

Online Student Guide

Welcome to this module



5S Plus Safety for Healthcare

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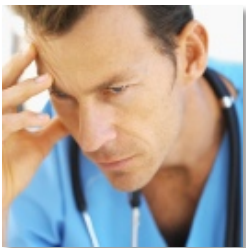
Learning Objectives

Upon completion of this course, students will be able to:

- Introduce 5S plus Safety
- Describe its overall purpose and benefits in Healthcare
- Identify the phases of its process
- Drill down to discuss key objectives
- Tools or methods used to reach those objectives, and the benefits achieved.

Introduction

Wasted Time



The day of a healthcare professional is often filled with unnecessary frustration and wasted time. It's not that employees are purposely wasting time; the process environment the employees find themselves in has waste built right in.

Have you ever found yourself searching for supplies that have been moved to a new location?

Have you reached for a blood draw kit only to

discover they are all gone? Do you spend extra time walking some distance within your department for a particular supply you need throughout the day? Is there a drawer or cabinet that you dread searching through because it is so disorganized? If you've answered, "Yes", to any of these questions, or thought of something similar, your work environment will benefit from a Lean Initiative and the use of 5S.



Before 5S Implementation



Before a 5S implementation, we usually find ourselves scrounging for supplies, tools, and equipment.

Time is wasted each day trying to find what we need, when we need it, because it isn't where we need it.



The Five Phases of 5S

5S is one of the most frequently used principles of Lean, however, it is important to dispel a common misconception. Your team should not equate 5S to a spring-cleaning. This is not a once per year activity designed to give the appearance of order. Instead, the implementation of 5S will remove barriers, or problems that interfere with your daily workflow while helping you provide a



higher level of patient care in the most efficient manner possible.

Its main objective is to create and maintain an organized, clean, and safe work environment in which healthcare organizations can deliver and achieve high performance. 5S is the foundation of visual management, a key principle in a Lean healthcare system. A well-developed 5S system makes it easier to distinguish normal conditions from the abnormal so we can better respond to problems and correct them.

When an organization adopts the 5S methodology as a systematic way of doing business, it creates an environment primed and ready for Lean transformation.

To reach its objective, 5S guides organizations through a series of five phases, as follows: Sort, Store, Shine, Standardize, and Sustain.

These steps will be performed by the people actually working within the department or area targeted for the 5S transformation. While an outside manager may be able to give guidance at times, it is the employees who “live” within the process that will make the 5S initiative a success.

Safety



Before we get started on the 5 phases, it is important to note that most healthcare organizations have added an S to the traditional 5S implementation. This S is Safety, both for the patient and the workplace.

5S naturally improves safety conditions in the workplace simply by maintaining a clean, organized, and uncluttered work area.

Whether in a hospital or a physician's office, poorly placed materials and equipment increase the potential for trips and falls.

Improper positioning of tools and poor workstation design can lead to ergonomic injuries. Poorly designed work areas require materials to be set down, picked up, and moved more than one time before they are used. Every movement requires energy and time, and risks damage and injury. When reaching distances, twisting motions, and other transport distances are decreased, the risk of injury is also greatly reduced.

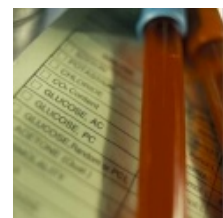


When a hospital's floors are clean and clear of debris and spills, trip and slip injuries can be prevented. Painting and cleaning also make it easier for employees to notice spills or leaks quickly, thereby decreasing spill response time. This can significantly reduce waste generation from spills and cleanup.



When considering Safety, additional attention is paid to the safety equipment and procedures required by the workplace.

For example, labs may need to be equipped with Eye Wash stations in the event a substance enters a technician's eyes. Main thoroughfares used in safety response are cleared of obstacles and clearly marked.



Particular attention is also paid to the protective equipment used by employees when handling blood, chemicals, or other potentially hazardous materials. Procedures and processes are reviewed to ensure all equipment is appropriate for the work.

The focus on Safety should cover all phases of 5S and will result in better patient care, better workplace conditions, and more efficient processes.

Sort

The first “S” in the 5S process is Sort.

Its primary objective is to clear the department or area of all non-essential items to create a clutter-free work environment. We have all encountered items that serve no purpose and simply need to go.

Expired specimen collection tubes. Old forms that haven’t been used for years. Broken computers, keyboards, or printers.

All serve only one purpose: to clutter up our department or area, making it more difficult to do our job!



Implement Sort

So how does a hospital go about de-cluttering the workplace?

The first task is to determine which items are needed for performing necessary duties or tasks.

Next, all non-essential items are marked with a Red Tag for removal.

Each Red Tag includes information that indicates whether an item should be discarded immediately or stored off-site for a specified amount of time. The determination of which items to tag, and whether to tag for disposal or temporary storage, is based on what is useful for the area, how often it is needed, and how much is needed.



It is important to give other employees or shifts the opportunity to review items where some doubt may exist about their usefulness. Many items will clearly need to be discarded at once, but others may fall into a gray area. Reach consensus on the final outcome of these items.

Guidelines for Red Tag Items

As you just learned, it is important to have guidelines for the handling of Red Tag items. To determine whether a tagged item should be immediately discarded or stored offsite for a set period of time, healthcare organizations must consider such things as amounts of materials and timeframes relative to their use. Whether the amount needed is set for one hour, one shift, or one day will depend on the product and process, and will help determine what should be done with the tagged item.

Once an item is tagged according to these guidelines, the information should be logged for accounting and tracking purposes, and to ensure proper handling.



Red-Tagging should be a short and powerful event. When in doubt, tag it.

Red Tag Example

This is a typical Red Tag or tag-out form. As you can see, Red Tags include space for providing information for inventory and accounting purposes and to ensure proper handling in accordance with organization guidelines.

RED TAG	
Date Identified:	Red Tag File No.:
Inspected By:	
Category: (Check Appropriate Box)	
<input type="checkbox"/> 1. Equipment or Machines	
<input type="checkbox"/> 2. Fixtures	
<input type="checkbox"/> 3. Measuring Instruments	
<input type="checkbox"/> 4. Furniture	
<input type="checkbox"/> 5. Other _____	
Item Name:	
Manufacturing No.:	Brass Tag No.:
Unit of Measure:	Quantity:
Reason: (Check Appropriate Box)	
<input type="checkbox"/> 1. Not Used Ever	<input type="checkbox"/> 3. Other _____
<input type="checkbox"/> 2. Use Unknown	
Disposition Method: (Check Appropriate Box)	
<input type="checkbox"/> 1. Discard	<input type="checkbox"/> 3. Other _____
<input type="checkbox"/> 2. Return to _____	
Authorized By:	

Category

Description

Reason, frequency of use

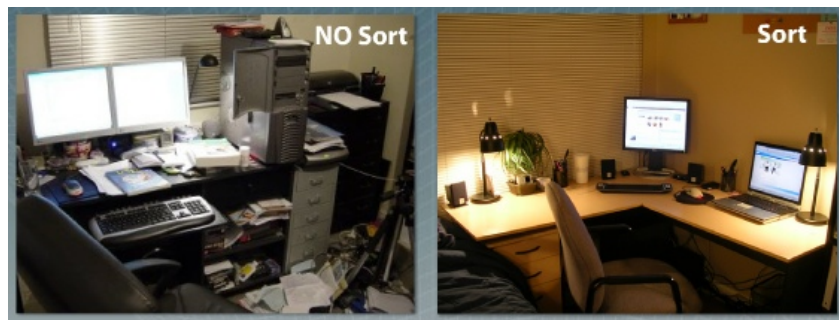
Disposition

The Benefits of Sort

Now that you understand the primary objective of Sort and how to achieve it, let's consider the benefits.

Look at the two work environments pictured here. In the clutter-free Sort environment, the possibilities for improvement are much more visible. There is more free space for value adding activities, and areas of waste can be more easily identified and eliminated.

An uncluttered workplace also improves productivity, workplace flexibility, and service quality.



Additionally, the establishment of an uncluttered workplace often prompts organizations to examine and improve the systems that allowed the unnecessary items to collect in the first place. There is a good chance your efforts will uncover unnecessary items that have followed the department through several moves.


This important first phase of 5S helps pave the way for ongoing improvements in process flow.

The Benefits of Sort

The action steps for completing the Sort phase are:

Identify the area and boundaries for improvement. Will your project take on the whole department or an area within the department? Be sure to take a "before" photo; review the sorting and classifying criteria with the team; set up a Red Tag holding area; tag and record items; move tagged items to a holding area; allow time for review, justification, and untagging; and after a period of time, remove the remaining tagged items.

Typical resources needed for completing the Sort phase include Red Tags; Red Tag record forms; marking equipment and a camera.

ACTION STEPS	RESOURCES
<ol style="list-style-type: none"> 1. Identify the area and boundaries for improvement. Take a "before" photo 2. Review the sorting and classifying criteria with the team 3. Set up a Red Tag holding area 4. Tag and record items 5. Move tagged items to a holding area 6. Allow time for review, justification, and untagging 7. After a period of time, remove the remaining tagged items 	<ul style="list-style-type: none"> - Red Tags - Red Tag record forms - Marking equipment, as needed - Camera 

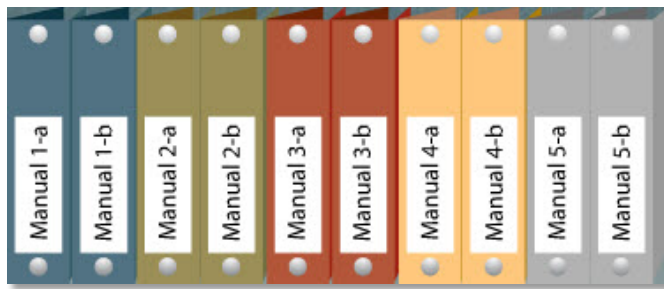
Store

Once the workplace is clutter-free, the next step is to organize and arrange the remaining items in the workplace, all of which should now be essential for current services or tasks.

This leads us to the second “S” of the 5S process, Store.



The objective of Store is to create an orderly and visually instructive workplace that makes it easy to locate and use items, and to return them to their proper places.



Let’s look at the tools and methods used during Store to create an orderly and organized workplace.

A Workplace Diagram helps departments evaluate the current location of all essential items (such as supplies, tools, and equipment) and to reflect plans for an

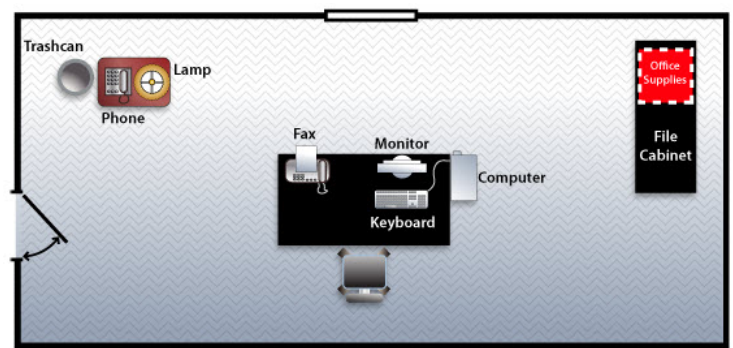
optimal organizational layout. The diagram can focus on a specific work area or an entire department. “Point of use” storage is a strategy used to reduce unnecessary movement by arranging and storing items close to where they will be used. This strategy takes into account the location and storage of supplies and tools, the amount of motion required to get to an item, and the overall flow of the work area.

In general, items used most frequently need to be stored closest to the point of use. In some instances it makes sense to store items in multiple places within a department. Latex gloves are used by many people and do not take much room to store. These should be stored throughout the department.

Using the Current State Workplace Diagram and ideas from the Sort phase, the team can construct a Future State Workplace Diagram.

Workplace Diagram-Current State

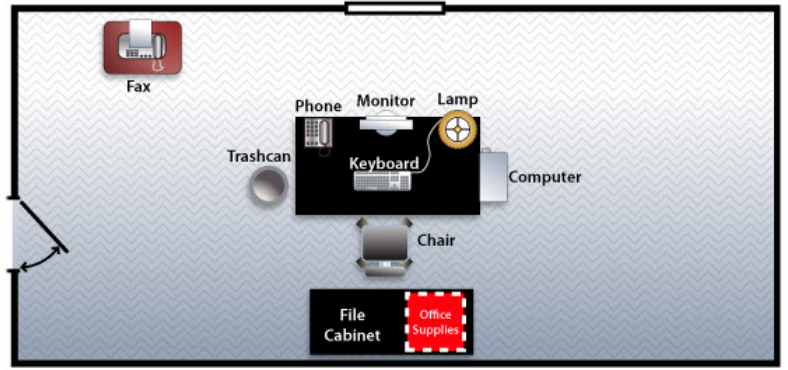
This example of a Workplace Diagram for a patient admissions office shows an inefficient layout. The location of workstations, file cabinets, and phone cause unnecessary "travel" time and non-value added activities in performing daily work assignments. For example, if you were working at your desk in this office, you would have to get up and walk to the corner of the room every time you needed to use



the phone or throw away a piece of trash. Not a very efficient use of space!

Workplace Diagram-Future State

Here, the Workplace Diagram for the patient admissions office shows an efficient layout based on “point of use” storage. The locations of workstations, file cabinets, and phone minimize wasted movement by arranging and storing items close to where they will be used. If you were working at this desk, for example, you would have everything you need to carry out daily work assignments within easy reach. The fax machine, which you use less frequently, is close enough for quick access, yet far enough away to reduce clutter in your work area.

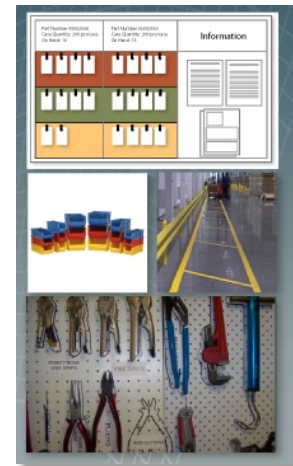


Visual Controls Example

Once the optimal layout is determined and every item has a place, visual controls are used to communicate, at-a-glance, how work should be done. They are used to indicate such things as location, proper usage, and amounts.

For example, signboards can be used to show where items belong, what the items are, and how many there should be; paint or tape can be used to designate locations on floors and walls or to create divider lines for walkways to and from work areas; groups of items can be color-coded to indicate their purpose or where they should be stored; and outlines or drawings of tools or other items can be used to show the designated locations and proper position.

For example, surgical supply trays may have actual pictures of the instruments beneath their intended location. This makes it much easier to set up a tray and to recognize when something is missing.

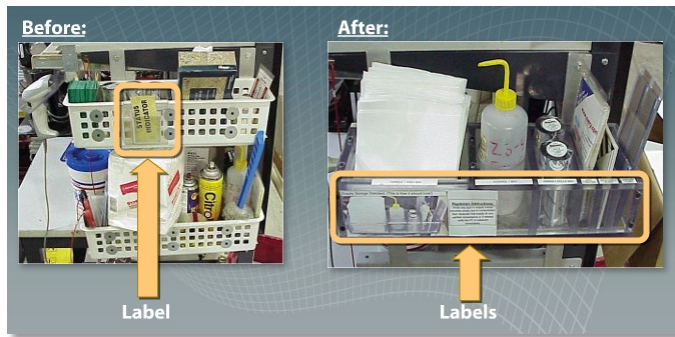


Which is Better?

In which area would it be easier to find what you are looking for?



Proper Label Use: Before and After



Notice that a picture and labels are on the front of the bin. This is an example of visual control.

Supply Room: Before and After



Here's a supply room that is cluttered with trip hazards, items not used, items used often on the lower shelves, and excess inventory.

This is what an organized and de-cluttered supply room should look like. Notice how more frequently used items are not placed on bottom shelves. This eliminates unnecessary bending

by hospital staff and reduces the risk of back injury.



Benefits of Store



Now that you know the purpose of Store is to create an orderly workplace, and you understand what it takes to get there, do you think it's worth all the effort? Picture yourself in a work area where every item you need to do your job is right where you need it—clearly marked for easy use.

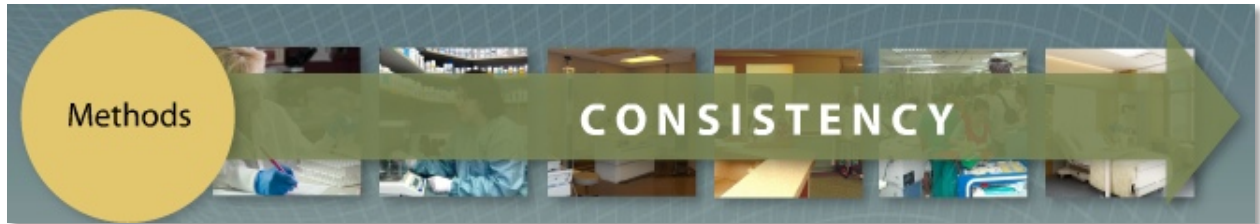


This organized environment eliminates time wasted searching for needed supplies and equipment; it reduces the motion and "travel time" required to access and use an item, or return it to its proper location; and it establishes a basis for "standardization," which creates consistency in the way tasks are done.



Consistency

While each department must determine what works best in their environment, it is to the healthcare organization's benefit to maintain consistency across departments when possible. This is because many people work in different departments and across different shifts. Consistency will help these people transition from one department to another without loss of effectiveness.



Store - Action Steps and Resources

Action steps for Store are to create a workplace diagram for the current state, use the diagram as a starting point for brainstorming and discussing ideas for improvement, and capture the improvement ideas on a future state diagram.

If the stakeholders have not been part of the improvement process, their approval of the proposed changes is needed.

Typical resources needed for this activity are floor layouts and supplies for creating or modifying the current and future state diagrams.



Shine

We've removed unnecessary items from the workplace and stored the remaining items in their proper place. Now, the 5S implementation turns its attention to cleanliness. The third "S" is Shine. Traditional 5S implementations focus this step on keeping equipment and workspaces clean. While that remains an important element of Shine in a Healthcare organization, this step ultimately seeks to minimize patient infections.



Most hospitals have a housekeeping department. It is important to understand that Shine goes beyond the major cleaning responsibility of the housekeeping department, which focuses on things like keeping floors clean, and trash removed. When utilizing the 5S methodology, the people who work in the area must take responsibility for the overall cleanliness of the department.

While performing basic cleaning tasks, team members simultaneously check equipment and machines for unusual situations such as cracks, leaks, loose parts, strange noises, or vibrations.

Implement Shine



As mentioned before, cleaning and inspection responsibilities are shared by all employees.

5S work center-specific schedules are used to ensure that everything is cleaned throughout the entire workplace. These schedules can be used to manage cleaning and inspection duties, indicate methods and frequencies of each task, and assign responsibility to associates within each specific work area. In addition to scheduling the more obvious cleaning tasks for equipment, floors, and work surfaces, cleaning duties should also be assigned for such things as storage racks, closets, windows, tools, and parts.

To ensure nothing is overlooked, signboards on equipment can be used for specific assignments.

Because all necessary cleaning tools and products should have been included in the Workplace diagram during the Store phase, they should be readily available and easy to locate.

Benefits of Shine

Keeping working environments and equipment clean as part of daily activities may seem like a minor housekeeping detail, but it provides many benefits.

Not only does a Shine workplace look nice, it reduces the risk of patient infections; makes it easy to spot unusual or problem situations, such as frayed wires or leaks; improves the overall work environment; reduces health and safety issues; and supports improved service quality.



Shine - Actions Steps and Resources



The action steps needed to complete the Shine phase are: define the levels of cleanliness required, obtain cleaning supplies and any protective clothing required, ensure equipment is powered off if it can pose a safety hazard; clean the work area; fix small imperfections; and identify sources of contamination.

The resources needed for the Shine phase include cleaning supplies, personal protective equipment, and eye protection.

Standardize

The fourth S, Standardize, is included in the 5S process to ensure the improvements made during the first three phases are standardized and put in place as best practices. The overall goal is for every team member, in all work centers, to understand these newly established best practices and to use them consistently, without fail.



In this phase, the 5S activities are scheduled as needed to ensure the gains for Sort, Store, and Shine are maintained in an organized and safe manner. Documentation and communication are critical and must be formalized in this stage. Like any system, things never remain static, and changes to the healthcare system may result in changes to the work area or department; it is important to remain focused on continuous improvement.

Implement Standardize

To ensure that 5S benefits are not lost, the practices must become habit, and all team members need to “live” and “practice” the first 3 S’s – Sort, Store, and Shine – on a daily basis. This can be accomplished by fully integrating 3S responsibilities into daily work activities.



All team members must be able to spot normal versus abnormal situations, and ensure prompt resolution to remedy any Sort, Store, or Shine issues identified.

The 5S visual controls set in place make it easy for team members to see what is standard and to identify anything abnormal.

Workplace Diagrams and peer review checklists are used to communicate responsibilities and to monitor overall effectiveness of activities.

Once 5S guidelines are established, it is critical that everyone in the workplace follow the guidelines and take action for correction when they are not working.

To make 5S unbreakable, each person within the organization must feel confident that their improvement ideas are welcome and necessary.



The Goal of Standardization

The goal of Standardization is to create best practices and get each team member or employee to use the established best practices in a consistent way. Activity charts and rotation schedules like the ones you see here, along with visual displays, can be created to assign specific tasks.

Activity		Responsibility
1	Sweep main aisle	Rotation
2	Sweep work areas	Rotation
3	Put away tools and fixtures	Team
4	Return handling containers to designated locations	Material Handler
5	Empty trash cans	Rotation
6	Return unused materials to designated holding areas	Team

Rotation Schedule	Trash Pickup		Aisle Sweep		Area Sweep	
	Day	Night	Day	Night	Day	Night
Monday	Bob	Doris	Luis	Jack	Tran	Carl
Tuesday	Tom	Henry	Bob	Doris	Luis	Jack
Wednesday	Ernie	Juan	Tom	Henry	Bob	Doris
Thursday	Tran	Carl	Ernie	Juan	Tom	Henry
Friday	Luis	Jack	Tran	Carl	Ernie	Juan

Visual management can also be used to mark where items belong. Vinyl tape can be used to outline or “shadow” necessary items. This technique not only aids in properly replacing items after use, it also allows employees to instantly recognize when items are missing.

Less time will be wasted looking for items that have been improperly stored due to the lack of a Standardized workplace.

Benefits of Standardization

The benefits of standardization can extend past a department boundary. Many nurses, technicians, and others work in different departments within their healthcare organization. While we do not want to force fit all of our best practices across departments, as many as 80% of our 5S improvements may apply. Medical cabinets standardized to the 80% level across departments would greatly improve the efficiency of those employees who work across different departments.

By ensuring 5S improvements are established as best practices and used consistently, Standardize prevents setbacks and helps 5S healthcare organizations maintain orderly, clean, and visually instructive work environments with minimal waste and human error.



Standardize - Action Steps and Resources

The action steps needed to complete the Standardize phase are: brainstorm ideas for making the 5S and Safety changes a permanent part of the process; update documentation; utilize posters, communication boards, and shadowing; and inform and educate everyone.

The typical resources needed for the Standardize phase include support and supplies for creating documentation, job aids, and visual aids; and training and communication format and content.



Sustain

In order to achieve lasting results we must ensure that 5S becomes more than a one-time event. This brings us to the fifth S, Sustain. Sustain focuses on maintaining the improvements gained during the implementation of 5S and sustaining the momentum within the Hospital.

To accomplish this, healthcare organizations must create a culture in which all employees are motivated to learn and be involved in the 5S process.



Implement Sustain

So, how can a hospital sustain the momentum of 5S?

What can a healthcare organization do to make team members see the value of 5S and consistently use the standard practices established?

To continue gaining the benefits of 5S, organizations need to invest in structure and support so people have time to complete activities and sustain awareness.

The culture must include the expectation for everyone to learn and be involved in 5S. All employees, including leadership and support groups, should be included.

Clearly defined roles will help ensure everyone gets involved in implementing 5S and improving it while a formal audit plan will help leaders and supervisors see if the new standards are being followed.

Recognition, contests, and exhibit areas with before and after pictures are common occurrences during the Sustain phase.

By understanding the benefits of a sustained 5S process, employees are motivated to participate fully, ask for needed resources, help co-workers, and to offer suggestions for improvement.

Benefits of Sustain

Through the establishment of standards with measures of achievement, Sustain improves employee morale and builds self-discipline within the Hospital culture to ensure 5S activities become habit. Additionally, when 5S becomes a way of operating, improvements can be seamlessly incorporated as the organization changes or grows.

5S Score Sheet

The purpose of the Sustain phase is to maintain the momentum generated during the initial event. An auditing process will help ensure that employees understand that maintaining a high level of order and cleanliness is a top priority. An audit score sheet, like the one shown here, can provide a means to consistently evaluate the process and maintain high standards of excellence.

It is important to note that we must be careful to not become “locked” into our new way of doing things. If tomorrow a nurse has a better idea about how to store a particular supply, the system must be flexible enough to incorporate new improvement ideas. Remember, a Lean implementation is all about continuous improvement!

5S Score Sheet		NA	1	2	3	4	5
Location: _____ Date: _____ Auditor: _____							
Sort							
No obsolete or unnecessary materials in the area							
Empty/unused handling containers are removed							
Free of unnecessary equipment, furniture and personal items							
Set in Order							
Tools and fixtures are properly stored							
Handling carts are in designated locations							
Inventory is organized and identified							
Shine							
Floor is clean and properly marked							
Machines and benchtops are free of dust and dirt							
Workstations are neat, clean and organized							
Standardize							
Visual aids are in place and unobstructed							
Area work instructions, SOP's and drawings are accessible							
Communication board is up-to-date							

Sustain - Action Steps and Resources

The action steps needed to complete the Sustain phase are: Monitor the processes established during phases 1 through 4; expand the 5S efforts to other areas; evaluate effectiveness and continually improve; and recognize good efforts.

Typical resources needed for the Sustain phase include audit forms and schedules; people assigned and trained to conduct the audits; resources for communicating results, such as bulletin boards, displays, and newsletters; and management commitment to maintaining the new standards.



Economy of Layout



How easy is it to find what you need in this drawer?
Keep supplies, materials, instruments and equipment in designated locations.
Arrange everything nearby.
Avoid up-and-down movement of objects in favor of level movement.
Work surface heights should be the ones most appropriate to the heights and habits of employees.
Provide adequate lighting suitable for the task at hand.

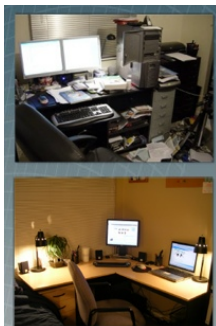
Economy of Equipment Usage

Ensure the equipment is easy to use and is operated correctly.

Perform maintenance or calibration at the appropriate times.
Put a system in place to inform the operator that the equipment is not performing to specifications.



5S In the Office



5S applies to the office environment as well as medical departments. How much time do we spend looking for things when filling an insurance form for a patient? How many times has an important document been lost or misplaced?

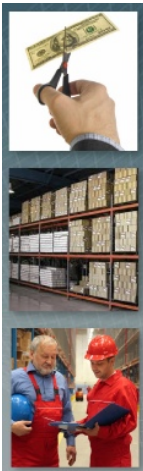
Even though our offices or cubicles are a personal space, there are many reasons why they must be maintained in a neat, orderly fashion.

Get rid of the things you don't need and organize the rest so it is easy to access - especially items used frequently or those with special importance. Make things easy to find even if you are not there.

Safety is another important reason for keeping a clean and orderly office area. Be sure file cabinets and bookcases are not overloaded. Make sure that tripping hazards are eliminated. Keep emergency and medical supplies in clearly marked locations. Create an audit checklist to help you set your office in order.

		Little, or none	Poor	Fair	Good	Outstanding
Audit - Office Set-in-Order		1	2	3	4	5
1	Aisles, Emergency equipment, and exits not obstructed					
2	Emergency medical supplies clearly labeled					
3	Supply cabinets/closets neatly arranged and labeled					
4	Wire under/behind desks bundled and labeled					
5	Formal company documents accessible in labeled locations					
6	Documents neatly stored in labeled locations					
7	Shared equipment properly stored, accessible and labeled					
8	Movable equipment in designated areas					
9	Bulletin board contents neat and up-to-date					
10	File drawers accurately labeled					

5S Summary



In this module, you have learned how the five phases of 5S work, the purpose of each phase, and its benefits. Overall, 5S implementation reduces waste, improves organization, and draws in all team members to actively participate in the improvement process. After implementing 5S you will find that your department operates at a higher level of efficiency while safely delivering better patient care.