

# Improving Patient and Staff Flow in Ward 37 Through 6S

Leong Yoke Yin, Lim Seng Tze, Adeline Wong Yen Choo, Elaine Wong, Teo Pei Si, Mary Grace Espiritu, Ranjit Singh, Gan Giok Khuan, Edward Poh, Joyce Lim Li Hui, Cai Bao Yi, Fathimatuazzahra, Garry Semeniano  
Changi General Hospital

## Background

**6S** is a lean methodology used to improve workplace organization and flow, create standardized work procedures and safe environment, simplify work area and reduce process wastes, without major structural changes.

Ward 37 embarked in 6S implementation in March 2014. A 5-day 6S event was conducted to facilitate 6S awareness, create a visual workplace, improve the workplace through its direct application and develop sustenance strategies.

## Objective

In Ward 37 Surgical ward, the **6S lean transformation** journey embraces a patient-centered environment where patient needs are met by elimination of waste and creation of flow within and across processes. The 6S event aims to:

- ✓ Create a clean & safe environment
- ✓ Reduce motion waste
- ✓ Facilitate quicker set up
- ✓ Create a visual workplace
- ✓ Improve staff productivity
- ✓ Improve staff morale



**Scope:** Nurse Station, Doctors' Room, Ward Corridor & PCN Counters, Food Pantry, Clean Utility Room, Equipment Room

## Solution Approach

- The different methodologies and tools used to achieve the objective were:
- 6S Steps** (Sort and scrap, Set for flow, Scrub (shine and service), Safety, Standardize and Sustain) to apply 6S steps and best practices
  - 6S event** to apply **A3 thinking** (a Lean problem solving method), create 6S model ward in CGH, and allow sharing and spread to other areas of the hospital
  - 6S audit checklist tool** to measure 6S status of an area and identify areas for improvement

### Selected 6S Implementations

Before	After	Before	After	Before	After
					
<ul style="list-style-type: none"> <li>- Unnecessary items kept in the cupboard</li> <li>- Staff takes time to locate and get the items</li> </ul>	<ul style="list-style-type: none"> <li>- Removal of cupboard doors to facilitate better visibility and accessibility of items</li> <li>- Avoids storage of unnecessary items</li> </ul>	<ul style="list-style-type: none"> <li>- The arrangement of items does not facilitate flow</li> <li>- Torn/missing labels of some items</li> <li>- All shelves are used up</li> </ul>	<ul style="list-style-type: none"> <li>- Classification, and color-coding of items according to task to facilitate better flow (e.g. green for dressing, yellow for urinary, etc)</li> <li>- Creation of more space in clean utility room</li> </ul>	<ul style="list-style-type: none"> <li>- Obsolete/ out-dated forms kept in kappa max</li> <li>- Torn/missing labels</li> <li>- Multiple forms in a single compartment</li> </ul>	<ul style="list-style-type: none"> <li>- Classification, labelling and color-coding of all forms: Doctors (blue), nurses (yellow), referrals (white)</li> <li>- Frequently used forms are placed on top compartments</li> </ul>
					
<ul style="list-style-type: none"> <li>- Cluttering of items along the corridor and obstructs patient and staff flow</li> </ul>	<ul style="list-style-type: none"> <li>- Ward items parked in one side of the ward only</li> <li>- "Ward express way" was demarcated with yellow line</li> <li>- No parking of items inside the "express way"</li> </ul>	<ul style="list-style-type: none"> <li>- No standard location for casenotes</li> <li>- Casenotes progress is not visual</li> </ul>	<ul style="list-style-type: none"> <li>- Designated casenotes area to facilitate flow and progress of activity (e.g. discharge, pending discharge, death, etc)</li> </ul>	<ul style="list-style-type: none"> <li>- No designated parking space for trolleys, mobile computers and equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Standardized and labelled parking space for trolleys, mobile computers and equipment</li> </ul>

## Results

### Qualitative Results

6S standards established in the ward, were:

- Classification, labeling and color coding of all forms - blue for doctors, yellow for nurses, and white for referrals
- Classification, relocation, labeling and color coding and of clean utility supplies in accordance to task, to facilitate flow, and minimize motion and transportation wastes e.g. green for dressing, yellow for urinary, red for phlebotomy, etc.
- Designated parking lots for all equipment, mobile computers, and trolleys
- Creation of "ward expressway" to facilitate patient and staff flow within the ward
- Cable management of all electronic / electrical items to improve safety
- Creation of clear categorized area for casenote placement at PSA counter to facilitate flow (discharge, pending discharge, loose forms, etc.)
- Improved visibility and accessibility of frequently used items

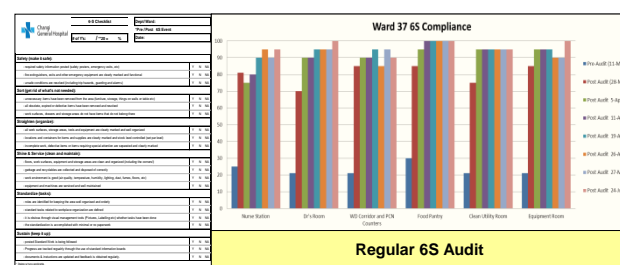
### Quantitative Results

The physical distance travelled for patient sponging was reduced from **66m** to **22m** while filing and dispatching of discharged case notes were reduced from **52m** to **11m**. The preparation for a simple wound dressing was reduced from **35sec** to **25sec**. After 3 months of implementation, Ward 37 6S audit score has improved from **21%** to **>90%**.

### Sustenance

Strategies to sustain 6S improvements include:

- ➔ **Regular 6S audit** – To measure 6S status of an area and identify areas for improvement
- ➔ **Communication board** – To identify standard works, build accountability and ownership, and drive continuous improvement
- ➔ **6S Board** – To showcase 6S steps, the ward's 6S journey, 6S audit tracking and ownership assignment, and capture feedback for continuous improvement
- ➔ **6S Rewards System** – To recognize ward staff for 6S sustenance and continuous improvement efforts
- ➔ **6S Communication for existing and new staff** – To ensure all ward staff, doctors, and allied health professionals are aware and supportive of the 6S standards in the ward



## Summary

After doing 6S, the staff felt that their ward has transformed, i.e more organized, improved productivity, has better patient and staff flows, and safer. The continuing communication and education to the staff facilitated smoother transition and acceptance of the 6S improvements. The post-6S review and assessment done in identified areas resulted with positive feedback from stakeholders.

With nursing care management becoming more demanding over the years, 6S facilitates the pursuit of better and safer care for patients and healthcare workers.

The success of Ward 37 6S event led to a similar event in Ward 36 Orthosurgical ward in July 2014.

