

# MODULAR POSTURE PAD HIPPO MB: FROM IDEA TO CLINICAL PRACTICE

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**INTRODUCTION** Hippotherapy (HT) has been fully recognized as an effective treatment for children with Cerebral Palsy (CP). Research endorses the idea that this kind of therapy helps improve postural control and balance, leading to increase independence in everyday life and an overall improvement in quality of life.

Hippotherapy is a physical, occupational, and speech therapy that utilizes the natural gait and movement of a horse to provide motor, and sensory input.

It is based on improvement of neurologic functions and sensory processes.

**GOALS** In order to allow paediatric clients to enjoy the horse's rehabilitating motor and sensory stimuli, with a higher degree of comfort and safety, an improvement of the postural equipment is required.

The postural device must have specific characteristics as being able to:

- 1 hold the child comfortably while riding in various postures, to avoid the development of pathological patterns;
- 2 facilitate the therapist's actions in maximizing the therapeutic efficacy of the horse's stimuli perceived by the child;
- 3 ensure both the child's safety and the horse's comfort.



Figure 1. Sitting position on standard HT harness

**MATERIALS AND METHODS** The postural device was designed by professionals in the rehabilitation field and a postural device company with the help of their orthopaedic technicians, through interdisciplinary and multi-professional meetings.

The development process was shared with the team responsible of the Individual Rehabilitative Project (IRP) of the client study.

The project was divided into 3 phases:

- 1 measurement of the horse selected to carry out the hippotherapy sessions within the IRP;
- 2 measurement of the Anthropometric features of the child: hip width, thigh length;
- 3 designing the Postural Pad Prototype and materials research.



Figure 2. Sitting position on Hippo Pad MB



Figure 3. Supine position on Hippo Pad MB

**RESULTS** The Modular Posture Pad Hippo MB has been imagined, designed and produced to overcome a specific rehabilitation need for the treatment of a paediatric client. It is oval in shape and is made up of an upper and a lower part. It has a series of modular positioning components for various body parts and for supine and sitting positions. The device was tested 4 times during the rehabilitation program and it has ensured comfort in sitting, prone and supine positions. It has been tolerated well by both the child and the horse.

**CONCLUSIONS** The modularity and the possibility for a custom fit renders the device beneficial to ensure improvement of the rehabilitative capabilities and performance of HT for paediatric clients with various rehabilitation needs.

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