

## Case Report of Night time compression in 2 children with Primary Lymphoedema

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Traditionally the management of children with Primary Lymphoedema has been compression hosiery with advice to remove at night. This case report aims to demonstrate the advantage of wearing compression at night in the form of Jobst Relax custom fit garment. Little research exists into night time compression but Whitaker (2017) found that 89% of patients (n=94) reported an increase in their swelling when night time compression was not used.

Reason for report

To highlight the suitability, efficacy and comfort of Jobst relax custom fit garments in the management of children with Primary Lymphoedema

### Case 1

9 year old female with positive family history (Mother), Milroy-like Primary Lymphoedema of bilateral lower limbs with swelling mainly to the forefeet who self manages with parental assistance with skincare, dance and Physical Exercise (P.E.) and custom fit anklets was measured and fitted with below knee Jobst Relax garments to wear at night after her bath and to sleep in.



Fig. 1 Before fitting with Jobst Relax



Fig. 2 After fitting with Jobst Relax

The patient's first reaction to the night time garments was that they looked "funny" but she liked the pink colour. Her Mum was surprised how soft the garments were but was concerned her daughter might find them warm at night. After 3 months of wearing the garments the patient did not find the them to be too warm to wear and this maybe due to the Coolmax yarns in Jobst Relax.

As the patient's oedema is confined to the tops of her feet, limb volume measurements are not routinely recorded for this patient. The main outcome measurements were Tissue Dielectric Constant (TDC) readings recorded using Delphin Moisture Meter and circumference measurements for made to measure compression anklets combined with visual assessment and subjective feel of the subcutaneous tissues. Photographs (Fig. 1 and 2.) show a reduction in oedema to the dorsum of the right foot and Moisture Meter readings reduced from 63% to 56% over a 3 month period. The left foot is less significantly affected but moisture meter readings still reduced from 48% to 44%. Circumference measurements can be seen in Fig.3

	Right Leg	Left Leg
	Circumference around the base of the toes	Circumference around the base of the toes
At time of ordering night time garment	19.5cm	18cm
3 months after wearing the night time garment	17.5 cm	17cm

Fig. 3 Case 1 Measurements

### Case 2

10 year old male with negative family history, Milroy-like Primary Lymphoedema of bilateral lower limbs with swelling extending from the toes to the mid-calf who self manages, mainly independently with minimal parental assistance with skincare, rugby, football and cricket and custom fit, below knee stockings with toes incorporated was measured and fitted with below knee Jobst Relax garments to wear in bed at night.

The patient was able to apply and remove the night time garment independently but did not find the zipper to add any ease of application. This is the first time the patient has been able to apply and remove hosiery without his parents help and it contributed to him accepting the garment freely and wearing it willingly. There are times when not at school that the patient spends longer in pyjamas and this meant that compression hosiery was not applied until he dressed thus particularly in the summer when he was not wearing hose due to swimming and/or excessive heat there were long periods he was without hosiery. He now wears the Jobst Relax night time garment during all rest and relaxation time and hosiery when up and dressed resulting in more time spent wearing compression.

The first day after having the night time garment his parents telephoned the lymphoedema clinic to say that for the first time since he had been a toddler he had removed the garments to find the tops of his feet flat which they were delighted with as was the patient himself. Moving on to puberty his appearance will undoubtedly be more important and this control over his lymphoedema will become increasingly important.



Fig. 4 Shows Jobst Relax in situ in case 2

Again circumference measurements and moisture meter readings were used as the main outcome measures. Moisture meter readings for the dorsum of the foot on the right foot reduced over 3 months from 76% to 59% and to the left foot from 82% to 64%. See Fig. 5 for circumference measurements.

	Right Leg	Left Leg	Right Leg	Left Leg	Right Leg	Left Leg
	Base of the toes	Base of the toes	Ankle	Ankle	Calf	Calf
At the time of ordering the night time garment	22.5	21.5	24.0	22.2	26.5	25.5
3 months after wearing the night time garment	21.1	20.9	22.5	20.5	26.1	25.3

Fig. 4 Case 2 Measurements

### Discussion

In a presentation at BLS conference 2015 the Children with Lymphoedema Special Interest Group (CLSIG) recommended compression hosiery in children is often well tolerated if it is comfortable and Moffatt (2017) recognises the main outcome to facilitate adherence with treatment is patient comfort. As children with primary lymphoedema will most likely be required to wear compression hosiery for the rest of their lives it is important that children like their garments and understand the importance of wearing them. Jobst Relax night time garments have shown in these 2 cases to be acceptable to children and their parents and comfortable. It is available in compression classes 1 and 2, in rose pink or beige. The CLSIG suggest compression class 1 for children under 12 and class 2 in ages 12-16. The garment is made to measure and CLSIG recommend regular re measuring and fitting due to rapid growth especially in small children (0-10 every 3 months and then 10-16 every 6 months).

This case report does recognise that the wearing of standard compression hosiery 24 hours a day may be just as effective as a Jobst Relax night time garment but the main advantages from these 2 cases has been the acceptance to the children, the independence in application and removal and the reduction in oedema.

Enhanced control of oedema, comfort and aesthetic results are important for all those suffering with lymphoedema but none more so than young children.