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## INTRODUCTION

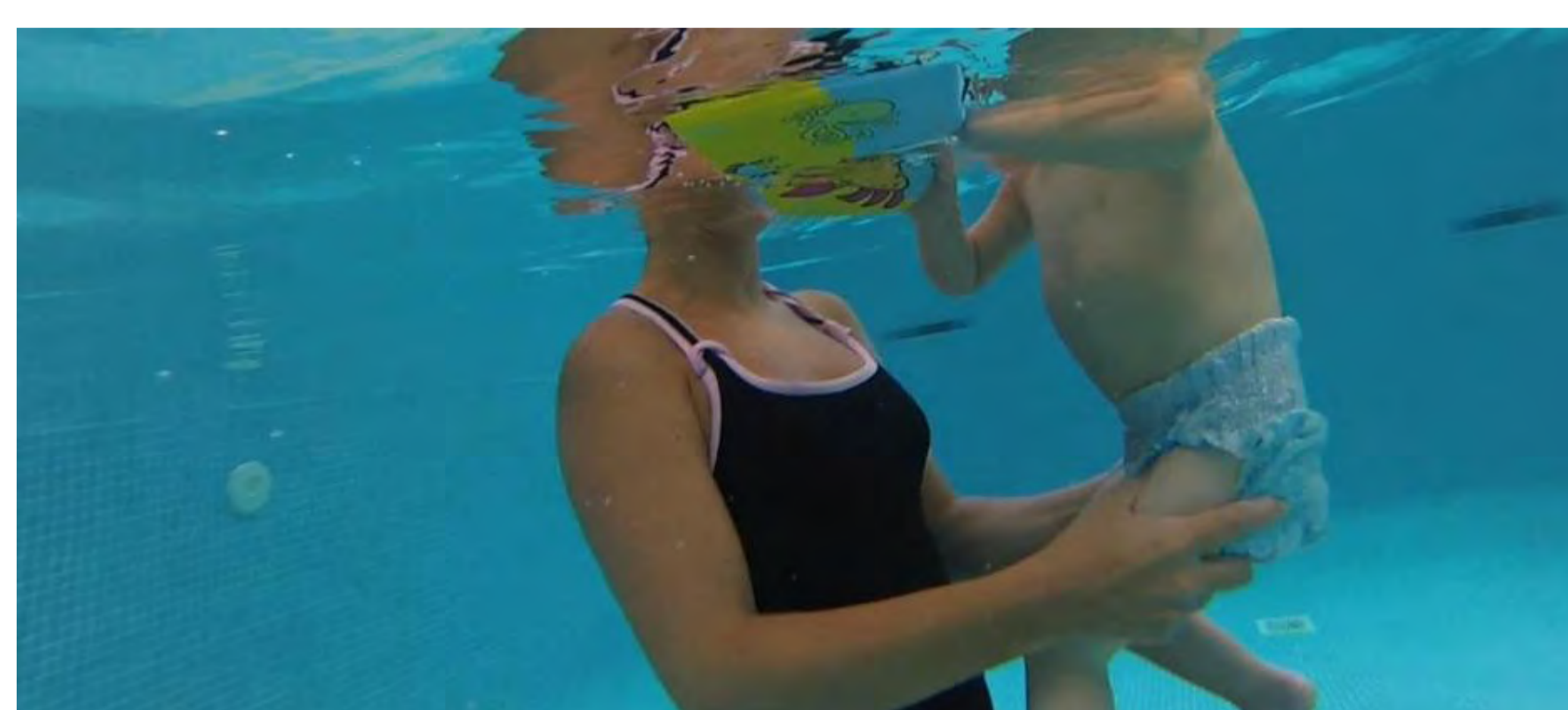
The chromosome 17p 13.3 is the part of a gene that when deleted is associated with Miller-Dieker syndrome. The duplication of this part has been discussed in recent past studies. Patients with this chromosomal abnormality have phenotypic alterations such as growth abnormalities, dysmorphic facial features, mental retardation, neurological problems and other medical conditions. A wide variety of developmental and health abnormalities occur when chromosome 17p 13.3 has been duplicated. Motor development is one of these aforementioned alterations. Aquatic Therapy by the Halliwick Concept addresses the shortcomings of the functions and structures of the body to increase patient participation. Below we are going to see a case of 17p 13.3 chromosomal duplication which has been treated by Halliwick Concept, the objective being increased musculoskeletal development and acquisition of motor skills.

## MATERIAL AND METHODS

A 2 year old child was diagnosed with duplication of chromosome 17p13.3. He has moderate hypotonia 35° in the sitting pelvic tilt and lacks full extension of both knees (popliteal angle) right -15° and left -20°. He shows a delay in the acquisition of gross motor skills (motor responses six months, static and locomotion three months according to Peabody Development Motor Scale). He started physiotherapy sessions at 10 months old and Aquatic Therapy at 19 months. This consisted of fifteen sessions of 30 minutes on a weekly basis. The Halliwick Concept is applied by using the Ten Point Program and / or Water Specific Therapy to achieve sagittal and transverse control rotation to improve the extension of the trunk and lower limbs for propulsion acquisition of bipedalism. An automated Fisih2o satisfaction questionnaire is given to the parents for their feedback.

## RESULTS

The boy has been able to extend the extensor muscles of the trunk 25° in the sitting pelvic tilt. Regarding the lower limbs we have seen a 5° improvement in both limbs. The acquisition of bipedalism is achieved with less help from the knee (by the therapist) and he can withstand it for between 10-15 minutes, but only when in the water. The Peabody Development Motor Scale remains unchanged. According to the parents' survey this therapy was found to be the most motivating for the patient.



## CONCLUSIONS

The Aquatic Therapy through the Halliwick Concept appears to facilitate musculoskeletal development and motor skill acquisition in a child with the duplication of chromosome 17p 13.3.

It is necessary and it is suggested that we continue doing more solid research and find scientific evidence for chromosomal pathologies that demonstrate and corroborate with statistically significant and conclusive data of the Halliwick Concept.

