate resources to restrain without injuring the patient or yourself
- Talk calmly.
- Make no sudden movements
- Do not lie.
- DO NOT ENDANGER YOURSELF OR OTHER PERSONNEL.
- Do not leave the patient alone.
- Try to have at least two people with the patient for your safety as well as the patient's.

If the situation becomes more of a medical call than psychiatric related, the scene will be turned over to EMTs.
Restraining Patients

Restraining any patient should not be taken lightly. Patients should only be restrained when their actions pose a threat to their health and safety or the health and safety of rescuers or bystanders.

Never attempt to restrain a patient with inadequate personnel

Patients should not be restrained in a prone, or ‘hog-tie’ style as it may interfere with the patients ability to breath.

Restrains should be individualized and afford as much dignity to the patient as the situation allows. Attempt to accommodate patient comfort or special needs whenever possible.

SJU EMS does not stock specifically designed patient restraints. Suggested materials for
  Roller type gauze
  Long Spine Board
  Law Enforcement handcuffs

Roller gauze should be applied in several layers around the limbs intended to be restrained then tied to bed or stretcher.

Long spine boards may be used in conjunction with roller gauze for patient restraint. Keep in mind that placing a patient on a long spine board for extended lengths of time is NOT a benign procedure. EMS personnel should be mindful of pressure sores or friction from patient movement.

Law enforcement handcuffs should be used as a last resort in medical patients. Should handcuffs become necessary, documentation of frequent (i.e. every 10 minute) examinations of continued circulation and skin integrity should be made.

Handcuffs should only be placed by those trained in their proper application and removal. Double locking of handcuffs should be documented. At all times a handcuff key must be accessible to EMS personnel if it becomes necessary to loosen or remove them.

Patients who are in custody of law enforcement need not have their handcuffs removed to receive patient care.

Restrained patients must be continually observed by SJU EMS personnel until patient care is transferred.

While unfortunate, patient injury may occur directly due to the continued use of a restraint. Thorough documentation of timing and causation of all injuries is extremely important.

Frequent examination of integrity of restraints should be performed and documented as well as assessment of limb circulation, motion and
Respiratory Emergencies

Respiratory Emergencies arise from a wide variety of causes: allergic reactions, cardiac emergencies, chronic conditions (COPD) asthma, trauma, burns or others. Respiratory distress may be a symptom of an underlying condition such as hyperglycemia. Accurate initial assessment is critical to identifying the cause and initiating proper treatment. Consider need for ALS and/or Transportation early in the course of these calls.

Follow standard run procedure.
Evaluate and Support ABCs

History:
-Onset, nature, duration, severity of symptoms, deterioration, associated trauma, chest pain,

Past History:
-Chronic Obstructive Pulmonary Disease (COPD), asthma, cardiac problems, current medications.

Physical Assessment:
-Vital signs including temperature, respiration rate, pulse oximeter and BP. Include assessment for patency of airway. If airway is obstructed follow obstructed airway procedures.
-Lung sounds should be evaluated and documented.

Treatment
-Place patient in a position of comfort.
-If respiratory effort is sufficient (i.e. pulse oximetry <90%, administer oxygen via NRB.
-Be prepared to assist ventilations with BVM.

Consider cause of the respiratory emergency.

Pediatric Consideration:
NEVER insert anything into the mouth of a wheezing child. If the child is wheezing, there is some air flow. Place the child on parent’s lap (or other adult) and allow adult to hold oxygen mask for blow by administration.

Patients in respiratory distress should never be transported by private vehicle.
Respiratory Emergencies: Asthma
Patients with known history of asthma or patients exhibiting wheezing on exhalation.

Follow Standard Run Protocol
Assessment:
- Breath Sounds
- Pulse Oximetry

<table>
<thead>
<tr>
<th>Category I</th>
<th>Category II</th>
<th>Category III</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Unable to speak 3-4 word sentences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Accessory Muscle use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Hunched forward</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ MDI ineffective, used more than 4 times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Often audible wheezes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Breathless at rest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ No previous History of Asthma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ MDI ineffective, used 1-2 times</td>
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<td></td>
</tr>
<tr>
<td>□ Able to speak sentences/phrases</td>
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<tr>
<td>□ Wheezes on exhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Pulse Oximetry &gt;90% on room air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Prefers sitting</td>
<td></td>
<td></td>
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<tr>
<td>□ Breathless from talking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ History of Asthma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Missing or MDI not present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Can lie down</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Pulse Oximetry &gt;95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Wheezes may be heard only at end expiration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Breathless from activity</td>
<td></td>
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</tr>
</tbody>
</table>

Category I
Ensure ALS is enroute for patients in Category I
High Flow oxygen via NRB
Continuous Nebulized albuterol administered
Prepare for respiratory arrest
Required release to ALS

Category II
High Flow Oxygen
Nebulized albuterol
   If no improvement or worsening during 1st nebulizer treatment, request ALS
   Improvement is measured by increased pulse oximetry, decreased effort of breathing, and patient input
If no previous history of asthma, patient should be referred to clinic / ER for immediate follow up.
   May be transported via private car if breathing normally and sufficient pulse oximetry. Consider St John’s Health Center for proximity.

Category III
Mild attack, treatment with nebulized albuterol at patient’s request
Patient may be released to self after one treatment if patient reports improvement.
   Patient may be given second treatment or released for immediate follow up at Health Center.
Seizures

The most common cause for a seizure is an epileptic patient not taking his/her prescribed medication. Other causes include hypoxia, hyperthermia and head trauma.

Follow standard run procedure.
ALS / Gold Cross is automatically paged by dispatch
Ensure ALS is enroute, consider need for additional personnel.

IF ACTIVELY SEIZING:
- Never force any object between the teeth of an actively seizing patient.
- Do not forcibly restrain.
- Remove any sharp or hard objects from area.
- Gently support and cushion head / neck.
Administer Oxygen; consider assisting ventilations while seizing to ensure oxygenation.
It is crucial for EMS to assess adequacy of ventilation and assist if in adequate. Seizure activity may appear to stop when in fact the brain is still in active seizure.

IF UNCONSCIOUS OR POST ICTAL:
History:
- History of present episode if observed by bystanders, verify seizure occurred
- Onset: facial shaking or tremors, aura, fever or illness
- Duration of seizures
- Loss of bowel or bladder control
- Antecedent trauma
- Level of consciousness after seizure (AVPU, A&Ox3)

Past History:
- Previous seizure activity
- Medications *(failure to take)*
- Diabetes?
- Drug or alcohol consumption

Physical Assessment:
- Vital signs: temperature, pulse, BP, and assessment of a patent airway.
- Consider need for PPE for potentially infectious etiology

Treatment:
- Support ABC’s

**Oxygen high flow via NRB, assist with BVM as indicated**
- Patients glucose status should be assessed
- If unconscious attempt to insert oral airway, suction as necessary.
- Primary goal is to maintain a patent airway and to protect patient from further harm.

- AN UNWITNESSED FIRST SEIZURE SHOULD BE TREATED AS A HEAD INJURY UNTIL PROVEN OTHERWISE.
Traumatic Injuries

Shock
Shock is defined as inadequate tissue perfusion. There can be multiple causes of shock: trauma-hemorrhage, seizures, acute MI (cardiogenic), anaphylaxis, acute spinal cord injury, diabetes, etc. Shock is a life-threatening emergency no matter what the cause. Prompt, rapid and accurate assessment is vital.

Hemorrhage
Hemorrhage is defined as major blood loss. Most often this will be the result of significant trauma. However, hemorrhage can result from non-traumatic events such as a ruptured ovarian cyst and from minor trauma such as a scalp wound.

Chest Injuries
Special attention should be paid to effort and effectiveness of breathing in addition to assessment for wounds.

Abdominal Injuries
Remember that significant chest and abdominal injuries can cause massive internal hemorrhage and shock. Also remember to look for hidden injuries; do not focus solely on the obvious.

Medical History:
- Is the patient taking blood thinners?
- History of hemophilia or other bleeding disorders?

Physical Assessment:
- Vital signs – anticipate shock well before blood pressure drops
- Apply direct pressure to external wounds
- If no major limb trauma or suspected head trauma, elevate feet

Key concepts in treatment of trauma:
- Shock prevention
- Controlling bleeding
- High flow oxygen via NRB
- Shock position
- Give nothing by mouth
- Never remove impaled objects

Disposition
Consider need for ALS early in course of call.
**Rapid Transport is Crucial**

Package patient for rapid hand off to ALS unit.

Extremity wounds where bleeding has been controlled by direct pressure and bandaged
may be transported via private vehicle if both driver and patient are comfortable.
Minor Wounds: Referral Guide
This guideline is meant for minor, non-life threatening wounds.

St John’s EMTs must complete the wound care CME prior to utilization of this guideline.

Guidelines for Stitches
Sutures or stitches are one method for closure of a laceration or avulsion. St John’s EMTs will follow this guideline in providing advice to patients with minor wounds.

- Joints or Flex areas
- Face or cosmetic areas
- Wounds larger than 1.5 inches
- Wounds involving subcutaneous tissues (deeper than 0.25 inch- about the thickness of two quarters)

Would Cleaning
The goal of wound care and cleaning is to prevent infection and promote wound healing. Common sense and simple technique should guide St John’s EMTs in wound care and cleaning.

If the patient is being referred for immediate follow up care:
- Consider that any clinic or ER will be thoroughly cleansing the wound
- Limit wound care to controlling bleeding and preventing further contamination
- Do NOT use products like hydrogen peroxide, alcohol or benzalkonium as they only cause unnecessary pain and tissue damage
- Do not apply creams or salves to wound
- Moist dressings and simple bandaging is recommended.
- Instruct patient in bleeding control should would re-open prior to follow up

Delayed or No Follow Up
- Wound cleansing important!
- Soap and water is acceptable (and preferred!)
- If EMTs are requested to assist with wound cleansing:
  - Sterile saline or tap water is acceptable
  - Any antibacterial soap is acceptable (i.e. Dial, Soft Soap)
  - Use gauze pads and clean surrounding area first
  - Then cleanse immediately around the wound, then the wound itself
  - Frequently change gauze
  - Do not use hydrogen peroxide directly in wounds
  - There is evidence showing detrimental effects of alcohol based wound cleansers- best results are from a thorough irrigation with water alone!
**Bandaging Guide**

Wounds receiving immediate follow up care need only be lightly bandaged. Moist dressings are preferred as long as it does not create unacceptable heat loss.

Wounds receiving delayed aftercare should be dried. Antibiotic creams are acceptable and generally encouraged. Band-Aid type bandages or combinations of non-adherent dressings and gauze pads fastened to patient by either tape or roller gauze.

St John’s EMTs may offer supplies for one bandage/dressing change and encourage the patient to purchase any additional supplies as needed.

**Infection and Complications**

Infection presents with redness, swelling, drainage, pain, heat and/or irritation. Instruct all patients to be watchful of signs of infection and to seek further care should any signs appeal.

**Follow Up and Referral**

Minor wounds generally need immediate follow up for wound cleansing, closure or tetanus prophylaxis.

Tetanus status: All college students are required to have current tetanus vaccinations. St John’s EMTs should encourage immediate follow up for vaccination if the student’s previous vaccination was greater than 7 years ago.
Orthopedic Injuries

This guideline applies to isolated extremity injuries in the absence of threats to life or limb.
Only St John’s EMTs who have completed the Orthopedic Assessment course may perform joint specific examinations listed below.

The goal in treating orthopedic injuries is to assess for severity and execute proper treatment. Not all orthopedic injuries must be further evaluated immediately.

Follow standard run procedures.

-Ask the patient for history of event and determine the mechanism of injury
-Ask the patient "Have you moved the injured site?"
-Ask the patient if they think they could move the area (bear weight for leg/ankle
-Interview bystanders as necessary
-Manually stabilize the injury site
-Expose the area

Evaluation:
-Check distal CMS
-Observe for notable deformity, skin color, skin tenderness, or swelling.
-Bilateral comparison
-Palpate for point tenderness.
-Any open fracture, other than digit, requires transport via Gold Cross
-Any long bone fracture requires transport via Gold Cross.
-Ask patient if they think they can move the injured site.
   If yes determine active range of motion (AROM).

Perform orthopedic assessment appropriate for location

  **Toe:** Tap fracture test, direct palpation

  **Ankle:** Determine INVERSION or EVERSION injury, Tap fracture tests, Ligament palpation: Deltoid, calcaneofibular, posterior talofibular and anterior talofibular. Determine AROM and assess Achilles tendon via Thompson’s test. Do NOT perform PROM, drawer or inversion tests.

  **Knee:** Palpate tib/fib and femur for tenderness, palpate patella, Do NOT perform drawer, abduction, adduction or McMurray test.

  **Finger:** Tap fracture test, point palpation

  **Wrist / Hand:** Palpate distal ends of radius/ulna, palpate anatomical snuffbox, tap fracture tests of fingers. Pay special attention to any neurological involvement.

  **Elbow:** Palpate for joint stability and alignment, perform tap fracture tests, apply gentle squeeze to radius/ulna fracture test

  **Shoulder:** Palpate for stability and joint alignment
- If positive findings for a fracture are discovered, stabilize with appropriate measures and proceed to referral section.

If no signs of fracture, R.I.C.E., and splint or wrap as indicated by patient. Consider follow up within 48 hours if no improvement
Over the counter anti-inflammatory medications should be advised (Advil, Ibuprofen)
Encourage a program of 15-20 minutes ICE/COLD treatment followed by at least 40 minutes without ice.

**Follow Up and Referral**
Immediate referral is advised for suspected fractures of bones other than fingers or toes (these at patient’s discretion). Any finding of neurological impairment or interruption in circulation requires immediate referral.
As always patient pain and ability to safely ambulate are considerations in timing of referral and mode of transport.

**Crutches and Splint Check Out**
Crutches are available for use by students. If not returned in 14 days their account will be billed for the cost of replacement.
Encourage patients to return any reusable splinting material to Life Safety Services.

**Complications**
Patients should be informed of potential complications and how to identify signs and symptoms of these complications.

**Rest Ice Compression Elevation**
Potential Spinal Injury - Spinal Immobilization

Head and Neck injuries are some of the most serious and frightening you may encounter. Exercise extreme caution when dealing with CNS emergencies.

EMTs should know that not every injured patient requires spinal immobilization. Experience and mechanism of injury are two simple tools to aid in the decision to provide spinal immobilization.

Some patients clearly require spinal immobilization, others clearly do not. The following is a tool used to aid in sorting patients likely to have sustained cervical spine injury secondary to blunt trauma and is based on the NEXUS study.

The NEXUS study showed that with proper exam over 99% of actual cervical spine fractures can be identified using the decision tree listed below. This process offers a method to prevent all traumatic patients from being immobilized on a spine board.

For Blunt Traumatic Injuries in patients less than 65 and older than 12 years of age, the following decision tree should guide your decision:

Was there a loss of consciousness?

- NO
- YES

Are there ‘distracting’ injuries?

- NO
- YES

Is the patient a reliable historian?

- yes
- no

(no signs of intoxication?)

Abnormal Neurological Exam?

- NO
- YES

Pain or deformity upon cervical palpation?

- NO

Immobilization Indicated

Immobilization Not Indicated
The likelihood for spinal injury can be thought of as a continuum.

St John’s EMTs are expected to recognize patients who clearly warrant spinal immobilization and those who clearly do not. Should an EMT have doubts whether the patient requires immobilization after applying the NEXUS criteria, the EMT crew should take manual stabilization and await arrival of ALS for further assessment. Should the patient have other life threats or treatment concerns, err to the side of immobilization for the sake of quick hand-off to ALS ambulance.

Follow standard run procedures.

**History:**
- Mechanism of injury (MOI)
- Level of consciousness. Document over time, noting changes.
- Seizure?
- Was any head protection worn?
- Previous head or neck injury?

**Physical Assessment:**
- Document CMS in all four extremities over time
- Pain description
- Memory loss

**Treatment:**
- Establish ABCs
- Apply manual stabilization
- Apply cervical collar
- Transfer patient to a board using the appropriate technique.
- **DO NOT ATTEMPT TO IMMOBILIZE A PATIENT WITH INADEQUATE PERSONNEL.**
- High flow oxygen via NRB, Assist ventilations if inadequate.

At no times will a patient receive “partial” spinal immobilization (i.e. cervical collar without application of long spine board, or conversely spine board application without cervical collar.)
All patients who receive spinal immobilization will be transported to St Cloud Emergency Department by ambulance for further evaluation.
Poisoning Emergencies

In the University setting accidental poisonings are most likely to be from inhalation (i.e. chlorine fumes from the pool, industrial gases) or contact exposure to industrial agents.

Early in encounter try to determine if this was an accidental or intentional exposure.

Follow standard run procedures.

*TAKE EXTREME CARE NOT TO INJURE YOURSELF IN THE PROCESS OF TREATING PATIENT(S). BE SURE THE SCENE IS SAFE.*

Consider Need for Fire Department Assistance for Decontamination

History of event:
- Name of chemical
- Amount of exposure or time if known
- If possible obtain a container with label
- Time since exposure, duration of exposure, symptoms

Physical Assessment:
- Monitor vital signs closely, especially breathing characteristics.

Treatment:
- Any contact exposure to the eyes or skin should be immediately flushed with water (dry powders should be brushed off first).
- Flushing takes priority over transportation to ER.
- Remove contaminated clothing.
- ALS Evaluation and Transport is warranted in poisoning scenarios.
- May notify poison control for additional advice 1-800-222-1222.

Drug overdoses are combination medical / psychiatric emergencies. Consider activation psychiatric procedures

ALL DRUG OVERDOSES MUST BE TRANSPORTED to Saint Cloud ER via Gold Cross. There are NO EXCEPTIONS to this policy
Drug and Alcohol Emergencies

As on many college campuses, alcohol and other drug use can result in scenarios where emergency care is required. Often these cases present as alterations in mental status or as unconscious/unresponsive patients.

Follow standard run procedures
Determine level of consciousness and responsiveness
  ▪ If unconscious/unresponsive, ensure ALS is enroute
Determine and treat any Life Threats
  ▪ Ensure adequate ABC’s
Attempt to determine cause of alteration in mentation
  ▪ Signs or History of Head Injury or other Trauma
  ▪ Evaluate Blood Sugar Level
  ▪ Evaluate Potential Hypo/Hyper-thermia
  ▪ Signs/Symptoms of Stroke or Intracranial Hemorrhage

Drug and alcohol ingestion will generally fall into two categories:
1. Intentional Overdose (e.g. suicide attempts~). In these cases provide life support as needed and consider activation of Psychiatric Protocol. If an overdose victim is unconscious, and unarousable early activation of ALS is prudent.
2. Recreational or unintended overdoses:

History:
  ▪ Amount of ingestion over what time period
  ▪ Type of drug or alcohol, duration, modifying conditions, any medications.

Physical Assessment:
- Monitor vital signs, be prepared for vomiting. Monitor breathing and heart rate closely.

Disposition
St John’s EMTs may release competent patients to themselves
- If patient is alert and orientated to person, place, time, or other pertinent information.
- If patient is able to walk.
- If patient is able to keep self awake.

Patient may not be released:
- If significant other drug use is suspected.
- If patient significantly deteriorates in condition.
- If patient is not alert and orientated sufficiently.
- If protracted vomiting is observed.
- If exposed to extreme cold for an extended period of time.
  ▪ If there is a medical concern, ALS ambulance is warranted
  ▪ If there is NO medical concern, patient may be released to LSS or Stearns County Sheriff’s Department.

Apparently intoxicated patients may not be released to an apparently sober friend.
Pediatric Emergencies
In general, existing St John’s EMS guidelines are appropriate for pediatric patients encountered in the St John’s Community. Where necessary each guideline addresses concerns specific to pediatric patients.

Some factors to keep in mind:
- It is important to remain calm and as reassuring as possible when getting patient history and information from a child.
- Address patient as appropriate for age level
- Consider modifying your assessment technique to ensure a non-threatening presentation
- Use appropriate equipment for age and size of patient. St John’s EMS stocks pediatric Blood Pressure Cuffs, stethoscopes and other size appropriate BLS equipment.
- Judicious use of parental involvement can aid in assessment and reduce anxiety in the child and parent.
- Beware of signs of Child Maltreatment or Abuse. Report any concerns to the responding Life Safety Services Officer away from patient and parent prior to release.

Trauma and Shock
Children compensate for shock differently than adults do. A child in shock may not present immediately with signs and symptoms of shock. When shock does set in, often it is rapid. Be prepared accordingly.

Disposition
You may release a pediatric patient to a parent or legal guardian. Be certain to document to whom the child is released.

If the parents are not with the patient or are unavailable, be sure that the adult to whom the patient is being released has been properly identified as a guardian or authorized by the parent. St John’s EMTs are strongly encouraged to enlist the assistance of Life Safety Services Officers in assisting with the release of all pediatric patients.

<table>
<thead>
<tr>
<th>Age</th>
<th>Respiratory Rate</th>
<th>Pulse</th>
<th>Blood Pressure (systolic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth - 1 week</td>
<td>30-60</td>
<td>100-160</td>
<td>50-70 mmHg</td>
</tr>
<tr>
<td>1-6 weeks</td>
<td>30-60</td>
<td>100-160</td>
<td>70-95 mmHg</td>
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<td>6 months</td>
<td>25-40</td>
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<td>1 year</td>
<td>20-30</td>
<td>90-120</td>
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<td>3 years</td>
<td>20-30</td>
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</tr>
<tr>
<td>6 years</td>
<td>18-25</td>
<td>70-110</td>
<td>80-110 mmHg</td>
</tr>
<tr>
<td>10 years</td>
<td>15-20</td>
<td>60-90</td>
<td>90-120 mmHg</td>
</tr>
</tbody>
</table>
Burns:

Most burns encountered in the campus setting will be minor burns (surface and minor partial thickness). Such burns may be cleansed, dressed, and reevaluated within 24 hours by primary MD or clinic. Larger and deeper burns will require more definitive and immediate care.

Follow standard run procedures.

History of event:
- Type of burn
- Agent involved

Chemical: Brush dry, then copious irrigation
Thermal: cool with copious irrigation
Radiation
Electrical: remove source of electricity, then cool burn. Generally less cooling required.

Consider additional personnel and Fire Department for treatment and decontamination of special case burns.

**Smoke inhalation is a special case and requires Emergency Department evaluation**

Physical Assessment:
- Monitor vitals
- Description of size, location and extent of burn(s).
- Remember rule of nines
- Be prepared for breathing problems
- Check pulse, oximeter, and notify Medical Director
- If necessary oxygen high flow via NRB

Cool the burn! Stop the burning process.
Flush any chemicals
Anticipate SHOCK

Use good judgment in determining the severity of the burn.
The patient’s palm represents approximately 5% BSA

All electrical burns and significant smoke inhalations require ALS evaluation
Significant burns to fingers, face, joints and XX should be referred from immediate follow up and evaluation

Burns less than 10% BSA (body surface area) should be treated with WET dressings
Burns greater than 10% BSA should be treated with DRY dressings to prevent heat loss and exacerbate shock.

Consider ALS for pain management in all burns.

Consider Helicopter transport for burns with >30% BSA
Hazardous Materials

The Saint John’s Community contains areas of business where by necessity dangerous chemicals and substances are stored and used.

Storage areas should be clearly marked with internationally recognized placards. All individual storage containers should be similarly marked.

Keep in mind unmarked containers do not mean SAFE containers!

St John’s EMS role in a Hazardous materials incident is limited to operations in the COLD zone.

St John’s EMTs should not participate in decontamination unless specifically trained by St John’s Fire Department.

St John’s EMTs who find themselves in the hot zone prior to recognizing the HAZMAT situation should immediately proceed to the primary decontamination area. If no such area has been set up, EMTs should proceed at least 15-20 yards from incident site and remain in that area. Contaminated EMTs should radio dispatch and other responding units to inform them of the hazard and other scene information. All contaminated equipment should be removed from service and bagged until decontaminated and placed back into service.

HAZMAT scenes often require larger numbers of responders due the labor intensive nature of decontamination.
Environmental Emergencies: Heat

Many heat emergencies result from over exertion in hot and humid weather. Other contributory factors include drugs or alcohol consumption or underlying dehydration. Age and general health contribute to heat tolerance.

Follow standard run procedure.

Vitals:
- Take temperature.
  - In absence of thermometer record relative skin temperature at head and trunk.
  - Special attention should be paid to irregular pulse rates

History of injury:
- Drug or alcohol ingestion
- Medications
- Other medical history

Be prepared for seizure activity and respiratory arrest/compromise

Treatment:
Begin appropriate field measures to cool the patient.
- Remove restrictive clothing
- Shade and fan the patient.
- Ice packs should be used with caution- in some patients the precipitous drop of temperature may trigger cardiac or seizure activity.
  - If ice packs are utilized, do not place directly on patient's skin
  - Consider moving patient to cool environment if safely feasible.

Administer oral fluids with care, as vomiting is a likely occurrence.
Avoid caffeine and carbonated beverages.

Consider need for ALS for treatment or transport early in call
- Any decrease in LOC
- 'Extremes' of age (greater than 50 or less than 10)
- Chest Pain or any Cardiac History
Environmental Emergencies: Cold

St John’s University enjoys a northern climate with ample opportunity for cold weather.

Hypothermia

Hypothermia is defined as the decrease in core body temperature. A core temperature drop of as few as 5 degrees can result in the first signs of hypothermia.

Mild to Moderate

Occurs when core body temperatures drop to 94°-84° and is marked by slowed mentation, slowed movement, peripheral vasoconstriction. Patient may exhibit violent shivering. The absence of shivering in a hypothermic patient is a sign that severe hypothermia is setting in.

Severe Hypothermia

Severe hypothermia is marked by core body temperatures below 84°. These patients are unconscious or stuporous and require immediate advanced care.

NOTE: Temperatures are listed for reference only. EMTs should not attempt to diagnose severity of hypothermia by temperature, rather by other symptoms.

Treatment

Minor to Mild hypothermia can be treated by responders and requires follow up care only if complications arise. Moving the patient to a warm environment, removing wet and cold clothing and replacing with warm, dry clothing is generally the only treatment required.

Patients may be allowed to drink warm liquids to aid in re-warming. Quantities should be limited to reduce chance of vomiting.

Disposition: In general, these patients may be assisted to a warm environment and monitored for qualitative improvements prior to release. Patients may be encourage to bathe or shower in warm (not hot) water to aid in rewarming. St John’s EMTs may escort the patient to their place of residence with Life Safety Services assistance.

Moderate Hypothermia requires monitoring while the re-warming process is carried out. These patients should be evaluated and transported by ALS ambulance. Re-warming as with minor to moderate hypothermia should be carried out while awaiting the arrival of ALS.

Severe Hypothermia requires cardiac monitoring and careful, gradual rewarming. Hypothermia with loss of consciousness is a LIFE THREATENING EMERGENCY! Handle these patients carefully as rough handling may induce cardiac arrhythmia.

Cardiac Arrest: confirm absence of pulse for at least 25 seconds prior to attaching defibrillator. St John’s EMS may administer up to 3 shocks. Further shocks should not be administered until significant warming has occurred. CPR should be provided until ALS arrival.

Be prepared to gently assist respirations.

Combinations of hypothermia and extensive frostbite are indications for ALS evaluation and transportation.
Frostbite
Frostbite is localized tissue damage occurring from cold exposure or freezing. On the tissue level there are many similarities to burns in the degree and type of damage that occurs.

Treatment
Localized superficial frostbite may be treated by gentle re-warming with warm towels or tepid water. Care should be exercised to prevent further damage to injured skin by hot water. Frostbite greater than 5% body surface area (BSA) should be immediately referred for further care.

Circumferential frostbite on fingers or toes should be referred for further evaluation, especially for frostbite deeper then superficial.

Deep Frostbite typically occurs on the hands and/or feet and is exhibited by the appearance of being frozen. EMTs should not attempt to thaw frozen body parts. ALS evaluation and transportation should be initiated early in these cases for pain management and potential shock.

Immersion Hypothermia
Immersion in cold water greatly accelerated the loss of core body temperature and the onset of hypothermia. Symptoms and treatments are similar to those for general hypothermia and are focused on removing wet clothing and moving to a warm, dry environment.

The progression to severe hypothermia can occur rapidly. Rescuers should anticipate cardiac and respiratory compromise, decreased or loss of consciousness in addition to other signs of hypothermia.
Guideline for the administration of Oral Glucose / Oral Dextrose

**Action:** A readily available source of glucose, easily absorbed by the body in both GI and direct oral absorption.

**Indications:**
- #1 KNOWN hypoglycemia
- #2 Unknown, but strongly suspected hypoglycemia (i.e. known history of diabetes or hypoglycemia)

**Contraindications:** Elevating existing glucose levels can be harmful in settings of intracranial hemorrhage and stroke (either hemorrhagic or embolic/thrombolic).

**Precautions:** As with any oral medication, care must be given when administering to patients who are less than fully conscious.
- Suction must be immediately available
- When administering, it may become necessary to place a finger in the patients mouth- use care to avoid being bitten

**Pharmacokinetics:**

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5-15 mins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Administration:**
In semi-alert patients:
- Work to convince patient to self-administer 1 unit dose of glucose
- Glucose may be transferred to cup and mixed with water or other beverage to aid in convincing patient to administer
- Alternately, fruit juice, non-diet soda pop or other fast acting liquid carbohydrates may be used. Attempt liquids before solids as they are absorbed quicker.

In less than fully conscious patients:
- Place the patient in lateral recumbent position
- Administer 1 unit dose in the ground side cheek, taking care to monitor where secretions and administered glucose travel. Responders should be supremely aware of preventing aspiration.

**Notes:**
- Oral glucose is rapidly absorbed; however patient may gradually become more responsive over time.
- Patients with extremely low blood sugars may not respond to a single dose of glucose.
- **Glucagon is preferred treatment in unconscious patients when available.**

ALS should be enroute while treating any patient with decreased Level of Consciousness
Guideline for the administration of Aspirin

**Action:** A mild analgesic, aspirin inhibits platelet aggregation and adherence to damaged vessel walls and may reduce or limit damage caused by an acute myocardial infarction.

**Indication:**
- Chest pain of cardiac nature

**Contraindications:**
- Allergy to aspirin or other non-steroidal anti-inflammatory drugs (NSAID)

**Precautions:**
- Recent internal bleeding (i.e. ulcer)
- Known bleeding disease
- Recent surgery
- Allergies to any pain medication

Patients with asthma should be asked if they have ever had bronchospasm from aspirin use in past prior to administering.

**Pharmacokinetics:**

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5-15 mins</td>
<td>15-60 mins</td>
<td>3-6 hours</td>
</tr>
</tbody>
</table>

Administration:
- St John’s EMS stocks aspirin as 81 mg “baby aspirin”.
- St John’s EMTs may administer 4 tablets (324 mg)
  - Encourage patient to chew tablets well.
  - Patient may be allow small drink of water with tablets, but discourage large amount.

Patients already on anticoagulant therapy (i.e. coumadin) should still be given aspirin.

Patients who have taken aspirin doses greater than 300 mg in previous 12 hours need not receive additional dose. Most patients taking home aspirin therapy take 81 mg / day and should be given standard 4 tablets.

Aspirin irreversibly binds to platelets and as such effects are seen until platelets are recycled, usually 3-4 days.

St John’s EMTs are NOT to administer aspirin for pain of other etiology (i.e. musculo-skeletal or headache)
Guidelines for Administering Nitroglycerin
Nitroglycerin (Nitrostat, Nitro-bid, Nitro-Dur, Nitrol, NTG)

Action: Anti-anginal, coronary and peripheral vasodilator

Indications:
1. Chest pain of suspected cardiac origin

Contraindications:
1. Allergy or known hypersensitivity to nitroglycerin
2. Head trauma
3. Hypovolemia, hypotension (BP < 90 systolic in adults), and shock
4. Patients recently taking Viagra (sildenafil citrate), Levitra (Vardenafil HCL) or Cialis (Tadalafil)

Precautions:
- Nitroglycerin may cause hypotension in those sensitive.
- Discontinue administration if rapid BP drop occurs.

Adverse reactions/side effects:
1. Headache, dizziness, and weakness
2. Tachycardia, fainting, and hypotension

Pharmacokinetics

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL</td>
<td>1-3 mins</td>
<td>30-60 mins</td>
<td></td>
</tr>
</tbody>
</table>

Administration:
A. If patients BP is > 110 systolic may administer ONE spray SL
   Re-check BP
B. If systolic BP drops < 90 after any dose, discontinue.

St John’s EMTs may administer additional dose every 3 - 5 minutes apart provided BP is >110 mmHg systolic. Time of administration MUST be documented.

Pediatric Consideration:
This medication should never be given to pediatric patients without explicit MD order.

Special Notes:
1. If patient becomes hypotensive, BP < 90, lay patient flat and elevate legs, discontinue administration.
Protocol to Administer Glucagon
St John’s EMTs may administer one unit dose glucagon to an unconscious patient with a blood sugar less than 60 mg/dl.

**Action:**
1. Anti-hypoglycemic; converts stored liver glycogen to glucose, resulting in increased circulating blood sugar.

**Indications:**
Known hypoglycemia (BS < 60 mg/dL) in symptomatic patients

**Contraindications:**
1. Allergy or known hypersensitivity to glucagon.

**Adverse Reactions/Side Effects:**
Occasional nausea and vomiting

**Pharmacokinetics:**

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM Injection</td>
<td>8-10 min</td>
<td>20-30 mins</td>
<td>19-32 mins</td>
</tr>
</tbody>
</table>

*Source: 2001 Lippincott’s Nursing Drug Guide*

**Administration:**
Glucagon comes as one unit (1 mg) of powdered glucagon with a vial containing 1 ml of diluting solution.

- Inject dilution solution into powdered glucagon vial.
- SWIRL gently until solution is clear. Do not shake or cause foam to occur.
- Draw Solution into diluent syringe
- Inject intramuscular into abdomen, buttocks, thigh, or upper arm.
- Turn patient to one side in case of vomiting should occur.

If patient wakes up and is able to swallow, give a fast acting carbohydrate immediately (i.e. fruit juice, non-diet soda pop, oral glucose solutions)

- Low blood sugar is of particular concern.
- Generally administering glucose to patients with high blood sugar is not harmful, EXCEPT in the setting of STROKE or intracranial hemorrhage.
- All patients whose hypoglycemia is due to oral hypoglycemic agents (such as Orinase, Tolnase, Glucophage etc), should be transported.

**Pediatric Considerations:**
1. For small children (i.e. less than 12 years old), dose is half the adult dose.
Guidelines for Administering Epinephrine: Subcutaneous Injection

Indications:
Patients experiencing a severe allergic reaction from stings or other allergens.

Precautions:
1. Patients who have known allergic reactions to insect bites or other allergens will often have epinephrine prescribed in the form of an Epi-Pen (or other similar device)
2. Use with caution in patients > 40 years or patients with known cardiac history.
3. At the time when a request to deliver or assist a patient with their epinephrine is made, any suspected complicating conditions, such as the following, should be reported:
   - Heart Disease
   - Psychosis
   - Hypertension history
   - Age > 40 years
   - COPD
   - Glaucoma
   - Pulmonary edema
   - Hyperthyroidism
   - Pregnancy

4. Epinephrine is quickly degraded by the body’s enzymes. Repeat doses may be required prior to ALS arrival.

Contraindications:
1. There are no absolute contraindications to the use of epinephrine in life-threatening situation.

Pharmacokinetics:

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcutaneous or</td>
<td>5-10 minutes</td>
<td>20 mins</td>
<td>20-30 minutes</td>
</tr>
<tr>
<td>Intramuscular</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 2001 Lipincott’s Nursing Drug Guide

Administration:
1. St John’s EMTs and First Responders may administer epinephrine 1:1000 to those found in anaphylactic reaction.
2. If stinger present, remove it
   A. Scrape stinger out; e.g. with edge of card.
   B. Avoid using tweezers or forceps as these can squeeze venom into patient
3. Administer high flow oxygen via NRB
4. Repeat patient assessment and vital signs.
5. Apply cold packs to site of sting.
**IM Epinephrine Administration:**
1. Collect necessary supplies (gloves, syringe, alcohol swab and vial)
2. Consider ALS response
3. Check epinephrine vial. Do not use if expired or cloudy in appearance.
4. Draw 0.3 mL of 1:1000 epinephrine into syringe.
5. Subcutaneous Injection is preferably delivered to thigh, shoulder or fatty part of arm. (in that order) Avoid injection in the buttocks
6. Place needle and syringe in SHARPS container.
7. Massage injection site for 10 seconds to enhance absorption.
8. With persistent severe anaphylaxis, additional injections may be required.

St John’s EMTs may repeat doses every 7-10 minutes as indicated by no relief of symptoms of anaphylaxis.

**Pediatric Considerations:**
For patients less than 12 years old suffering from an anaphylactic reaction, follow procedure as outlined above, using 0.15 mL of 1:1000 epinephrine.

If the patient has their own Epi-Pen, use their medications first unless expired or cloudy in appearance.

At conclusion of the patient encounter, discard the unused epinephrine only if concern exists as to contamination of the vial.

**Disposition**

Anaphylaxis is truly a life threatening condition. Proactive request of ALS / Gold Cross ambulance early in these calls may prove life saving. If the patient’s condition improves, response may be downgraded and patient may refuse transport. Recommend follow up with their heath care provider.

Notify Equipment and Supply Coordinator of administration of epinephrine to facilitate re-order
Guidelines for Administering Epinephrine: Epi-Pen Auto-Injector

Indications:
Patients experiencing a severe allergic reaction from stings or other allergens.

Precautions:
1. Patients who have known allergic reactions to insect bites or other allergens will often have epinephrine prescribed in the form of an Epi-Pen (or other similar device)
2. Use with caution in patients > 40 years or patients with known cardiac history.
3. At the time when a request to deliver or assist a patient with their epinephrine is made, any suspected complicating conditions, such as the following, should be reported:

- Heart Disease
- Psychosis
- Hypertension history
- Age > 40 years
- COPD
- Glaucoma
- Pulmonary edema
- Hyperthyroidism
- Pregnancy

4. Epinephrine is quickly degraded by the body’s enzymes. Repeat doses may be required prior to ALS arrival.

Contraindications:
1. There are no absolute contraindications to the use of epinephrine in life-threatening situation.

Pharmacokinetics:

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramuscular</td>
<td>5-10 minutes</td>
<td>20 mins</td>
<td>20-30 minutes</td>
</tr>
</tbody>
</table>

Source: 2001 Lipincott’s Nursing Drug Guide

Administration:
1. St John’s EMTs and First Responders may administer Epi-Pen to those found in anaphylactic reaction.
2. If stinger present, remove it
   A. Scrape stinger out; e.g. with edge of card.
   B. Avoid using tweezers or forceps as these can squeeze venom into patient
3. Administer high flow oxygen via NRB
4. Repeat patient assessment and vital signs.
5. Apply cold packs to site of sting.
Epi-Pen administration:
10. Wipe injection site with alcohol wipe.
11. Place tip of Epi-Pen on exposed thigh (anterior/lateral) at right angle to the leg.
   Apply in this area regardless of what area of the body has been stung.
12. Press firmly into thigh until auto injector mechanism triggers, and hold in place for 2-3 seconds.
13. Remove the Epi-Pen and discard into sharps container.
14. Massage injection site for 10 seconds to enhance absorption.
15. With persistent severe anaphylaxis, additional injections may be necessary.

St John’s EMTs may repeat doses every 7-10 minutes as indicated by no relief of symptoms of anaphylaxis.

Pediatric Considerations:
The Epi-Pen comes in two available dosing options:
   Epi-Pen delivers 0.3 mg (in 0.3 cc) of 1:1,000 epinephrine IM.
   Epi-Pen Jr. delivers 0.15 mg (in 0.3 cc) of 1:1,000 epinephrine IM
   and is intended for use in patients < 60 lbs.

If pediatric dose EpiPen is not available, St John’s EMTs may administer adult dose EpiPen

Disposition

Anaphylaxis is truly a life threatening condition. Proactive request of ALS / Gold Cross ambulance early in these calls may prove life saving. If the patient’s condition improves, response may be downgraded and patient may refuse transport.

Notify Equipment and Supply Coordinator of administration of Epi-Pen to facilitate re-order.
Guideline for the Administration of Albuterol Sulfate

Indications: for the relief of acute bronchospasm, as seen in acute asthma attacks.

Precautions:
- May lower potassium levels in select patients
- May cause dizziness, drowsiness, fatigue, headache, nausea, vomiting, change in taste, rapid heart rate, anxiety, sweating or flushing

Pharmacokinetics:

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>5 minutes</td>
<td>90-120 mins</td>
<td>3-8 hours</td>
</tr>
</tbody>
</table>

Source: 2001 Lipincott’s Nursing Drug Guide

Administration:
- Assemble nebulizer
- Pour one unit does (2.5 mg, 3ml of 0.083% solution) into reservoir
- Attach to oxygen source at 6-10 LPM
- Patient may use mouthpiece or mask if necessary
- Instruct patient to breath normally (rate and depth)
- Continue treatment until reservoir is empty.
- Repeat respiratory assessment at 10 minutes
- Monitor respiratory ability continuously.

Treatment may be repeated once. If no response to two treatments, continuous treatments may be initiated.

ALS should be requested if no response to one treatment. (see Asthma Guideline)

If at any time patient condition worsens, immediately request ALS / Gold Cross

Pediatric Considerations:
Nebulized albuterol is approved for St John’s EMS use in children at the same dose as adults. ALS should be enroute for all suspected cases of pediatric asthma.

Information about MDI

Patients may present with their own Metered Dose Inhaler. Often EMS is requested when the MDI is either not present or has otherwise failed.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If previous MDI use with no/limited improvement</td>
<td>Initiate nebulizer treatment, ensure ALS enroute</td>
</tr>
<tr>
<td>If no previous MDI use and present</td>
<td>Attempt MDI use, if no improvement then proceed to nebulizer treatment</td>
</tr>
<tr>
<td>If no MDI present</td>
<td>Initiate nebulizer treatment</td>
</tr>
</tbody>
</table>