especially useful when the child complains of pain on percussion. When the child requires regular nebulisation with a mucolytic agent (Mistabron 2:2 ml saline), the parents will need a compressor unit which can be adapted for disposable nebulisers. As the child grows, pillows become less useful for postural drainage and the purchase of a foam wedge is advised.

Respiratory physiotherapy must become a part of the child's normal daily routine. Advice about games and sport is also given. Thus the child needs to attend the Physiotherapy Department only when he has an acute chest infection, but the parents know that they can come at any time for advice and/or treatment.

CONCLUSION
Some aspects of respiratory physiotherapy in children have been touched on. The techniques used on adults are also used on children, but adapted for the size and condition of the patient. It must be understood that the child is in the process of developing and in order to treat him with maximum effectiveness, his stage of physical, intellectual and emotional development should form the basis of the therapeutic approach.

References

**HIP ADDUCTOR MUSCLE RELEASE IN THE TREATMENT OF CHILDREN WITH CERERRAL PALSY**

BEVERLEY TRAUB, B.Sc. (Physiotherapy) (Witwatersrand)* & COLLEEN PITCHFORD, B.Sc. (Physiotherapy) (Witwatersrand)*

The aims of this study are:

- to describe the postoperative management of adductor muscle release patients.
- to formulate a detailed postoperative physiotherapy programme to enable accurate evaluation and prognostication.

In a retrospective study we have shown that the results achieved using this procedure and postoperative management programme are very satisfactory in terms of the success rate and end results.

This operation is performed on cerebral palsied children who are incapacitated due to marked spasticity of the hip adductor muscles, which results in a scissoring gait on attempted ambulation, as well as reduced abduction range which may be so severe as to cause subluxation of the hips. This subluxation normally occurring in children with less than 30° of total abduction may progress to frank dislocation and its attendant complications. Thus, the indications for this procedure may be formulated as follows:

- scissor gait with ambulatory impairment
- threatened subluxation or imminent dislocation
- difficulty in nursing the severely spastic child.

**SURGICAL PROCEDURE**

The success of the operation is dependent on a number of factors:

**Age of the patient**

Normally the operation is performed on children between the ages of four and six years for practical purposes, i.e. difficulty in the adequate assessment of abduction strength in a child of under three years, understanding and interpretation by the child etc.

**Home and family background**

This is known to have an effect on postoperative management, but in our short study all the children were of similar background (boarding school) and this parameter was unassessed.

**Adequate postoperative care**

Adequate postoperative care implies satisfactory analgesia, motivated nursing staff and antibiotic cover.

Postoperatively the child is immobilised in a plaster spica for 3-4 weeks. The cast is applied with the hips in full abduction and extension with 10°-15° external rotation. Toe to groin casts joined by an abduction bar should not be used as they invariably lead to pelvic obliquity. Approximately two days postoperatively the Portovac catheters are removed, provided they are no longer draining. Should there be no complications, the patient is discharged approximately two weeks later in the care of their parents with instructions regarding follow-up care. In our study all the children were resident at the Ezibeleni Home for disabled children and thus remained in hospital during the three weeks of immobilisation.

Following removal of the cast the wound is inspected. Should the wound be septic or partly open, treatment in the hydrotherapy pool (a major part of the physiotherapy treatment) is obviously contra-indicated. An alternate programme for these septic cases must be adopted.

**PHYSIOTHERAPY**

**Week 1**

Pain in the hips and knees was found to be a constant problem in the treatment of these cases.

Hydrotherapy was used for the first 3-5 days and this resulted in good pain relief and allowed freer movement. The programme followed was:

- Passive movements of the hips, knees and ankles with special attention to maintaining hip abduction as well as...
After the initial intensive four-week programme of daily physiotherapy, the child only attended three times a week for up to six months. During this period, the children were all followed up for evidence of contractures. In one case this occurred and night splints were used to treat possible flexion deformities of the knees due to tight hamstring muscles.

CONCLUSION

Of the five patients studied, three were able to attain unaided gait and this was achieved within four weeks from the beginning of active physiotherapy. (This was due to their less severely spastic condition as all were spastic diplegics.) The other two patients could not walk unaided due to disabling spasticity in one case and triplegia in the other.

Success is attributed to:
- daily physiotherapy
- daily passive stretching of the adductors
- maintenance of adduction range
- the fact that the children were encouraged to sleep prone.

Because of the above it was found unnecessary to employ night splints for maintaining abduction.

Bibliography