



# “The Evidence Says, We Do...” Upper Limb Bimanual Therapy for Children/ Young People with Acquired Brain Injury

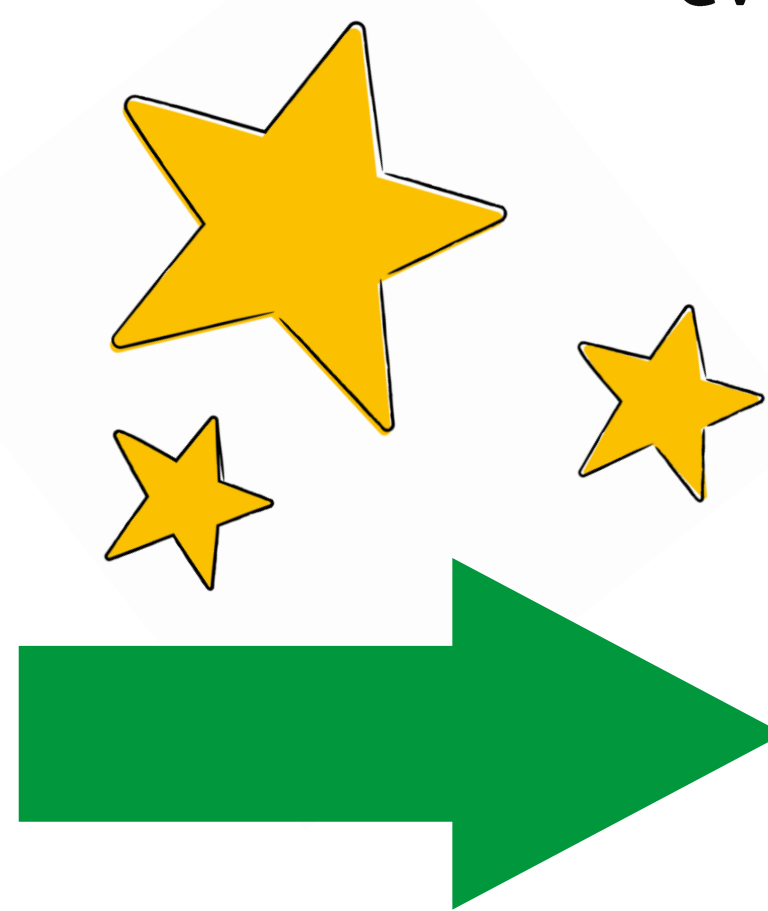
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## Background

- The aim is to describe evidence for **upper limb bimanual therapy** and the implications for an Occupational Therapist (OT) working with children/ young people (CYP) with acquired brain injury (ABI).
- The Royal College of Occupational Therapists' standards outline that occupational therapy should be underpinned by **evidence-based practice**.
- OT's have a duty to embed this in day to day practice in order to achieve the best possible outcomes.
- Evidence suggests that bimanual upper limb training **encourages the use of the affected hand** within bimanual tasks (Charles and Gordon, 2006).

## The evidence says...

- Capture functional activity, **goal directed training** in bimanual work.
- Deliver bimanual therapy **frequently** through motivating activities throughout the day.
- Higher **dosage** gets greater results, (Sakzewski, Provan et al. 2015).
- The **involvement of the family** helps increase the dosage provided outside therapy sessions.
- **Knowledge translation** plays an important role in ensuring the CYP, family and support staff understand the child's level of ability and how to adapt tasks to be challenging yet successful.
- Bimanual training **causes less frustration** than modified Constraint Induced Movement Therapy in children (Cohen-Holzer, Katz-Leurer et al. 2017).



## Method

- There is no evidence for upper limb bimanual therapy in paediatric ABI rehabilitation. Evidence has been taken from research into individuals with: cerebral palsy (Tervahauta, Girolami et al. 2017), adult stroke together with CYP and clinical experience.
- OT interventions were changed in accordance with the **evidence based summary** written by the research team at The Children's Trust.
- OT upper limb bimanual therapy was evaluated through **outcome measures**.

## We do...

- Collaborate in assessment and treatment planning with physiotherapists. For example, we use an **upper limb assessment form** and outcome measures such as the **Goal Attainment Scaling** (The GAS-Light Model) to monitor change.
- Implement a **bimanual programme** which includes a range of frequently used functional activities related to the child's goals. We adapt the task according to level of abilities.
- **Work collaboratively** by teaching the child, family and support staff to improve knowledge translation and include upper limb bimanual therapy in everyday life.

## Future Directions

- Link in with the National Upper Limb Rehabilitation Network that is being set-up by Dr Anne Gordon, Senior Consultant Occupational Therapist.
- Include patient involvement in future research.

## References

- Professional standards of occupational therapy practice (The Royal College of Occupational Therapists, 2017)
- Cohen-Holzer, M., M. Katz-Leurer, S. Meyer, D. Green and S. Parush (2017). "The Effect of Bimanual Training with or Without Constraint on Hand Functions in Children with Unilateral Cerebral Palsy: A Non-Randomized Clinical Trial." *Physical & Occupational Therapy In Pediatrics*: 1-12.
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