

## Guideline: Adult Thrombolytic Therapy for Frostbite Patients

Updated: 3/10/2022

### Clinical guideline summary

**CLINICAL PATHWAY/GUIDELINE NAME:** Adult Thrombolytic Therapy for Frostbite Patients

**PATIENT POPULATION AND DIAGNOSIS:** Adult patients with frostbite

**APPLICABLE TO:** Spectrum Health, Butterworth

**BRIEF DESCRIPTION:** No current guideline exists for the management of patients with cold injury/frostbite. This document aims to bridge this gap.

**OVERSIGHT TEAM LEADER(S):** Tracy Hosford, Amy Spencer

**OWNING EXPERT IMPROVEMENT TEAM (EIT):** \*\*\*

**MANAGING CLINICAL PRACTICE COUNCIL (CPC):** Acute Health

**CPC APPROVAL DATE:** March 2022

**OTHER TEAM(S) IMPACTED:** Wound Team

**IMPLEMENTATION DATE:** \*\*\*

**LAST REVISED:** 2/02/2022

**FOR MORE INFORMATION, CONTACT:** Tracy Hosford

### References:

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doi:doi/10.1093/jbcr/irab008/6117696

## Clinical pathways clinical approach

### TREATMENT AND MANAGEMENT:

- Consult to Burn team to discuss patient and determine treatment plan
- Rapid rewarming with 100–104°F (38–40°C) water over 30-40 minutes
  - Should occur in the Hydrotherapy room on 4 North, or with clean water sources (warmed sterile water)
- Tetanus prophylaxis (ACS tetanus-prone wound class)
- Narcotic analgesics
- Gabapentin
- Ibuprofen (600 mg every 6 hours)
- Limb elevation with splinting as needed
- No ambulation until edema has resolved or 72 hours, whichever is first (and only in protective footwear)
- No smoking

### After Rewarming:

- Debride clear blisters, leave hemorrhagic in place for 72 hours.
- Dress wounds with Silvadene/Aloe Vera mix and change daily, washing wounds with soap and water
- Assess for Prognosis to determine if Thrombolytics indicated:

#### Good Prognosis (No Lytics)

- Warm skin after rewarming
- Intact sensation Pink digits without bullae
- Distal bullae with clear blister fluid

#### Poor Prognosis (Lytics)

- Cool skin after rewarming
- Numb digits
- Dusky or blue/purple digits without bullae
- Bullae with hemorrhagic blister fluid
- Absent Capillary refill
- Absent Doppler pulses

### **If Patient with evidence of Poor Prognosis:**

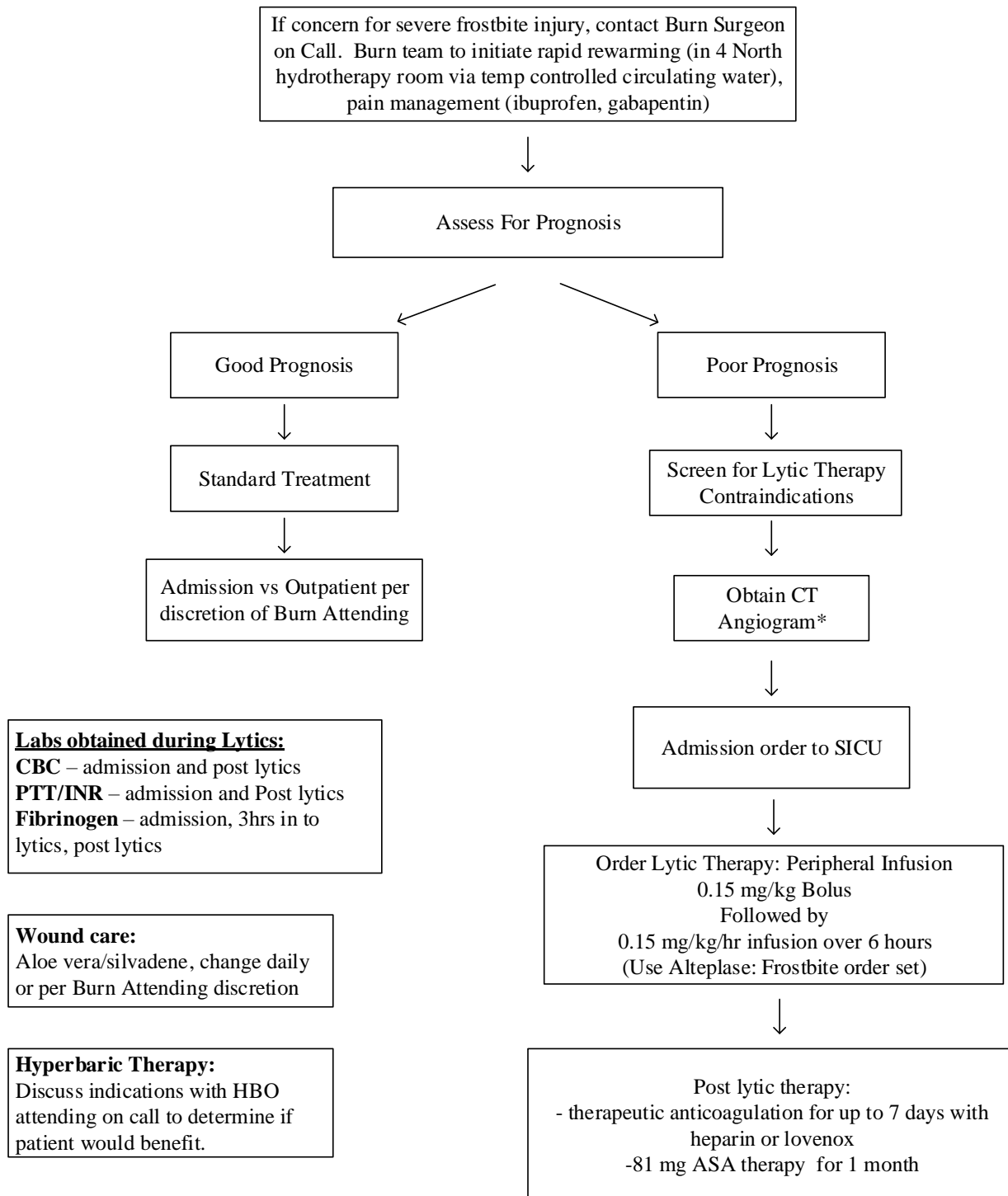
- consider CT Angiogram with delays to assess for blood flow to the distal affected extremities.
- Screen for contraindications for Lytic therapy – consider Head CT in poor historians
- If Lytic therapy is planned arrange for SICU admission
- Goal to start lytic infusion within 1 hour of re-warming end time to minimize warm ischemia time

### **Contraindications for Thrombolytic Therapy**

- Inability to obtain consent from the patient or guardian
- Delirium or substance withdrawal
- Recent trauma
- Recent hemorrhagic stroke
- Recent surgical procedure
- Bleeding diathesis
- Cold contact injury without frostbite injury
- Age less than 5 years
- Greater than 24 hours of warm or cold ischemia
- Evidence of freeze-thaw-refreeze injury
- Methamphetamine use at time of presentation
- Pregnancy

# Clinical algorithm:

## SH Burn Center Frostbite Treatment Guideline



\* If able, obtain CT during transport to SICU. Lytics may be started based upon clinical indicators without a CT angio