

## Technical Note

# Splinting for CDH: Temporary Splinting for the Neonate

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### Abstract

A simple method of maintaining hip abduction in the neonate with suspected congenital hip instability is described. Clinical observations and parental impressions are initially favourable.

### Introduction

There is a high awareness of congenital hip problems and the examination of every neonate includes tests for the stability of the hips (Barlow, 1962; Ortolani, 1976). This results in the detection of "clicky" hips and subluxing or frankly dislocatable hips. The initial treatment of an abnormal hip is not universally agreed, with some believing many stabilize without treatment (Palmen, 1984) whilst others begin early splintage (Fredensborg, 1976; Dunn et al., 1985; Visser, 1985). The types of splint (Visser, 1985; von Rosen, 1962; Wiersma, 1976) and the duration of their use (Hadlow, 1979; Dunn et al., 1985) are also varied.

Frequently there is an interval between the time the diagnosis is made and the time a baby is seen in the out-patient department by an Orthopaedic surgeon. Double nappies are often used during this period to keep the hips abducted but are bulky and inconvenient. Furthermore, certain splint designs do not cater for the very small baby and there is a need in this group for a method of maintaining abduction simply and satisfactorily before a decision is made whether formal splintage is required or not.

Parental compliance is very important if any form of splintage is to succeed (Villar et al., 1987) and a design that is easy to use and to clean, and unobtrusive in appearance will increase this compliance. It is with these factors in mind that the following is presented.

### Description

A small pair of pants is adapted to accept an expanded polythene foam ("Plastazote") insert between the legs by fitting a sleeve from front to back (Figs. 1 and 2). The Plastazote is removable

and the pants can be washed as normal. Any size of pants can be used, as appropriate to the size of the baby, and the insert is easily cut to fit. The example shows a 10cm × 25cm rectangle of perforated Plastazote, 0.6cm thick, that has been rounded off at the corners.

The Pants slip over towel or disposable nappies alike and the insert prevents hip adduction (Fig. 3). Thus, much the same effect is achieved as with double nappies but with much less difficulty. These pants, locally known as "Rixnix", have been used in six cases over the past few months and have been well received in five cases. In the sixth case their use was criticised because the pants were too large for the baby; it is now planned to expand on this pilot study and will have a wider selection of sizes will be made to overcome this problem. On the basis of these

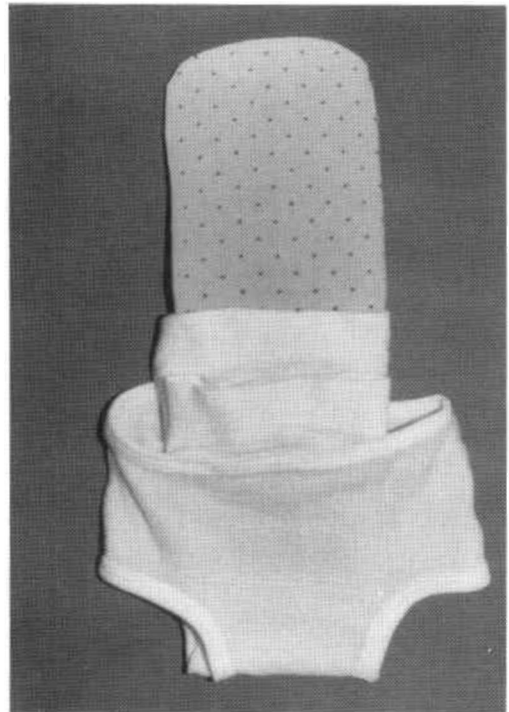


Fig. 1. Plastazote being inserted into sleeve in pants.

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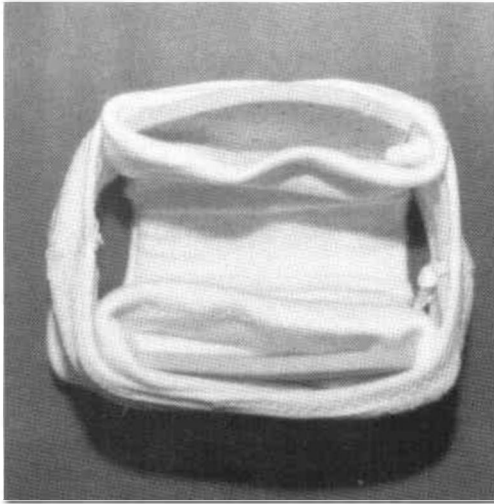


Fig. 2. Insert viewed from above.

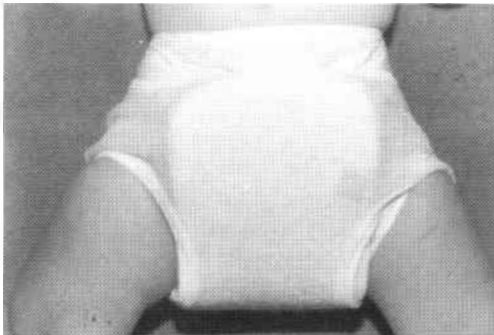


Fig. 3. Pants used over a towel nappy. Note how the hips are held in abduction.

experiences it is felt that these pants can be recommended to others who require to treat congenitally unstable hips from birth.

#### REFERENCES

- BARLOW, T. G., (1962). Early diagnosis and treatment of congenital dislocation of the hip. *J. Bone Joint Surg.* **44B**, 292-301.
- DUNN, P. M., EVANS, R. E., THEARLE, M., GRIFFITHS, H. E., WITHEROW, P. J. (1985). Congenital dislocation of the hip: early and late diagnosis and management compared. *Arch. Disease in Childhood* **60**, 407-14.
- FREDENSBORG, N. (1976). The results of early treatment of typical congenital dislocation of the hip in Malmo. *J. Bone Joint Surg.* **58B**, 272-8.
- HADLOW, V. D. (1979). Congenital dislocation of the hip over a ten-year period. *New Zealand Med. J.* **89**, 126-8.
- ORTOLANI, M. (1976). Congenital hip dysplasia in the light of early and very early diagnosis. *Clin. Orthop.* **119**, 6-10.
- PALMEN, K. (1984). Prevention of congenital dislocation of the hip. The Swedish experience of neonatal hip joint instability. *Acta. Orthop. Scand.* **55** (Suppl 208) 107p.
- VILLAR, R. N., SCOTT, P. M., RONEN, A. (1987). Splinting for CDH - initial impressions of a "user-friendly" alternative. *Prosthet. Orthot. Int.*, **11**, 98-99.
- VISSER, J. D. (1985). Dynamic splint for treatment of congenital dysplasia of the hip. *J. Pediatr. Orthop.* **5**, 85-88.
- VON ROSEN, S. (1962). Diagnosis and treatment of congenital dislocation of the hip joint in the newborn. *J. Bone Joint Surg.* **44B**, 284-91.
- WIERSMA, J. A. (1976). Use of the Pavlik splint in the treatment of congenital dysplasia and dislocation of the hip in the newborn. *J. Amer. Osteop. Ass.* **76**, 119-21.