

## COORDINATION DEVELOPEMENT FOR AUTISTIC CHILDREN THROUGH SWIMMING MEANS

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**Keywords:** swimming, autism, physical development, coordination abilities;

**Abstract:** The paper aims to demonstrate the beneficial role it has swimming, in coordinative capacity development, specially balance, space orientation and mobility, to children with autism. By applying a swimming program tailored especially appropriate an 8 year old, a child diagnosed with autism, it aims to develop coordinative capacity indicators, balance, spatial-temporal orientation and mobility.

### **Introduction**

Autism is the most common disability in the group of pervasive developmental disorders (TPD). It presents itself as a global impairment include skills deficits ranging from one person to another. Behavioral and mental deficiencies characteristics also vary from one manifestation of a very severe environmental level. People with autism show a distinctive combination individualized needs and qualities.

### **Material and method**

Swimming is a great sport with a particularly attractive and important in growth and physical development in children is a basic means by which to meet basic objectives of physical education and sport, on maintaining optimal health, combating or correct attitudes or physical disabilities. Topicality is to bring into question the possibility of coordinative capacity development, balance, spatial orientation, mobility, differentiation, to link and combine movements through specific exercises swimming to children with autism.

In children with autism, learning basic movements of swimming technique is made less difficult, requiring a large number of training sessions, requiring the execution of a large number of repetitions, with direct involvement specialist (physiotherapist).

Which is more important in a swimming session with a child with autism is that work is carried out in a climate recreational, playful, active

and physiotherapist responsible involvement. Gradually work can turn into a lesson for learning specific skills of swimming, games and exercises compensatory.

#### **The research hypothesis**

We hypothesized that if we use swimming as a means of practicing movement in children with autism, will contribute towards the development of coordinative abilities and intermediate (mobility, balance and spatial orientation).

#### **The purpose and objectives of the research**

The purpose of this study was the development of swimming exercise programs that ensure a harmonious development of the body of a child with autism increase and develop general physical and coordinative capacity and intermediate (balance, orientation in space mobility). To this end, the research objectives were: somatoscopic discovery failures by examining the subject; identifying and selecting the most appropriate methods, procedures and techniques that can optimize motor learning processes swimming, depending on the particular subject on age, sex, disease and physical possibilities; structuring swimming exercises step by assessments and subjective reactions.

#### **Organizing and conducting research**

The research was conducted at the swimming pool in the swimming complex and kinesiology, University "Stefan cel Mare" Suceava, in swimming courses.

The research was conducted on a single topic, which followed a special program for learning specific techniques swimming in 25.09.2012 - 03.19.2013, carrying a total of 24 swimming sessions, one per week. The research topic was a boy of eight years old, diagnosed with autism by the age of three years old.

#### **Stages of research**

Search and interdisciplinary study of literature and on autism and specific techniques for teaching swimming to juvenile age and coordinative capacity development. His parents used the application accepts the inclusion of the topic in the current research.

They made learning programs specific to swimming exercises to develop coordinative abilities.

The final stage was made to analyze the evolution of the subject from the application specific exercises swimming learning program in terms of coordinative and intermediate capacity and drawing conclusions.

#### **Applying swimming program**

Program exercises performed in water greater. The general objectives of the program:

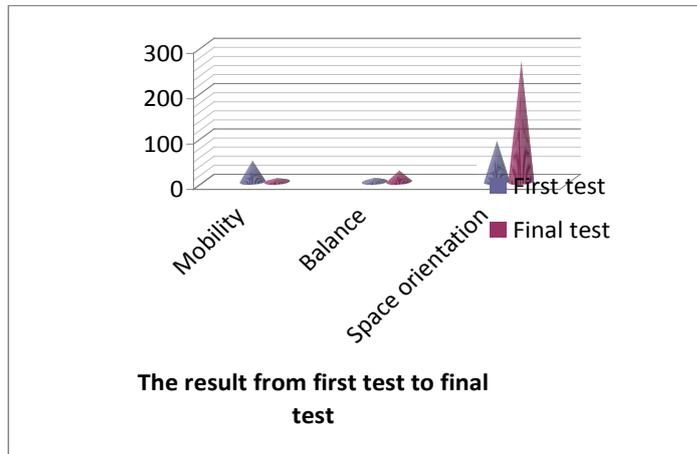
- Learning swimming skills
- To adjust the water;
- To acquire equipment foot crawl;
- Develop the ability to float balance;
- Develop the ability to orient in space, moving from one position to another;
- Develop mobility back and scapular-humeral;
- To correct poor kyphosis attitude.
- Toning muscles elongated;
- Develop coordination qualities (mobility, balance, orientation in space).

#### **Analysis Topic**

The patient, male, aged 8 years, presented at swimming courses, on September 15, 2012 with a diagnosis of autism, the parents desire it to perform physical activity by which to improve the general health.

**The results of the program are shown in Table below.** Clear progress is observed in all three samples that I checked the development of coordinative qualities. Progress both in terms of spinal mobility in the previous plan and balance and spatial orientation.

Testing	First test	Final test
Mobility	47 cm	8 cm
Balance	9 sec	25 sec
Matorin Test	90°	265°



### Conclusions:

Following the results obtained from the three samples are observed progress concerning the coordination of development indicators tested namely: mobility, balance and space orientation, which proves that swimming is an extremely beneficial for children with autism. Evolution of the patient during the program was especially favorable because at the outset experienced moments of joy and excitement coming into contact with water, materials for swimming and children who participated in the course.

In the experiment conducted we analyzed and found favorable results coordinative capacity development in children with autism after application programs swimming exercises.

Thus it can be said that the hypothesis started was demonstrated and confirmed. By applying learning programs with specific exercises to swimming in children with autism, were properly processed coordinative qualities: balance and spatial orientation, mobility and laterality.

Swimming programs have contributed to the development of all basic motor skills at the end of the experiment the child having a physical posture more correct and beautiful. Specific swimming means have contributed to the harmonious physical development, proper growth and kyphosis attitude was corrected. Also interesting was the fact that the subject was not indifferent to other children present lesson and show a strong interest in addition to positive emotion of joy.

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**Titlul:** Dezvoltarea capacităților coordinative la copiii cu autism prin mijloace specifice înotului

**Cuvinte cheie:** înot, autism, dezvoltare fizică, capacități, coordonare

**Rezumat:** Lucrarea urmărește să demonstreze, rolul benefic pe care îl are înotul în dezvoltarea capacităților coordinative, în special a echilibrului, orientării în spațiu și a mobilității, la copiii cu autism. Prin practicarea programelor de înot, special concepute pentru un băiat de 8 ani, diagnosticat cu autism, se va urmări dezvoltarea indicilor capacităților coordinative, echilibrul, orientare în spațiu și mobilitate.

**Titre :** Le développement des capacités de coordination chez les enfants atteints d'autisme par des moyens spécifiques de la natation

**Mots-clés:** natation, l'autisme, le développement physique, capacité, coordination

**Résumé:** Cet article vise à démontrer le rôle bénéfique posee des moyens specifiques de la nation, notamment l'équilibre, l'orientation spatiale et la mobilité chez les enfants atteints d'autisme. En pratiquant des programmes de natation, spécialement conçus pour garçon de 8 ans diagnostiqué avec l'autisme, sera élaboré le développement des indices de capacité de coordination, l'équilibre, l'orientation spatiale et la mobilité.