



What is spina bifida?

Spina bifida is a developmental defect of the spinal column in which the vertebral arches have failed to fuse. This results in a "gap" in the spinal column. The effect that spina bifida has on a child will depend on the degree of damage to the spinal cord and the location of the gap.

Problems can include lack of feeling and movement in the legs and inability to control bladder and bowel function. Curvature of the spine and poor range of joint movement in the legs may be present. Sometimes there can be weakness in the arms and hands.

Most children with spina bifida also have hydrocephalus. Hydrocephalus occurs when there is an abnormality in the development of structures at the base of the brain that can block the circulation of fluid around the brain. Hydrocephalus is managed with a shunt that diverts the fluid to another part of the body, usually the abdomen.

Physical activity

Physical activity is very important for all children, and especially for children with spina bifida. Physical activity will help to:

- Improve fitness, balance and coordination.
- Maintain muscle length and increase muscle strength.
- Provide opportunities for friendships, independence and improved self-esteem.
- Prevent obesity.
- Prevent constipation.

Many children with spina bifida will use a wheelchair for sport or physical activity, even if they do not use a wheelchair for day-to-day mobility.

Building strong upper limbs

Physical activity can help to build strong upper limbs. Children with spina bifida need a strong upper body to help with balance; to move or transfer from their wheelchair; to walk using equipment and to propel their wheelchair.

Ways to encourage your child's upper body strength include:

- Swimming.
- Crawling through tunnels - through the legs of chairs or a low table.
- Crawling over a mat or pillow.
- Hitting a large beach ball with two hands.
- Batting a suspended ball with a small plastic racquet.
- Squeezing sponges in the bath.
- Playing with water pistols or water spray bottles.
- Doing bottom lifts in the wheelchair, on the floor, sitting in a chair.
- Push ups lying on their tummy.
- Playing wheel barrow.

Fitness and preventing injury

The fitter your child is, the more they will enjoy being active and will also be less likely to suffer from injury.

To improve fitness, it is recommended that your child is active at least 3-4 times per week, for at least 20-30 minutes at a time.

Fact Sheet

Be active with spina bifida



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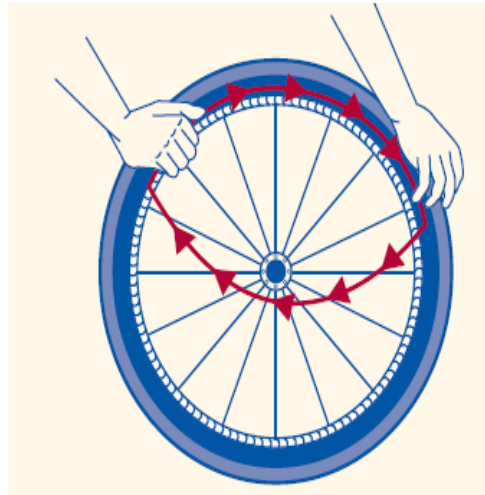
A 5-10 minute warm up will help prepare the body for the activity. The warm up should consist of stretching activities, some continuous movement for 2-3 minutes eg. arm/upper body movements; and movements/games related to the activity.

A 10 minute cool down should also follow the activity to remove waste products from the muscles so that they don't become sore and stiff. The cool down should consist of some continuous movement for 2-3 minutes eg. slower chair pushing/running and stretching the muscles that were used in the activity.

Some suggestions for improving your child's fitness include:

- Pushing in wheelchair over a distance, using long arm movements (speak to your therapist about the best way to move the wheels of the wheelchair).
- Sports such as basketball, tennis and bocce.
- Walking/wheeling the dog.
- Swimming – particularly good as it allows physical activity in a non-weight bearing environment.
- Using a bike with hand pedals- your OT/PT can assist with adaptations.
- Gym program.

PROPELLING YOUR WHEELCHAIR



- The most energy efficient way to push your wheelchair is using a semicircular propulsion technique. This is pictured above.
- Use long smooth strokes to decrease the amount of times you need to push.
- Take regular rest breaks and rest following fatigue to let your arms recover.
- Maintain your wheelchair regularly to reduce rolling resistance from clogged castors and accumulated grime.
- **If** using pneumatic tyres they should be maintained at high pressure to make pushing easier.

A semi-circular push stroke is where your hand falls below the push rim between push strokes.

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Take care

- Rolling activities and jumping from heights should be avoided if your child has a shunt.
- Most physical and sporting activities are fine for participation but contact sports such as football should be avoided.
- Children with spina bifida do not have normal sensation. Burns and abrasions can occur easily from hot and/or rough surfaces eg. slippery dip and sand.
- Some children with spina bifida may shut their eyes as a ball travels towards them. Try to bounce the ball rather than throw the ball directly to your child.
- Find the most appropriate activity for your child to participate in.
- Your child can use a wheelchair for physical activity if walking is difficult.

Sports to try!

- Swimming- **Rainbow Club** (www.rainbowclubaust.com.au)
- Sailing- **Sailability** (www.sailability.org)
- Horse riding- **Riding for the Disabled Association of Australia** (www.rda.org.au)
- Bike riding
- Bowling
- Wheelchair Junior Sports - try all sorts of sports under the guidance of experienced coaches - basketball, rugby, tennis, swimming, or sports camps- **NSW Wheelchair Sports Association Inc** (www.nswwsa.org.au)

References

Paraquad NSW: Brochures available. (Phone: (02) 8741 5600, Website: www.paraquad.org.au):

- “Armed for Life: Prevention Strategies and Management of Upper Limb Overuse Syndrome(s) for Persons with a Spinal Cord Injury (SCI): Strategies for upper limb preservation in daily activities following SCI.”
- “Armed for Life: Prevention Strategies and Management of Upper Limb Overuse Syndrome(s) for Persons with a Spinal Cord Injury (SCI): Wheelchair Set up and Transfers.”
- NCPAD - “Disability/Condition: Spina Bifida – Physical Activity Guidelines” <http://www.ncpad.org/disability/fact-sheet.php?sheet=256>
- The Children’s Hospital at Westmead – “Push-Ups/Bottom Lifts in your Wheelchair”. Instruction sheet available through the Spina Bifida Clinic of The Children’s Hospital at Westmead. Phone (02) 9845 3369.

Remember

- Physical activity improves fitness and helps to prevent obesity.
- Upper body strength assists in independence.
- Sport provides opportunities for friendship and fun.
- Be active three or more times a week to keep healthy.

This fact sheet is for education purposes only. Please consult with your doctor or other health professional to make sure this information is right for your child.

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the children’s hospital at Westmead

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