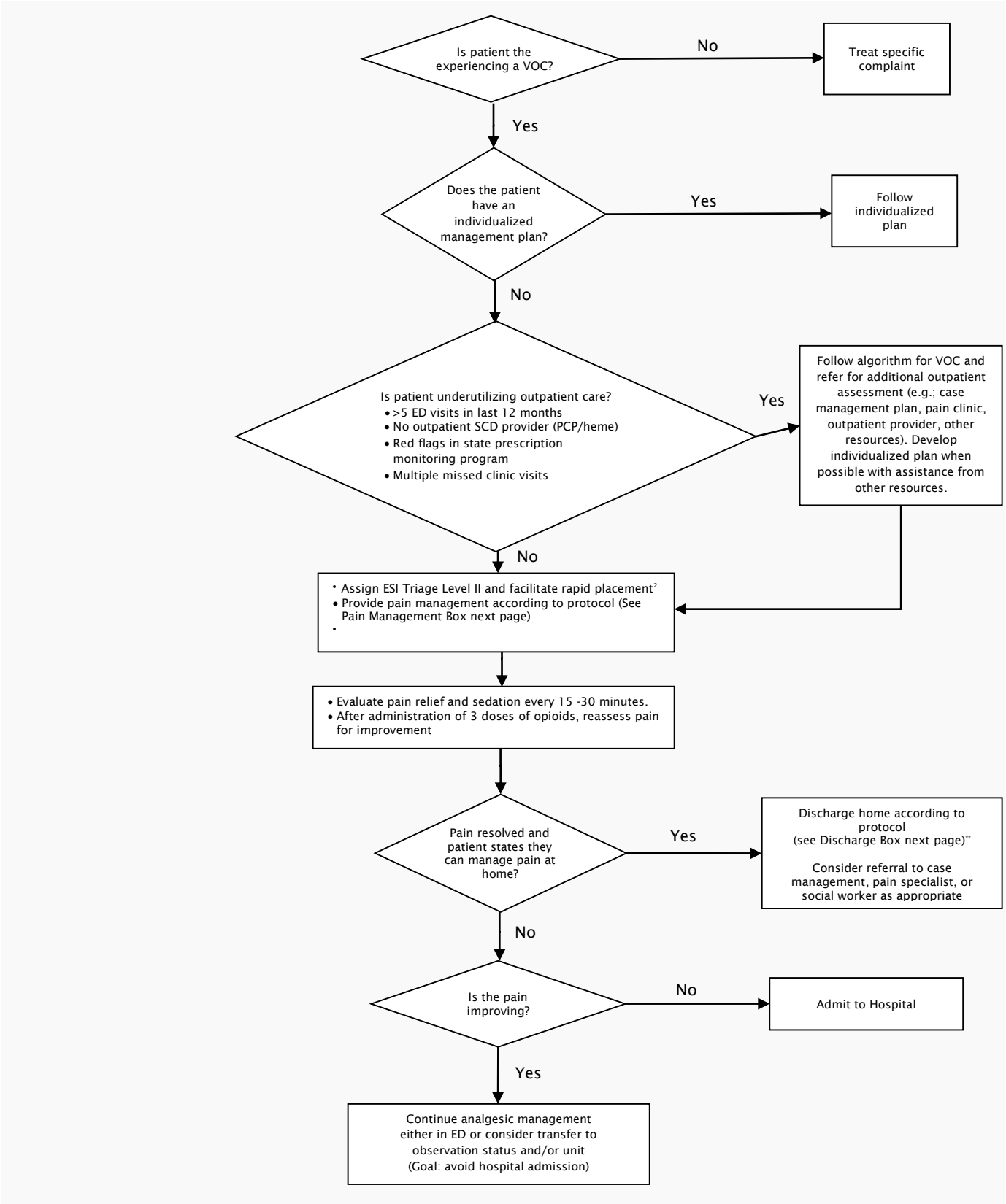
Emergency Department Vaso-occlusive Crisis Management: Adults and Children

Developed by the CCNC Sickle Cell Task Force with representation and formal endorsement from (SC)[2], and from NC Emergency Nurse's Association. 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]



PAIN MANAGEMENT PROTOCOL

- 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: follow up within several days.
- Refer all patients to the (SC)² for linkage to SCD doctor and for follow-up. Fax referral forms obtained from www.SC2.org to 843-876-8519.

[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