

# STRENGTH TRAINING AND STRETCHING MUSCLES OF LOWER LIMBS IN PATIENTS WITH HEMOPHILIA AND ARTHROPATHY OF THE ANKLE. A PILOT STUDY.

Cuesta-Barriuso R, MsC, <sup>2</sup> Torres-Ortuño A PhD <sup>1</sup>, Moreno-Moreno M<sup>3</sup>

1. Dept of Psychiatry and Social Psychology, University of Murcia, Spain. 2. Dept. of Physiotherapy, University of Murcia, Spain. 3. Service Hematology. University Hospital Virgen de la Arrixaca of Murcia, Spain



## OBJETIVES

To assess the effectiveness of a treatment facilitation proprioceptive, exercises against resistance with theraband and functional massages in patients with hemophilia and ankle arthropathy

## RESULTS

Table 1 show the descriptive data of patients in both groups. It found improvements in muscular balance of both legs ( $p < 0.05$ ) and perception of pain in the ankles ( $p < 0.01$ ). There is a tendency to significance in improving the perimeter of twins in both legs ( $p = 0.075$ ). No significant differences are noted in control group. During the treatment period, there was no ankle hemarthrosis in subjects from the intervention group.

## CONCLUSIONS

- With proprioceptive facilitation therapy, massage exercises against resistance and functional, there is improvement in strength muscle in the legs in patients with ankle arthropathy.
- With strength training improves the perception of pain in the ankle.
- There was not ankle hemarthrosis with this technique of Physiotherapy.

## REFERENCES

- Hill K, Fearn M, Williams S et al. Effectiveness of a balance training home exercise programme for adults with haemophilia: a pilot study. *Haemophilia* 2010; 16: 162-9.
- Hilberg T, Herbsleb M, Puta C, Gabriel HHW, SchrammW. Physical training increases isometric muscular strength and proprioceptive performance un haemophilic subjects. *Haemophilia* 2003; 9: 86-93.
- Heijnen L, Kleijn P. Physiotherapy for the treatment of articular contractures in haemophilia. *Haemophilia* 1999; 5 (1): 16-9.

## INTRODUCTION

The functional limitation, caused by the ankle arthropathy, produces a shortening of the dorsal musculature of the leg and a loss of periarticular muscle strength. Over time, this contraction joint, further limiting joint range dorsiflexed ankle and causes pain in the march.



Figure 1. proprioception exercise

## MATERIAL AND METHODS

We select 17 patients with hemophilia and chronic ankle arthropathy, and nine of them applied a intervention for ten weeks, two sessions a week lasting 45 minutes per session. Treatment consisted of proprioceptive facilitation of ankle, exercises against resistance of twins and tibial compression and functional massage-stretch-relaxation. The rest of patients formed the control group. Before and after treatment was assessed the perimeter of twin with tape measure, manual muscle balance and perception of pain with VAS score

Group	Age	Haemophilia		Treatment	
	Mean (SD)	A	B	P	OD
EG	33.89 (11.266)	66.7%	33.3%	66.7%	33.3%
CG	32.25 (12.979)	87.5%	12.5%	87.5%	12.5%

Table 1. Means (and standard deviations) descriptive

