SPORT FOR PEOPLE WITH DISABILITY

J C Chawla

Sport instills self discipline, a competitive spirit, and comradeship. Its value in promoting health, physical strength, endurance, social integration, and psychological wellbeing is of little doubt. It is not difficult to understand why sport is so important for the wellbeing of people with disability.

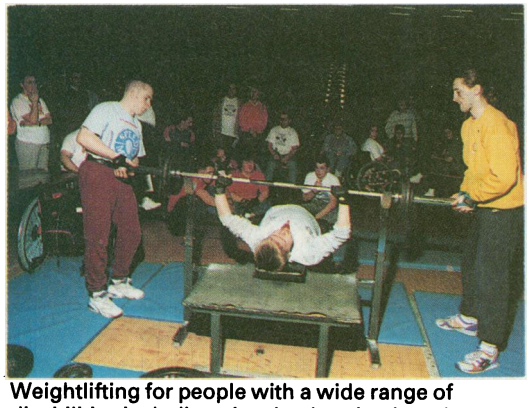
For many years disabled people have shown an interest in sport. Although opportunities for certain types of sport were available in the past, it was not until the passage of the Disabled Persons's Employment Act in 1944 that a major initiative was taken in the United Kingdom to provide facilities to enable disabled people to overcome handicaps that arose as a consequence of their disabilities. About the same time Sir Ludwig Guttman introduced sport as an essential part of the management of patients with spinal cord damage. He described the effects of sport on the rehabilitation of people with paraplegia and tetraplegia and stressed that sporting activities enabled them to overcome boredom in hospital and also promoted development of their physical and cardiorespiratory endurance.

The past five decades have seen an appreciable increase of interest in sport for disabled people not only in people with disability but also in the medical profession, sporting organisations, and the government. In 1978 the Sports Council stated that buildings to which they gave grant aid must provide facilities such as access for disabled people if they were to continue to qualify for aid.

Sports available for disabled people

- Existing sport in which disabled people may participate with little or no modification
- Existing sport that has been modified
- Sport that has been specially developed

Beneficial aspects of sport



Weightlifting for people with a wide range of disabilities including visual or hearing impairment, paraplegia, or learning difficulties.

Aspects of sport

- Recreational
- Therapeutic
- Competitive

Treatment

A great many sporting activities that can be used for rehabilitation and recreation have become possible for disabled people. Sport is increasingly being used as treatment complementing the conventional methods of physiotherapy. It helps to develop strength, coordination, and endurance. Some sports develop selected groups of muscles—for example, weight lifting and archery help to strengthen the arm muscles of paraplegic patients, enabling them to gain independence in self care activities. Wheelchair sport such as basketball helps develop coordination as the disabled person has to propel the wheelchair and learn to pass, catch, and intercept the ball. Swimming is generally accepted as a valuable form of exercise and treatment. Over recent years it has become the most popular sport. When someone is immersed in water, mouth and nose above the surface while breathing, the buoyancy of the water allows limbs to move freely within that person's abilities.

Social benefits

Another important aspect of sport is the opportunities it provides for disabled people to establish social contacts. Disability that persists can cause deterioration of disabled people's attitudes towards themselves and result in self pity, disruption of self esteem, and social isolation. An adverse psychological reaction may be reinforced by the embarrassed attitude of the able bodied members of the community. Participation in sport can help

newly physically disabled people to regain self esteem, promotes the development of positive mental attitudes, and helps them to come to terms with their disability and achieve social reintegration. Furthermore, disabled people with psychodepressive states have been seen to achieve resolution of this aspect of their disability by being able to take part in sport.

Sport in which able bodied and disabled people can integrate.

Disabilities recognised for international competition

- Paraplegia
- Amputation
- Locomotor disorders (les autres)
- Cerebral palsy
- Mental handicap
- Visual impairment
- Hearing impairment

Sport and mental handicap

Mentally handicapped people appear to gain mental, social, spiritual, and physical benefits by involving themselves in the sport and leisure activities that have become available to them, but barriers to their participation still exist. It should be appreciated that mentally handicapped people may lack confidence and learn slowly. They may be reluctant to participate and may not be encouraged to do so by their parents or carers.

Sport for recreation

Over the years the realisation that recreational aspects of sport are important has led to the development of a wide range of outdoor activities, water sports, and indoor sports. Although integrated sport is desirable for all members of society, totally integrated facilities are not always possible. The sports that have become available to disabled people can be classified as:

- activities in which they may participate on equal terms with little or no modification (such as bowls, darts, archery, swimming, riding, table tennis);
- existing sport that has been modified (such as wheelchair basketball, darts, javelin throwing, weightlifting);
- sport that has been specially developed for disabled people (such as "roll ball" for visually handicapped people, Boccia ball).

Competitive sport

Increasing interest in sport has resulted in the development of competitive games. The competitive aspect of sport is important as it indicates a measure of attainment. As with sports for the able bodied, rules and regulations have been established. Different rules and classifications have been worked out for particular sports to enable disabled people to compete on equal terms. Classifications of disability are many and varied, some based on the cause of disability, others based on the parts of the body affected, such as arms, legs, heart.

Medical aspects

Special sports needs of disabled people

- Specialist coaching
- Informed medical supervision
- Accessible facilities
- Information service

In general, disabled people consult their doctors before taking part in sporting activities and in some instances for a certificate of fitness, which may be required. Doctors need to assess their abilities and cardiorespiratory function and may be able to advise them if precautions are indicated. Some medical conditions may prevent people from participating in a particular sport. For example, people with low cardiorespiratory endurance, retinal detachment, or hernias are precluded from strenuous activities. A person with a healed cervical spine fracture or fused cervical spine should be advised against playing a contact sport such as rugby. Sports with risks of cuts and falls cannot be advocated for people with haemophilia.

Physical disabilities

The more severely disabled a person is the fewer are the sporting activities that he or she will be able to pursue. Some sporting activities such as angling, kite flying, and bird watching require very little physical effort, whereas others such as wheelchair basketball, riding, and sailing require

coordination and strength in one or both arms. Sports such as hang gliding, canoeing, and surfing are not advisable for people with severe physical disability.

Archery helps strengthen arm muscles.

Physically disabled people undertake sports within the constraints of their mobility. Their doctors will therefore be concerned with preventing the usual complications of immobility and treating the injuries that may result from sporting activities. Some disabilities do not prevent participation but require precautions over and above the common ones. For example, people with paraplegia who are prone to spasms will need to use extra precautionary measures, such as body restraining straps, to prevent them from being thrown out of a wheelchair. Some people who have a combination of learning difficulties and physical disabilities require greater supervision than otherwise. Not all disabilities are static: some medical conditions such as multiple sclerosis may have a variable course and others such as muscular dystrophy are progressive. The sporting activity that is possible at one stage may not be so in the future. Medical reviews are necessary periodically to assess the individual's capacity to participate in sport.

People with learning difficulties

Few reasons exist for restricting the participation of mentally handicapped people that cannot be overcome by developing a commonsense approach. Mentally handicapped patients who suffer from genetic disorders may have associated, potentially dangerous physical abnormalities such as congenital heart disease. In patients with Down's syndrome the potential instability of the atlantoaxial joint is of particular concern. Hyperextension or severe flexion of the cervical spine may produce severe neurological deficits or even death caused by compression of the lower brain stem and upper spinal cord. Opinions differ as to whether people with Down's syndrome should be allowed to take part in a contact sport. In the United States no restriction is placed on participation if there is no evidence of instability or the joint has been stabilised. In the United Kingdom, however, recommendations are that any activity likely to put undue strain on the cervical spine should not be encouraged. Riding is not advisable for mentally handicapped people who have communication difficulties or behavioural disorders.

Outdoor sport—javelin throwing has been modified for disabled people.

People with acquired physical disabilities may have associated acquired mental handicap. They may have learning difficulties because of a not readily perceived cognitive deficit. Their inability to understand and retain information can result in frustration that may lead to behavioural disturbances.

Epilepsy

Epilepsy exposes the sufferers to many social disadvantages. They may be barred from driving or prevented from taking on certain employments. The term "epilepsy" includes different forms of seizures with a wide range of severity and control. Although patients with epilepsy but without physical disability or mental handicap are able to take part in any sport, restrictions are placed on their activities. Epileptic people who continue to have the occasional fit will pose a problem. The unpredictability of having fits, particularly if there is no aura, requires cautious advice. These patients are not allowed to participate in sub aqua diving. Activities such as canoeing or water skiing are not encouraged. The wearing of life jackets is an important addition to safety when sailing or rowing. The normal function of a life jacket is to turn the wearer on his or her back; a person who has suffered a seizure and is wearing a life jacket has a small risk of airway obstruction by the tongue falling back. An epileptic person should therefore be paired with a capable person who is familiar with the condition and knows what action to take if a seizure occurs.

Although caving may be possible when there is no ascent or descent by ladders, it should not be encouraged, because if rescue becomes necessary epilepsy will pose additional risks. Sports that are individualistic such as hang gliding should not be encouraged. People with epilepsy should be advised to take part in sporting activities where they do not endanger themselves or others and should be accompanied by someone who is familiar with their needs.

Swimming with attendant.

Visual impairment

People with visual impairment are generally fit unless there are other disabilities. Their movements, however, are not as free as those of people who have no visual impairment. The fear of falling or crashing against hard objects leads to stiffness of posture and movement and shuffling gait. Furthermore, acute loss of vision may be associated with an adverse psychological reaction. Sport and physical activity develop a sense of orientation in space and dynamic balance. As in other disabilities they help the visually impaired person to overcome frustrations and social isolation.

Visually impaired people are able to take part in many track and field events. Javelin, shot put, and club throwing have been practised by blind athletes for many years. They are able to take part in running, high jump, and long jump to name but a few. Blind people have a tendency to deviate from their course, which is usually corrected by a calling system. Similarly, in bowls the location of the jack is indicated by holding the arm of the bowler in that direction. Blind people are capable of swimming and their training does not materially differ from that of sighted people. Special sports such as roll ball have been developed for the blind.

The term blindness covers people with a great variety of visual deficits. Doctors and other professionals concerned with sport for the blind should appreciate that flashes of lights or blinking of stars may aggravate the visual impairment of partially sighted people.

Hearing impairment

Deaf people are capable of playing all sports that are open to people with normal hearing, though if the labyrinth is affected or acute deafness develops a deaf person may suffer from giddiness and disturbance of posture. Deaf people may be prevented from participating in sports that need good communication unless suitable arrangements are made.

Assessment

Assessment of physically disabled people should also include assessment of orthotic and prosthetic devices, some of which may be hazardous in certain sports. It is usual to remove callipers and prosthetic legs when participating in water sports, as these may cause the wearer to sink. Buoyant artificial limbs are available to allow people who have had an amputation to take part in water sport. An artificial limb that is buoyant, however, can interfere with the function of a life jacket and prevent a person who is floating face down in water from turning over.

Disabled people seek information and advice from their medical advisers, who may not be fully aware of all aspects of the particular sporting activity being contemplated. If specific information is required, people should be directed towards a specialist who has a better understanding of what a particular sporting activity entails. In competitive sport the disabled person is examined by a doctor or member of the paramedical profession, usually a physiotherapist, both of whom are familiar with the classification systems. Attempts have been made over the years to improve classifications, basing them on people's abilities rather than disabilities.

Restricted drugs include:

- Sympathomimetic amines
- Central nervous system stimulants
- Antispasmodics
- Narcotic analgesics
- Non-steroidal anti-inflammatories
- Steroids
- Diuretics
- β Blockers
- Peptide hormones and their analogues

Drugs

People with disability may be taking medication for control of a disease process or the symptoms, or both. Advising doctors should be aware of drugs that, if used, infringe the rules of the Sports Council. Self medication with certain products sold over the counter—for example, for a common cold, cough, pain, indigestion, etc—may contain banned substances. When in doubt, clarification should be sought from the appropriate governing body or the Sports Council.

Conclusion

Useful sources of information:

British Wheelchair Sports Foundation, Guttman Sports Centre, Stoke Mandeville, Harvey Road, Aylesbury, Buckinghamshire HP21 9PP (0296 84848)

Disabled Living Foundation, 380-384 Harrow Road, London W9 2HU (071 289 6111)

Royal Association of Disability and Rehabilitation (RADAR), 25 Mortimer Street, London W1N 8AB (071 387 8033)

Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA (071 388 1266)

Royal National Institute for the Deaf, 105 Gower Street, London WC1E 6AH (071 387 8033)

Royal Society for Mentally Handicapped Children and Adults (MENCAP), 117/123 Golden Lane, London EC1Y 0RT (071 454 0454)

Disability Action, 2 Annandale Avenue, Belfast BT7 (0232 491011)

Scottish Sports Association for the Disabled, 3 Martha Street, Glasgow G1 1GN (041 552 4807)

British Association of Sports and Medicine, The Reading Clinic, 10 Eldon Road, Reading RG1 4DH (0734 502 002)

Scottish Sports Council, Caledonia House, South Gyle, Edinburgh EH12 9DQ (031 317 7200)

Sports Council for Wales, Sophia Gardens, Cardiff CF1 9SW (0222 397571)

Local Disability Aid Centres—Addresses can be obtained from Disabled Living Centres Council (DLCC), 286 Camden Road, London N7 0BJ (071 700 1707)

Local Leisure Centres

Doctors should be concerned not only with identifying risk factors, the ability of individual people, and potential hazards but also with the benefits that sport can offer to disabled people. Doctors active in sport for disabled people must familiarise themselves with the requirements of particular sports, the consequences of disabilities, and the abilities of the disabled people. With improved equipment and training programmes a disabled person is able to achieve far more than might be expected. The value of sport, and the fact that disabled people are not a homogeneous group having been recognised, a close dialogue between the medical profession, sports scientists, coaches, sporting authorities, and disabled people themselves is necessary to ensure that people with disability can achieve the maximum within their capacity in the sporting activities of their choice.

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The ABC of Sports Medicine has been edited by Greg McLatchie, visiting professor of sports medicine and surgical sciences at the University of Sunderland, consultant surgeon at Hartlepool General Hospital, and director of the National Sports Medicine Institute, London. This paper has been edited in conjunction with Mark Harries, consultant physician at Northwick Park Hospital, Harrow, and director of clinical services at the British Olympic Medical Centre, Harrow.

A PATIENT WHO CHANGED MY LIFE

A long, long case

It was the long case of the membership examination for the Royal College of Physicians and time was running seriously short. On the couch in front of me was every sweating candidate's recurring nightmare: the garrulous, overhelpful patient who relishes participating regularly in exams, talks incessantly, and refuses to be examined until he has finished speaking. He seemed to regard taking part in medical examinations like a telephone call to the Samaritans—the ideal opportunity to share his every thought with an interviewer who was guaranteed to hang on his every word. He lingered over all the branches of his extensive family tree and moved slowly on to his 20 year relationship with the hospital—a major preoccupation in his life, particularly since he could boast outliving two of his consultants.

I was desperate; the only relevant facts I had extracted after 25 minutes of listening to the unremitting stream of medical trivia (related largely to the timing of outpatient appointments) was that he seemed to have some sort of chronic haematological disorder which defied specification and that his memory was obviously intact. By the time that I had persuaded him to undress, which he did with the tempo and concentration akin to the wreath laying ceremony at the Cenotaph service, I had resigned myself to retaking the examination. This feeling was reinforced by my subsequent inability to find any clinical sign of disease in him whatsoever. He was obese but well; the spleen, which I knew was always enlarged in haematology patients, refused to peek out from under his ribs. There were no heart murmurs, no cranial nerve lesions, nothing.

The bell rang and my heart sank. I looked at him wanly. "Well, thank you for your help," I managed, wondering what on earth I was going to say to the ranks of grey beards outside without the help of a degree in advertising. "Before you go doctor, can I show you something?" I turned, expecting a dog eared piece of paper with an aging list of polymedication. He was smiling, almost conspiratorially. "It's just that you haven't noticed my funny veins. I sometimes do have to point them out to the youngsters." He grasped a wad of flesh at the side of his large abdomen and produced a vein between his thumb and index finger. "You see, the blood flows the wrong way," he explained kindly, as if to an audience of under 5s. "It's because of a blockage of a bigger bit of my tubing inside. Trouble is, it's a bit hard to find these days. I've got remarried since the last time I was up for one of these exams, and the wife's such a good cook, well, you know what it's like."

Three weeks later I wrote to thank him for changing my life. Ten years on, his round lugubrious face is still engraved firmly in my memory next to the locus for thrombosis of the inferior vena cava.—ELEANOR MOSKOVIC *is a consultant radiologist in London*