

WHOLE BODY CHLORHEXIDINE WASH LEADS TO A REDUCTION IN SURGICAL SITE INFECTIONS AND SAVES TIME AND COSTS

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CONTEXT

Mediclinic Vergelegen is a 199-bed multidisciplinary hospital in Somerset West, South Africa. The Surgical Site Infection (SSI) bundle was selected as part of our Best Care... Always! Campaign¹ and introduced in December 2011. Disciplines include: orthopaedic surgery, neurosurgery, cardiothoracic surgery, general surgery, urology and obstetrics, with an average of 934 operating cases per month.

Our aim was to reduce the median SSI rate from a baseline median of 3.5 to 2/1 000 operating cases in 18 months.

Initially a single doctor's patients were selected, but that was too labour intensive and the surgical patients are admitted to all units pre-operatively. It was decided to roll out the bundle element by element.

PROBLEM

Each bundle element was added over time but our SSI rates did not decrease until we introduced the last element in April 2013, when we changed our skin preparation technique.

INTERVENTION

Many of our patients are elderly and physically not capable of taking care of their personal hygiene. We were concerned that this may make them susceptible to SSIs.

Chlorhexidine has a residual effect and may decrease the microbial burden on the skin so we included Chlorhexidine pre-wash as part of our bundle elements². This would however mean that we were going to have to duplicate activities. The standard practice before orthopaedic surgery was to perform a Povidone skin preparation. In order to change these practices we needed the support of an orthopaedic surgeon. Doctors were visited and, with the surgeon's support, most of them agreed with their patients being washed pre-operatively.

A calculation was done between the cost of washing with Chlorhexidine soap versus the Povidone preparation, which included the use of several sterilised towels, a dressing tray, plus performing a 30-minute aseptic procedure. The Chlorhexidine soap was much more cost effective.

A whole body wash is performed on those patients who are not able to shower. Initial problems arose with adherence when staff were time constrained and only washed the site of operation.

This practice was discouraged as the skin commensals are in the skin folds. Pamphlets explaining the washing process were distributed with the soap.

Regarding skin preparation in theatre, the drying time of Chlorhexidine was stressed.

The SSI rate dropped immediately after this change was properly introduced.

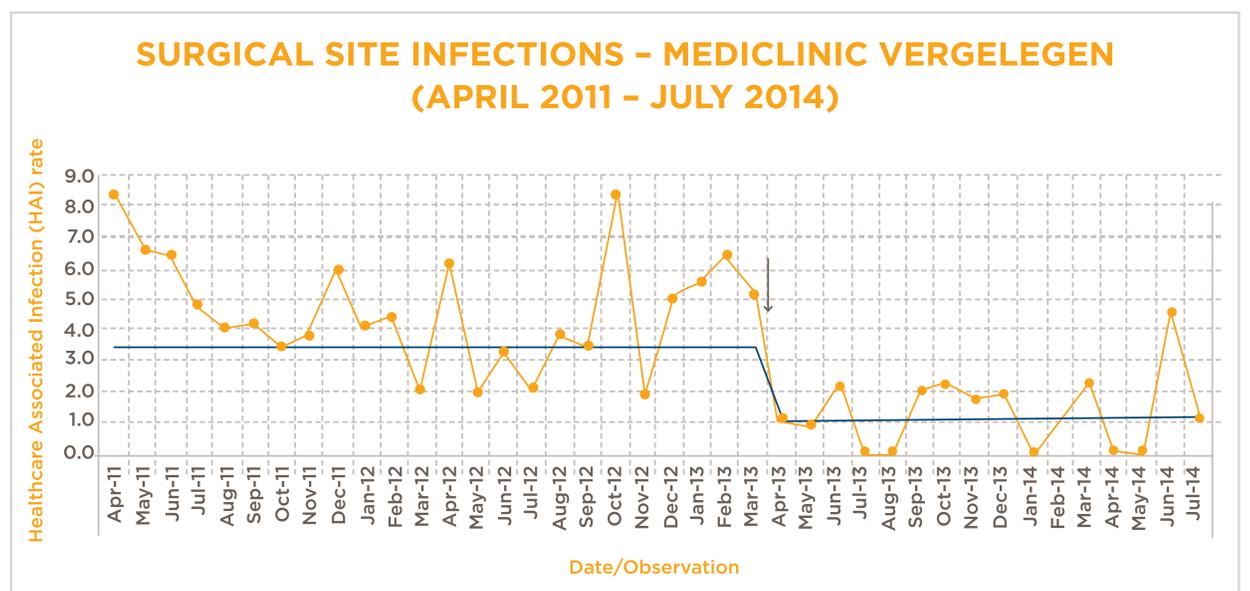
The result was that Chlorhexidine soap 50ml can be purchased in a pharmacy or obtained free of charge by patients who visit the admission clinic. This incentivises the use of the pre-admission centre, which leads to a better admission process in the units. There is also an added bonus in time saved for the nursing staff that no longer needed to do the long Povidone skin preparation.

MEASUREMENT OF IMPROVEMENT AND RESULTS

Data is displayed and discussed monthly at management, nurses and doctors' meetings. Improvement strategies are discussed for individual bundle elements. Infections are discussed with the relevant doctor.

The target of a median SSI rate of less than 2/1 000 operating cases has been achieved with a new median of 1.2/1 000 operating cases which has been sustained for a year (Figure 1). Figure 1 shows the significant improvement in SSIs from a baseline median of 3.5 to 1.2/1 000 operating days after the introduction of full body preoperative Chlorhexidine washes.

Figure 1



CHALLENGES AND LESSONS LEARNT

By introducing the bundle elements one by one we were able to determine that the improvement coincided with the introduction of whole body washing with Chlorhexidine soap, in the context of all the other bundle interventions being in place.

To implement the use of, and ensure the availability of, Chlorhexidine soap we needed the buy-in of management and doctors. The success of this intervention resulted in a change in age-old traditions from doctors that decreased the burden on staff. It also strengthened our admission process.

CONFLICT OF INTEREST

None.

MESSAGE FOR OTHERS

When a change achieves better outcomes in a more efficient way than previous standard practices, reviewing and removing the old practises can save time and cost.