



Innovate Restraints by Continuous Quality Improvement Strategy

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Background:

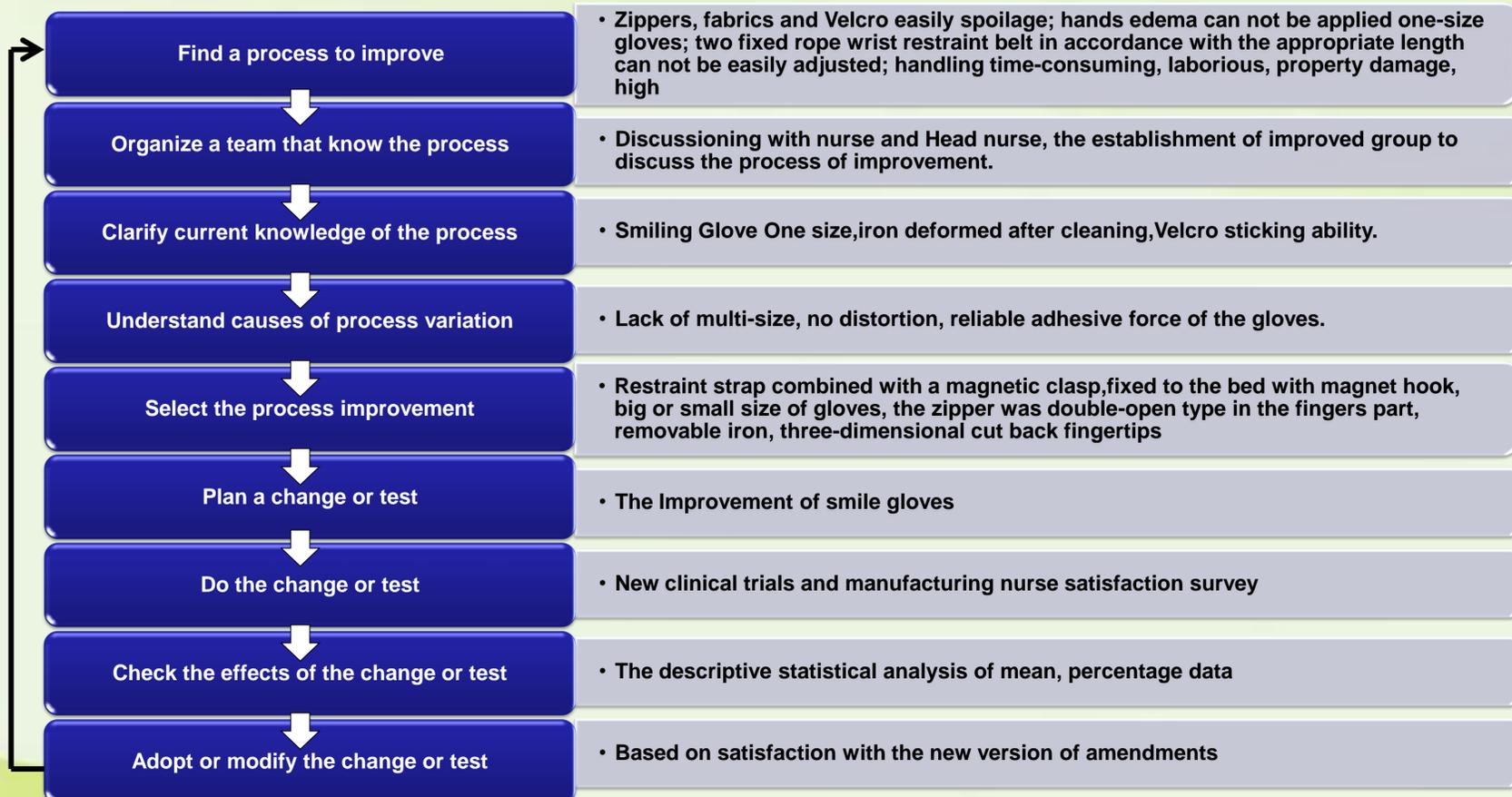
Physical restraint was common method to prevent patient from falls, unexpected extubation, self-injury or agitation in intensive care unit. It is noteworthy care issues of how to maintain patient safety with appropriate restraint. In this case use the continuous quality improvement concept, using scientific methods and tools, develop "smile magnet hook gloves" we wish the gloves combine both convenience and safety, be a best assistive technology.

Purposes:

Restraint strap was modified by using continuously quality improvement strategies in order to promoted patient's safety.

Methods:

The concept of continuous quality improvement was used in this plan to modify "the smile magnet hook gloves". Some items, such as gloves, the wrist restraint strap, double-opened zipper, magnet hook, and S belt, were used in this plan to produce one new tool.



Results:

There were six changes of the smile magnet hook gloves which commit three characters:

★ **Six changes of the smile magnet hook gloves** : (1) In magnet hook fixed to the bed ; (2) Gloves and restraint strap synthesis as one ; (3) Gloves based on the size of patient's palm which can differentiate size ; (4) Three-dimensional cut back fingertips ; (5) Double-open type in the fingers part ; (6) The iron plate can be easily remove from the gloves .

★ **Three characters** : (1)**safety**:magnet hook was used to fasten on the bed for strengthen the restraint safety.(2)**comfort**: gloves and restraint strap were combined together to avoid glide from the hands.The gloves have different size to fit thepatient's palm. The finger part of the gloves was constructed by 3D cutting which can fit the fingers havingmore space for stretching. (3)**fitting medical needs**: the zipper in the finger part was double-open type,which can be easily opened and closed to check finger blood sugar and oxygen saturation.Also, the ironplate can be easily removed from the gloves, which can let the gloves sterilizing properly and prolong the using period.



The magnet hook secured to the bed:align 2 holes of S belt and The magnet hook fixed on belt



Gloves and restraint strap synthesized in one: S belt, sewn in ping-pong Ball back of the glove, S belt with two Hoop link together



Protect the constraints parts of the skin by install the sponge inner Gloves



Small dimensions: length x width x height = 24 x 17 x 4cm; large dimensions: length x width x height = 27 x 20 x 7cm.



Fingertips dimensional cut



Fingertips dimensional cut



Fingertip double open zipper design



The fixed iron in glove coated fabrics add zip to tailor Removable

Conclusions/Implications for Practice:

The smile magnet hook gloves can contribute patient's safety and comfort. According to the data, there was significant increase in family's satisfaction from 41 points to 96 points. And, the same trend in nurse's satisfaction was raised from 61 points to 97.5 points. The result is not only fit the medical needs, but also raise the satisfaction both of nurses and patients' family.