



Streamlining The Work Process of Mayo Tray Set-up For Surgery, Singapore General Hospital

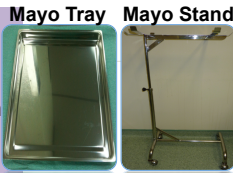
Singapore Healthcare Management 2013

Tan H.F., Senior Staff Nurse, SGH
 Heng L.P. Janice, Nurse Clinician, SGH
 Marhaini Bte Mohd Zain, Nurse Clinician, SGH



Introduction

Mayo Tray is a rectangular tray used for holding sterile surgical instruments during surgery. It is made of medical-grade stainless steel, which can withstand high heat and pressure during sterilization to achieve sterility. It is used together with a stainless-steel stand known as Mayo Stand.



Reasons for Project

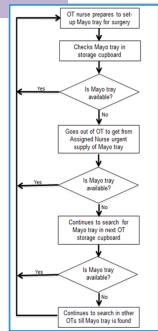
SGH Major Operating Theatre

Year	No. of OTs
1981 - 2005	21
2005 to date	25 ↑

Increase in number of Operating Rooms (ORs) & surgeries – require more Mayo Trays for use.



Work rationalization - Mayo Trays reprocessing taken over by Central Sterile Supplies Dept (CSSD) resulting in supply shortfall.



Shortfall caused Nurse to search for Mayo Tray resulting in time wastage.

Intervention 2 – Perform decontamination of used Mayo trays in TSSU during holding period

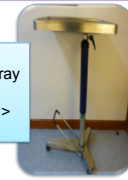
Re-introduced process of performing decontamination procedures in Theatre Sterile Supplies Unit (TSSU) while Mayo Trays were kept on hold till scheduled transportation time to CSSD.



Intervention 3 – Adopt process of Mayo Tray set-up for Liver Transplant

- To purchase commercially designed stand-alone Mayo Tray with Stand. However, these units are very costly and require budget work plan.
- Adopted idea of the commercially designed Mayo Tray with Stand. Collaborated with Facility Management Engineering (FME) dept to weld Mayo Tray to existing Stand.

Commercially designed Mayo Tray with Stand requires budget > \$30,000



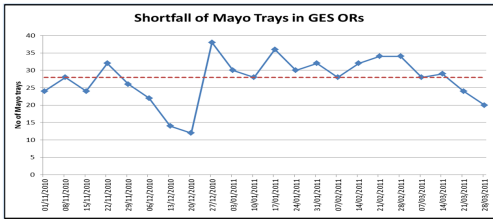
>\$1200/ unit

VS

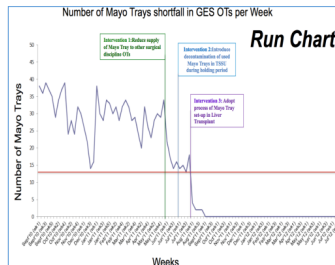
Welded Mayo Tray to Mayo Stand



Only \$200/ unit



Shortfall in Mayo Tray supply was especially acute in General Surgery (GES) Operating Theatres (OTs).



Results

We achieved in reducing shortfall of Mayo Trays to 0%.
 Welded Mayo Tray & Stand is always available in GES OTs.

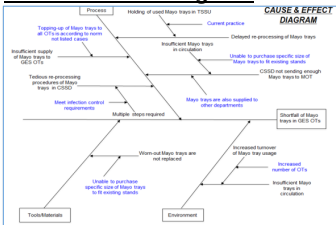
Objective

To reduce the shortfall of Mayo Trays to 0% in GES OTs within 8 months.

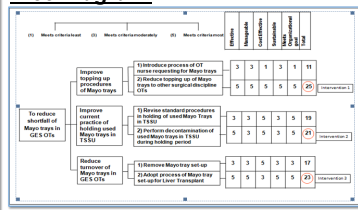
Methodology

Strategies for change and improvement include Brainstorming, Decision matrix, Gantt Chart, Flow Chart, Cause & Effect diagram, Pareto Chart, Tree Diagram, Run Chart & 5S (Sort, Straighten, Shine, Standardize & Safety) of Lean methodology.

Cause & Effect Diagram

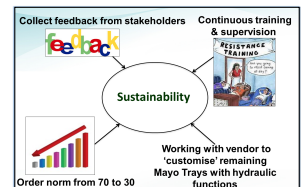
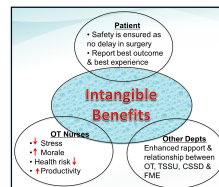
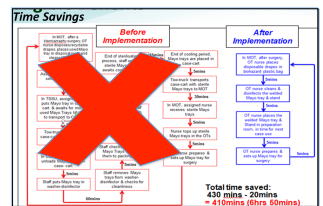


Tree Diagram



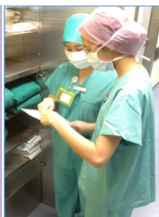
Tangible Benefits

- Total time savings of: **6 Hours 50 minutes.**
- Total cost savings of: **\$147,056/year** (Based on 70 Mayo Trays order per day)



Intervention 1 – Reduce topping up of Mayo Trays to other surgical discipline OTs

Top up according to demand of surgical list rather than to norm. Prioritised topping-up of Mayo Trays to GES OTs before supplying to other surgical discipline OTs.



Conclusion

Problem is addressed. Received positive feedback from staff. TSSU staff & OT nurses are less stressed as no need to search for Mayo Trays. CSSD staff has lesser workload as there are less linen for inspection, folding & preparation of Mayo Trays for sterilization. While Housekeeping Dept has operational cost savings as there are less replacement for the wear & tear of linens.

