A SCHOOL CHART ON SICKLE CELL DISEASE (SCD)

TO REDUCE THE NUMBER OF SCHOOL ENVIRONMENT-INDUCED SICKLE CELL CRISES AND COMPLICATIONS

SICKLE CELL DISEASE: A severe genetic blood disease that affects red blood cells. Individuals with SCD are anemic due to ongoing breakdown of red blood cells, which also causes jaundice or yellowing of the eyes. Children and adolescents with SCD can have severe complications that may require hospitalisation, including pain crises, stroke, serious infections, and damage to vital organs, including the liver, kidney, spleen and heart.

SICKLE CELL PAIN CRISIS: A pain crisis (or pain episode) is the most common symptom and complication of SCD. It can affect many areas in the body, including bones in the arms, legs, back and skull. Preceding the crisis, some individuals may feel unwell.

POSSIBLE TRIGGERS FOR PAIN CRISES

1. Exposure to damp, windy, cold or hot environments.
2. Dehydration
3. Stress or extreme physical activities
4. Infection

Note: Many pain episodes occur without a clear trigger

RED FLAGS

If any of the following are identified, then the student should be provided an area to rest and hydrate, and parents/guardian must be contacted. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment

- A sudden change in behaviour, inability to speak or move (warning sign of an overt stroke).
- Persistent fever over 37.5^{o}C
- Severe or increasing pain in any part of the body
- Repeated vomiting

HOW TO REDUCE SCHOOL ENVIRONMENT PAIN CRISIS

1. **Identification:** New School Year Registration/Medical form to identify student with the disease. This Individual Health Care Plan (IHCP) information should be placed in the student's Individual Health Plan (IEP)
2. **Physical Activities:** Because of severe anemia, individuals with SCD may have lower exercise tolerance. Furthermore, strenuous exercise may trigger complications, such as pain episodes. Therefore, modified gym program should be discussed with parents and student to adapt exertion appropriately to the student's tolerance, and avoid over-exercise.
3. **Hydration:** Hydration is important to prevent health complications. Therefore students must be allowed to have water in classroom.
4. **Toileting:** Individuals with SCD may have abnormal kidney function, with inability to concentrate urine, resulting in need to urinate more frequently. Therefore, allow student to have frequent washroom breaks, as necessary
5. **Medication**: Young people with SCD may have damaged or missing spleen (an organ that helps to fight infections). As such, people with SCD are more susceptible to some serious infections. Students on prophylactic penicillin and other medications should be provided with areas for safe storage and administration of prescription medications. In case of pain crisis, they should also be allowed to take their home medication, as it may allow quicker resolution of pain crisis, and prevent need for hospitalization.
6. **Temperature**: Change in weather conditions (windy, cold or hot) may trigger pain crisis. Therefore, avoid activities that require outdoor work in hot, cold or damp conditions; avoid under-heating of classrooms, especially mobile classrooms; maintain good ventilation of study areas. Allow coats or sweaters to be worn in class, and permit the child with SCD to stay inside at break in cold, wet or windy weather.

OTHER SUPPORT THAT COULD HELP STUDENTS WITH SICKLE CELL DISEASE

1. **Catch-up mechanism:** Students with SCD need extra support to catch-up on school work after being absent due to illness. School materials may be provided to student if student is away for a prolonged period in hospital or recuperating at home.
2. **Recognition of warning signs for stroke and silent cerebral infarcts**: Individuals with SCD are at higher risk for stroke which could cause subtle cognitive dysfunction and impair/impact their academic performance. In case of drastic or steadily declining change in academic performance (a possible warning sign for silent stroke), students and parents should be encouraged to discuss with their hematologist.