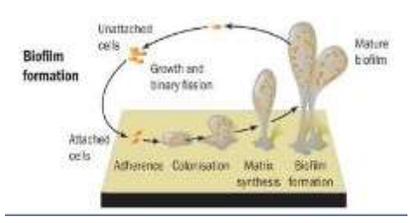


Product Evaluation of Uroshield ® for the Prevention of Recurrent Blockage of Suprapubic Catheters in People with SCI

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Introduction

Many patients with a spinal cord injury (SCI) require an indwelling catheter (either supra-pubic (SPC) or urethral) in order to effectively empty the bladder. Indwelling catheters are associated with an increased incidence of infections and can become blocked. Blockages require urgent attention from either community nursing or A&E. These complications have a negative impact on quality of life and are associated with increased healthcare costs. Uroshield ® is a small device which is attached to the tubing of an indwelling catheter and transmits low frequency sound waves along the inner and outer surfaces of the catheter [Figure 1]. This is designed to prevent biofilm formation which is associated with infection and encrustation which can cause blockage. We present the results of a product evaluation of Uroshield in a group of SCI patients with an indwelling catheter.



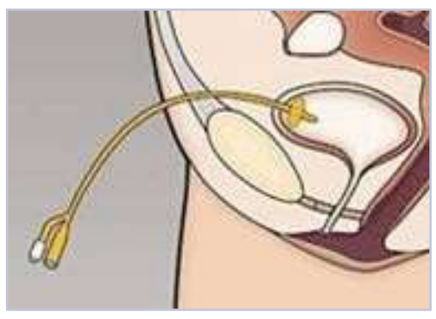


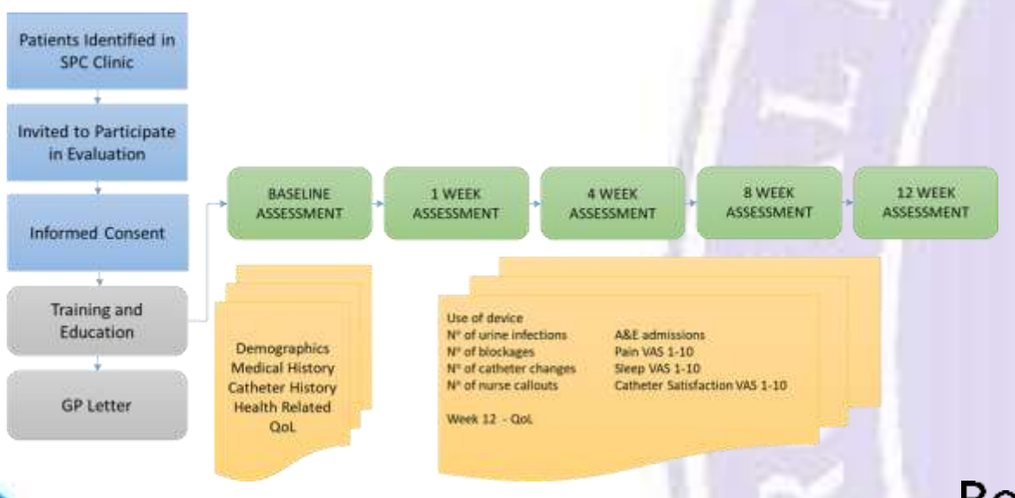


Figure 1. Biofilms, SPC and Uroshield device

Methods

SCI patients who experienced recurrent blockages or infections were identified from the records of the Complex Catheter Change Clinic. Following written consent, patients were entered into the Product Evaluation for a period of 12 weeks. They were given information about the device and training in its use. Baseline questionnaires regarding number of blockages and infections, QoL, pain and catheter satisfaction were completed. Questionnaires were repeated at 4, 8 and 12 weeks. Patient comments were also collected [Figure 2].

Figure 2. Schedule of assessments for product evaluation of Uroshield

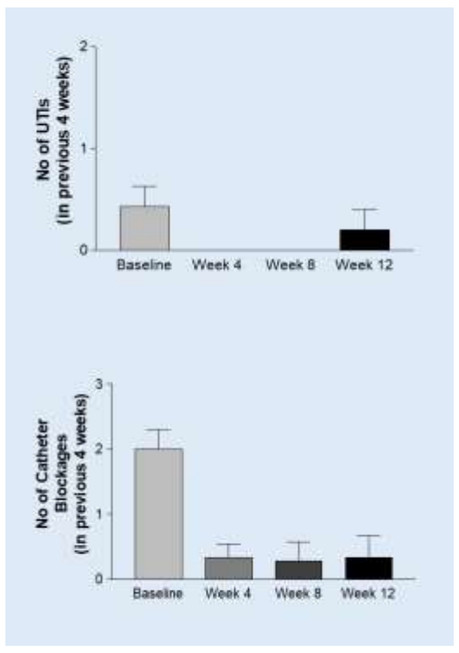


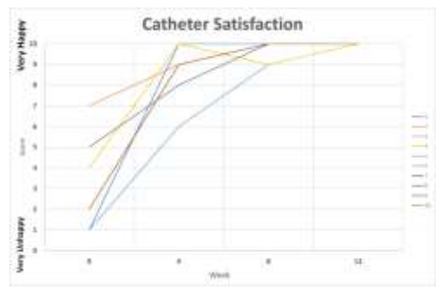
Results

10 people with SCI using an SPC accepted the invitation to participate in the study

- *7 female and 3 male*
- *Average age 58 years (range 30-70 years)*

Most patients experienced recurrent blockages rather than infections. The results for infections, blockages, catheter satisfaction and catheter associated pain over the 12 week study period are shown in Figure 3.





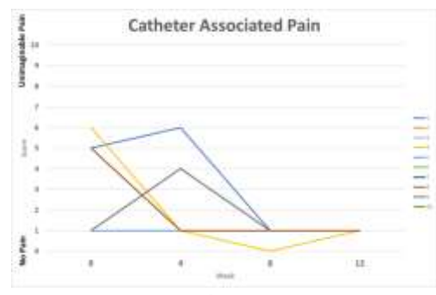


Figure 3. Infections, blockages, catheter satisfaction and pain

Patient comments about the Uroshield device are shown in Figure 4.

4 patients did not complete the 12 week trial period, reasons for stopping included

- *Felt that it exacerbated skin issues*
- *Charging and battery life not compatible with lifestyle*
- *Caused bladder spasms*

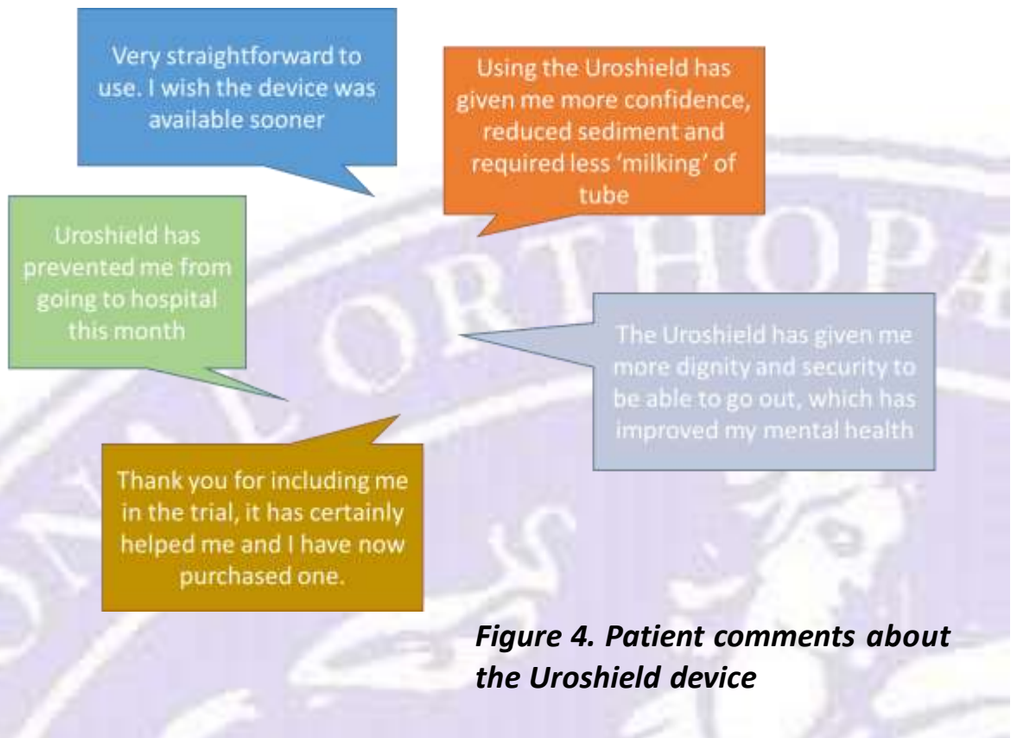


Figure 4. Patient comments about the Uroshield device

Interpretation and Conclusions

The results from the product evaluation showed a decrease in the number of blockages and infections and an increase in catheter satisfaction. The Uroshield device which uses low frequency sound waves to prevent formation of a biofilm on indwelling catheters may provide a solution to the problem of recurrent catheter blockages in some SCI patients with an SPC. This has the potential to improve quality of life and reduce healthcare associated costs.

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