North East & Yorkshire Haemoglobinopathy Coordinating Centre

Nutrition in Sickle Cell Disorder for Adults

Information for patients, families and carers

Haematology - Haemoglobinopathy Coordinating Centre

PROUD TO MAKE A DIFFERENCE
SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST

Why is it important?

Nutrition plays a vital role in sickle cell. It can help to maintain a healthy lifestyle which reduces the risk of more complications. A good diet can help manage some of the symptoms and prevent them from becoming worse, they can also help in reducing or preventing the risk of developing chronic diseases like diabetes etc and help to improve your quality of life.

People with sickle cell disorder require a higher than average calorie intake and are at risk of low essential nutritional intake including protein, mineral and vitamins as a result of their condition and especially during crisis energy intake can be especially poor. During each crisis you use a lot more energy and this means you can be at risk of nutritional deficiency, impaired immunity and increase oxidative stress in your body.

Common nutritional problems

- Malnutrition
- Chronic anaemia
- Fatigue
- Increased risk of infection
- Constipation
- Dehydration
- Osteoporosis
- Pica
- Iron overloading

The problems listed above can be due to a number of reasons and we like to look at each patient with a holistic approach

" Holistic- treating the whole person, considering not just the physical symptoms, but also the emotional, social, environmental, psychological , spiritual and personal wellbeing" (NMC 2025).

Whether you are a inpatient on the ward or seen in outpatient clinic appointments we will discuss with you your dietary requirements including vitamins.

We may advice you to take certain supplements or vitamins as recommended for sickle cell patients. We also check your levels through bloods tests that you have when you attend for clinic appointments especially for your annual review.

Unless you have been advised to, please consult the team or your GP before you start any new medications, vitamins or dietary supplements.

Nutrients that you should have more of

Zinc

- Is not stored in the body
- Important part of the diet
- Helps immune function, growth, bone health, bone density, pubertal development, Glucose homeostasis (balance).
- Important for patients on regular transfusions
- Talk to the GP or Haemoglobinopathy team before taking as it can affect the absorption of other nutrients
- Can be found in meat, milk, cheese, eggs, shellfish, wholegrain cereals, nuts and pulses.
- Can help reduce your risk of infection

Folate

- In people with SCD, red blood cells break down faster than in those without SCD. Folate may help replace red blood cells.

- Helps with anaemia, it is a B vitamin and is essential for producing and storing red blood cells.
- It helps prevent developmental abnormalities of babies in the womb
- Folic acid is recommended before conception and to continue throughout pregnancy
- Some rich sources of folate include: leafy green vegetables such as broccoli, spinach, asparagus, certain fruits such as papaya and strawberries, peanuts as well as foods fortified with folate such as cereals, rice, bread, pasta and flour.

People with SCD are at a increased risk of dehydration due to complications such as kidney problems. The National Health Service (NHS) suggests that drinking plenty of fluids, such as water may help reduce the risk of dehydration which may increase the risk of sickle cell pain crisis. It is recommended up to 3 litres of fluid at regular intervals throughout the day (sickle cell nutrition academy 2025).

Vitamin D

- Is mainly absorbed from sunlight
- It is recommended to take a Vitamin D supplement
- Essential for calcium absorption
- A daily dose of 10 mcg Vitamin D supplement is recommended for sickle cell patients.

Vitamin E

- This works as a antioxidant
- Prevents oxidative damage in the body
- Can help to reduce your risk of infection
- Important role in prevention of diseases such as coronary heart disease and cancer

- Can be found in vegetable oil e.g. olive oil, sunflower oil and rapeseed oil.

Calcium

- Important for bone development
- Strengthens bones by aiding its structure and strength and enables bones to store minerals for the body to use.
- Reduces haem iron absorption - it can be advised to try to have a glass of milk with meals or incorporate milk into cooking.
- Osteoporosis can be an issue for some people with sickle cell therefore Calcium is important as it helps strengthen bones and improve bone health.
- Vitamin D works alongside calcium as it is absorbed into the body
- Calcium supplements are recommended- if lactose intolerant, lactose free options are available to buy

Foods high in calcium

- Milk
- Cheese
- Other dairy products such as yoghurts
- Bread (not wholemeal)
- Green leafy veg e.g. broccoli and cabbage
- Fortified soya products
- Fish eaten with bone e.g. sardines, salmon and whitebait

Foods that provide large amounts of energy in small amounts

- Avocado dips hummus and bread
- Crackers and cheese, cheese on toast, peanut butter
- Thick creamy yoghurts or soya alternatives
- Dried fruit
- Unsalted nuts and seeds
- Fruit smoothies
- Energy supplements- Complan, Build up shake/ soups (please only take this if you have been advised too by a doctor or dietician)

Remember protein in your diet

Protein can help to build and repair the body's cells and tissues. It also helps make more red blood cells

Protein can be founds in:

- Beans
- Pulses
- fish
- eggs
- meat and other proteins

It is important that you aim to get your vitamins and minerals from foods you eat.

For guidance on this please scan the QR below to take you to the 'Eatwell Guide' from Public Health England .

Or for more personalised nutritional advice, information and education on sickle cell please visit :

https://sicklecellnutritionacademy.com

If you notice any :

- Weight loss
- Reduced appetite/ intake
- Ongoing poor appetite
- Worsening complications
- Frequent hospital admissions

Or have any concerns regarding your dietary intake and are struggling with weight including being underweight or overweight.

Please contact the Haemoglobinopathy team or your GP and we can advise and support you and make appropriate referrals for you to speak to a dietician or our psychology team.

Please use the QR code or link below to take you to the Patient Information Leaflet (PIL) section of the North East and Yorkshire Haemoglobinopathy Co-ordinating Centre Website

Patient Information - NEYHCC

For alternative formats please see
www.sth.nhs.uk/patients-visitor-information

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