Project Title

Redesign of Patient Operation Gown

Project Lead and Members

- Huang Liwen
- Yeo Shu Hui
- Lim Hwee Ling
- Noel Loke Wi-Soon
- Suriani Bte Muhd Ishak
- Yong Peili
- Carol Ang Siow Yen
- Charis Chang Pei Lee
- Yap Chew Theng
- Ho Ai Lian
- Patricia Yong Yueh Li
- Norazlina Bte Shaikh Ibrahim Mattar

Organisation(s) Involved

Singapore General Hospital

Healthcare Family Group Involved in this Project

Nursing, Medical

Applicable Specialty or Discipline

Surgery, Intensive Medicine

Project Period

Start date: Not Available

Completed date: Not Available

Aims

- To improve patients' satisfaction rate on the new patient gown from 50% to 80% in surgical wards and intensive care units over 6 months.
- To improve nurses' satisfaction on the functionality of the new patient gown from 50% to 80% in surgical wards and intensive care units over 6 months.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Healthcare Management (SHM) Congress 2023 – Merit Prize (Patient Experience category)

Project Category

Care & Process Redesign

Quality Improvement, Design Thinking, Value Based Care, Patient Satisfaction

Keywords

Patient Gown, Gown Design

Name and Email of Project Contact Person(s)

Name: Huang Liwen

Email: singaporehealthcaremanagement@singhealth.com.sg

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Singapore Healthcare Management 2023

Singapore General Hospital
SingHealth

Background

Received feedbacks from patients and staffs that previous patient gown has too many ties. It caused confusion and difficulties in accessing invasive lines such as subclavian central line, urinary catheter and wound drainage tubing. Patients with extensive arm dressing were unable to fit their arms into the sleeves. It also compromised patient's modesty when patients were ambulating.

To address the problems, nurses from various departments such as intensive care units (ICUs), major operating theatre and surgical wards together with Linen Supplies Unit (LSU) and Communications Department have redesigned the patient gown.

Mission Statement

To improve patients' satisfaction rate on the new patient gown from 50% to 80% in surgical wards and intensive care units over 6 months.

To improve nurses' satisfaction on the functionality of the new patient gown from 50% to 80% in surgical wards and intensive care units over 6 months.

Problem Analysis

Both patients and staff provided *feedback* were gathered and identified using the Ishikawa Diagram:

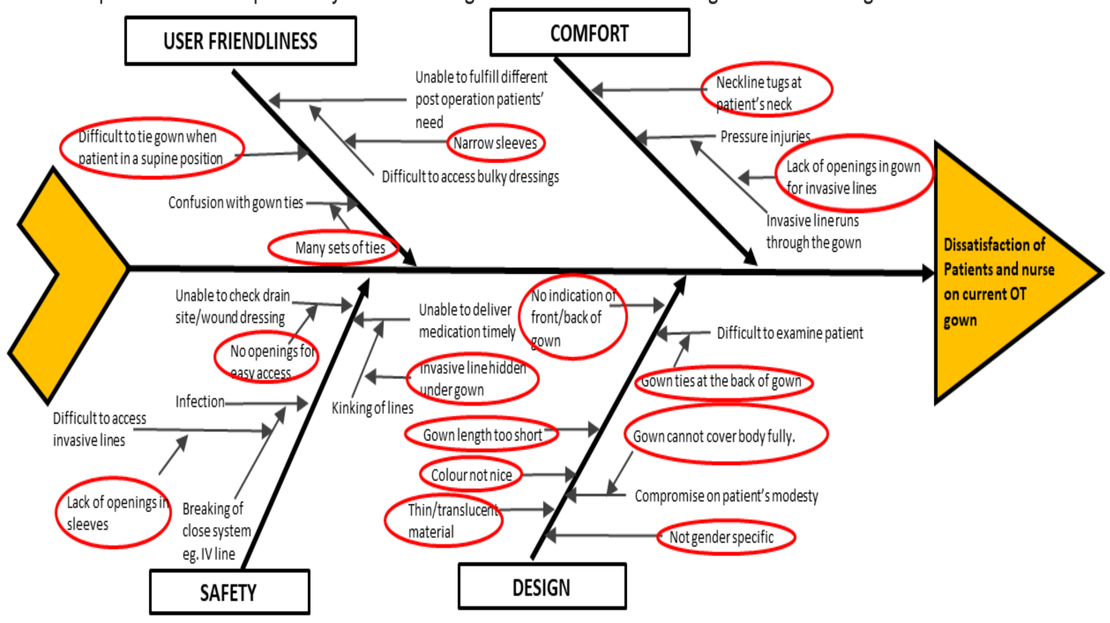


Figure 1: Cause-and-Effect Diagram

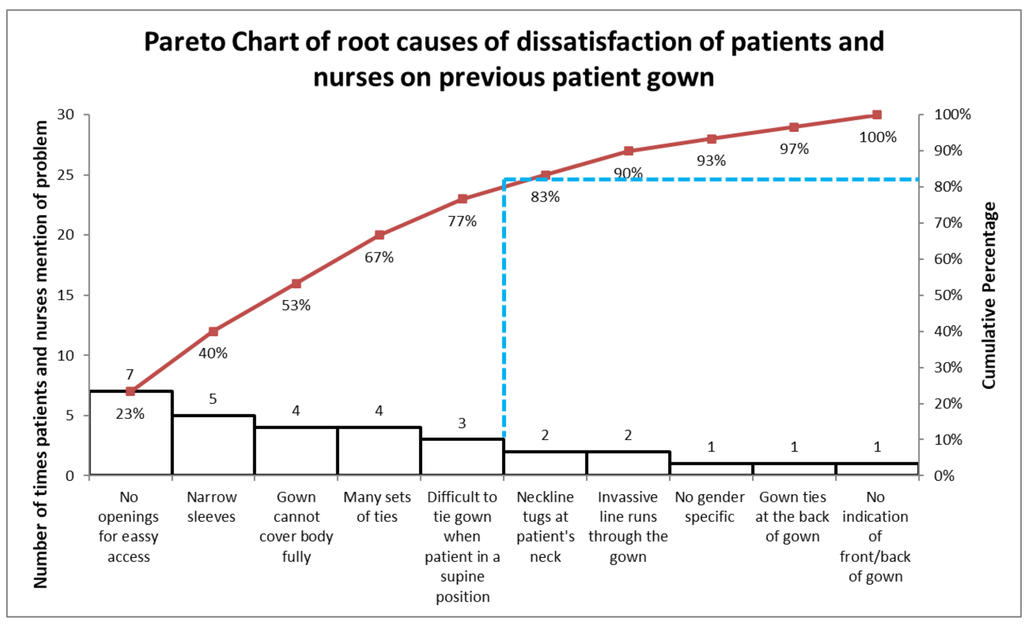


Figure 2: Pareto Chart

Each group member was allowed 3 votes to select the final root causes as follows:

1. No openings for easy access
2. Narrow sleeves
3. Gown cannot cover body fully
4. Many sets of ties
5. Difficult to tie gown when patient in a supine position

Interventions / Initiatives

To address the root causes, a total of 12 solutions were explored based on prioritisation matrix :

Tree Diagram & Prioritization Matrix

Scoring
1 = meets criteria poorly
5 = meets criteria very well

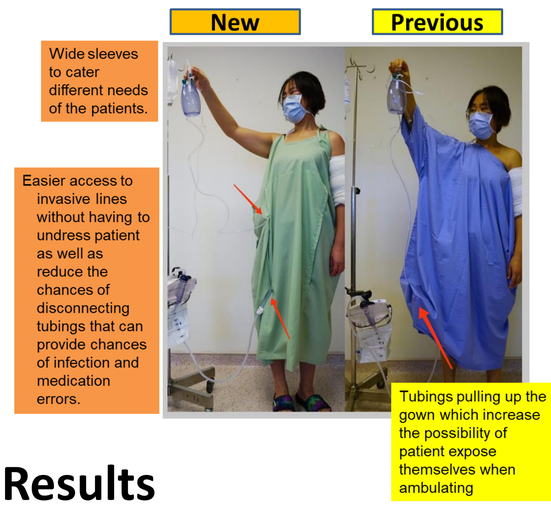
Aim of project	Concepts to address root causes	Specific Solutions	Criteria #1 Time Saving	Criteria #2 Cost Saving	Criteria #3 Feasible	Criteria #4 Sustainability	Total Score
Increase the satisfaction of patient and staff using the patient operation gown	No openings for easy access	Widen the neckline of the patient's gown and have openings in front for more access	5	3	5	5	18
		Widen the side slit using buttons	2	2	2	1	8
	Narrow sleeves	Allow sleeveless with ties when needed	5	3	5	5	18
		Sleeves that can be opened fully using velcros	2	2	3	1	8
	Gown cannot cover body fully	Adopt kimono-style wrap	2	1	4	2	9
		Make the overlapping piece at the back wider	1	1	5	3	10
		Make the gown longer	1	1	3	3	8
	Many sets of ties	Reduce the number of ties	3	2	5	5	15
		Use of velcros	4	1	1	1	7
		Use of buttons	2	1	1	1	5
	Difficult to tie gown when patient in a supine position	Change the side of ties	3	2	5	5	15
		Use of velcros	2	1	1	1	5

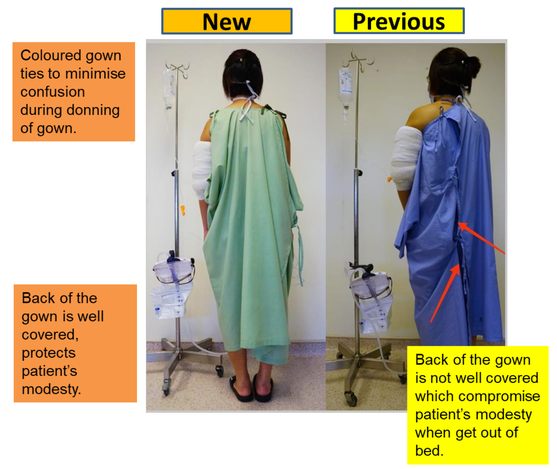
Figure 3: Prioritisation Matrix

Criteria	Rating Scale				
	1 point	2 points	3 points	4 points	5 points
Time saving	No impact on time saving	Possible impact on time saving	Some impact on time saving	Moderate impact on time saving	High impact on time saving
Cost saving	No cost saving	Minimal cost saving	Low cost saving	Moderate cost saving	High cost saving
Feasible	No feasible	Minimal feasible	Low feasible	Moderate feasible	Highly feasible
Sustainability	Highly result in increased work for staff	Moderately result in increased work for staff	Some result in increased work for staff	Possible result in increased work for staff	does not result in increased work for staff

- The new gown have addressed the root causes identified.
- The criteria used were based on time-savings, cost-savings, feasibility and sustainability
- A score was then given to each specific solution. The highest scoring solutions were chosen and incorporated into the new gown design.

Comparison of the new and previous patient gown design:





Results

Surveys, involving 36 patients and 36 nurses from various ICUs and surgical wards, on their satisfaction rate of using the new and previous patient were done. Data from the surveys were analysed using T-test with a P-value of less than 0.05. The target of improving patients and nurse's satisfaction rates from 50% to 80% in surgical wards and ICUs over 6 months was met.

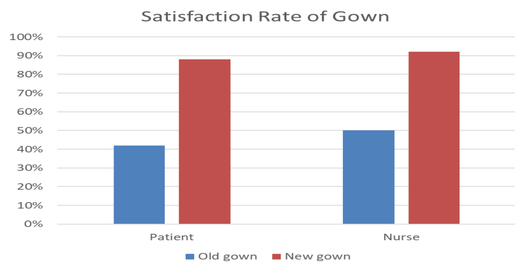


Figure 4: Average satisfactory rate for old and new patient operation gown taken from patient and nurses satisfactory survey

Sustainability

1. Posters and videos to guide nurses on how to put on the new patient gown (right picture) are easily accessible to relevant staff on various platforms.
2. Posters to also guide patients on how to put on the new gown are available and displayed in patient changing room at outpatient setting areas.