

Quality Improvement Projects in the DSHS Laboratory

National Health Care Quality Week

October 16, 2012

Objectives

- **Overview of the quality improvement process in the laboratory**
- **5S in the DSHS Laboratory**
- **A closer look at a 5S project**
- **The future of Quality Improvement projects in the laboratory**

Lean Six Sigma

Lean addresses the reduction of waste and cycle time

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Six Sigma focuses on reducing errors and customer acceptance

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A methodology that integrates concepts and tools from both Lean operations and Six Sigma methodologies

Lean

- **Lean thinking is mostly attributed to Toyota Manufacturing**
- **Lean aims to improve operations by working to eliminate wasteful processes**
- **Lean aims for continual improvement so it is easily adaptable to health care and laboratory settings**
- **Adds value to the customer**

MR TIM WOOD

- There are 9 areas of waste (muda)
 - Mis-utilization of staff
 - Re-prioritization
 - Transportation
 - Inventory
 - Motion
 - Wait
 - Over-processing
 - Over-production
 - Defect

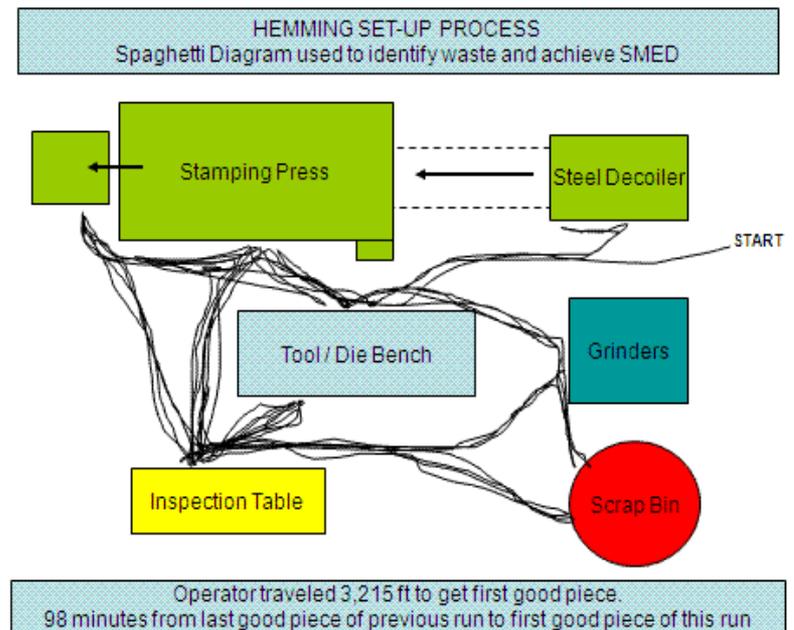


Six Sigma

- **Six Sigma was coined in the mid 1980s by Bill Smith of Motorola**
- **Focuses on identifying and reducing variability in a process by measuring process performance and change effects**
- **Uses statistical methods and tools to improve processes by reducing the frequency of errors and operating costs**
- **Focuses on customer satisfaction**

Tools Used in Lean Six Sigma

- Poka yoke
- Value Stream Mapping
- Spaghetti diagram
- 5S



The Laboratory CQI Team



Introduction to 5S

“Creating an environment where there is a place for everything and everything is in its place.”

The purpose of 5S

- To arrange work areas in the best manner to optimize:
 - Performance
 - Comfort
 - Safety
 - Cleanliness

Benefits of 5S

- **Reduced cycle times**
- **Increased floor space**
- **Improved working conditions**
- **Improved teamwork**
- **Established operations procedures**
- **Reduced lead times**
- **Improved inventory management**
- **Improved safety**
- **Improved morale**
- **Enhanced communication**
- **Better adherence to Standard Operating Procedures (SOPs)**
- **Reduced search time**
- **Improved delivery times**
- **Enhanced levels of commitment**
- **Can be done on an individual level**

5S Defined

Japanese

- § Seiri
- § Seiton
- § Seiso
- § Seiketsu
- § Shisuke

Translation

- § Organization
- § Neatness
- § Cleaning
- § Standardization
- § Discipline

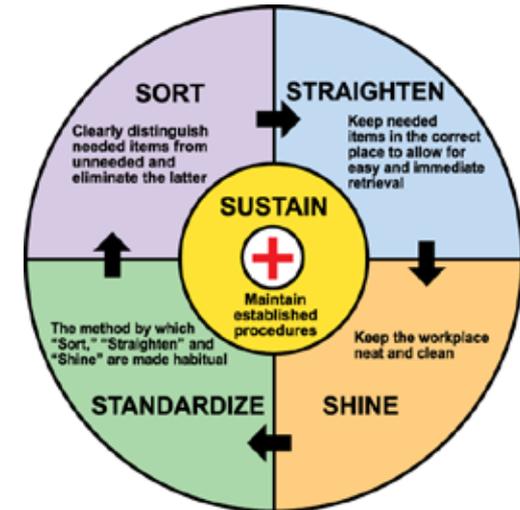
English

- § Sort
- § Set-in-Order
- § Shine
- § Standardize
- § Sustain

S, S, S, S, and S

- Sort
- Set-In-Order
- Shine
- Standardize
- Sustain

Changes to make



Sustain and maintain

Sort

- The “S” where items are distinguished between needed or unneeded
- Items can include supplies, tools, materials, equipment, etc.
- Four steps:
 1. Determine frequency of use for each item
 2. Mark the items not used
 3. Dispose of the nonessential items
 4. Eliminate sources of clutter or unwanted items



Set-In-Order

- **This step involves simplifying access by arranging items in the work area in a way that make sense**
- **Set-in-Order places items in order of frequency of usage**

Shine

- The step where the work area is cleaned and straightened regularly
- This step helps you know instantly if something is missing or misplaced or if there is a problem

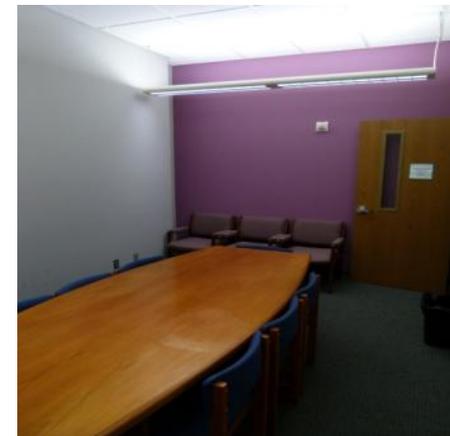


Standardize

- **With standardization, it is easier for people to maintain the previous 3 S's**
- **It's a way to keep items and procedures uniform to ensure maintenance**

Standards Meeting Room – L358

1. Reserved L358 on the outlook conference room calendar before you use it.
2. Doors should be closed during all meetings.
3. White board must be cleared at the end of the meeting.
4. All chairs must be put back in place and if extra seating is brought in, it must be removed at the end of the meeting.
5. Top of file cabinet (end table) must be clean.
6. Meeting table must be clean.
7. Clock on wall must be set at correct time.
8. The meeting organizer is responsible for making sure the conference room is clean and returned to standards at the end of each meeting.



Sustain

- **This is the toughest S to maintain**
- **Self discipline is necessary and depends on all individuals to maintain the component agreed upon**

5S Process for the Lab

- **Two groups participating in the 5S project**
 - **Continuous Quality Improvement Team**
 - **Group managers and their teams**

Example Goal Statement

Using the 5S principles, I will sort and organize the contents of the supply cabinet so things are in their place and easy to find.



Before and After



5S Project Success!

- 36 final 5S projects were completed
- Follow up with Dr. Kubin walk-about

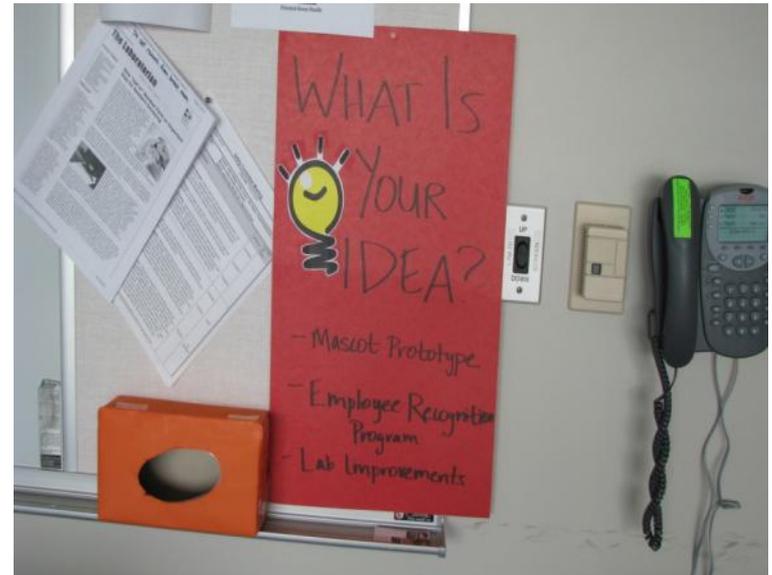




Shontel's Presentation

Other Quality Improvement Projects

- Suggestion boxes in the lab
- Responses are posted on the 15th of each month



Future Quality Improvement Projects

- Identifying the Walls
 - What are your 3 wishes?
- Cross training
 - Examining what the needs are in the lab



Future Quality Improvement Projects

- **Future Green Belt training**
 - **Newborn Screening process evaluation**
 - **Media Preparation waste reduction**