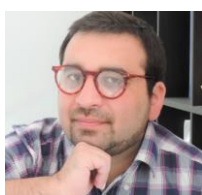


Motor handicap doesn't necessarily mean absence of physical activity. Whether in sports practice or in rehabilitation, it is part of life for people with cerebral palsy at any age.

Evaluating efficiency of intensive rehabilitation in the newborn with the CAP' project

Started in 2019, the CAP' Project should help evaluate efficiency of intensive rehabilitation method HABIT-ILE*. Interview with Rodrigo Araneda, european coordinator.



LIGHT

Dr Rodrigo Araneda, PhD

European coordinator of CAP' Project
Research Assistant, Institute of
NeuroScience, UC Louvain

Intensive rehabilitation can be compared with the training of high-level athletes or professional musicians

There is only one learning process based on:

- repetition
- progressive increase in complexity
- motivation]



First, tell us about your career

First I studied physiotherapy at the Pontifical Catholic University of Valparaíso (Chile). In 2011, I came to Brussels to achieve my PhD, dedicated to the sensory system in relation with cognition, which led me to study cerebral palsy. I got my PhD in biomedical and pharmaceutical sciences, neuroscience-oriented, in 2015, and Pr Yannick Bleyenheuft (who initiated HABIT-ILE) asked me if I wanted to work with her on brain plasticity in patients with cerebral palsy. So I've been working on the CAP' project since its launch as european coordinator. I attend every rehabilitation training (in Belgium, in France and in Italy), my mission being to make sure that therapy is implemented the same way in all courses.

After children with unilateral palsy in 2019, training courses in 2020 are dedicated to children with bilateral CP. What does it change ?

Children with bilateral CP are hit more severely and thus are usually weaker than children with unilateral PC. So even if the course structure stays the same, we must adapt activities based on learning objectives set for therapy. For instance, instead of sitting on a therapy ball, children with bilateral CP will first sit on a bench (more stable) before trying the ball to improve trunk control.

This rehabilitation is called « hands off » since we don't touch children to guide them. They must find what to do by themselves, that's how the brain works and can change. We maintain motivation through playful activities or games while gauging complexity: some difficulty is necessary to stimulate brain plasticity, but it must be progressive otherwise the child will feel frustrated.

Have you already noted progress?

What we start to observe is encouraging. In children with bilateral CP, we already observed progress before and just after therapy, in particular in functional objectives corresponding to activities that children will continue to perform at home on a daily basis to preserve their gains. In children with unilateral CP, we observe after three months that they did that and that sometimes they even progressed, in particular by transferring movements in other activities: children who learned to pass obstacles while walking will use similar strategies to climb stairs, for instance. We hope the same will happen to children with bilateral CP.

Better knowing children care and sports pathways to improve rehabilitation

Lucas Ravault received a grant from LFPC to work on care and sports pathways for children with cerebral palsy in Isère and Savoie; specifically on the importance of intensive rehabilitation programs in this region compared with other regions in Europe.



How did you come to this research topic?

I started studying to become a physiotherapist by enrolling in sports (STAPS), specifically in athletics (javelin throw), and my first idea was to become a sports physiotherapist, having in mind classical liberal practice.

But I moved on thanks to multiple encounters: with disabled athletes, with colleagues practicing adaptive sports, and above all with children. I find working with children very rewarding: their brain plasticity is superior to adults and a relation around games is a way to make them stick to the program.

So for my last training course, I chose a center in pediatric rehabilitation while in parallel I came closer to the 'Handisport' French Federation to intervene in competitions or trainings.

I was about to start a medical practice when I learned about the foundation's call for proposals on the topic of care pathways, which allowed me to continue the work I started for my master's thesis on intensive rehabilitation in children with CP.

How is it related with your thesis?

These works on three years will allow me to tackle my master's thesis in retrospect. What care did children with CP receive ? Is it adapted ? Who oriented children ? How is determined the use of these services ?

My objective is to understand care pathways, how children are oriented towards rehabilitation and sports practices, and how these activities are maintained or not.

My thesis is divided in three parts:

1st phase (ongoing):

Data collection on care pathways, the use of rehabilitation services and sports practice, in the region of Isère and Savoie.

Regarding rehabilitation, should be evaluated:

- the use of rehabilitation services
- motivations and expectations
- continuity and change in care

Regarding sports practice:

- how families got to know about it
- what motivated the beginning of this practice (recourse mechanisms)
- the kind of practice: at school, leisure (family, holiday camp), in a club (competition or leisure) and in this last case, is it for disabled, for valids only or mixt?

2nd phase:

Study at european level, with the SCPE Network, of intensive rehabilitation initiatives:

- different methods, including HABIT-ILE
- access to these rehabilitation services
- geographical coverage and specificities of care in foreign countries.

3rd phase:

Focus on physiotherapy, where physiotherapists stand on care pathways and children orientation.

What do you expect from this study ?

There are few studies tracing a care pathway by observing it in a comprehensive manner.

Specifically, the study will help:

- professionals to target populations for whom better care coordination is necessary,
- take a critical look at different types of intensive rehabilitation, to allow families to make informed choices considering their objectives
- question the relationship between families and physiotherapists and facilitate exchanges with therapists and reorientation,
- raise awareness of adaptive sports (we have to ask ourselves how to practice them).

Complementarity between sport and rehabilitation is important in chronic care, thus we could consider interprofessional cooperation tying up sports, rehabilitation and medicine.



LIGHT

Lucas Ravault

Physiotherapist

PhD in Rehabilitation Sciences

TIMC-Imag Laboratory

Grenoble-Alpes University

How about building jointly rehabilitation and sports pathways? What matters to carry out functional tasks corresponds to sports situations: making quick choices, managing one's environment and so forth.]

Thesis conducted in partnership with the RHEOP (Register of Childhood Disabilities and Perinatal Data) and the SCPE Network (Surveillance of Cerebral Palsy in Europe); financially supported by La Fondation Paralysie Cérébrale.



