



Ward Sickle Cell Acute Pain Management Protocol



Date: _____ Time: _____
 Name: _____ File Number: _____ Hospital: _____ phone no: _____
 Civil ID: _____ Age: _____ Sex: _____ Nationality: _____

• **Check for previous or present complications of sickle cell disease:**

- Acute chest syndrome (chest pain, new infiltrate on chest X-ray, hypoxia).
- Aplastic crisis.
- Multiorgan failure.
- Cerebrovascular events.
- Leg ulcers.
- Infections (bacteremia, pneumonia, etc.).
- Priapism.
- Hepatic or splenic sequestration.

▪ **Assess for triggers of sickle cell pain crisis:**

- | | |
|--|--|
| <input type="checkbox"/> Dehydration. | <input type="checkbox"/> Cold exposure. |
| <input type="checkbox"/> Hypoxia. | <input type="checkbox"/> Menses. |
| <input type="checkbox"/> Infection. | <input type="checkbox"/> Psychosocial stressors. |
| <input type="checkbox"/> Strenuous exercise. | <input type="checkbox"/> Others. |

▪ **Investigations:**

- CBC and retics.
- RFT and LFT.
- Coagulation profile.
- ESR, CRP.
- LDH.
- Urinalysis.
- Screen and cross match.
- CXR.
- If fever is present, urine, sputum and blood cultures.
- Others as indicated.

▪ **Drug Allergies:**

- No known allergies:**
- Known allergies:**

▪ **Management:**

1. **Hydration:**

- IVF* (½ DNS or NS+/- 20 mEq KCl/L, adjusted for serum chemistry results) + oral fluids.
 *(Caution in patients with CHF or Pulm HTN or Acute chest syndrome).

3. **Simple analgesia (Anti-inflammatory medications + Perfelgan) **:**

Anti-inflammatory medications:

- (choose according to record/patient/family)
- Diclofenac.
 - Ibuprofen.
 - Celebrex.
 - Others.

Perfelgan:

Dose: _____

**Caution in patients with renal impairment or PUD (NSAIDs) and for patients with hepatic impairment (perfelgan).

4. **Opioids:**

- For opioid naïve patients:** Administer by-the-clock (BTC) dosing + rescue doses for breakthrough pain.
 - Intravenous morphine at 0.1 to 0.15 mg/kg over 10 min every 4 hours (or S/C if no IV access).
 - Reassessment of vital signs and O₂ Saturation is required 15 to 30 minutes after each dose.
 - Provide rescue doses (SOS) for breakthrough pain between the BTC dosing (0.25-0.5 of the BTC dose).
- For patients on chronic opioid therapy:** based on prior treatment history according to record/patient/family.
 - Drug: _____ Dose: _____

In case of severe pain uncontrolled by by-the-clock (BTC) dosing:

- Consult anesthesia for further pain management.

5. **Opioid adjuvant therapy:**

- Laxatives e.g. lactulose 10 ml BD (unless there are abdominal signs).
- Anti-emetic e.g. ondansetron (Zofran) 4-8 mg TDS (if not available, use metoclopramide 10 mg oral TDS).
- Antipruritic e.g. Phenergan 10 mg oral BD if needed.

*In case of opioid toxicity: 100 ug Naloxone IV every 2 min as necessary

6. **Other considerations and supportive measures:**

- Oxygenation: **only if PO₂ <94% on RA.**
- LMWH: Tinzaparin 175 units/kg SC OD, (If Tinzaparin not available, use clexane 0.4 ml SC OD).
- PPI e.g. Losec 20 mg oral OD.
- Blood transfusion (should be discussed with hematology team first).
- Antibiotics in case of fever (Temp > 38° C) or if there is clinical evidence of infection.
- Incentive spirometry to encourage deeper inspiratory effort
- Encourage ambulation and oral hydration.
- Heating pads, massages, warm baths and other comfort measures. Avoid ice and cold compressors
- Regular monitoring of O₂ Sat% and vitals for early detection of possible complications particularly acute chest syndrome.



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Weaning of opioids:

- No weaning of opioids in the first 24 - 48 hours of a hospital admission unless there are signs of respiratory depression, increased lethargy, or other side effects associated with excessive amounts of opioids.
- Wean patients during the day when appropriate assessment of pain can be performed.
- Wean off opioids incrementally.
- Opioids should be weaned by decreasing the dose, rather than by increasing the interval between doses.
- Conversion to oral pain medication should occur when the intravenous dose is roughly equivalent to home doses of oral medications.

Discharge criteria:

- The patient is considered ready for discharge when:
 - Patient can tolerate oral fluids and medications.
 - Pain is controlled by per oral (PO) medication and return to his pain baseline level (review pain score).
 - Concurrent problems are resolved i.e. resolution of infection, acute chest syndrome and other complications.
- Discharge summary should include:
 - Presenting complaint.
 - Complications of sickle cell disease during current admissions.
 - Vital signs of the patient before discharge.
 - Results of last blood investigations before discharge.
 - Discharge medications.
- All patients need reassessment within 2 weeks of discharge.

Definitions:

- Pain score:** mild pain (score 0-3), moderate pain (score 4-6), severe pain (score 7-10)
- Opioid naive patients:** are patients who are not on daily/ regular opioid therapy (they might have received opioids on past admissions).
- Patients on chronic opioid therapy:** are those on daily opioid therapy (opioid dependent patients).

Important points:

- Placebo therapy should **never** be undertaken, as it undermines the patient/physician relationship.
- Opioids should **not be withheld** because of the unfounded fear of addiction.
- Pethidine (meperidine) **should not** be used except for patients who have allergies, or who are intolerant to other opioids such as morphine and tramal.
- Better to **avoid** ketorolac (NSAIDs) in adults for risk of renal impairment in sickle cell patients. If given, no more than one dose should be used.
- Use an **individualized management protocol** (written by the patient's SCD provider) or an SCD- specific protocol whenever possible.
- Patients receiving hydroxyurea prior to admission should continue it at their regular dose unless there is a hydroxyurea-induced cytopenia or laboratory change.

Note:

This protocol should be initiated immediately at admission without delay.