



Haematology Department

Living with Sickle Cell Disease – Exercise

Information for parents and carers

Introduction

This leaflet aims to provide you with general information about living with Sickle Cell Disease. If you are ever worried about your child please contact your Sickle Cell Team or take your child to the Accident and Emergency Department.

Can my child take part in exercise?

Being physically active can help with maintaining overall good health. There is no reason that someone with sickle cell cannot take part in exercise. In fact a study in 2014 showed that individuals with sickle cell can participate in mild-moderate exercise without any acute complications occurring (Faes et al, 2014)

Other studies have shown that regular mild to moderate exercise can help to reduce vaso-occlusive crisis and hospitalisation, warm water exercise (e.g. swimming) can help to reduce pain and strengthen muscles Martin et al, 2015, another study showed that patients on hydroxycarbamide had increased exercise capacity - meaning they were able to do more exercise with fewer problems.

What are the benefits of exercising?

The following are some to the benefits of regular exercise:

- Helps to improve and maintain good overall health.
- Strengthens the heart, lungs and blood vessels
- Increases muscle strength.
- Improves flexibility.
- Increases endurance and stamina.
- Increases natural pain killers (called endorphins) in the body's nervous system, which help control pain.
- Helps with weight control.
- Helps to improve quality of sleep.
- Reduces fatigue and increases energy.
- Helps to reduce stress, and depression.



How can exercise affect my child?

During exercise the body needs extra oxygen for the active muscles. People with sickle cell disease have a long term anaemia. This reduces their ability to carry oxygen very well they can become breathless easily and get tired quickly when they exercise.

Are there any precautions that they should take?

Children with sickle cell can usually exercise and play normally but they need to remember to:

- Start their exercise gradually; don't do too much too soon.
- Exercise at their own pace.
- Drink plenty of fluids before, during, and after exercise to prevent dehydration.
- Take regular rest breaks. A rest period every 20 min of exercise is recommended to avoid dehydration.
- Stop exercising at the first sign of tiredness.
- Stay warm. Exposure to cold air, wind, and water can trigger a sickle cell crisis. Dress children in warm layers of clothing for cold-weather activities. Your child should avoid swimming and playing in cold water. If they go swimming make sure they get dried (including their hair) and dressed as soon as they get out of the pool.
- Be careful when exercising in hot weather. This will only make them dehydrate more.
- Identify their own physical tolerance level and maintain their own physical boundaries. You and your child will get to know how much exercise and the types of exercise they can do without triggering a sickle cell crisis
- Should not do strenuous exercise during illness.

Should my child avoid any forms of exercise?

- Intense exercise.
- Short bursts of intense exercise.
- Prolonged exercise for more than 20 min without resting.
- Exercise that causes them to hold their breath for a period of time.
- Exercise that causes them to hyperventilate.
- Contact sports.

The types of exercise that should be avoided include:

- Swimming underwater.
- Cross country running.
- Circuit training / High intensity interval training (HITT).
- Short sprints.
- Weight lifting with heavy weights.



Further information

If you have any questions or want any further information please contact your Sickle Cell Team on 0151 252 5070.

References

Faes, C., Martin, C., Connes, P., Balayssac-Siransy, E., Hivert, L., Danho, C., Bogui, P. and Pialoux, V. 2014. Moderate endurance exercise in patients with sickle cell anaemia: effects on oxidative stress and endothelial activation. *British Journal of Haematology*. Vol 164, No1.

Martin C, Pialoux V, Faes C, *et al.* 2015. Does physical activity increase or decrease the risk of sickle cell disease complications? *British Journal of Sports Medicine*

Useful websites

www.alderhey.co.uk

www.sicklecellsociety.co.uk

Alder Hey Children's NHS Foundation Trust is neither liable for the contents of any external internet site listed, nor does it endorse any commercial product or service mentioned or advised on any of the sites.

This leaflet only gives general information. You must always discuss the individual treatment of your child with the appropriate member of staff. Do not rely on this leaflet alone for information about your child's treatment.

This information can be made available in other languages and formats if requested.

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Review Date: April 2024

PIAG: 0061

