

Sickle Cell Disease: Guidelines to Hydroxyurea

Version: 4

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1.0 Policy statement

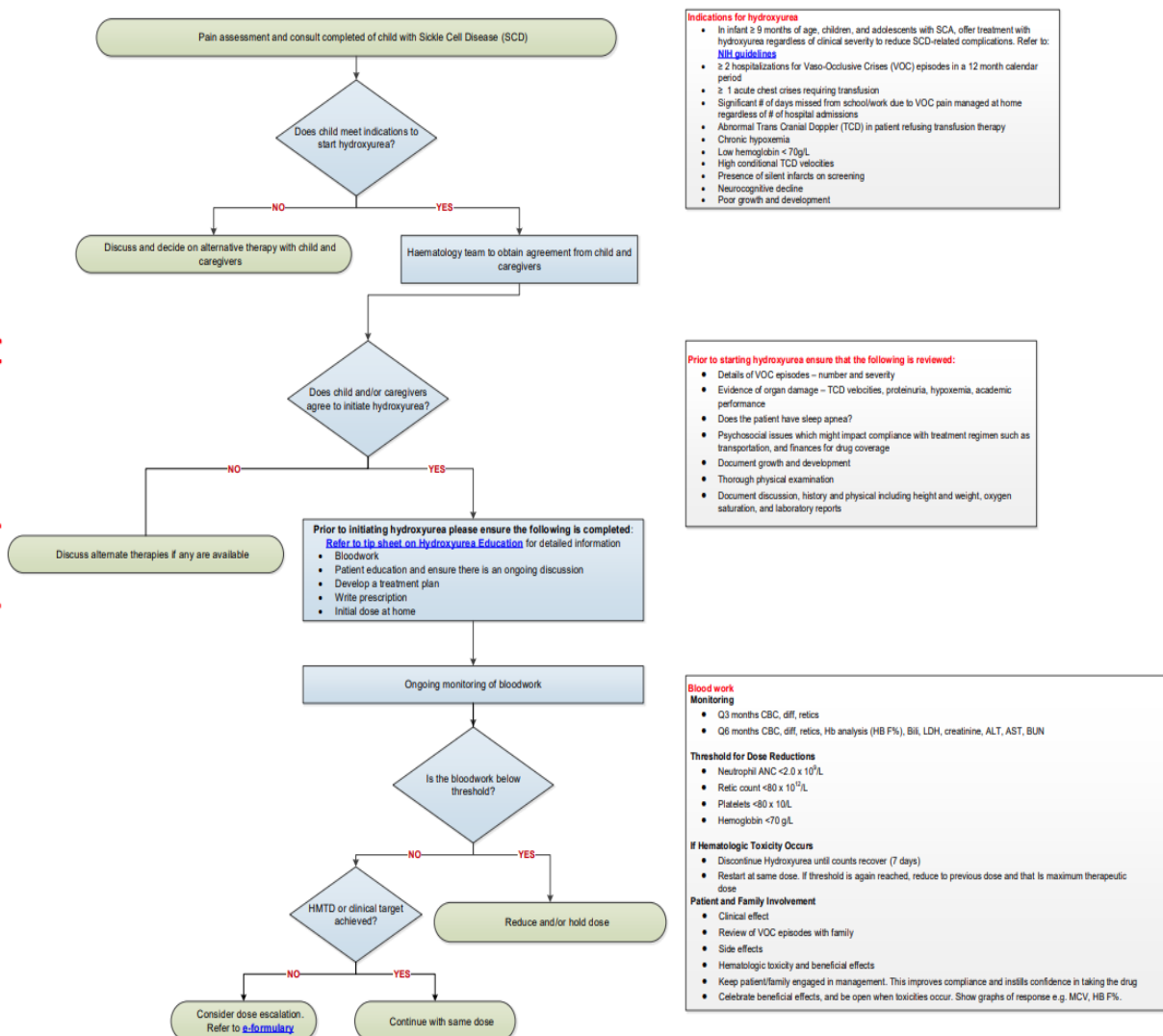
Patients admitted on hydroxyurea shall not be given hydroxyurea prescription on discharge. **Haematology is to prescribe in order to monitor blood work.**

2.0 Definitions

- **Hydroxyurea (HU)** is a chemotherapy medicine that has been used to treat many disorders, including sickle cell disease (SCD). Research has shown that patients with sickle cell disease who take hydroxyurea are admitted to hospital because of painful events only half as often as patients who do not take hydroxyurea, have fewer acute chest crises and have less need for blood transfusions if they are admitted to hospital. Please see www.aboutkidshealth.ca.
- **Maximum Therapeutic Dose (MTD)** is maximum dose or clinical efficacy achieved.
- **Transcranial Doppler (TCD)** is a non-invasive ultrasound used to screen for strokes measuring the rate of blood flow through the large vessels on both sides of the brain.
- **Vaso-Occlusive Crises (VOC)** are blockages of the blood vessels anywhere in the body by deformed red blood cells. This causes a lack of oxygen in the affected area of the body. Symptoms depend on where the blood vessels are blocked.

3.0 Guideline

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PRINTABLE VERSION

4.0 Related Documents

[Dissolve and Dose Drug Administration](#)

[Chemotherapy At Home: Safely Handling and Giving Medicines](#)

[Chemotherapy At Home: Safely Giving Your Child Capsules](#)

[Hydroxyurea Education and Discussions Tip Sheet](#)

[hydroxyUREA 100 mg/mL Oral Suspension](#)

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5.0 References

1. Charache S, Terrin ML, Moore RD et al: Effect of hydroxyurea on the frequency of painful crises in sickle cell anemia. NEJM vol 332, 1995 1317-1322.
2. Evidenced Based Management of Sickle Cell Disease. Expert panel report, 2014
3. Hankins JS, Ware RE, Rogers ZR, et al. Long-term hydroxyurea therapy for infants with sickle cell anemia: the HUSOFT extension study. Blood. 2005;106(7):2269-2275.
4. Kinney TR, Helms RW, O'Branski EE, et al. Safety of hydroxyurea in children with sickle cell anemia: results of the HUG-KIDS- study, a phase I/II trial. Pediatric Hydroxyurea Group. Blood. 1999;94(5):1550-1554.
5. Steinberg MH, Barton F, Castro O, et al. Effect of hydroxyurea on mortality and morbidity in adult sickle cell anemia: risks and benefits up to 9 years of treatment. JAMA. 2003;289(13):1645-1651.
6. Steinberg MH, McCarthy W.F, Castro o et al: Am J. Hematol 85: 403-408,2010 The risks and benefits of long-term use of hydroxyurea in sickle cell anemia: A 17.5 year follow-up.
7. The effect of prolonged administration of Hydroxyurea on morbidity and mortality in adult patients with sickle cell syndromes;results of a 17-year, single center trial (LaSHS). Blood 2010;115(12):2354-2363
8. Wang WC, Helms RW, Lynn HS, et al. Effect of anemia: results of the HUG-KIDS study. J. Pediatr. 2002;140(2):225-229.
9. Ware, RE. How I use hydroxyurea to treat sickle cell disease. Blood 1 July 2010.Vol 115, Number 26

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Attachments:

[Algorithm: Hydroxyurea Therapy](#)

[Hydroxyurea Education and Discussions Tip Sheet.pdf](#)

[hydroxyUREA 100 mg/mL Oral Suspension](#)

[Revision History.docx](#)