

Thinking Innovatively about how best to hold a urinary bag in place during ambulation

BACKGROUND

Majority of the patients admitted to Bright Vision Hospital can be meaningfully engaged in scheduled therapy sessions. Some of them have long-term indwelling urinary catheters, which present a unique challenge in holding the urinary bag in place during ambulation and therapy sessions. The current practice is to use commercially available plastic “S” hooks to hang the urinary bag onto hospital shirt pockets. But, commuting around with a urinary bag hanging out of their pockets on a “S” hook will amplify issues relating to patient dignity and self-image. From the physiotherapist’s point of view, it also negatively affects gait during ambulation. However, the most urgent issue this project seeks to address is infection control. It has been observed during therapy the urinary bags often come into contact with the environment. This could lead to accidental formation of kinks in the catheter and contamination of the urinary bag. It is known that these can lead to Catheter Associated Urinary Tract Infection (CAUTI).

PROJECT AIMS

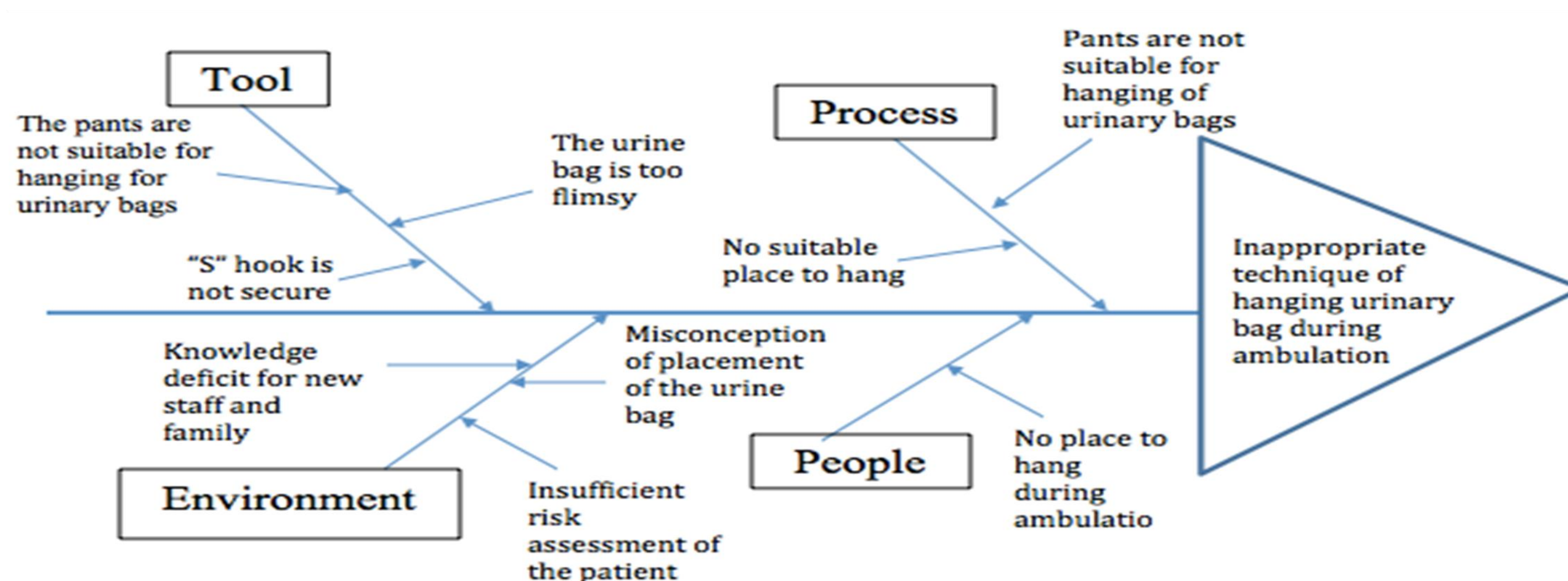
To address the issues related to CAUTI, the following two objectives will be pursued:

1. To reduce CAUTI in ambulatory patients by ensuring that the urinary bag hangs below the level of the bladder.
2. To improve on existing method of holding the urinary bag in place during ambulation and therapy.

ANALYSIS

A group of 6 patients were asked about their views about the current S-hook method of holding the urinary bags in place during ambulation and therapy. The patients expressed that this way of securing the urinary bag is neither secure nor stable, but it is the only method currently available. A cause-and-effect analysis was done to investigate deep into the issues and problems. All the findings are presented in the fish-bone diagram below.

Figure 1: Fish-bone diagram



SOLUTIONING

Brainstorming was carried out to generate a few ideas for consideration and experimentation using a Plan-Do-Study-Act cycle:

PLAN

- Gather opinions on the problems faced by nursing staff from the infection control nurse.
- Sketch possible ideas for possible prototypes.
- Propose ideas to nurse educator and infection control nurse.

DO

- Prepare catheter-specific design pants.
- Consult physiotherapist and occupational therapist on the feedback.
- Amendments were made based on their feedbacks.

STUDY

- Track compliance of therapists during therapy sessions.
- Collect feedback from therapists and patients.

ACT

- Implement the use of catheter-specific design parts
- Present the project’s prototype during CNE to increase awareness among healthcare professionals.

SOLUTIONS

Team members eventually decided on the idea of a catheter-specific designed pants with the following unique features:

- A pocket on right side of the pants which is large enough to fit in a urinary bag and with an extra strap to secure the bag when it sits inside the pocket (Figs 2.1 and 2.2)
- A small opening in the base of the pocket through which the tip of the urinary bag can go through to facilitate drainage of urine collected in the bag (Fig. 2.3).

Figure 2.1



Figure 2.2



Figure 2.3



Figure 2.4



PROJECT’S IMPACT

A survey was done to gather feedback from a group of 8 patients and 8 therapists about the catheter-specific designed pants. Below is a summary of what they have said to us:

- Reduced discomfort to patients with a more secured solution.
- Reduced altered sense of image associated with use of urinary catheter.
- Designed pants were more effective in reducing the possibility of backflow in urinary catheter.
- Improved infection control as the urinary bag will not be left unsecured.
- Less chances of urinary bag tubing getting tangled with objects in the environment.
- Aesthetically pleasant for patients.

Limitations:

- The pocket being fixed on the right side only is not suitable for patients with right-sided weakness.
- There is a possibility of losing personal items when patients put them in the pant pockets as there is small opening at the pocket base.

SUSTAINABILITY AND SPREAD

It is way much too early to judge if our prototype will gain adoption. If nothing else, this project serves to remind us of the importance of being innovative when looking at a problem and how to generate solutions. Team members hope that others can improve on their modest prototype and that an economically viable and clinically sustainable solution can eventually be found.