

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- Comfortable position – (supine preferred)
- Oxygen 15 lpm NRM or Initiate Basic Airway Management procedures
- Vital signs
- Begin to acquire patient history to include S.A.M.P.L.E.
- Administer EPI-Auto Injection (If the patient has their own), may repeat in 5 min, if needed

Paramedic

- If necessary initiate Advanced Airway Management procedures
- Apply monitor and interpret ECG
- IV NS/LR TKO

Mild/Moderate Distress (acute onset of hives and swelling without respiratory symptoms)

- **Benadryl 25 mg IV/IM**
- **Solumedrol 125 mg slow IV push over 2 min**

Severe Distress (airway compromise and BP below 90)

0.3mg Epinephrine 1:1,000 SQ Use with caution in patients with cardiac or hypertensive history or patients over 40 years old

- **Benadryl 25 mg IV -50 mg IM to max 50 mg**
- **Solumedrol 125 mg slow IV push over 2 min**
- If the Blood Pressure drops below 100 systolic: Treat for shock
- Exhibiting respiratory wheezes,
 - **Albuterol 2.5mg administered by nebulizer connected to 6 lpm O2 q 10 min.** (If necessary you may administer continuous Albuterol)

Patients experiencing acute onset of hives and swelling without respiratory symptoms may become critically ill.

Paramedic

A Cricothyroid airway can be life-saving in the event of massive airway swelling, but demands that you be trained in the procedure and able to identify landmarks on the neck. This is difficult in a short-necked, obese patient and/or massive swelling of the face and neck. A Cricothyroid airway CANNOT be attempted without training and landmarks. If you cannot identify landmarks, state so in your documentation.

- ♥ Locate the cricothyroid membrane. **If landmarks cannot be identified, DO NOT ATTEMPT PROCEDURE**
- ♥ Prep the area with betadine
- ♥ Using a scalpel, make a small light horizontal incision (1-2cm) through the superficial tissue
- ♥ Using hemostats spread the tissue
- ♥ Make another light incision and using hemostats, spread the tissue
- ♥ Continue lightly incising and spreading the tissue until the cricothyroid membrane is exposed. Normally 2-3 sequences
- ♥ Make a small transverse incision through the membrane
- ♥ Insert an uncuffed ET tube through the incised membrane using hemostats to facilitate passage
- ♥ Advance the ET tube 1-3cm and secure
- ♥ Assure bilateral lung sounds.
- ♥ Check the ETCO2 to confirm the placement & patency
- ♥ Notify Medical Control regarding the patient's status

Paramedic

- If patient's status becomes severe, repeat **Epinephrine 0.3 mg SQ.**
- In case of severe mottling or poor peripheral perfusion: **PHYSICIAN ORDER ONLY:** 0.1mg-0.3mg IV Epinephrine (1:10,000) only after 2 doses of SQ Epinephrine high deltoid (shoulder) region without effect.

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- Oxygen 15 lpm NRM
- Pt. History to include S.A.M.P.L.E & Dive History
- Vital signs
- Divers should be treated for decompression sickness for symptoms which begin more than 10 minutes following the dive
- It usually appears within 12 hours after the dive but may occur as long as 48 hours after the dive
- Place patient in the supine position
- Monitor SaO2 and lung sounds

Paramedic

- Consider **Dopamine 2-10 ug/kg/min** for hypotension if fluid challenge unsuccessful
- Consider Rapid evacuation to Hyperbaric Chamber at Mariner's Hospital.
- Notify ER of patient's status to alert Hyperbaric crew

Paramedic

- Advanced airway Procedures
- Apply monitor and interpret ECG to include 12 lead if stable
- IV NS TKO 250 cc/hr (Macro @ 40 gtts/min)
- **Valium 10 mg IV** push if needed for seizures

Special Info:

DIVE HISTORY QUICK REF:

- Number of dives in the past 72 hours
- Depth of dives
- Bottom time of the dives
- Surface interval of each dive
- Details of the IN-WATER DECOMPRESSION
- Whether the diver attempted IN-WATER RECOMPRESSION
- Dive complications, if any
- Pre-dive and post dive activities
- Onset of symptom
- Decompression sickness will usually manifest it's self within the first hour of surfacing, and certainly within the first 6 hours
- Pre-dive and Post-dive activities
- Recent airplane travel (within 24 hours)
- Dive Gear should be retained w/out being disturbed

Symptoms occurring within the first 10 minutes suggest air embolism

Symptoms include:

- deep, dull ache with pain or movement of the joints
- paralysis/paresthesia
- itching, blotchy skin
- dizziness, confusion
- staggering gait
- chest pain
- dyspnea
- pulmonary edema
- unconsciousness
- tooth pain

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- **Ensures Scene Safety**
 - Move to safe shelter immediately if in a storm
 - Ensures Body Substance Isolation
 - If in cardiac arrest, begin CPR and BLS protocol with AED
 - Consider related injuries
 - Look for entrance and exit wounds, apply burn care
 - Spinal precautions - spinal motion restriction
 - Pt. History to include S.A.M.P.L.E
 - Trendelenberg if patient can tolerate without objection
 - Oxygen 15 lpm NRM
 - Vital signs
 - Apply moist dressing to burn area as needed



Paramedic

- Provide Advanced Airway Management procedures if necessary
 - Apply monitor and interpret ECG, include a 12 lead
 - Follow specific dysrhythmias protocol
 - IV NS TKO fluid challenge 250 cc if hypotensive and lungs are clear
 - **Consider Sodium Bicarb 2mEq/Kg IV Push**
 - May repeat fluid challenge PRN as long as no contraindications
 - **Valium 5mg IV / 10mg IM** for seizure activity

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- Ensure Scene Safety and BSI
- Provide Basic Airway Management procedure if necessary
- S.A.M.P.L.E and record time of bite
- Oxygen 15 lpm NRM
- Vital signs
- Attempt to identify the insect, reptile, or animal that caused the injury, if it is safe to do so. **Do not attempt to retrieve it for the hospital or transport it in your vehicle**
- Remove any rings, bracelets, jewelry, clothing, etc. from an affected extremity prior to the onset of swelling and secure in a safe location
- Immobilize the affected area at or below the level of the heart by wrapping an ace bandage snugly around the bitten limb starting at the site of the bite, **without covering the site** and working towards the heart (proximal), wrapping the entire extremity. The bandage should be wrapped as snug as you would for a sprained ankle
- Monitor distal circulation assessing capillary refill and/or pulse to ensure circulation is not compromised
- Keep the patient calm and minimize patient activity
- Mark the endpoint of the initial swelling and the time directly on the skin. This should be repeated as the swelling progresses, approximately every four inches, with the time marked directly on the skin.
- **Do not apply tourniquets, cold packs, make incisions around the bite area, or attempt to suction the area**
- **Common presentation thought to be bites are often actually signs of Methicillin-Resistant Staphylococcus Aureus (MRSA)**

Evaluate for specific signs/symptoms;

BROWN RECLUSE SPIDER BITES

- Small bleb surrounded by a white ring
- Localized pain, redness and swelling, tissue necrosis
- Most patients are unaware that they were bitten until the area becomes ischemic and ulcerates
- There is no specific pre-hospital treatment

BLACK WIDOW SPIDER BITES

- Immediate localized pain, progressive muscle spasms, patient may experience chest pain mimicking a heart attack, rigid abdomen, seizures, paralysis, perspiration or diaphoresis unexplained by the environment

SCORPION STINGS

- Mild or sharp pain which may progress to numbness, salivation, slurred speech, fasciculation's, allergic reaction, tachycardia
- Scorpions found in South Florida are not commonly toxic or venomous and thus similar to a bee sting

Contact Poison Control Center
1-800-222-1222 for assistance in managing
specific envenomations

Contact Miami Dade Fire Rescue for
Anti Venom (Venom 1) Unit: If Needed:
786-336-6600

Paramedic

- Provide Advanced Airway Management if necessary
- Apply monitor and interpret ECG to include a 12 lead
- IV LR/NS TKO in the uninvolved area

BLACK WIDOW SPIDER BITES

- For severe muscle spasms, administer **Valium 2 mg IV max 10** following dosing chart

SCORPION STINGS

- **Avoid the use of** narcotic analgesics such as morphine, which may increase potential for seizures and respiratory failure

Provide rapid transport to hospital and notify receiving facility of species for availability of antivenin

KEY LARGO EMS
COMMON MEDICAL PROTOCOL



Brown Recluse Spider



Black Widow Spider



Highly venomous Scorpion - They have thick tails and thin pincers. Not usually in the Keys.



Non-venomous Wolf Spider



Brown Widow Spider



Non-venomous Scorpion - They have thin tails and broad, well developed pincers. Common in the Keys – both black and brown in color

KEY LARGO EMS COMMON MEDICAL PROTOCOL

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- Ensure Scene Safety, Body Substance Isolation
- Provide Basic Airway Management procedures if necessary
- Pt. History to include S.A.M.P.L.E
- Oxygen 15 lpm NRM
- Vital signs

Stingrays, Catfish, Lionfish, Weeverfish, Starfish and Seurchins

- Immerse the affected area in non-scalding hot water to tolerance (approx 110-113 degrees Fahrenheit) to achieve pain relief
- **Do not place hot packs directly on the skin**
- **Do not attempt removal of embedded spines or explore the wounds**

Man-o-War, Sea Nettle, Any Jellyfish, Hydroid and Fire Coral

- Rinse with seawater- Do not use freshwater, ice, or rub the skin
- If available, apply vinegar or shaving cream to inhibit nematocyst discharge
- Attempt to remove any visible tentacles by lifting straight up with forceps or by scraping a dull object such as the edge of a stiff card and lift off
- Remove clothing if site infested and secure in a bag.
- Place area of contact in water or hot shower (as hot as tolerated by patient; temp. 110 degree F)



Paramedic

- Advanced Airway Procedures as needed
- Apply monitor and interpret ECG for cardiac symptoms, include 12 lead
- IV LR/NS TKO if administration of pain meds is expected
- If pain persists, **Morphine 2 mg IV max 10 mg**
- Consider Albuterol for wheezing
- Transport to closest facility

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- Ensure Scene Safety, Body Substance Isolation
- Ensures Provide Basic Airway Management procedures if necessary
- Pt. History to include S.A.M.P.L.E
- Oxygen based on Sats.
- Vital signs
- Obtain medications found on scene & bring to ER

Paramedic

- Provide Advanced Airway Management procedures if necessary
 - Apply monitor and interpret ECG
 - IV NS TKO
 - Glucometer Check, if glucose < 60mg/dL -**25 gm of D-50**

Paramedic

- Apply EKG Monitor and interpret ECG to include 12 lead if patient is stable
- **Consult ER Physician for orders;** required case by case consult
- **CONSCIOUS OR ALTERED LOC:**
 - Monitor patient and treat accordingly following order from Poison Control or ER Physician
- **UNCONSCIOUS:**
 - Secure airway and Hyperoxygenate

Paramedic

- **NARCOTIC OD**
 - **Narcan 2 mg IV (max 10mg/10 mins)** for respiratory depression. This may be repeated PRN. Beware of Narcan in possible narcotic overdose if respiratory depression or hypotension not present because of possible violent awakening*

***Patient must be restrained**

Paramedic

- ♥ **ORGANOPHOSPHATES**
 - ♥ Received decon'd & clothes removed by FD/HAZMAT
 - ♥ Seizures / SLUDGE symptoms:
 - ♥ **Atropine 1 mg increments to 20 mg** until pupils dilate and seizures stops
- ♥ **PETROLEUM PRODUCTS**
 - ♥ Is most dangerous because of pulmonary aspiration
 - ♥ Some petroleum distillates are better left in the stomach
 - ♥ Call Physician & discuss case.
- ♥ **TRICYCLIC ANTIDEPRESSANTS**
 - ♥ **Conscious:**
 - ♥ Contact ER Physician
 - ♥ **Unconscious:**
 - ♥ Low B/P; respiratory rate < 8/min
 - ♥ Intubate ETT and hyper-oxygenate
 - ♥ NG Tube
 - ♥ IV LR
 - ♥ Sodium Bicarb 1mEq/kg IV Push for QRS > 0.1 second
- ♥ **STIMULANTS / Crack Cocaine or Cocaine OD**
 - ♥ **VALIUM 5 mg IV / 10 Mg IM** to control agitation and seizures
- ♥ **ACIDS or ALKALI**
 - ♥ Use milk or water to dilute
 - ♥ No emesis is desired
 - ♥ Do not over-feed them milk or water
 - ♥ No NG tube

POISON CONTROL 1-800-222-1222

**POISON CONTROL 1-800-222-1222
OVERDOSES/POISONINGS**

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT-

Heat Cramps and/or Exhaustion:

- Remove patient from warm environment
- Oxygen based on patient's saturation
- For mild to moderate heat cramps and heat exhaustion, if patient is conscious and alert, encourage patient to drink salt containing fluids (i.e. half strength Gatorade® or 10K®).
- Place patient in the supine position

Heat Stroke:

- Remove from warm environment and aggressively cool patient. Remove patient's clothing and cover patient with sheets soaked in ice water. Also, turn A/C and fans on high and apply ice packs to head, neck, chest and groin.
- Monitor temperature. Cool patient to 102° F, then remove wet sheets, ice packs, and turn off fans (avoid lowering temperature too much).



Paramedic-

Heat Cramps and/or Exhaustion:

- Advanced airway Procedures as needed
- Apply monitor and interpret ECG to include 12 lead if stable
- If heat cramps are severe or patient's Level of consciousness is diminished administer fluid challenge of NS 20 ml/kg IV provided lung sounds are clear, may repeat as appropriate, to a total dose of 60 ml/kg or 3 liters maximum total dose.

Heat Stroke:

- Advanced airway Procedures as needed
- Apply monitor and interpret ECG to include 12 lead if stable
- Treat hypotension with IV fluids. Avoid using vasopressors and anticholinergic drugs (may potentiate heat stroke by inhibiting sweating). Administer fluid challenge of NS20 ml/kg IV/IO provided lung sounds are clear, may repeat as appropriate, to a total dose of 60 ml/kg or 3 liters maximum total dose
- Reassess for signs and symptoms of fluid overload during administration of fluid.

HEAT RELATED EMERGENCIES

Hyperthermia occurs when a patient is exposed to increased environmental temperature and can manifest as heat cramps, heat exhaustion, or heat stroke. Certain drugs may cause an increase in temperature (i.e. cocaine, ecstasy, etc.).

- Heat Cramps - signs and symptoms include: muscle cramps of the fingers, arms, legs, or abdomen, hot sweaty skin, weakness, dizziness, tachycardia, normal BP, and normal temperature.
- Heat Exhaustion - signs and symptoms include: cold and clammy skin, profuse sweating, nausea, vomiting, diarrhea, tachycardia, weakness, dizziness, transient syncope, muscle cramps, headache, positive orthostatic vital signs, and normal or slightly elevated temperature.
- Heat Stroke - signs and symptoms include: hot dry skin (sweating may be present), confusion and disorientation, rapid bounding pulse followed by slow weak pulse, hypotension with low or absent diastolic reading, rapid and shallow respirations (which may later slow), seizures, coma, elevated temperature above > 102°F.

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT-

- Remove from cold environment
- Remove all wet clothes and dry patient
- Protect from heat loss and wind chill
- Maintain horizontal position
- Avoid rough movement and excess activity – handle patient gently
- Monitor temperature
- Add heat to patient's head, neck, chest, and groin

Paramedic-

- Advanced airway Procedures as needed
- Apply monitor and interpret ECG
- For severe hypothermia, warm IV fluids, if possible
- Intubate and hyperoxygenation

For Severe Hypothermic Cardiac Arrest: Start CPR and Defibrillate

Adult

- VF or Pulseless VT= 200 joules. Subsequent defibrillations @ 300 and 360 joules

Pediatric:

- 2 joules/kg then 4 joules/kg. Subsequent defibrillations @ 4 joules/kg

Special Note:

- **If patient's core temperature is above 86°F:**
 - Refer to appropriate dysrhythmia protocol
- **If patient's core temperature is below 86°F:**
 - If patient presents in VF attempt defibrillations three times. If patient does not convert to a rhythm continue CPR and transport immediately.
 - Do not treat dysrhythmias in severe hypothermia (warm patient prior to treatment).
 - When patients core temperature > 86° F, refer to appropriate dysrhythmia protocol.

COLD RELATED EMERGENCIES

Factors that predispose and/or cause a patient to develop hypothermia include: geriatric and pediatric patients, poor nutrition, diabetes, hypothyroidism, brain tumors or head trauma, sepsis, use of alcohol and certain drugs, and prolonged exposure to water or low atmospheric temperature.

Hypothermia patients can be divided into three categories:

- Mild (94-97°F)
- Moderate (86-94°F)
- Severe (<86°F).

It should be noted that most oral thermometers will not register below 96°F. Mild to Moderate hypothermia patients will generally present with shivering, lethargy, and stiff, uncoordinated muscles.

Severe hypothermia patients may be disoriented, confused, stuporous or comatose. Shivering will usually stop and physical activity will be uncoordinated. In addition, severe hypothermia will frequently produce dysrhythmias (i.e. bradycardia, ventricular fibrillation).

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- Ensure Scene Safety, Body Substance Isolation
- Ensures Provide Basic Airway Management procedures if necessary
- Oxygen based on patient's Oxygen saturation
- Motion restriction (C-Spine) if Trauma is suspected
- Pt. History to include S.A.M.P.L.E (Ascertain from Law Enforcement the patient's condition from time of Pepper Spray discharge until EMS arrival)
- Oxygen 15 lpm NRM
- Vital signs
- Irrigate face/eyes with copious amounts of Normal Saline (non-iced), continuously as needed
- Remove contaminated clothing
- Apply cold pack to face/eyes to reduce swelling

Paramedic

- Provide Advanced Airway Management procedures if necessary
- Monitor airway, suction nasal and oral secretions if necessary
- Apply monitor and interpret ECG if patient is stable interpret 12 lead to r/o cardiac involvement
- IV LR/NS TKO if abnormal vital signs
- Observe for signs of **excited delirium**
- Restrain with 4-point restraints onto a long spine board if patient combative and transport deemed necessary (do not restrain face down)
- Assess for injury/illness and treat per specific protocol
- Obtain oral/axillary temperature

Approach these patients with caution: The greatest predictor of aggressive behavior is prior aggressive behavior

Transport patients with any one of the following:

Evidence of **excited delirium** (euphoria, Paranoia, unusual strength, disrobing, sudden onset of lethargy after resistance)

Persistent, abnormal vital signs;
History of findings consistent with amphetamines or hallucinogenic drug use;

Altered LOC or aggressive, violent behavior including resistance to evaluation;

Evidence of hyperthermia; and abnormal subjective complaints, including chest pain, SOB, nausea or headaches;

Patients that have been sprayed with Pepper Spray need to be transported in the face up position to avoid positional asphyxia;

Be cautious with patient's that have an Asthma and/or Cardiac history; pepper spray can exacerbate these conditions;

Excited delirium patients are at high risk for sudden death and should be transported to a medical facility

POISON CONTROL 1-800-222-1222

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Pepper Spray Contamination

KEY LARGO EMS COMMON MEDICAL PROTOCOL

EMT

- **DO NOT ENTER UNSAFE ENVIRONMENT** – have the patient brought to you
- Ensure Scene Safety, Body Substance Isolation
- Ensures Basic Airway Management procedures if necessary
- Pt. History to include S.A.M.P.L.E
- High flow Oxygen via 15 L NRB Mask.
- Patients with burns should be treated accordingly
- Vital signs including SaO₂ and SpCO using LP-15 monitor



Paramedic

- **Carbon Monoxide Poisoning:**
 - Provide Advanced Airway Management procedures if necessary
 - High flow Oxygen 15 L NRB Mask
 - Check Carboxyhemoglobin (SpCO on LP-15) reading; if level over 10 then consider CPAP.
 - Apply monitor and interpret ECG
 - IV NS TKO
- **Cyanide / Smoke Inhalation:**
 - Provide Advanced Airway Management procedures if necessary
 - Apply monitor and interpret ECG
 - IV NS TKO (Draw blood and bring to hospital prior to administration of antidote.)
 - Administer Cyanokit if available

Hydroxocobalamin is an antidote to cyanide. It is marketed as CYANOKIT® in the US. It removes cyanide. Directly from the blood without converting any of the hemoglobin and therefore does not interfere with oxygen transport. It combines with the cyanide to form cyanocobalamin which is a derivative of vitamin B 12. Both the Hydroxocobalamin and B 12 are harmlessly excreted in urine.

Criteria for Antidotal Treatment:

Cyanide or Smoke Inhalation

- Exposed to products of combustion in an enclosed space
- Soot present in their nose, mouth, or sputum
- Altered mentation
- Does not meet trauma alert criteria
- At least 18 years old or older

Procedures for Cyanokit Administration

Each Cyanokit contains:

- (2) Vials (2.5 g of HYDROXOCABALAMIN)
- (1) Intravenous administration set
- (2) Transfer spikes

Reconstitute two vials of the Cyanokit® with 100 ml of NS via the transfer spike that is provided. Do not remove the vial from the box it is contained in, because it will serve as a hanger for the medication.

Gently rock the vials back and forth for 30 seconds to allow for mixing. **Shaking should be avoided** as it will cause the medication to foam.

Insert a macro-drip infusion set (provided) and drain as normal.

Infuse the first vial of the drug IV over 7.5 minutes.

Repeat the procedure with the other vial.

If the patient is critical use a faster rate and titrate to effect.

Do not use the following medications in the same IV line:

Diazepam	Propofol	Ascorbic acid
Dobutamine	Thiopental	
Fentanyl	Sodium Nitrite	
Nitroglycerin	Sodium Thiosulfate	
Pentobarbital	Whole Blood	

If assistance is needed contact:

POISON CONTROL 1-800-222-1222

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CO POISONING / CYANIDE / SMOKE INHALATION