

## Affordable Hip Abduction Splint For The Less Fortunate

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### INTRODUCTION

Developmental dysplasia of hip (DDH) is one of the most common orthopedic developmental disorders. Management of DDH includes abduction splint to keep the involved hip in concentric reduction until the hip is stable.<sup>1</sup> However, the commercial abduction splints available are costly.

### CASE REPORT

Patient is a 2 year-old girl, with underlying global development delay and right DDH, who previously underwent right hip adductor tenotomy. During clinic follow-up, a subluxation of right hip was detected despite on hip spica cast. Thus, patient was planned for hip abduction splint, in order to achieve concentric hip reduction. The caretakers was unable to afford an abduction splint. We took it under our own responsibility to design a low cost abduction splint for her.

The materials used are: (1)thermoplastic polymer as thigh cuffs, (2)Velcro straps to keep limbs in place, (3)PVC pipe as abduction bar, in which all are attached with adhesive glue.

The design of this abduction splint is aim to keep the right hip in concentric reduction by 30degrees abduction on the affected side(right) and 10degrees abduction on the non-affected side(left). Parents were instructed to keep the abduction splint full time except during change of diapers or shower. Pelvic X-ray was obtained after application of the abduction splint.



**Figure 1: Self-assembled hip abduction splint.**



**Figure 2: Pelvic radiograph – pre (left) and post (right) hip abduction splint.**

This is an affordable self-assembled hip abduction splint with readily available materials. It is also easily applicable and comfortable for long term use. Most importantly, it serves the purpose of maintaining concentric reduction of the hip.

### CONCLUSION

An effective and functional abduction splint for DDH can be created with minimal cost. This splint may help to reduce treatment cost and make it more accessible to patients with poor socioeconomic support.

### REFERENCE

1. Hedequist D, Kasser J, Emans J. Use of abduction brace for developmental dysplasia of the hip after failure of Pavlik harness use. *J Pediatr Orthop.* 2003 Mar-Apr;23(2):175-7. PMID: 12604946.