Disability and sports

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For children with disabilities, partaking in sports presents additional challenges that must be overcome. Any limitations caused by their disabilities, especially in patients with more severe cases, may be a source of discouragement. As a result, disabilities are often responsible for a decrease or even an arrest in sports, which hinders their well-being of these children. In fact, sports allow an improvement in physical and mental health, and particularly social skills and self-esteem in these children.

In order for benefit rather than harm these children with disabilities, physical activity must be supervised and adapted depending on the child's specific disability and degree of severity. Meticulously detailed recommendations may be found on the website of the French Federation for Handicapped Sport.

In this presentation, recommendations for the practice of sports in children with certain orthopedic pathologies will be discussed, followed by a portrayal of the experience of the parasports division of the Roquetaillade children's rehabilitation center.

Orthopedic pathologies and sports

1. Cerebral palsy

The proposed sporting activity depends on the level of the child's disability. Sports allow an improvement in motor function, especially in skill and strength, and an increase in bone density [6]. In counterpart, physical activity has little effect on the improvement of gait [2]. Sports teams also allow social interaction.

All activity must be supervised, since abnormal muscle control in these children can lead to both muscle and bone injuries [5,11]; wheelchair-based exercises may lead to injuries of the upper limbs, especially the shoulders. If there is a history of convulsions, certain activities must be avoided, such as aquatic sports and activities requiring high-speed movement or ballistic equipment (shooting, archery). The choice of sport must be made after an initial evaluation of the child's capabilities [5]. The type of activity, its duration, and its intensity must be personalized for each individual child [4,14].

2. Neuromuscular diseases

In children with myopathies or infantile spinal muscular atrophy, sports allow an improvement in quality of life and both gait and wheelchair use and slows the progression of the disease by slowing muscular deterioration [1,3,8]. However, if the level of exercise is too intense, this may cause an elevation in creatine phosphokinase and lead to the detriment of muscle [12]. Resistance or eccentric training risk exacerbating the dystrophic process [7].

Physical exercise is very beneficial for patients with neuromuscular diseases, as long as they are moderate in intensity [6]. In case of fatigue or pain, activity should be limited in terms of duration, intensity, and frequency [7,12].

3. Juvenile chronic arthritis

Sports allow muscular reinforcement and increased endurance and bone density [13]. Non-weight-bearing activities are preferable, especially aquatic sports [9,10]. In patients with progressive disease, and depending on the anatomical location of the affliction, the sport may increase the risk of articular damage, or may even lead to fractures or neurological complications [6]. It is therefore imperative to adapt the level of activity depending on each child's abilities.

Parasports division of the Roquetaillade children's rehabilitation center.

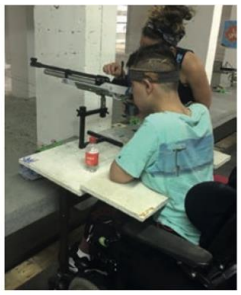
The Roquetaillade center is a pediatric follow-up care and rehabilitation center managed by the Order of Malta. It is situated next to the Auch commune in the Gers department in France. The center is specialized in orthopedics, burns, and neuromuscular diseases. Children who are admitted are provided rehabilitation, schooling and readaptation.

In 2004, an athletic study center for children with disabilities was founded at the Roquetaillade center. This was the first of its kind in France and was realized in association with the French chapter of order of Malta and the ministry of national education (Carnot College in Auch). The goals of this athletic section were to provide young people with motor disabilities of the high-school or equivalent age, a profound sporting experience in the setting of an athletic study section, at the same level as in able-bodied children. Multiple levels of activity were proposed: Discovery of a sporting activity, perfecting capacities, competition, and insertion with able-bodied children. Sporting coordination was ensured by a physical and sports education professor who was at the behest of the Carnot school for a period of 4 hours a week. Children were admitted after examination of their academic files and a medical assessment. The athletic section offered multiple sporting activities. The type of sport was chosen as a function of the child's capacity and was always adapted to their level of disability. This included sports that were agreed upon by the French Federation for Handicapped Sport, represented at the Paralympic games or in national competitions: horse-back riding, table tennis, sport blowgun, swimming, shooting, athletics, judo, archery, boccia, basketball, tennis, Olympic-style weightlifting, and handbike (figures 1-6).

Blowdart

Tricycling

Archery



Bullseye shooting

Boccia

Fencing

Boccia

The primary results were very encouraging, with the integration of 12 children in the athletic division. The sports in question included horseback riding, swimming, football (soccer), table tennis, shooting, boccia, and blowgun.

However, partnership with the ministry of national education was cut short, which put an end to the athletic study section. This was later replaced by the Saint-Jacques Roquetaillade parasports organization, which works in partnership with the departmental and regional parasports comities. Sports tournaments are regularly arranged with its culmination being the “National Games of the Future Parasports” which take place every 2 years and which welcome, depending on the edition, 450 to 650 young people. The official program is

composed of 12 sporting activities: Athletics, basketball, boccia, fencing, 5-man football (soccer), swimming, table tennis, blowgun, archery, shooting, and tricycling. The parasports division of Roquetaillade includes 10 to 15 participants each year. Some have undertaken grand performances: participating in the Paralympic games, French blowgun championship, world and European champions in wheelchair football (soccer). The evaluation of athletes in the Roquetaillade center confirms the importance of sports in these children which has a major impact on motor function, quality of life, and well-being.

Conclusion

The importance of sports for the physical and mental well-being of disabled children should no longer be debated. Nevertheless, the level of physical activity must be adapted to the disability of each child in order to avoid injury.

The role of the parasports division renders sports accessible to all children with motor disabilities and allows better social integration.

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