Date: _____

Treatment Plan for Sickle Cell Patients in Acute Painful Crisis

Name: _____

DOB: _____

MRN: _____

Hematologist:_____

Please notify the following persons if the patient comes for an ER visit or ward admission:

Heme-Onc Fellow on-call: contact as soon as admitted to ER
Sickle Cell Nurse Clinician: Heather McCartney (ext 7103 / pgr 604-686-3551) *0730h-1530h*
Sickle Cell Social Worker: Pamela Wong - *contact as needed* (ext 7101 / pgr 41-01200) *0800h-1600h*
Sickle Cell Psychologist: Joanna Chung – *contact as needed* (ext 3003)

For basic sickle cell medical guidelines and **problem oriented guidelines for inpatient management**, please see Sickle Cell Information Center Website at http://scinfo.org/problem-oriented-clinical-guidelines/

HISTORY

Sickle Cell Dx:	
Sickle Cell and Other Complications:	

Last Admissions:	
Family Members:	

MEDICAL CARE

Typical Sickle Pain Presentation:	• Be sure to differentiate sickle cell pain from other possible causes of pain • Assess for possible pain triggers such as cold, dehydration, illness, fatigue and correct these if possible (eg: warm blankets) • Thoroughly evaluate for respiratory, neurologic, or infectious issues • Pain is subjective and should be treated according to the patient's pain rating and unique medication tolerance • **Sickle cell patients often adapt well to their pain and their physiological responses (HR, pupil size, etc.) may be different from other individuals experiencing acute pain (ie. post-operative pain)**

Pain Plan for Home:	• Rest • Increase hydration • Acetaminophen and/or ibuprofen • If pain does not subside after 1 hour, give oral hydromorphone or morphine • If pain still does not subside call hematologist-on-call or come to ER • All analgesics should be tried in conjunction with non-pharmaceutical therapies (ie. heat, massage, distraction, relaxation techniques)
Pain Plan for ER:	• Promptly gain IV access (use central line if patient has one) • Initial blood work: o CBC, diff, retics (Group and Screen if patient has respiratory compromise) o Na, K, Cl, HCO3, bili, BUN, Cr, LDH, LFTs, Ca, Mg, PO4 o If fever present: blood cultures, CRP, ESR • Start IV fluids: o NS bolus (if dehydrated or not drinking well at home) o D5NS at 1.5x maintenance (1x maintenance for acute chest syndrome) • Begin analgesic ladder: **Note: All four steps may be required concurrently* o Acetaminophen 15mg/kg PO q4h regularly (max 75mg/kg/24hr or 4g/24hr) o Ibuprofen 10mg/kg PO q6h regularly (max 20mg/kg/24hr or 1.6g/24hr) o Morphine 0.1 mg/kg/dose or hydromorphone 0.015mg/kg/dose bolus IV stat o Morphine 0.05 mg/kg/dose or hydromorphone 0.01 mg/kg/dose IV q1h PRN following bolus • Additional supportive measures to be initiated in ER as needed: o Treatment for narcotic side effects (ie. diphenhydramine, ondansetron, dimenhydrinate, etc.) o Application of heat (ie. warm blankets) as indicated
Evaluation of Pain in ER:	• If pain only, discuss pain control with family and ensure continued hydration. If able to control pain with oral regimen, and patient is able to maintain hydration, discharge home. • If poor pain control, reevaluate dose and response to dose (alert, sedated?) Consider a dose adjustment or admit to hematology/oncology unit for more intensive treatment.

Plan for Admission:	• On decision to admit, consult Acute Pain Service physician on-call **STAT** to prescribe PCA opioid.
	  o Orders to state "*To be started STAT upon admission to ward*"
	  o PCA orders should include basal rate with bolus dose opioid.
	  o Orders must include regular adjuvant Acetaminophen and Ibuprofen
	  o Give further IV boluses of morphine or hydromorphone q1h until pain is controlled or PCA is set up
	• PCA to be set up **immediately** upon admission to ward if unable to do so in ER
	• Aim to admit to 3B or 2B (if beds available)
	• To be admitted under the Hematology team
	• Do not transfer to ward until not requiring boluses >q20min and PCA orders complete

Inpatient Continuing Analgesia:
 	
Always use non-pharmacological measures in conjunction with analgesics
	• Patient to be admitted under Hematology and monitored by Acute Pain Service
	• Ongoing treatment:
	  o Continuous basal rate for all patients <60kg *for first 24 hours*
	  ▪ Basal rate to be reassessed after 24 hours as agreed upon by APS physician and patient
	  o Continue regular adjuvant analgesics
	  ▪ <u>Acetaminophen 15mg/kg PO q4h</u> (max 75mg/kg/24hr or 4g/24hr)
	  ▪ <u>Ibuprofen 10mg/kg PO q6h</u> (max 40mg/kg/24hr or 1.6g/24hr)
	  o Consider other adjuvant analgesics when appropriate:
	  ▪ <u>Clonidine 1mcg/kg PO q6h</u>
	  ▪ Gabapentin or Pregabalin **only** if neuropathic element to pain
	  o PRN ondansetron, diphenhydramine, ranitidine and naloxone
	  o Regular stool softeners should be ordered (see below)

Non-Pharmacological Measures: ***Always use in conjunction with analgesics***	• Utilize Child Life when hospitalized • Distraction • Heat/warm packs • Massage • Relaxation/positive imagery • Warm bath or shower • **DO NOT apply ice to painful areas as this will increase sickling**
Respiratory Needs:	• Incentive spirometry 10 breaths q2h during daytime • Monitor respiratory rate and pulse continuously while on opioid infusion • Monitor O2 Saturations – keep O2 sats >92% • Administer O2 to keep saturations >92% • If using oxygen, check saturation on RA every 8 hours • For respiratory depression: administer Naloxone as ordered

GI Needs:	• While patient is on opioids, order regular stool softeners (not PRN)
	  o First line: <u>Docusate sodium 5mg/kg PO BID</u> (max 100mg/dose)
	  o Second line: <u>Lactulose 7.5ml PO OD in AM</u>
	• If patient is on NSAIDS order:
	  o <u>Ranitidine 4-6mg/kg/24hr div. q12h PO regularly</u>

Fluid Needs:	• IV hydration D5NS at 1.5x maintenance (1x maintenance for chest crisis) until patient is able to take maintenance PO fluids • Strict I/O • Daily weights
Evaluate For Signs of Improving Pain:	• Increased energy • Increased appetite • Improved interaction with family and staff • Patient resumes normal activities (using computer, phone, etc. as normal for this patient)

COMPREHENSIVE CARE

Nursing Care:	• Implement BCCH Nursing Care Plan for Sickle Cell Pain Crisis (available at http://infosource.cw.bc.ca/cw_nursingNew/content/home.asp)
Communication / Interaction strategies:	• Discuss plan clearly with family before changes are made • Ask family for updates that they may have in plan • Allow patient to make choices in care when appropriate
Assets & Interests:	• • • •
School Needs:	• Contact hospital education department upon admission for assistance keeping current on school work
Child Life:	• Contact Child Life upon admission
PT/OT:	• Order OT/PT upon admission • Patient should do one activity daily minimum
Daily Living: ****Maintaining normal sleep/wake cycle while in hospital is crucial to minimizing pain experience****	• **Daily schedule in hospital once acute pain is under control**: o Ambulate TID or contact physiotherapy to assist with ambulation o Incentive spirometry should be done q 2 hours o Continue normal daily hygiene routine (brushing teeth, shower, etc) o Only offer commode if patient is incapable of ambulating to toilet o Maintain awake time during the day and sleep time during night (getting sleep cycle turned around can worsen a pain experience) o Patient should attempt to eat at mealtimes as normally as possible o Patient should participate in schoolwork daily

DISCHARGE PLANNING

Nursing	• Upon admission to ward, implement BCCH Teaching Flowsheet for Sickle Cell Disease upon admission (available at http://infosource.cw.bc.ca/cw_nursingNew/content/home.asp) • Inform Hemoglobinopathy Nurse Clinician for patient discharges
Discharge Meds:	• PRN oral morphine or hydromorphone • PRN acetaminophen and/or ibuprofen • Folic Acid 1mg po OD • Penicillin VK 300mg po BID (or alternative if allergic to penicillin)