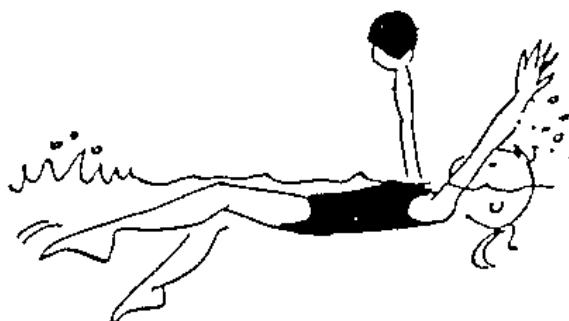


# SBH

Spina Bifida Hydrocephalus  
Queensland



## THE CHILD WITH SPINA BIFIDA AND SPORT



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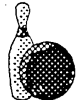
## **DISCLAIMER**

This booklet is designed to provide general information about the topics covered, to assist interested parties. It is compiled from information written by staff of the Association, as well as from various publications by authors not related to the Association. Accordingly, whilst the Association believes the information is the most accurate and up-to-date available, the Association accepts no responsibility for the information from other sources. There is still much to be learnt about spina bifida, hydrocephalus, and their causes and prevention. As further developments occur, the information may prove to be incorrect or incomplete. For this reason, and because the information is of a general nature, you should always obtain specific advice about matters affecting you.

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It is not possible to design a comprehensive physical education program which is suitable for all ages, all environments and all degrees and types of disability, as these vary considerably. However, this should **not** be taken as sufficient reason to opt out of the professional responsibility to provide a program for **all** children.

As a general statement, there are important **physical benefits** for any disabled child, who participates in a physical education program, including:

- continued development of gross and fine motor
- improved balance, coordination, rhythm and timing
- improved bilateral skills, symmetry
- improved body and spatial awareness, motor planning
- increased fitness
- improved health and body functions

In addition, the ability to participate with peers and make some achievements, even if in a limited capacity, can have important **psychological** benefits, including:

- improved self-image and self-esteem
- increased motivation to further encourage movement
- greater understanding and acceptance by others.

A physical education program can take 3 forms

- **Mainstream** - where the child is part of the general class lesson which may or may not include some modifications.
- **Parallel** - where a small group of less skilled children perform a similar program to the class, but at reduced skill levels
- **Alternative** - where the disabled child has their own specific program when the other 2 forms are totally impractical.

Whichever form the lesson takes, **PRIOR PLANNING IS ESSENTIAL!**

To assist in planning a physical education program for a child with spina bifida, the following are valuable resources:

- The parents - they are the experts on their child!
- The Advisory Visiting Teacher for Physical Impairment.
- SBH Queensland who may be able to visit the school or provide advice by phone or email.
- Aussie Sports - Activities Manual for Children with Disabilities.
- Sporting Wheelies and Disabled Sport and Recreation Association.

Incontinence can be a problem. Some activities could cause accidents. It may be appropriate for the child to visit the toilet immediately prior to beginning the physical education lesson.

Because many children with spina bifida and hydrocephalus have problems in the areas of visual perception, visual-spatial awareness and visual-motor planning, some activities are more difficult for them than might first appear eg. catching balls and throwing at targets. This makes it critical that they are frequently exposed to these activities, not excluded from them.

Select materials and activities according to the child's ability, and modify them according to the disability.

The activity may need to be modified to enable partial or complete participation by the disabled child. The modifications may be to:

#### *Equipment*

- lighter bat e.g. plastic bats (Aussie Sports)
- wrist cord on bat for safety
- witch's hat T for T-ball (less jarring)
- balls can be
  - brightly coloured
  - softer (less dangerous)
  - larger (easier to catch)
  - lighter (easier to hold and throw)
  - higher impact (greater distance)
  - stationary (on T, on string)
  - velcro (grip ball)

#### *Rules*

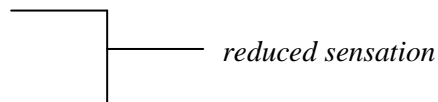
- distance to be run eg. race, T-ball
- required performance eg. 2 hops in tennis
- individual's performance
  - circle of safety
  - no-go zone
  - stability eg. seated

#### *Space*

- reduced field size
- zones
- larger or lower target
- back-up of wall (to stop ball)

### **How Can You Involve the Disabled Child**

1. **Encourage independence** by allowing the child to do as much as possible for him or herself.
2. Break the task down into **smaller or easier components** to allow the child to do part of the task independently.
3. Allow **sufficient time** for the child to achieve by him or herself. You need to be patient and tolerant.
4. Allow the child **several attempts** at the task even if they fail first time. Practice and repetition often lead to success.
5. Encourage the child to be **patient with himself** and not to become frustrated.
6. Encourage the child to **contribute** to the planning or implementation of the program. They know what they can do - you just need to extend them a little.
7. Encourage the child to ask for assistance. Always ask the child if they want assistance, don't assume it.
8. **Praise effort**, not just obvious success.
9. Respect individuality and dignity.
10. Be aware of contra-indicated activities
  - eg. trampoline for the epileptic child
  - sand or water inside plasters and splints
  - cold and hot surfaces
  - abrasive surfaces
  - body contact (shunt)



#### 11. Scorekeeper Time-Keeper role

This should be used only in rare circumstances when even partial participation is impossible eg for a high jump competition where the child uses a wheelchair. It would be more inclusive to have the child replacing the bar when it is knocked off.

*PLEASE:* Make scoring or time keeping **meaningful** if you must use it. For example, if the child has typing or computer skills, they can type up the results later in different ways eg. fastest to slowest, etc.

**Excluding** the child with a disability from all physical education is inexcusable and unprofessional. It leaves the teacher open to accusations of poor planning and discrimination. Get out your Aussie Sports Manual and find a way to include them.

#### **Some Helpful Hints**

- A ball in flight has to be assessed in 3 dimensions, a rolling ball in only 2; speed and direction.
- A bouncing ball is easier to track visually than a ball in the air.
- Larger balls are easier to hit and catch, easier to track and encourage 2 handed involvement.
- Wrist cords on bats increase safety and decrease fear.
- Wheelchairs with highly inflated tyres are much easier to move, especially on grass.

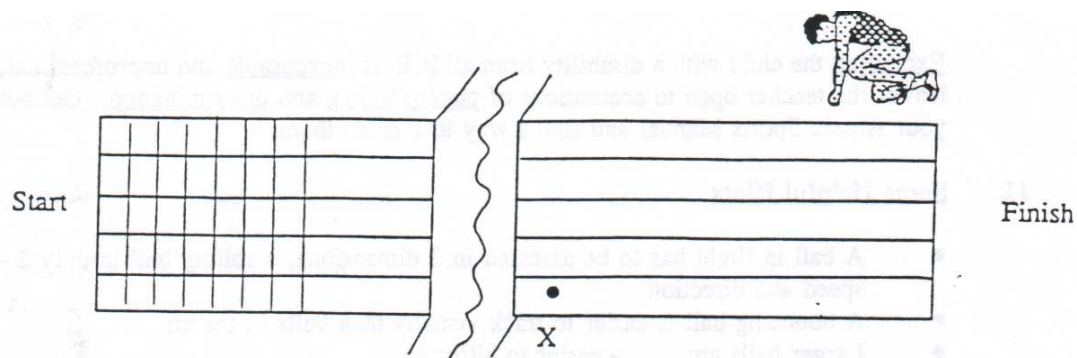
## SOME MODIFIED ACTIVITIES

The rest of the class will accept modification to games if the modifications are:

- Fair
- Clearly understood
- Provide no unfair advantage
- You are honest about them

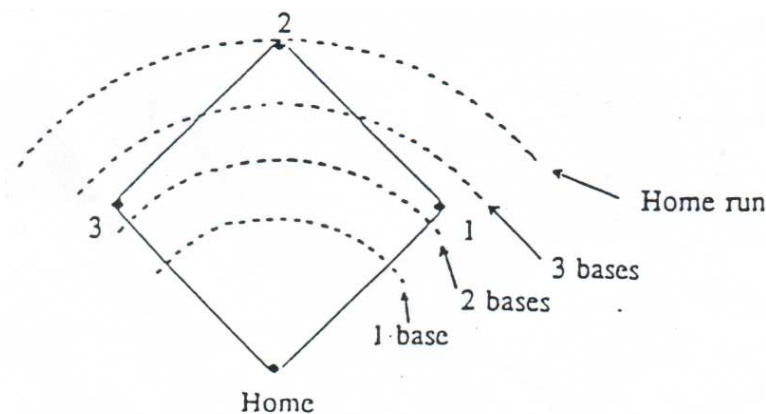
Often, modifications provide added interest to regular games that may have become boring.

### RUNNING (including wheelchairs)



1. Time all children over the full course. Find the average group time.
2. Run the disabled child from finish line towards the start for that average time. Mark X as distance travelled in average time.
3. Disabled child runs from X while others start from normal start. Hopefully, disabled child finished at same time as the group.
4. Other modifications:
  - Mark a series of 1m lines from start for 10m. Stagger the start of the other children depending on the results.
  - Always use an outside lane for disabled child for safety sake.

### SOFTBALL and T BALL



1. Mark curved zones as shown. If the ball passes a line before being fielded, the disabled batter is entitled to safety for that number of bases.

2. Alter the position of zones according to the disabled batter's ability.
3. Look at:
  - more stability when batting eg. Sitting
  - lighter bat eg. Plastic
  - higher impact ball
  - stationary ball eg. on T or witches hat.
4. If movement between bases is very slow, establish a safety zone midway between bases with witch's hats.

## **NETBALL and BASKETBALL**

Possible modifications include:

- allow only bounce passes (easier to catch)
- when disabled child has ball, a "no go" zone of 1-2 metres to allow pass
- hang the target or hoop on post at about 2 metres high
- disabled child scores if he or she hits the target
- use a softer ball or smaller ball
- if the ball hits the wheelchair, the ball comes under the control of the child in the chair, who can throw the ball to the next player.

## **SOCCER**

Possible modifications include:

- using a softer ball
- if disabled child gets the ball inside the penalty area, they can get a free kick at goal from penalty spot
- a 2 metre "circle of safety" around disabled student to prevent body contact
- use half the playing field
- if the ball hits the wheelchair, it comes under the control of the child in the chair. who can pick up the ball and throw it to the next player
- have a 2 metre "circle of safety" around the wheelchair

## **TOUCH FOOTBALL**

- The student has a flag that must be removed from his belt or the back of the wheelchair.
- Use foam balls.
- If the child in the wheelchair catches the ball, he or she advances 5 or 10 metres before passing the ball.
- Introduce a penalty for body contact with the disabled child.

## **GYMNASTICS**

- Allow an adult to support the child during performance of balancing movements and tumbling.
- Modify the activity to be performed on the mat.

## **DANCE**

- Simplify the steps and movements.
- Allow the disabled student to do less movement eg. 1 turn while the others do
- Pair with a less able student
- Many steps can be duplicated in the wheelchair eg. do-se-do
- Manoeuvring skills can be developed prior to dancing eg in obstacle courses.

## **HOCKEY and MINKEY**

- Modify the skills.
- Divide the area into zones and restrict players to their own zones.
- Match the disabled child against a child of lesser ability.
- Reduce the field size.
- If the ball hits the wheelchair, it is under the control of the child in the chair, who has a free hit.
- 2 metre "circle of safety" around the chair.

## **TENNIS**

- Use a low compression ball to slow the game down.
- In singles, give the disabled child a buddy ie. 2 against 1.
- Allow 2 bounces of the ball before having to be hit by the disabled student.
- Use lighter racket eg. squash or badminton, perhaps with a wrist cord.
- Play in a confined or fenced area to avoid long delays in retrieving the ball.

## **TARGET GAMES**

- Skittles
- Hookey
- Deck Quoits
- Horseshoe toss
- Indoor bowls
- Croquet
- Bocce
- Velcro darts
- Archery
- Frisbee golf
- or invent your own simple games eg. bean bags into waste baskets.

Balls, quoits, hoops etc for throwing can be tied to the wheelchair with strong fishing line for easy retrieval.
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In ball games try to limit the balls movement by throwing towards a barrier eg. a wall. This speeds up ball games considerably.

## **TABLE TOP GAMES**

- Table Tennis
- Table top push hockey and soccer
- Pool or Eightball
- There are many commercial games that develop fine motor skills, especially for the young eg. Bugoff, Flippopotamus, Battleships, etc.



## **ALTERNATIVE WHEELCHAIR PROGRAMS**

You are limited only by your own imagination in designing an alternative program for children in wheelchairs. Aide time may be necessary for assembling equipment and supervision.

Important elements to include:

- cardiovascular fitness
- upper trunk strength and flexibility
- lower limb strength and flexibility

### **Some Suggestions**

A fitness circuit in a wheelchair chair could include:

- a distance trip for endurance
- uphill and downhill on concrete
- a slalom course using witch's hats
- three point turns
- obstacle courses
- shuttle runs using bean bags, etc
- push-offs from a wall or bar using hands or feet or both alternately (check stability)
- side pushes (onto the aide for resistance) both sides
- stretches, using a bar eg. lifting bottom from chair like chin-ups
- weight training activities using a medicine ball or shot put.

Out of chair:

- stepping onto a stool rail (for support)
- balancing on one foot while doing something specific with other eg. patterns (heel and toe) or kicking
- tossing activities - bocce, ring toss
- pulling (eg. on high jump rubber)
- rolling and stretching on the mat (NB take great care with social acceptability and self esteem)

Other

- Sittercise material (available to borrow from Advisory Visiting Teacher)
- aerobics to walkman

It may be advisable to check any doubtful activities by contacting the parents or the child's therapists.

## SWIMMING

Water provides a beneficial environment for the disabled child. The reduction in gravitational force greatly eases the effort to move. There are several swimming programs for the disabled including the HALLIWICK method.

Remember:

- allow children to participate with their own age group whenever possible
- swimming with the babies does nothing for self-esteem
- allow them to use their strongest stroke
- cold water can reduce endurance quickly, so allow children to stop if they request it

## MINI GOLF

- Paint onto the concrete or asphalt surface as per diagram
- Use croquet mallets or hockey sticks
- For balls use 5cm x 5cm x 2cm wooden blocks or disks of a similar size.
- To score the block must be completely within the circle (20-25cm diameter)
- Count all the hits plus penalties for landing in traps
- Paint blocks different colours for different players
- Excellent for children who use wheelchairs.

