

## BACKGROUND:

Evidence based practice (EBP) and Association of PeriOperative Registered Nurses (AORN) recommend double gloving for invasive procedures for sharps safety. Studies show a lower risk of exposure to patient blood by as much as 87 percent when the outer glove is punctured if an indicator glove is used.

The volume of blood on a solid suture needle is reduced by as much as 95 percent when passing through two glove layers, thereby reducing viral load in the event of a contaminated percutaneous injury.

## PROBLEM:

The operating room had many glove styles stocked and low overall double gloving numbers. There was also low acceptance on indicator gloves. Staff safety from needlestick injuries and seroconversion following blood contamination were concerns as well as possible patient infections via punctures during procedures.

## IMPLEMENTATION PROCESS:

Current gloves styles stocked included both latex and latex free options:

**There were 2 areas where education would be needed:**

1. Some staff were using a thicker orthopedic single glove under the impression it was as effective as 2 thinner gloves and not aware of the exposure statistics.
2. Most of those who were double gloving were using two outer gloves, which is an increased cost and results in the loss of the puncture indication system, a key safety feature.



Historically, surgical gloves are often decided upon by management and delivered with minimal user input. It was decided to trial a new latex free glove line including the entire staff in the decision using a just culture model for higher acceptance.

A skills fair was conducted to reach as much staff as possible with glove choices for fit and comfort, protection and quality to determine trial choices.

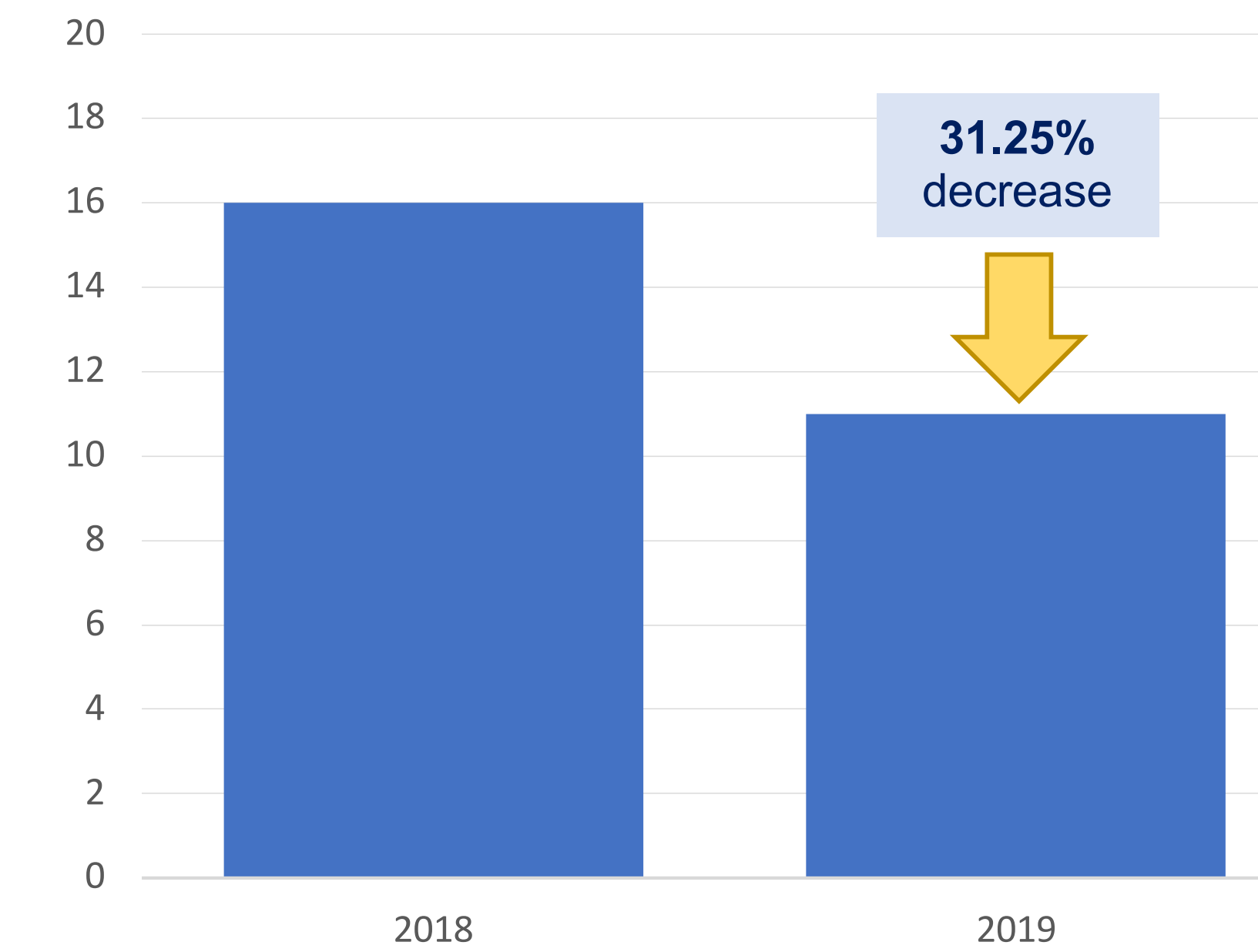
Education on double gloving was included such as:

- Double gloving reduces the risk of perforation to the underglove
- A colored underglove will minimize exposure time by quickly identifying a puncture.

Skills fair choices were incorporated into a 2-week trial. During the live glove trial, evaluation forms were supplied by the vendor, filled out by staff and collected by management to compile results. All surgical staff were encouraged to voice comments.

Thirty-four surgeons, three anesthesiologists and thirty-nine staff members participated. Over half of the surgeons, and one third of staff members who were surveyed during the glove trial reported not double gloving either with an indicator glove or 2 outer gloves.

Staff Needlestick Injury Chart



## RESULTS:

Prior to implementation, a large percentage of staff were polled as not double gloving using an indicator glove. A post implementation poll showed 100% compliance\* in all areas but the cardiac surgical team.

During the first year following implementation, there was also a 31% decrease in needlestick injuries. While needlestick injuries still occur, with continued education and compliance, these results should continue to decline.

## CONCLUSION:

- ✓ Using a just culture model, staff shared control and accountability for the final choice. We were able to increase staff safety through a multidisciplinary approach focusing on EBP and professional guideline education.
- ✓ The OR consolidated SKUs, projected an approximate \$40,000 cost reduction in glove spend and realized a latex free atmosphere.
- ✓ We continue to have a challenge in cardiac surgery where hopefully with continued education we can increase double gloving. We expect to continue to see sharps injuries not related to double gloving related to new medical students and odd situations. Our continued education efforts will be targeted here.