

Haematology Department

Sickle Cell Crisis – Incentive Spirometry

Information for Parents and Carers

Introduction

This factsheet aims to provide you with general information about incentive spirometry in 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.

What is incentive spirometry?

Incentive spirometry is a medical device that is used for breathing exercises. It will help your child to take deep breaths. Deep breathing exercises open up the air sacs in the lungs therefore reducing the chance of developing breathing problems.

An incentive spirometry device



Why is incentive spirometry used in sickle cell disease?

When children and young people with sickle cell disease have a crisis, the pain they experience causes them not to be able to take deep breaths. Pain medicines that belong to the opioid family, such as morphine, your child may be taking if they are having a crisis can also cause shallow and slow breathing. All of these things put your child at risk of developing a chest infection or a chest crisis. Incentive spirometry has been shown to reduce this risk and help put air into the lungs.

When should my child do incentive spirometry?

Incentive spirometry should be used when your child has a crisis particularly if it is into their back, stomach or chest or they are having a severe crisis with a pain score over 7 and are unable to mobilise.

How does my child use incentive spirometry?

Your child should sit up and hold the incentive spirometer upright.

They should:

- Place the mouthpiece of the incentive spirometer into their mouth. Make sure they make a good seal with their lips.

- Breathe out (exhale) normally.
- Breathe in (inhale) slowly and deeply. The ball in the incentive spirometer will rise as they take a breath in. Try to get your child to get the ball to rise as high as they can.
- Your child should hold their breath for a few (three –five) seconds, then slowly release their breath and exhale.
- **Repeat this routine 10 times**

How often should they use the incentive spirometry?

You should encourage your child to use the incentive spirometry every two hours when they are awake. You don't need to wake your child up during the night to do it. If they are awake during the night you can perform incentive spirometry

What if my child cannot use an incentive spirometer?

Your child will be shown by a physiotherapist how to use the incentive spirometer. If they are unable to use it or are too young then you can encourage deep breathing by getting them to blow bubbles or play blowing games.

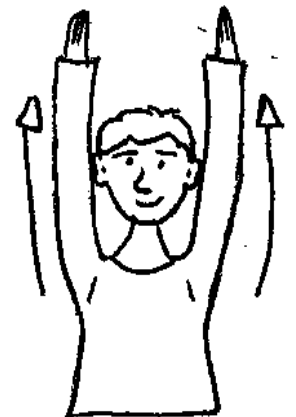
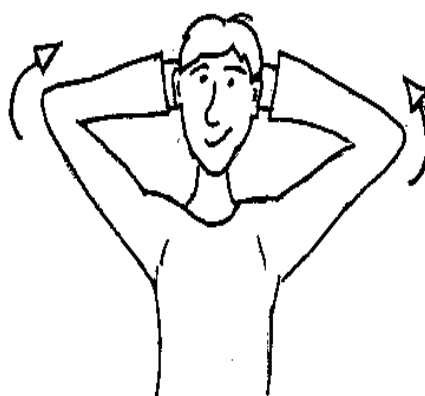
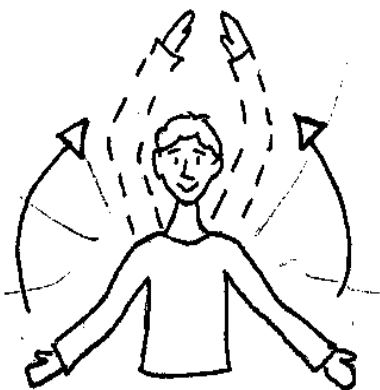
Can my child use an incentive spirometer at home?

Your child will be given an incentive spirometer when they are in hospital and you will be able to take this home. You should encourage your child to use it every time they have a crisis.

Are there any other things that I should be doing for my child?

- **Mobilising**

It is very important to ensure that your child is walking and moving as normally as possible. This will naturally encourage deep breaths. Also encourage your child to maintain arm flexibility by stretching their arms up (see diagram below), putting their hands on their heads and circling the arms.



- **Posture**
Ensure your child keeps a good posture.
- **Pain management**
Ensure that your child gets adequate pain medication

What should I do if I am worried about my child?

If you are worried about your child then contact your Sickle Cell Team or bring them to Accident and Emergency Department for review.

Further information

If you have any questions or want any further information please contact your Sickle Cell Team on 0151 252 5079.

Useful websites

www.alderhey.co.uk

www.sicklecellsociety.co.uk

References

Bellet, P. et al (1995) Incentive Spirometry to Prevent Acute Pulmonary complications in Sickle Cell Diseases. The New England Journal of Medicine. 333 (11) September, 699-703

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