



“Looking for Gloves in All the Wrong Places”

Supply Chain Impacts in
the Operating Theatre

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Background

US Supply Systems:

- ❧ "Best" hospitals focus on inventory reduction, not removing waste from entire supply chain
- ❧ Focus is financial improvement, not creating flow for supplies or staff
- ❧ Computer controlled access systems can minimize inventory, not the seven other wastes.

Mercy Hospital Cadillac:

- ❧ Small Hospital in Rural Northern Michigan, USA
- ❧ Four licensed Operating Theatres, demand outstripping available time
- ❧ Nine Lean Leaders trained in Lean Improvement Systems



Quick Changeover in OR

- ❧ 2nd largest reason for delay was due to materials issues
 - ❧ “Surgeon Preference Card” lists incorrect items
 - ❧ No common format for preference cards across specialties
 - ❧ Supplies stored in three locations
- ❧ Cases picked at night, then “re-picked” three more times before surgery
- ❧ Put away and re-ordering supplies interfere with daily operations



Step 1: 5S

Compactus removed and two other supply storage areas combined into one smaller supermarket using louvered panels and wire baskets





Step Two: Standardize Preference Cards

- ❧ One format agreed upon before event
- ❧ One "Procedure Card" for each surgery
 - ❧ Surgeon's "preferences" listed on ONE page

Kaizen team members developed continuous improvement system

- ❧ Review preferences with surgeon before each case
- ❧ Track actual usage to "shorten" procedure card
- ❧ Work with surgeons to standardize preferences



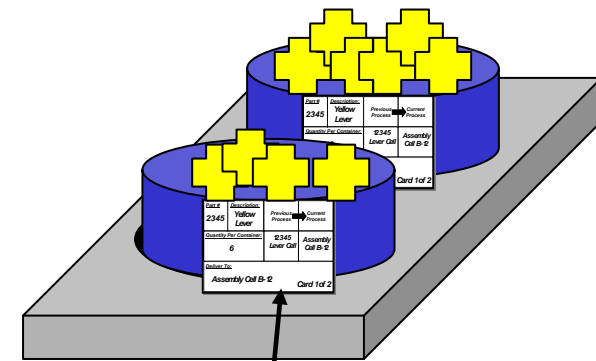
Step Three: Just in Time Case Picking

- ❧ Cases picked during the day by one person
- ❧ Cases picked either:
 - ❧ One hour before scheduled start
 - ❧ One case ahead (for long surgeries)
- ❧ Night nurse does all put away and re-stocking



Step Four: Kanban

- ❁ The Japanese word Kanban, loosely translated, means card, billboard, or sign
- ❁ Kanban is a component of a pull system
- ❁ Kanban may be used to describe any **visual signal** that triggers production, processing, ordering, or transportation



Empty container is the signal to order or to re-fill





Step Four: Kanban

- ❧ Used two container Kanban system for items costing less than \$5.00
- ❧ Used Kanban cards on other items
- ❧ All Kanbans had photo and barcode on them
- ❧ Usage data gathered daily



Results of Kaizen

- ❧ No delays from missing materials (sustained for at least one month)
- ❧ 80% fewer preference cards
- ❧ Types of scalpels reduced from nine to three
- ❧ Two-thirds of previous labour costs
- ❧ Kaizen event resulted in (conservatively) one additional surgery per day