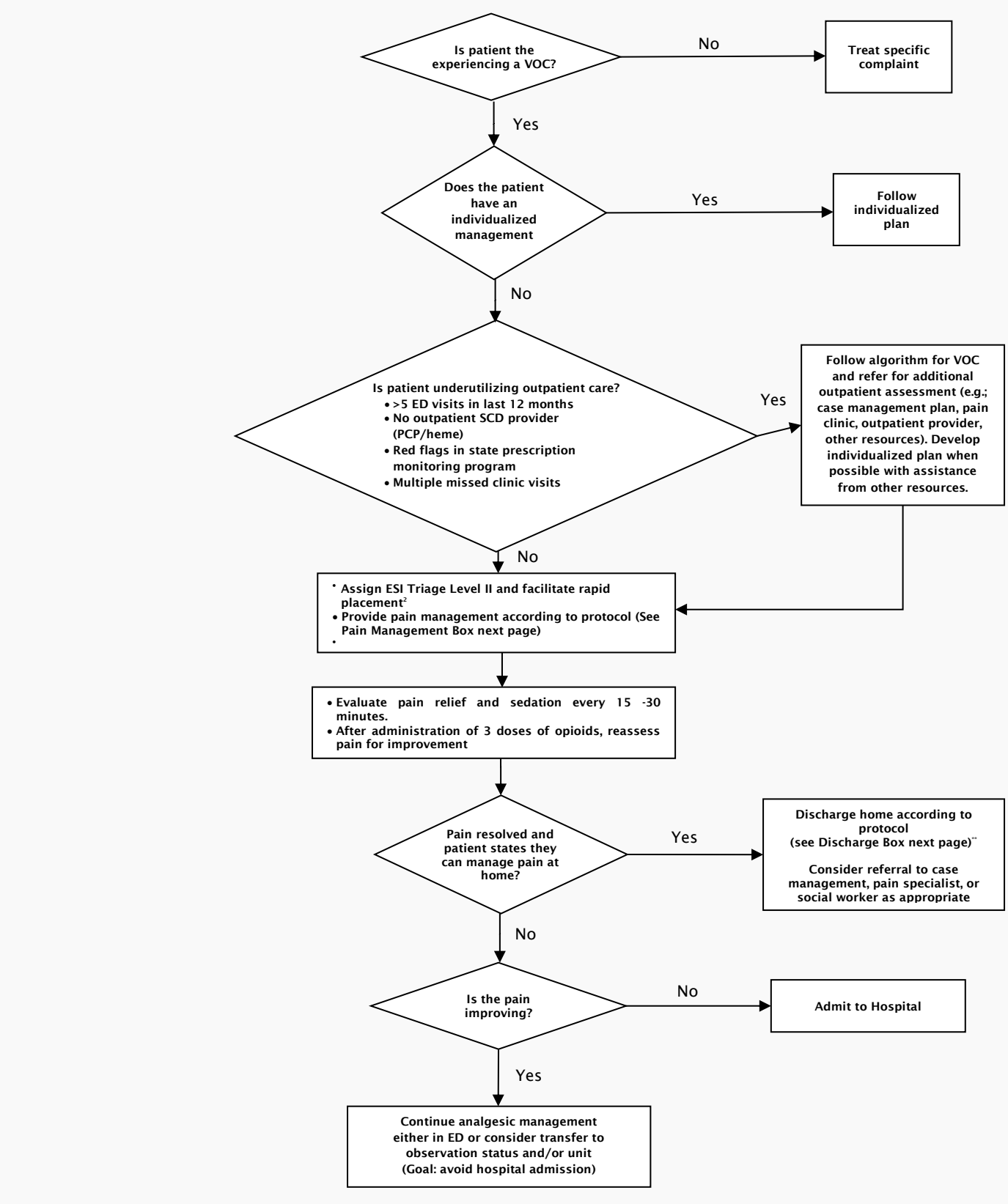
Emergency Department Vaso-occlusive Crisis Management: Adults and Children

Developed by the CCNC Sickle Cell Task Force with representation and formal endorsement from NC Emergency Nurse's Association and NC College of Emergency Physicians. This algorithm was adapted from the recommendations for the treatment of vaso-occlusive guideline published by the National Institutes of Health, National Institute of Heart, Lung and Blood, *Evidence-Based Management of Sickle Cell Disease: Expert Panel Report*, 2014.[1] These guidelines are based upon best practice and contingent upon institutional resource availability and physician medical judgment.



PAIN MANAGEMENT PROTOCOL

Time related goals are best practices to strive for.

- Use *individual/personalized analgesic dosing* plans if and when available (Electronic medical records).
- Treat pain aggressively & promptly. Rule out other sources of pain than VOC while treating VOC.
- Attempt to contact patients' SCD physician for analgesic suggestions, however, DO NOT delay administration of analgesics.
- Administer first dose as soon as possible given triage and healthcare resources, ideally within 30 min of triage or 60 min of registration.
- Administer intravenous opioids.
- Use the subcutaneous route if obtaining IV access will significantly delay administration of first dose, and, when intravenous access is not possible. Avoid intra-muscular route due to tissue damage and erratic absorption. Use weight based dosing when individual plan is not available. (e.g. *morphine Sulfate, 0.1 mg/kg, or hydromorphone 0.02 mg/kg, Ex: 75 kg = MS 7.5 mg or hydromorphone 1.5 mg)* *http://sickleemergency.duke.edu/sites/default/files/final%20weight%20based.pdf*
- Allow patients to continue long-acting opioids in the ED, if prescribed as an outpatient.
- Re-assess for pain, pulse oximetry, and sedation, using a validated sedation scale such as RAAS, every 15-30 minutes.
- Re-administer analgesic doses every 15-30 minutes until pain relief is obtained, if the sedation score and oxygenation status are acceptable. Rapid aggressive pain control will decrease the need for admission.
- Repeat doses *may* be escalated by 25% of the initial dose if there is no or minimal improvement in pain score.
- If patient has received 3 doses, re-evaluate
  - For improving but unresolved pain, continue to aggressively treat pain but consider an increase in dose, change in drug and/or re-dosing intervals. Continue to treat in ED or transfer to observation status and/or unit.
  - If pain is resolved, discharge home.
  - For minimal or no change in pain, admit to hospital.
- If facility has the ability and established protocols, consider beginning PCA in the ED after administration of a minimum of 2-3 doses (after initial parenteral doses). Do not delay pain treatment to start PCA.

ADJUVANT AGENTS

- Administer oral or parenteral NSAIDS as an adjuvant analgesic in the absence of contraindications.
- Intravenous or oral hydration at maintenance rate, caution with CHF or renal failure.
- Supplemental oxygen for SPO2 <95% on room air.
- Treat itching with oral antihistamines (in some cases intravenous administration may be required), q 4-6 hours.
- Use non-pharmacologic approaches such as heat and distraction (e.g., music), when available.

DISCHARGE HOME, ANALGESIC PRESCRIPTIONS, AND REFERRALS**

- Consult case management or social work early to identify unmet needs and work with patients with high numbers of ED visits or hospitalizations.
- Encourage patient to contact sickle cell provider to obtain opioid prescriptions.
- If SCD provider not available, provide short course of short acting opioids (e.g., oxycodone, hydrocodone).
- Consult state prescription monitoring database to guide opioid prescription determination: https://nccsrsph.hidinc.com
- Encourage PCP or SCD provider follow up within several days.
- Refer patients to the CCNC Central Call Center for linkage to care management follow-up.

  FAX screening form to CCNC Call Center: 888.978.0645.

[1] Evidence-Based Management of Sickle Cell Disease: Expert Panel Report, 2014. (2014). National Institutes of Health, National Institute of Heart, Lung and Blood. http://www.nhlbi.nih.gov/health-pro/guidelines/sickle-cell-disease-guidelines/sickle-cell-disease-report.pdf.

[2] Internet Citation: Emergency Severity Index (ESI) Implementation Handbook, 2012 Edition: Chapter 3. ESI Level 2. November 2011. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/professionals/systems/hospital/esi/esi3.html