Alberta Health Services
Alberta Newborn Screening

Information for Health Professionals

Sickle Cell Trait (SCT)

Newborn screening in Alberta includes screening for sickle cell disease, which is a type of hemoglobinopathy. This screening may identify infants who carry sickle cell trait. Infants who are carriers of other hemoglobinopathies will not be reported.

The ***Practice Guide for Sickle Cell Trait Identified in Newborn Screening*** for primary care providers was developed in partnership with the Alberta Newborn Screening Program and representatives from family medicine, medical genetics, genetic counsellors, specialists and public health. This guide is intended to provide guidance to healthcare providers when they receive sickle cell trait (SCT) notification for a newborn in their practice.

The Practice Guide includes:

- Background and advice when receiving a notification of SCT carrier status for a newborn in your care
- SCT notification algorithm
- Resource for healthcare providers to use when talking to parents about their newborn's SCT status
- Additional resources for healthcare providers

Access the ***Practice Guide for Sickle Cell Trait Identified in Newborn Screening*** at
https://www.albertahealthservices.ca/assets/info/hp/nms/if-hp-nms-sct-practice-guide.pdf

Summary

There are no immediate health concerns for an infant who carries sickle cell trait (SCT). No urgent action is required and referral to a hematologist is generally not necessary. However, there may be implications for other family members.

Background

Sickle cell disease (SCD) is a clinically significant hemoglobinopathy that is inherited in an autosomal recessive manner. In patients with SCD, red blood cells can acquire a crescent or 'sickle' shape, which may cause pain and tissue damage. Individuals with SCD have two sickle cell gene variants, or one sickle cell gene variant alongside a second gene variant that impacts the quantity or quality of adult hemoglobin, such as beta-thalassemia.

When an individual has only one sickle cell gene variant, they are said to carry **SCT**. SCT occurs in all ethnic groups, but it is more common in certain populations such as African, Mediterranean, Middle Eastern and Asian groups. Carrier frequency is dependent on ethnic background. The incidence of SCT is approximately 1 in every 128 infants born in Alberta.

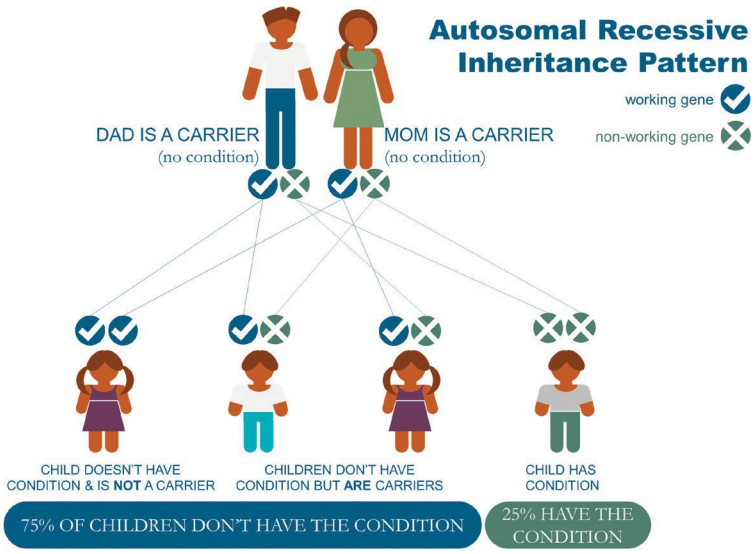
Health expectations for people with SCT

Most people who carry SCT will not have associated health problems and they will not develop SCD. In rare cases, carriers may experience some health issues such as hematuria, proteinuria or chronic renal disease. People who carry SCT may also experience exertional health illness associated with extreme strenuous activities or during periods of significant dehydration.

Implications for other family members

When a child is found to carry SCT, at least one parent is also expected to carry SCT. Given how common SCT is, there is a chance that both parents carry SCT. These couples have a 1 in 4 probability of having a child with SCD.

If the parents of an infant carrying SCT are planning more pregnancies the following hemoglobinopathy investigations are recommended for each parent: hemoglobin electrophoresis, CBC and ferritin.



Early screening and follow-up care – every baby, every time

For more information about the Alberta Newborn Screening Program, visit www.ahs.ca/newbornscreening