



SILTAPE SILICONE TAPE

AN INNOVATIVE OPTION FOR RELIEVING FRICTION AND PRESSURE

This case study, together with a broader patient feedback survey, demonstrates that Siltape has proved useful in relieving pain caused by foot deformities

Over the past two years, a soft silicone adherent tape (Siltape) has been provided to patients within a private domiciliary podiatry practice in Kent to provide protection from friction and pressure on foot deformities such as hammer and mallet toes.

Patients appreciate that Siltape is thin and flexible, so can be easily accommodated in footwear, and is easy to apply and remove.

Mrs S is 72 years old and has osteoarthritis, hypertension and high cholesterol. She takes statins, atenolol, felodipine and Vitamin D. She is retired and as physically active as her painful arthritis allows. In 2007 Mrs S underwent left foot bunion surgery, which also incorporated surgery to resolve her left 5th toe deformity. Since surgery, the left 5th toe remains dorsally displaced and consequently rubs against footwear, causing pain and callus. Mrs S is reluctant to consider further surgery at this stage.

The patient has significantly changed her footwear, and is now wearing wider fit trainer-type footwear. Although additional width and indeed depth would be ideal to accommodate the toe, Mrs S is reluctant as these are more difficult to obtain on the high street and also less acceptable aesthetically for her lifestyle. In the past, Mrs S has tried toefoam, semi-compressed felt pads and Silipos to alleviate the friction between the left 5th toe and footwear. Since 2013, Mrs S has used Siltape on her left 5th toe on a daily basis, removing it at night and if at home (Figure 1). The use of Siltape effectively alleviates most of the pain caused by the toe position in the footwear and is simple to apply and reuse.

Foot deformities such as hallux abducto valgus, hammer toe, mallet toe and claw toes result in increased intrinsic and extrinsic pressure and shearing forces on bony prominences.^{1,2} Callus and corns develop as increased pressure on the skin over time results in skin cell deformity, prompting a hyperkeratotic response.³ Older age may exacerbate

ALICE V HANNAN
NHS PODIATRIST

these problems as the dermal layer thins and the sweat and oil glands atrophy, making the skin dry, hypertrophic and thick.¹ Moreover, painful symptoms from these lesions may affect a patient's gait, footwear choice and activities of daily living and also increase the potential for falls and referred pain.⁴ Therefore, in association with appropriate treatments such as debridement, insole support and footwear advice, silicone products that pad and comfort areas such as dorsal toes are a key option to relieve patient discomfort.¹

A wide range of silicone solutions for foot deformities are available, for example silicone sleeves such as Silipos as well as silicone toe props and even toe and foot prostheses.⁵ However, research in this area is relatively limited. Using pressure sensor research, Johnson *et al* compared the efficacy of leather, gel and silicone mould toe props in reducing pressure on the apex of the second toe in claw and hammer toe deformities on 22 patients, and found that pre-formed gel toe props were the

Above: Figure 1. Siltape being used on the patient's dorsal 5th toe

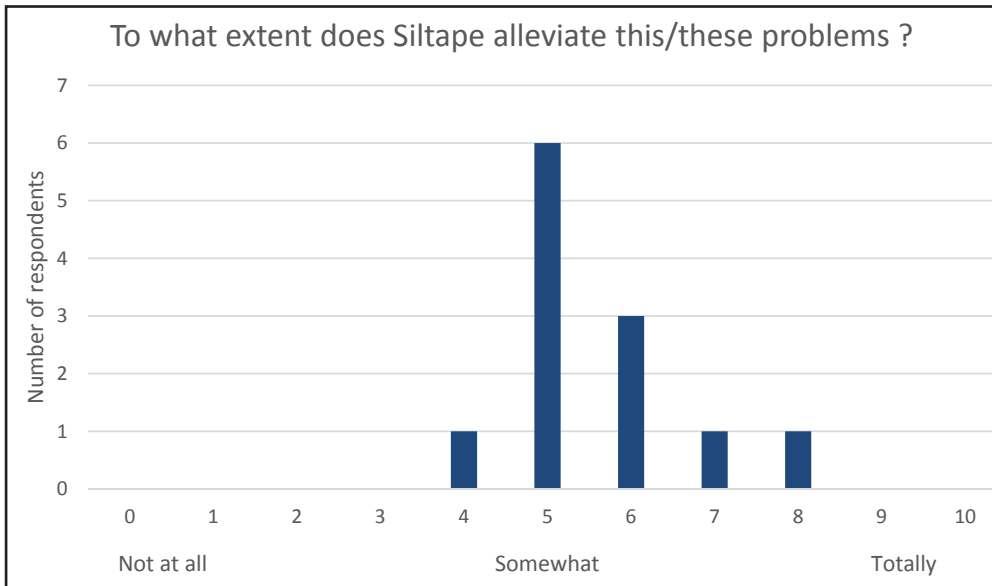


Figure 2. Patient responses to the extent to which Siltape alleviates their foot problems

most effective, although silicone mould devices were reported by patients to be marginally more comfortable.³ Silicone products to pad and comfort the dorsal toes have been cited as a primary option.¹ Silicone has also been reported to have the additional benefit of slow release of mineral oils into the skin to soften any hyperkeratosis.^{2,4}

Siltape (manufactured in the UK by Advancis Medical) is most frequently used to secure IV lines and oxygen tubes, and to secure dressings. The tape is available in 2.5cm and 4cm widths and is packaged in non-sterile rolls.

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SILTAPE IS PROVING TO BE A USEFUL AND INNOVATIVE OPTION IN THE ‘TOOLKIT’ OF TREATMENTS TO RELIEVE DORSAL PRESSURE AND FRICTION, IN PARTICULAR RELATED TO HAMMER AND CLAW TOES

Patients are advised to apply Siltape to dry skin and to remove it at night. Certainly a key benefit of such silicone adherents appears to be the low incidence of allergic reactions compared with regular adhesives.

PATIENT FEEDBACK SURVEY

As some patients within the podiatry practice, such as Mrs S, have found Siltape very helpful, a patient feedback survey was initiated to formalise their responses in the hope that would help other patients. In November 2014, following a pilot test, a short qualitative survey was sent out to 14 patients to whom Siltape had been previously provided in their regular podiatry treatment. Twelve completed responses were received. All responses were anonymous.

The results demonstrated that patients used Siltape to relieve pain and ease pressure and to prevent corns and callus. A further benefit cited was the small amount of space that Siltape takes up in the shoe compared with normal plasters. Six patients used the tape on dorsal smaller toes and others used the tape on the plantar metatarsal area or on plantar smaller toes. Nine patients used the tape just once or twice, suggesting that they used the free trial sample but were not sufficiently motivated to continue thereafter. However, three respondents regularly used Siltape on their feet, either several times a week or even daily.

A visual analogue scale was used to assess to what extent Siltape alleviates patients' problems as this has been previously demonstrated as a reliable assessment of subjective comfort.⁶

Almost all patients felt that Siltape achieved 5/10 or above in alleviating their foot problems, and regular users rated Siltape higher at 6/10 to 8/10 (see Figure 2). Two respondents mentioned that the tape moved slightly or might curl at the edges. There were no instances reported in the research, or in my practice using Siltape with patients, of any skin stripping or maceration.

Siltape is sufficiently adherent to be re-used after removal overnight. Half of the patients felt that a piece of Siltape could be worn for 2–3 days whilst a third of patients found a piece could last a week or longer. Although Siltape costs around 19 pence (based on April 2015 NHS supply chain price list plus postage) for a 2.5 x 5cm piece, two thirds of patients said they would be prepared to pay at least 50 pence per piece, but this may have been biased as some patients were already purchasing the tape.

Although not specifically designed for this purpose, Siltape is proving to be a useful and innovative option in the 'toolkit' of treatments to relieve dorsal pressure and friction, in particular related to hammer and claw toes. Siltape has been particularly helpful for some patients such as Mrs S and is being used regularly to make their feet more comfortable. As Mrs S states 'I couldn't manage without the tape'.

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ALICEVHANNAN@HOTMAIL.COM