

# Use of low cost tools to improve straw sucking and chewing skills on a child with Dandy-Walker syndrome

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## INTRODUCTION

Dandy-Walker syndrome is the condition which mainly affects the cerebellum, mainly Vermis which may be absent or very small or may be abnormally positioned. Children with developmental disabilities with neurological disorders exhibit difficulties with eating, drinking and speaking.

## NEED

Tools used in the management of feeding skills (ARK's probe/chewy tips, chewy tubes, bottle bear and honey bear) for children with developmental disabilities are costly, which may not be an affordable option for many of our clients in the Indian context.

## AIMS AND OBJECTIVES

To identify and use cost-effective aids for managing difficulties with straw sucking and chewing skills on a 4.9 year old male child with severe developmental disabilities secondary to Dandy-Walker Syndrome.

## METHOD

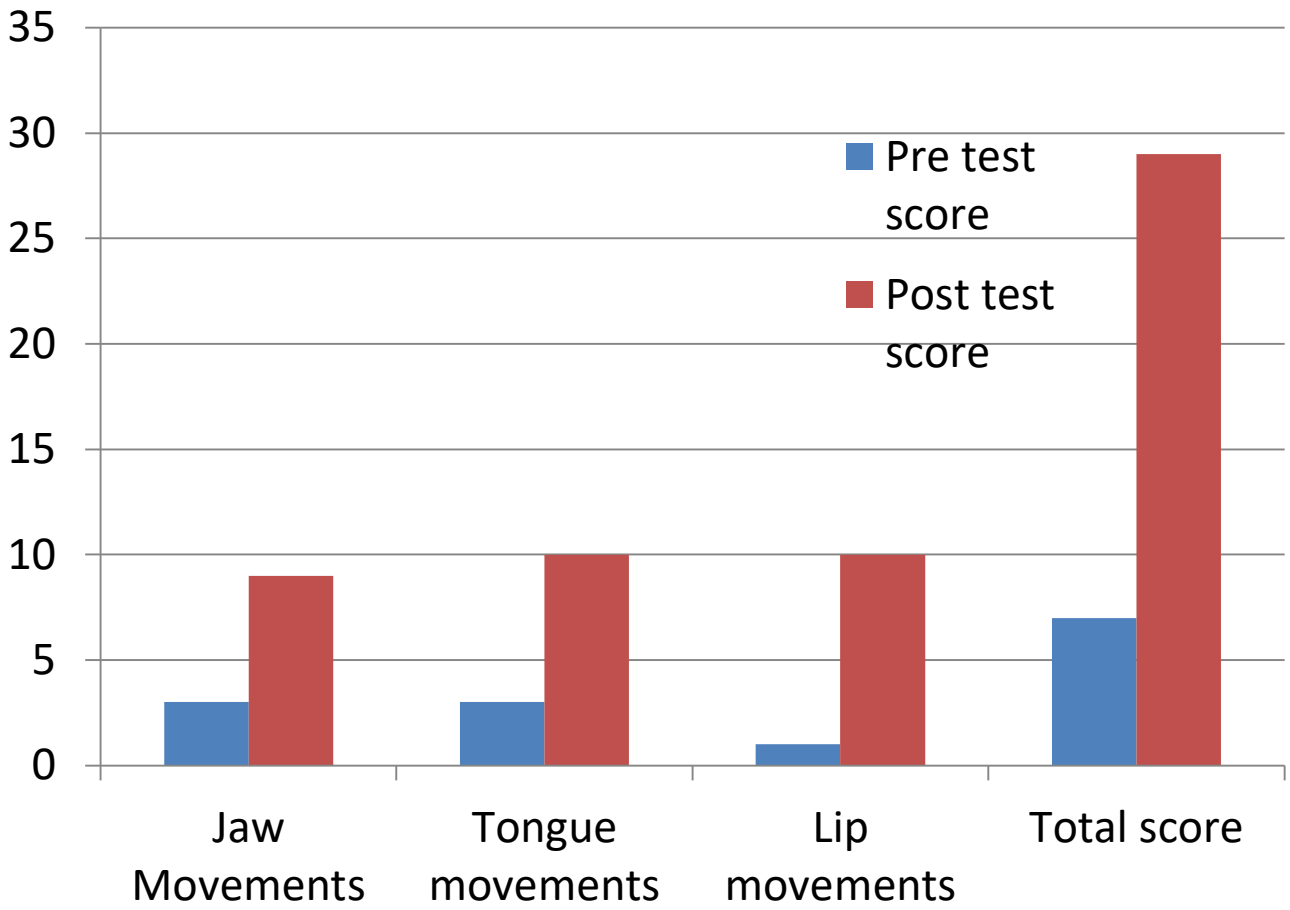
**MEDICAL HISTORY** All the medical investigations including MRI done at the age of 3.6 years revealed Dandy Walker malformation with hydrocephalus and small occipital meningocele at trocula.

## EVALUATIONS DONE

- A detailed speech, language, audiological, clinical psychological and motor assessments.
- An oral mechanism examination using com-deall oro motor checklist.
- The mastication observation and evaluation instrument (MOE).
- Assessment of straw sucking and chewing using soft straw for sucking, silicon straws and food for chewing.

## RESULTS

- Therapy was provided to improve sucking and chewing skills for 20 sessions



- In the treatment phase to improve straw sucking, pre feeding exercises , tetra juice pack with natural juice was used for 5 sessions, Later as it failed sauce bottle with a soft aquarium tubing pipe was used for 3 sessions and for the next 12 sessions therapist focused to improve lip rounding and tongue retraction.
- In the treatment phase for chewing skills, pre feeding exercises were carried out and silicon straws were used for 8 sessions and then cooked carrot pieces was used for 12 sessions.

- Comparison of pre and post-therapy mastication skills using MOE.

Items	Pre therapy score	Post therapy score
Tongue protrusion	1	4
Lateral Tongue Movement	1	3
Squashing or sucking movement	1	3
Jaw Movement	1	2
Chewing duration	1	3
Loss of food or saliva	2	3
Number of swallows	2	3
Fluency/coordination	1	3

## CONCLUSION

The Dandy Walker Syndrome cannot be cured or repaired; therefore, the treatment should focus on individual needs, symptoms and difficulties. The above case report highlights the use of low cost tools in developing straw sucking and chewing skills in a child with feeding issues. The child showed significant improvement in his deficit areas and the role of SLP's to use low cost tools in developing feeding skills are highlighted.

## REFERENCES

- Archana, G., & Karanth, P. (2008). Assessment of the oromotor skills in toddlers. The Com DEALL trust, Bangalore.
- Arvedson, J. C., & Brodsky L. (1993). Pediatric swallowing and feeding: Assessment and Management. AITBS Publishers, Delhi, India.

- Ayano, R., Tamura, F., Ohtsuka, Y., & Mukai, Y. (2000). The development of normal feeding and swallowing: Showa University study of feeding function. *International Journal of Orofacial Myology*, 26, 24-32.
- Bharath Raj, J. (1983). DST Manual and know your child's intelligence and how to improve it. Mysore: Swayamsidha Prakashana.
- Bosma, J. F., (1986). Development of feeding. *Clinical Nutrition*, 5, 210-218.
- Carruth, B. R., Ziegler, P. J., Gordon, A., & Hendricks, K. (2004). Developmental milestones and self-feeding behaviors in infants and toddlers. *Journal of the American Dietetic Association*, 104, 51-56.
- Edwards, D. K., & Martin, S. M. (2011). Protecting children as feeding skills develop. *Perspectives on Swallowing and Swallowing Disorders*, 20, 88-93.
- Gisel, E. G., Alphonse, E., & Ramsay, M. (2000). Assessment of ingestive and oral praxis skills: children with cerebral palsy vs. controls. *Dysphagia*, 15(4), 236-244.
- Illingworth, R. S., & Lister, J. (1964).The critical or sensitive period, with special reference to certain feeding problems in infants and children. *The Journal of Pediatrics*, 65 (6), 839-848.
- Kim, J. S., Han, Z. A., Song, D. H., Oh, H. M., & Chung, M. E. (2013). Characteristics of dysphagia in children with cerebral palsy, related to gross motor function. *American journal of physical medicine & rehabilitation*, 92 (10), 912-919
- Kumin, L. (1996). Speech and language skills in children with Down syndrome. *Developmental Disabilities Research Reviews*, 2(2), 109-115.
- Lau, C., & Hurst, N. (1999). Oral feeding in infants. Current problems. *Dysphagia*, 6, 17-25.

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