

GRS

Global Rating Scale

JAG

Joint Advisory Group
on GI Endoscopy

NHS

Improving Quality

The Productive Endoscopy Unit

*Building teams for safer care*TM

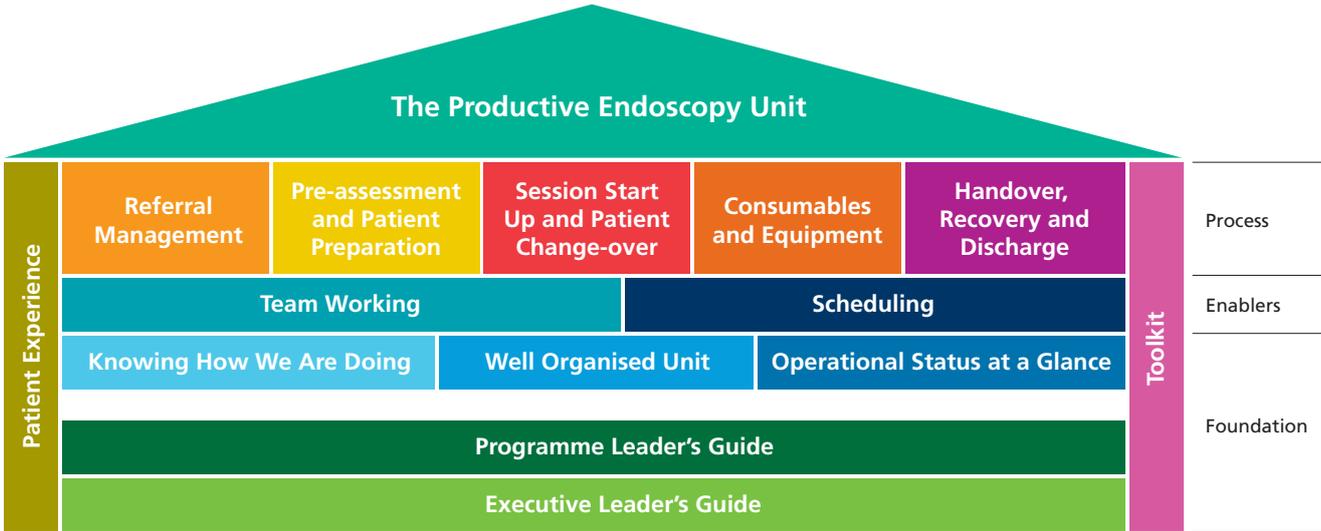
Well Organised Unit

This document is for endoscopy managers, matrons, coordinators, staff, anaesthetists, consultants, surgeons and improvement leads



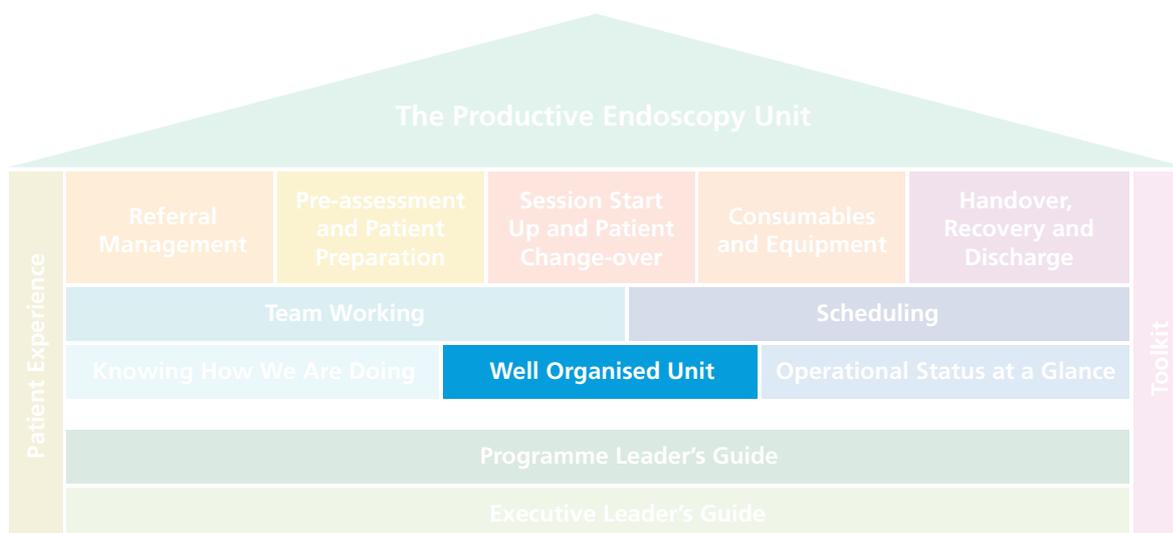


These modules create the Productive Endoscopy Unit





Purpose of this guide



As endoscopy staff, you may face daily frustrations; wasting your time searching for equipment and supplies that are not where they should be, cluttered and untidy store rooms that make it difficult to find anything, and a shortage of storage space within your department. All these factors can make carrying out even the simplest of tasks far more difficult than it should be.

Imagine an endoscopy department where the environment supports you to do your job rather than hinders you, where things are easy to find and there is room to store everything you need where you need it.

The Well Organised Unit module will empower you and your endoscopy team to achieve this goal and sustain the improvements made.



Standard Number

A1

A2

A3

A4

A5

A6

17.12



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What is the Well Organised Unit?

What is it?

The Well Organised Unit is an approach to simplify your workplace and reduce waste by having everything in the right place at the right time and ready to go.

It will help you and your team see that:

- Areas should be organised to support people and the processes they carry out to support 'flow'
- Immediate changes can be made to the workplace which rapidly result in visible improvements
- Commitment is required to maintain the agreed standards
- Visual prompts/management can be used to ensure standards are adhered to.

Why do it?

- Time will be saved
Reduce the time spent looking for things, having to ask for things and moving things out of the way. This will give you more time to spend with your patients and focus on delivering the perfect endoscopy session.
- Things will be easier for staff
Daily tasks will be supported by the environment in which they are carried out, rather than having to work around the existing environment.
- The endoscopy department will look and feel better
Space will be created, increasing staff satisfaction and reducing their frustrations; it will provide a more reassuring environment for patients by being a well organised, clutter and chaos-free environment.
- Mistakes and errors will decrease – near misses will be reduced
The right equipment and consumables will be in the right place at the right time, items will not be mistakenly stored or labelled, enabling safer delivery of care and more efficient use of staff time.
- JAG Accreditation standard
This can be reviewed as part of your 5S to support JAG Accreditation assessment. This guide relates broadly to Section A of the accreditation environment standards (A1-A6) and will assist units in achieving some aspects of these standards.

STAFF LISTENED TO

GRS standard **17.12** states that feedback from staff is gathered on the quality of their work environment - the 5S audit will help you maintain the high environment standards required to achieve this accreditation standard.

The documents 'JAG Accreditation and evidence requirements' and 'JAG accreditation On-line Checklist' give much more detail on achieving the environment and kit standard requirements, links to these documents can be found in the toolkit and at www.jagaccreditation.org.

What it covers

This module describes how to create a Well Organised Unit using the 5S approach.

5S is a methodology involving the structured implementation of five key steps to help create an ideal workplace through organising, cleaning and removing the seven wastes. This will reduce the time and effort required by staff to perform tasks in the area.

Visual management is a technique which allows anyone entering a work place, including those unfamiliar with the processes, to quickly see and understand the standard operating procedures and current status of the operation at a glance.

Examples of visual management are included in this module to enable staff to:

- See work in progress
- Recognise the flow stoppers
- Assess inventory levels
- Identify defects
- See deviations from the standards
- Enable interventions.

Examples are included in this guide to enable units to organise work areas to support flow and allow the continuous movement of value adding activities from the beginning to the end of the value stream.

What it does not cover

This module does not tell you what to change; it takes you through a process to identify improvements that can be made in your department.

What is 5S?

It shows you how to make significant improvements in your working environment using a structured process to help you eliminate waste in all its forms. See the seven wastes table on page 13 for more detail.

The 5S process

1. Sort

- Remove anything from the area that is not essential

2. Set

- Organise all the necessary materials and equipment
- Assign each object an ideal area in the room

3. Shine

- Regularly clean and maintain the workplace and equipment

4. Standardise

- Develop and agree procedures to maintain an orderly, clean and functional work area
- Decide how similar areas can be arranged in the same way, such as each of the endoscopy rooms
- Agree standard conventions for colour codes throughout the department, e.g. blue for airway management

5. Sustain

- Implement audits to ensure the workplace standard is maintained and improved and 5S becomes part of the everyday routine

“ By applying 5S to our procedure rooms we found loads of out of date stock – enough to fill five black bin liners!”

Staff Nurse, Royal Liverpool and Broadgreen University Hospitals NHS Trust

The Productive Endoscopy Unit - Well Organised Unit - What is the Well Organised Unit?



The seven wastes

1. **Defects and rework** – due to faulty processes, repeating things because correct information was not provided in the first place
2. **Motion** – unnecessary people movement, travel, walking and searching. Things not within reach, things that are not easily accessible
3. **Overproduction** – producing more than what is needed or earlier than needed by the next process
4. **Transportation** – moving materials unnecessarily
5. **Waiting** – staff unable to do their work because they are waiting for something such as people, equipment or information
6. **Inventory** – too much stock, work in progress or patients waiting in a queue
7. **Over-processing** – performing unnecessary steps that do not add value



5S is not about sorting and cleaning!

5S is NOT just about cleaning an area on a regular basis. It IS about having a unit where:

- Things are immediately made ready for the next person
- The process for making things ready for the next person is agreed and understood by everyone in the rooms
- Changes are maintained once they have been implemented until they become second nature
- There is the option to go back and make changes when things still are not quite right
- Everyone understands why things are done the way they are done.



The procedure rooms
look so much better –
there is a place for
everything and
everything's in
its place.



Unit Manager, Royal Liverpool and Broadgreen
University Hospitals NHS Trust

Learning objectives

After completing this module it is expected that the team will:

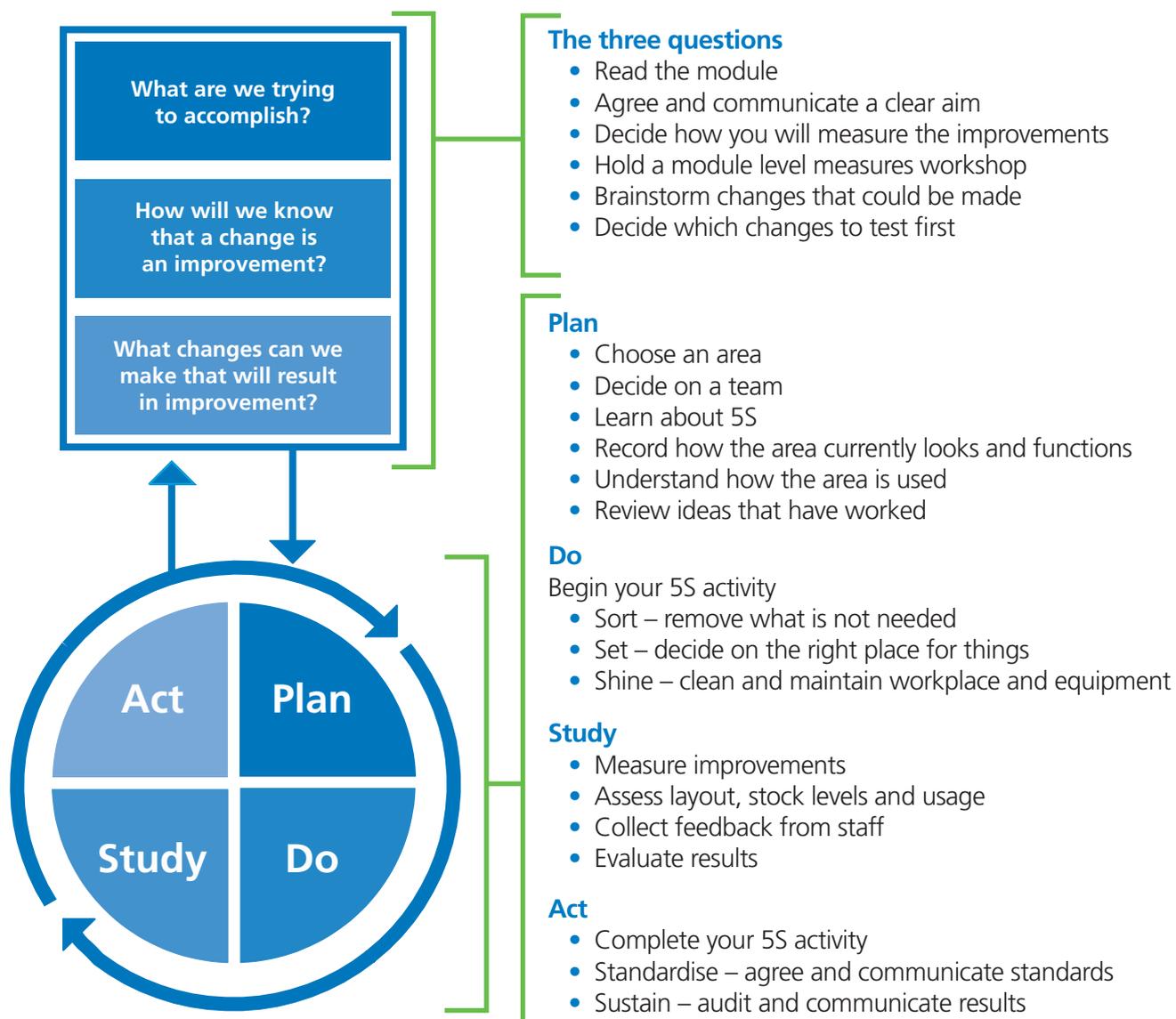
- Understand the importance and application of 5S
- Know how to use 5S to eradicate the seven wastes
- Understand what visual management is and how it is used in your Well Organised Unit
- Define what standardised work is, how it saves time and makes things easier
- Make better use of unit space and systematically reduce the amount of stock stored
- Understand why standards and audits are necessary to sustain the improvement.

What tools will you need?

Tool
5S game
Photographs
Waste walks
Interviews
Video
Timing processes
Spaghetti diagrams
Audit planner
Dot voting
Activity follow/process sequence charts

How will you do it in your Unit?

The model for improvement



2. The three questions

Before you start creating your Well Organised Unit, make sure you are clear about the approach you are going to take.

Take time to read the module fully, so that you understand the full scope of what is involved. Then ask the team to work through the following questions. Many ideas that will help are given throughout the module.

1. What are we trying to accomplish?

Improvement requires setting aims, you will not improve without a clear and firm intention to do so. Your aim for the Well Organised Endoscopy Unit module should be time-specific and measurable. You have already developed a vision for your programme, ask the team how the Well Organised Unit module will contribute to achieving your vision. Record your thoughts on a flipchart. Once agreed, communicate the module aim on The Productive Endoscopy Unit notice boards showing how it links to your vision.

2. How will we know that change is an improvement?

As part of Knowing How We Are Doing, you will have agreed a balanced set of measures across the four programme aims. How will your improvement from the Well Organised Unit be represented in the balanced set of measures? If it is not explicit, you will need to include an 'intervention' level measure that will capture the impact of this module. The suggested measures sheet and driver diagrams in Knowing How We Are Doing will give you some ideas of how to do this.

Remember your measures can be both qualitative, such as asking staff their opinions, and quantitative such as how much time, space or money you save. The Joint Accreditation Group – Global Rating Scale standard **17.12** asks that feedback is gathered from staff at least once a year on the quality of their work environment.

To explore measures further, run a mini measures workshop with the team for this module, a suggested set of slides for this session is available as a part of the toolkit.

The aims of this session are to:

- Refresh the team's understanding of how to use measurement to drive improvement
- Understand how the Well Organised Unit fits into your agreed balanced set of measures
- Identify measures for the module
- Decide how they will collect, analyse and review their information regularly
- Complete a measures checklist for the module.

Once agreed start collecting, analysing and reviewing your data.

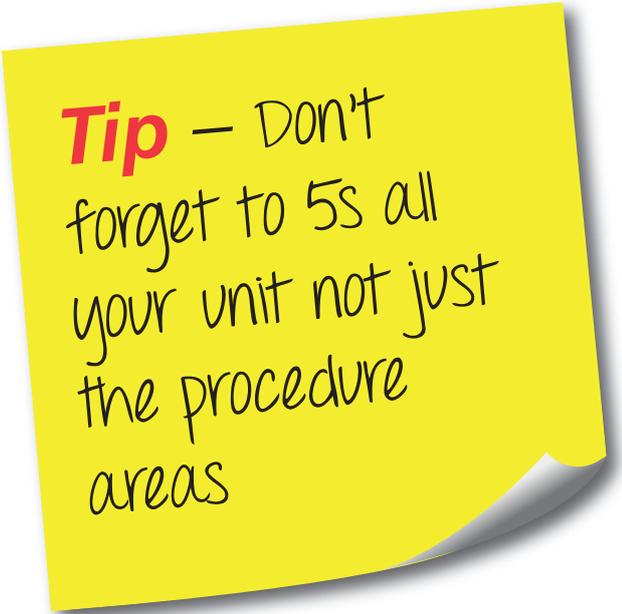


3. What changes can we make that will result in improvement?

Having read the module and agreed on a clear aim, start to think about the changes you could make within your department that will result in improvement.

You will now have an overall idea of what you want to achieve from the Well Organised Unit module. With your team, work through a number of Plan Do Study Act cycles carrying out 5S activities across the whole department.

Lots of examples of changes that have been shown to work are given in the next section – Plan.



Tip – Don't forget to 5s all your unit not just the procedure areas

The three questions – milestone checklist

Move on to **Plan** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Read the module	
Decided and communicated a clear aim for the module	
Held a mini measures session	
Agreed how you will measure your impact	
Thought about what areas you would like to change	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

3. Plan

There are a number of steps required to prepare for a 5S activity

1. Choose an area

The decision about which area to start with should be based on two factors.

Impact

Is there an area that has to be addressed immediately because of safety issues?

- Look through your last 20 incident reports to see if there are any trends in location or accident type.

Is there an area that causes the most frustration for staff?

- Use the interviewing tool from the Toolkit combined with dot voting to find the top frustrations.

Where can you have the most impact on your measures?

- 'Use the 'activity follow'. or 'process sequence charts' and 'waste walk ' activities to see what areas staff are spending time in and where there are areas of waste which can be tackled.

Resources and experience

Do you have enough staff experienced in 5S to start with something big, eg the unit rooms, a place used by many people? If not, it is better to start with a smaller area, which will let the team develop their 5S skills, e.g. recovery or a storeroom.

Use your champions to lead the changes.

“We were keen to begin and decided to tackle one area at a time to avoid disrupting the lists. The 5S began with our inpatient room as this was in need of most attention, would make a good impact and set the standard for the rest of the units 5S work.”

Ian Shakespeare, Group Support Manager - Division B, Queen Elizabeth Hospital Birmingham

2. Decide on a team

The programme team need to identify a team for this module. This should include champions identified in your visioning workshop, but they will need support from the programme leader and service improvement expert.

- Consider the following roles:
- Unit manager
- Unit sister/matron
- Endoscopists
- Improvement facilitator
- Other available staff depending on area:
 - Nursing staff
 - Auxiliary staff
 - Materials management
 - Porters.

3. Learn about the Well Organised Unit principles

Introduce 5S to the team using the 5S game (see the Toolkit)

- Playing the 5S game with all staff involved will give them a better understanding of what 5S is, why you are doing it and what you will get out of it. Repeat the game if new staff join the team.

Understand the three second rule

- Storage and equipment should be arranged and signposted so that anyone can find what they need within three seconds. This can be done through colour codes, prominent labels, photographs etc.

4. Talk to the executive leader and other departments

- Ensure that there is executive and clinical lead support for this area of work.
- If required, discuss a budget for any work needed to be done by the facilities department, e.g. moving shelves.
- Involve estates in your planning so they are aware you may need their services and understand why.

5. Record how the area currently looks and its function

- Use photographs and video as described in the Toolkit
- Film the area being used as early as possible to capture it in the present state
- Use spaghetti diagrams as described in the Toolkit to identify wasted motion

6. Identify the main process performed in the area (the area should be designed to support the process – NOT the other way around)

- Time the process using the timing tool (see the Toolkit), e.g. how long it takes to set up a room or to find stock and equipment.

7. Understand how the area is used

With the team, review the information (videos, photos, timing of processes you have collected) to help you understand how the area is used before you begin your 5S.

As a team consider the following questions:

What is the intended purpose of the area?	<ul style="list-style-type: none"> • Is this the best use of the area? • Is it being used for something different?
Are things easy to find?	<ul style="list-style-type: none"> • Do you see risks to patient and staff safety? • Are staff struggling to carry out a particular task? • What does our environment say about us – patients first impressions? • How long does it take to find an item? • How often is an item found in the wrong place?
Does the layout of the area make things easy for the staff?	<ul style="list-style-type: none"> • Is the area set out to make it easy to use? • Are high usage items located together in the most accessible place? • Are staff walking the most efficient route when doing the most common tasks?
What is stored in the area?	<ul style="list-style-type: none"> • Do you have overflowing stock on top shelves or floors? • How much stock do you have and what is its value? • How often do you find out of date products?

TIP: Write your answers on a flipchart so everyone's thoughts can be seen. The page can be posted in the 5S area to remind the team where they started.

8. Agree a clear goal / aim for your activity

Now you understand how the area is really used, decide what you are going to improve:

- Stock reduction
- Time taken for common tasks
- Eliminate stock-outs
- Improve manual handling
- Improve housekeeping.

What are you going to measure so that you know if your changes are an improvement?

9. Communicate to all staff that use the area

Make sure everyone in the department and those in associated departments who use the area are aware of your planned 5S activity. Tell them why and when you will be doing it. This will give them the opportunity to get involved or at least be aware of potential disruption while you implement 5S. If you intend to close an area where emergencies are treated ensure you have a contingency plan to ensure patient safety.

10. Review ideas that have worked

The following pages show examples of Well Organised Unit activities carried out by Trusts implementing The Productive Endoscopy Unit. Look through them with your team and use them to stimulate discussion and ideas about how you can improve your own area.

Look for good examples of well organised environments already in place within your unit and in your wider organisation. Consider visiting wards or theatres that have undertaken work in The Productive Ward or The Productive Operating Theatre as some of their ideas for general storage areas may be transferable to your unit.



The team at Portsmouth Hospital Endoscopy Unit completed 5S on their store room and as a result now hold £60,000 less stock than they did the previous year.



Examples of 5S, improving flow and visual management

Example one: Inpatient room, sluice and recovery areas at University Hospitals Birmingham, Queen Elizabeth Endoscopy.

Aim: Streamline the emergency process with right items in the right place and improve the first impression for patients and staff

Sort – remove over stocked and out of date stock. The picture below is over and out of date stock from just the inpatient area.



"We removed £800 worth of out of date stock just from this one small area."

Set and shine – clean the area and use visual management to support the three-second rule.

"We had a lot of over stocking 'just in case' which made items difficult to find."

Standardise – use visual management to support the three-second rule and to show how the room should be maintained.

"Having the emergency room as similar to the elective rooms as possible increases safety in an emergency, as staff are familiar with the layout."

Sustain – maintain the new improved organisation, measure the improvement.

"As so many different teams use this area we decide to initially audit every day to ensure standards are maintained and any non compliance can be addressed quickly with the right people."

5S's on Endoscopy In-Patient Unit

Recovery	Procedure Room	Scope/Store Room	Wash Room	Other Room
	 <p data-bbox="432 752 659 1032"> Left Out: O² Specs Mouthguard Incontinence pads Biopsy forceps Snares Wipes & Lancer </p> <p data-bbox="432 1066 659 1167"> Understocked: O²Specs Yankeurs </p> <p data-bbox="432 1200 659 1693"> Other Issues: Fridge sensor left out Stack not switched off Computer not switched off Out of date water left out Head of bed left out Unused argon probe left open - £80.00 Loss </p>			 <p data-bbox="1193 752 1420 853"> Left Out: Gloves Banders </p>

Example two: Royal Liverpool and Broadgreen University Hospitals NHS Trust

Problem

The unit struggled to cope with the amount of stock that needed to be housed within the department. Cupboards and drawers overflowed with stock and staff spent time looking for pieces of kit. Over ordering was a regular occurrence, stock was not turned over and some was accidentally left to go out of date.

What we did

Productive Endoscopy gave staff the tools and techniques to enable them to de-clutter main areas such as the stock room and all procedure rooms. It was necessary to invest in staff to put in some extra hours and to be paid for this in order for them to have the time to complete this work. This small investment of time meant that there was more ownership amongst the staff to sustain the changes. The areas were regularly audited and staff began to see the benefits of the changes made.

Impact

Stock that had been retrieved from the cupboards that was out of date, no longer used or obsolete came to approximately £7,350.

Major improvements in the organisation of the department are that each endoscopy room is now clear of excess stock with clearly labelled cupboards. Staff continue to audit each area and the module lead has overall responsibility for ensuring the rooms are maintained. Staff feel empowered to reorganise other areas that will be beneficial for them and are in the process of sorting through the staff room and doctors rooms.

Staff who order stock can now clearly see what needs to be replaced reducing the risk of over ordering. Now everything has its place.

The photo below shows some Visual Management (VM) in one of the endoscopy rooms.



Example three: Negotiating Reduced Costs with Suppliers - Barts Health NHS Trust, Whipps Cross University Hospital

Problem

- The endoscopy unit uses a large amount of specialist equipment
- Individual items such as biopsy forceps, sclerotherapy needles, haemostatic clips, tray liners, banding kit and others, are expensive
- Unessential opening of equipment not used for the procedure

What we did

- The department manager met with sales representatives from major companies to try out the efficacy of the items and negotiate a bottom line
- By utilising the WHO check list, with the Endoscopist communicating to the team prior to the procedure the plan or 'schemes of manoeuvre', allows preparation of required items only and avoids accidental equipment wastage

Impact

- Savings of £20,000 to date
- The 'cost avoidance' when borrowing kit from the neighbouring Endoscopy unit
- All members of staff are now conscious of the high cost of key items and refer to them as the 'Gucci kit.'
- Raising awareness of associated costs has the advantage of ensuring that these items are looked after correctly and not simply discarded or stored inappropriately
- Knowing what is in stock and our re-supply timings ensures equipment is always available when required
- Overall savings across the Trust.....'priceless'!



Example four: 5S endoscopy store room - Portsmouth Hospitals NHS Trust

Problem

- Unable to find items readily – which could be particularly problematic in an emergency
- Lots of wasted time spent searching for stock lines - this typically would take three hours per week of band 2 from the decontamination room and 4-5 hours of endoscopy band 4 or 5.
- No space in the storage area for new deliveries coming into the unit (how often were items/cages waiting on the corridor before being able to be moved?)
- Procedure rooms not stocked up appropriately as a result – often leading to delays being incurred to lists. Staff had to familiarise themselves with the different layouts of the five suites before a list could commence.

What we did

- Acknowledged we had a problem and looked toward 5S training to enable the team to implement the vigour of building safety into our consumable processes
- Utilised time during a 'quiet' holiday period to remove everything from the storage room and put back in order according to frequency of use and expiry date, labelling items and considering optimum inventory levels required
- Implemented racking systems with colour coding and labelling
- Erected a white board for messages of stock required to be included on the next order

Impact

- Our stocktake has shown we now hold £60k less inventory then prior to 5S in our room
- We have reduced the times we run out of stock items in the procedure rooms as a result by 95%
- We have reduced the time searching for stock - equating to prompter starting times and saving of 15 hours per month of a band 2 to 5.



Example five: Redesign for flow – administration areas Portsmouth Hospitals NHS Trust

Problem

- Inadequate office space for administrative team – forcing them to split physically into different locations and separate fractions as a team
- Every time a telephone query came through to the main office to change appointments, the booking team had to walk ten metres to locate the diary, find an alternative appointment and return to the office – taking at least three minutes each time
- Poor team spirit and support due to physical split of staff
- Poor communication between individuals as a result
- Unsafe racking for patient medical files
- Cramped reception area resulting in a cluttered receiving desk greeting patients upon arrival
- 3,200 appointments p.a. required rebooking

What we did

- Process mapped and spaghetti mapped the administration process
- Considered how lean principles could be incorporated into the immediate work area
- Held open and honest discussions about what roles were necessary in which areas – based on work content and sequencing rather than individual whim
- Redesigned the main office, reception area and second office with an eye for ‘flow’ in the physical layout to support the administrative processes
- Made use of an adjacent office housing the research team and swapped the physical location of the booking team to repatriate all A&C staff

Impact

- By removing inadequate filing cabinets in the main office, we freed up 12 metres² of floor space. This allowed a complete change around of personnel desks – with two more desks and workstations being incorporated into the area
- There is less time wasted walking between offices – saving 64km (37 miles) of wasted motion and 9,600 mins per annum (seven days) of band two/three time
- Communication regarding team roles and workload is enhanced on a daily basis as there are more opportunities for the team to discuss priorities and redistribute work within the same office to suit the demands of the day
- Morale is improving, and there are a number of processes currently under review which are expected to improve the teams function further.



Example six: Work cell design for the unsedated upper gastrointestinal patient - Portsmouth Hospitals NHS Trust

Problem

- The unsedated upper GI pathway had inherent delays built into the process as patients waiting for these procedures were mixed with patients waiting for other procedures/pathways
- Poor patient flow leading to disgruntled patients
- Unnecessary delays built into administrative and nursing processes

What we did

- Walk through the patient journey to manually collect data on timings for each process step and observe interactions at each step
- Value stream mapping to identify the minimum and maximum time taken for each step
- Handoff diagram to identify the number of staff-to-staff interactions
- Spaghetti mapped the UGI patient journey through the department
- Identified the bottlenecks (rate limiting steps that resulted in delays)
- Identified the following through data collection:
 - 22 steps were identified
 - Total patient journey time (lead time) ranged from a minimum of 52 min to a maximum of 375 min
 - Only nine steps were considered to be value adding and of these, only five considered essential on the day of procedure
 - Value adding time ranged from 24 to 90 min, giving a value/lead ratio of 24% to 46%
- The current state map was reengineered to a lean thinking system, increasing time spent on value adding aspects of care whilst reducing waste
- The pathway was piloted for two months with continual data collection

Results

- Reduced administration within the department
 - Introduction of:
 - Home consent forms
 - Health questionnaire
 - Information leaflets.
 - Dedicated paperwork designed to avoid repetition
 - Fast-track flowchart-based admission process to the department
- Patients route change to a 'cellular' model with reduced patient and staff travelling distances
 - Removed need for recovery suite pre-procedure observation performed in endoscopy theatre (post procedure observations only as required non-sedated procedure)
 - Discussion of results and discharge moved from the end of the process to immediately after the procedure in the procedure room, or in a waiting area immediately outside the procedure room
- Patients discharged directly from the endoscopy theatre/ante-room with their report
- Increased patient/endoscopist interaction time
 - Review of patient's medical questionnaire and indications for referral undertaken by the endoscopist prior to the procedure, instead of at admission by admitting nurse
 - The discussion of the results is now undertaken by the endoscopist instead of the discharge nurse

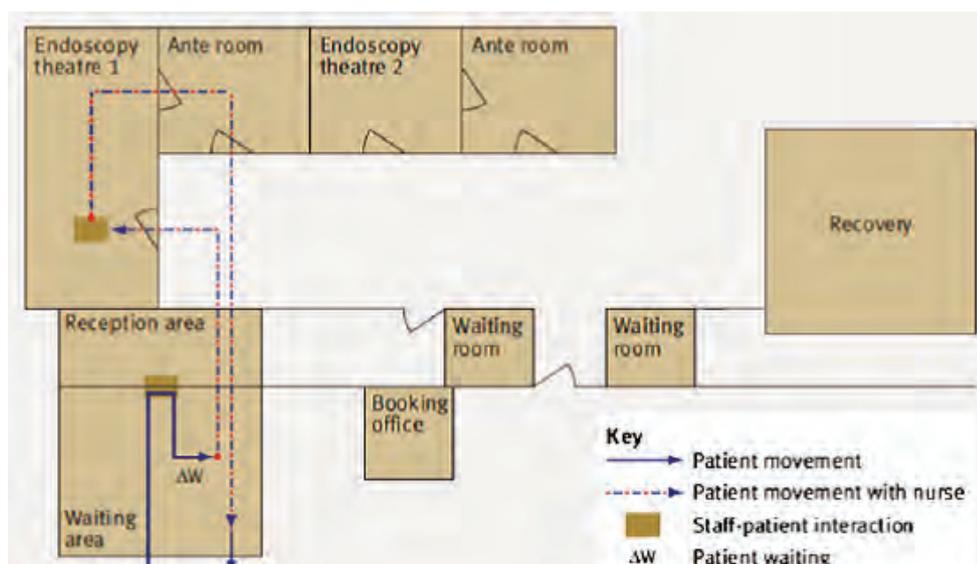
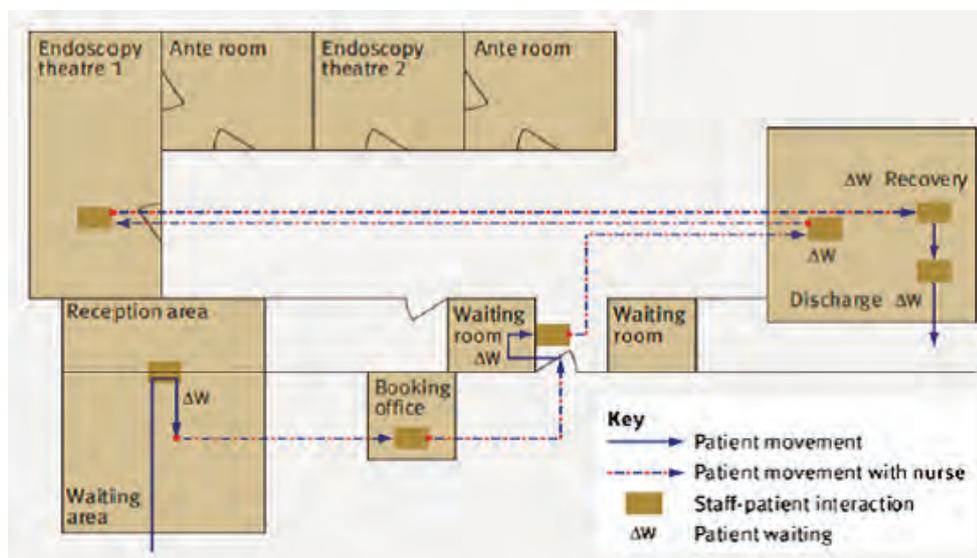
Impact

- Reduced staffing requirements by 25%
- Reduced the number of bottlenecks from five to three
- Reduced the number of steps in the pathway by 50% (from 22 to 11)
- Increased performance in terms of 'work flow'
- Reduced administration costs
- Increased patient focussed care
- Reduced complaints from patients regarding 'waiting'
- Increased the time the endoscopist spent with the patient
- Removed the need for a recovery unit
- A patient satisfaction survey was undertaken to ascertain the direct impact to quality from a patient's perspective. This showed high levels of patient satisfaction (95%) with both the process and the outcome
- Increased staff engagement by involving everyone in the redesign

The data:

	Traditional		Lean	
	Min	Max	Min	Max
Value added time (mins)	24	90	16	39
Non-value time (min)	28	284	13	41
Waiting time (min)	21	275	13	41
Lead time (min)	52	375	29	80
Value/lead time (%)	46	24	55	49

Spaghetti Mapping before and after changes



Lessons learned

- When project work involves removing cupboards it may be necessary to 5S and then 5S again after the facilities work is completed
- If the area is small, don't have too many people involved in the physical work
- Remember the facilities department will have other commitments so book them as soon as possible
- There may be delays from the suppliers of the plastic storage boxes so order well in advance
- Do not underestimate the amount of room needed for the red tag area

Plan – milestone checklist

Move on to **Do** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Chosen an area	
Decided on a team	
Played the 5S game with the team	
Talked to the executive leader and the facilities department	
Recorded how the area currently looks and its functions	
Identified the main tasks carried out in the area	
Understood how the area is actually used	
Agreed a clear goal and put in place ways to measure it	
Communicated the plans	
Reviewed ideas that have worked	
Looked for ideas from other areas within your organisation	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

4. *Do: Sort – Set – Shine*



A reminder of the 5S process

During the do stage of the module the team will work through the first three steps of 5S:

- **Sort**
- **Set**
- **Shine.**

The 5S steps

1. **Sort** – remove what is not needed
2. **Set** – right thing in the right place
3. **Shine** – keep things ready to go
4. **Standardise** – an agreed, consistent process
5. **Sustain** – continually improve

Sort

Work and storage areas in endoscopy units tend to evolve over time. More often than not things just accumulate; they are not used very often or are being kept 'just in case' or for 'training'.

Cluttered and messy work areas are not just an eyesore, they waste:

- Time searching for things
- Space.

In some cases, areas have such a build-up of clutter they become a health and safety risk. Sorting makes you get rid of unnecessary items.

“Be ruthless. If you haven't used it in a while, get rid of it!”

The process

Use the 5S inventory sheet to record the location and quantities of every item in the area. As you log each item put a tag (or sticky note) on it, so that you know you have accounted for it.

The 5S inventory sheet is available as part of the toolkit.

5S Inventory Sheet							
							
Inventory sheet number: _____							
Department:				Area:			
		Current			Proposed		
Ref #	Item description	Location	Quantity	Cost	New location	Quantity required	Cost

Do not skip this! It is important you are able to produce evidence of the savings this process can generate.

The inventory sheet provides evidence of your change and becomes your bargaining chip. It is especially relevant for 5S activities where stock reduction and freeing up space is a priority.



You will be asked again and again how much you saved. It is important to have a record of what you took out and what you put back.



2. Identify two zones near the area where you are implementing 5S.

This could be in the same room or just outside. Each of the areas needs to be at least the size of a desk as the team will use them to sort through the contents of the area. Label the areas:

- Remove / definitely go
- Can't decide.

3. For every item on the inventory sheet, ask the following questions:

Do we really need it?

- What is it used for?
- How often do we use it?
- When did we last use it?
- Is it still valid (in-date, relevant, latest issue)?

Based on your answers, put each item into one of the following groups:

- Must stay
- Remove / definitely go
- Not sure.

Use a green highlighter to mark off the items you decide to keep

Use a red / pink highlighter to mark off the items that you are removing

Use a yellow highlighter to mark off the items you are unsure about

Put all the remove (red) and not sure (yellow) items into your designated areas.

“Don't be put off or daunted by pulling everything out. This process can take a very long time, in some areas a lot of stuff has accumulated over a long time.”

“A good time to do 5S is at the weekend when the endoscopy unit is quieter or during audit days as areas aren't being used.”

“Remember involvement of clinical team members requires planning and to cancel other commitments generally requires a notice period of a minimum six weeks.”



What to do next with the items

Green

- Move on to **set** stage



Red

- As many items as possible should be given to other areas or returned to stores
- Anything broken or expired should be disposed of following hospital waste and recycling policy
- Add up the money your team has saved on the inventory sheet, this includes items that have been returned to stores or given to another area



Yellow

- Store these items in a safe place for one month
- Only re-introduce these items if someone has requested them

Communicate the time frame avocation widely to ensure everyone has a chance to review these items

Sort – milestone checklist

Move on to **Set** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Played the 5S game (if there are new team members)	
All items in the chosen area recorded on an inventory sheet	
All items have been discussed with the team and each item tagged as either must stay, unsure or definitely go	
All items marked 'definitely go' have been removed or returned	
All items marked 'unsure' have been safely stored away	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

Set

Time is wasted searching for things. Setting means you will not spend time looking for something that is not there. Having a place for everything means that you can easily:

- See what you need when you need it
- See if something is missing
- Maintain these standards (once you standardise).

The process

- Group items by use / frequency of use / size, to reduce time spent collecting items used for the same or similar purposes
- Work with the team to identify the best locations for each item – so you do not standardise in the wrong place! Use your spaghetti diagrams to help you do this
- Decide a new layout to trial
- Use visual management techniques to make the new locations of items clear – use labels, coloured tape, photographs or colour-coding
- Communicate the changes to all staff who use the area to prevent it taking even longer to find something because it now has a different (though fixed) location. Remember to include colleagues from other departments who also use the area or invite them along to the area so you can explain what you have done and why
- Place a feedback sheet in the area for staff to write their comments – especially those who have not participated to make them feel involved

“A colleague re-did a big store room on their own. The changes were not sustained because none of the staff using the room were involved in making the changes.”

Using spaghetti diagrams to help set an area

Spaghetti diagrams are ideal to help decide how to set an area. You may have already created a spaghetti diagram of how the room is currently used as part of your plan stage. Here is an example of what you need to do:

- Draw out or obtain a plan drawing of the area your team is working on
- Plot a member of staff using the area on the plan by marking where the person moved
- This can be done by following the staff member or by watching the video you made during the plan stage
- Measure the distance travelled and write it on the plan.

Use your spaghetti diagram to:

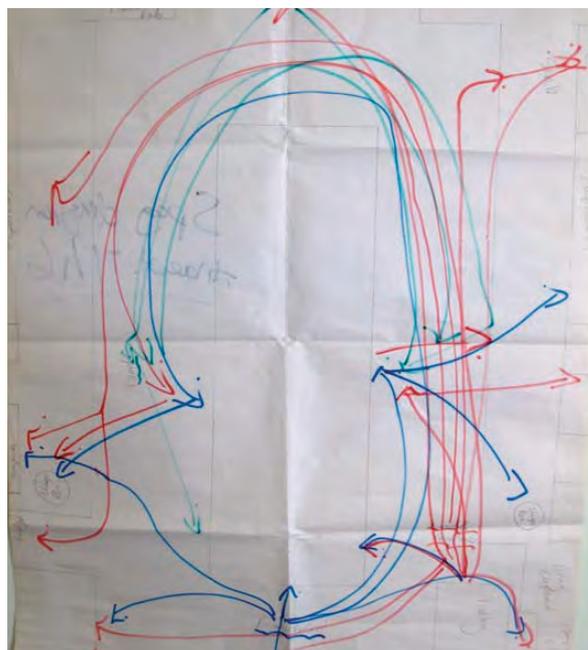
- Work with the team to create a better way of setting out the room so movement is reduced
- Plot the new layout and its impact on the users of the room in a different colour on the plan, as below.

Remember, you do not work in a two dimensional world

It is easy when working with spaghetti diagrams to forget the world is not flat. It is important to set your area by considering how the area works vertically, not just horizontally.

Rules for setting items:

- Fast moving items close to the door
- Heavy items stay close to the floor
- Slow moving items towards the back
- Lighter items go higher in the stack.



Additional considerations

- Frequently used items should be closer to where you need them
- Items used together should be kept together
- Items may need to follow safety guidelines with regards to temperature, light and ventilation
- Your new layout must comply with manual handling standards

Marking locations: make the locations of items clear using visual management. This can be done by using coloured tape, photographs or colour-coding.

Infection control: always check with infection control about the use of tape. Explain it is a temporary measure and ensure that, as soon as possible and when staff are happy, the markings are made permanent.

Visualisation – the three-second rule

Use visual management to achieve the three-second rule as you implement 5S in your area. Your goal is to communicate the status of an area or process to any individual so that they can understand it within three seconds.

Working with this aim in mind helps guide and direct activities to keep communications clear and simple.

Example of good 5S and visual management



“This means everyone using the area will be able to see within three seconds what they require.”



Set – milestone checklist

Move on to **Shine** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Played the 5S game (if there are new team members)	
Items grouped by use, frequency of use or size	
Best location for each item identified using spaghetti diagrams	
New layout decided	
New locations for equipment marked as suggested	
Changes to the area communicated to all staff	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

Shine

Now that all of the items in your chosen area have been set, you and your team can clean to create a work area to be proud of.

Remember, if there are any new team members you need to play the 5S game with them.

The key principles of shine

1. Infection control: follow your hospital guidelines to establish the best cleaning tools and procedures for your chosen area.
2. Cleaning shows the outside world that you and your team are in control of the chosen area.
3. Getting stuck in while cleaning allows for close inspection of the area. This helps to highlight any faults.

“Take the opportunity to get medical equipment repaired and ready for use before placing back into the shined area.”

The process

- **Clean** the area thoroughly involving as many people as possible, e.g. unit staff, senior staff.
- **Ensure** your cleaning follows hospital policy with regards to infection control.
- **Talk** to external people, e.g. materials management, pharmacy, if you would like their help in getting something regularly restocked.
- **Talk** to estates if you think major changes need to be made to a room, e.g. removal of sinks, additional outlets.
- **Keep** equipment ready to go:
 - understand current maintenance schedule and responsibility for equipment
 - restock and standardise equipment such as the emergency stack trolley.
- **Agree** who will help to maintain the area and the equipment on an on going basis.
- **Senior** leadership should be on the schedule at least once a month.

“[on seeing the recently 5s'd store room] “I thought I'd died and gone to heaven.”

Nutrition Nurse, Whipps Cross Hospital

TIP: Prepare the team for likely frustrations – such as delays in minor estates work and consumables, e.g. new storage boxes.

Shine – milestone checklist

Move on to **Study** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Played the 5S game (if there are new team members)	
Target area cleaned	
Talked to estates if needed	
Talked to external people if needed	
Broken equipment repaired	
All equipment made ready to go	
Roles and responsibilities of new cleaning plan discussed with the team	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

5. Study – the new layout

What are we studying?

- Do the changes make any difference?
- Are staff following the changes?

Before the test starts

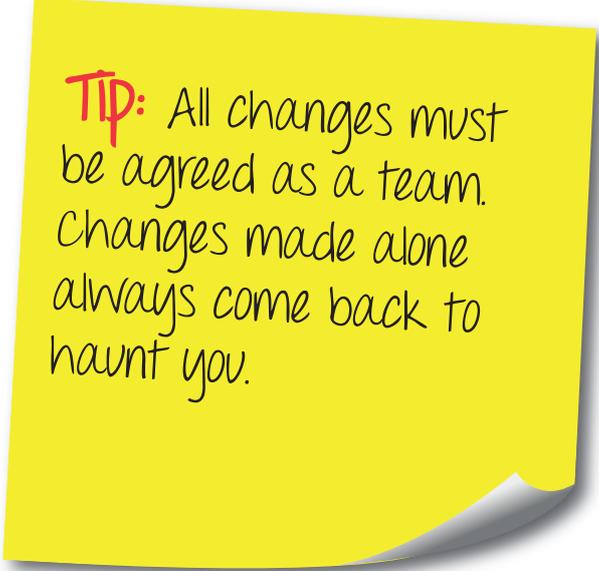
- Determine the period for the test. It should be:
 - Long enough to allow failures
 - Short enough to change and retest.
- Identify additional temporary data collection methods as required, e.g. five minutes at an endoscopy team meeting or by leaving flipcharts up in the area to collect feedback.
- Set the start and end dates of the testing period.
- Inform all staff personally at endoscopy team meetings or at audit sessions, post notices on your Productive Endoscopy unit notice boards and put messages in your unit message book.
- Agree the audit checklist, see the Sustain section.

During the test

- Run both regular and random audits.
- Get daily feedback from staff and patients on how they feel the new layout is working.
- Take 'after' photos and video during the test period.
- Invite visitors from senior leadership as appropriate to view the new layout and complete an audit checklist.

Evaluate your results

- Review audits to see if the test has been successful.
- Review feedback from staff as well as the before and after photos and videos.
- Decide where there are still opportunities for improvement and if there are additional changes that can be made to the area, for example:
 - A piece of equipment kept in the area that was not used
 - The layout can still be improved.
- Update or complete a new inventory sheet. Compare this with the first inventory sheet to work out the difference in the number of items held in the area and their value.
- Assess the impact in terms of time:
 - Repeat the timings you made in the prepare section and communicate the time saved.



TIP: All changes must be agreed as a team. Changes made alone always come back to haunt you.

Study – milestone checklist

Move on to **Act** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Decided on the test period	
Communicated with all staff	
Audit checklist agreed and responsibility assigned	
Audits reviewed	
Feedback from staff reviewed	
Before and after photos and videos reviewed	
Inventory sheet updated and savings identified	
Additional opportunities for improvement discussed and decided upon	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

6. Act: Standardise - Sustain

Standardising work increases quality and efficiency. Having standards will make it easy for staff, particularly new and agency staff, to see how things are done.

Standardising is about:

- Agreeing the standard
- Documenting the agreement
- Communicating the standard
- Visualising the agreement where appropriate
- Following the standard
- Auditing to ensure the standard is followed by everybody.

Clear, well-communicated standards are the foundations of sustained changes.

“Remember this whole 5S process will take time to get right, don't stop after the first three!”

The process

- Decide what needs to be done on a regular basis to maintain the area and how often you will do it.
- Use this information to write standard procedures. Standards can be presented in many forms, for example:
 - Visual aids
 - Photos
 - Worksheets.
- Agree who will do the audit on an on going basis.
- Communicate new standards to all staff.

“Make sure everyone is aware of the changes or more time will be wasted looking for the moved items. Use all means of communication: boards, communication books, notices and the department message book.”

Example 1: communication

*This room has undergone 5S!
'A place for everything and everything in its place'*

What is 5S?

We have used what is often called the 5S model. This is a set of questions that help you think about organising the work environment, sorting a room, trolley, desk or piece of equipment.

Sort – do we need it?

Set – position things so that everyone knows where to find them.

Shine – clean the area.

Standardise – agree, communicate, document and follow.

Sustain – use as part of daily routine and continually improve.

Why 5S?

We want to make sure you have what you need, where you need it and when you need it!

Less time spent looking for equipment and information means more time spent with patients.

What have we changed?

Stock has been reduced.

Time to restock and to lay-up has been reduced.

Shelving units have been revised, only information (policies and procedures) which are relevant and up to date are now stored.

Notice boards have been reviewed. Information displayed is structured, up to date and relevant. The **layout of the room** has been improved. The working environment is more productive and functional.

We welcome your comments and suggestions to make this work environment more efficient! Thank you for your cooperation.

The Productive Endoscopy Unit team.

Standardise – milestone checklist

Move on to **Sustain** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Played the 5S game (if there are new team members)	
Decided what needs to be done on a regular basis and how often	
Agreed which staff will maintain the standard	
Standard procedures and checklists written	
New standards communicated to the entire endoscopy team	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

Sustain

You and your team have now sorted, set, shined and standardised your chosen area. This area will now help you deliver care to your patients instead of hindering you.

This last S is the hardest S of all.

To ensure all your hard work does not come to nothing, you need to ensure the new area is sustained. This is not reliant on hard work and vigilance but on a scheduled audit system designed and agreed with your team. Sustain moves 5S from being just a project to being part of everyday endoscopy unit life.

Audits are for life not just for Christmas...

The process

- Develop a 5S audit sheet as a team
- Create an audit planner. Agree who will do the audits on an ongoing basis – try to involve as many people as possible, e.g. a rotating list of staff
- Perform regular 5S audits
- Display and communicate audit results

Recovery	Procedure Room	Scope/Store Room	Wash Room	Other Room
	 <p>Left Out: O² Specs Mouthguard Incontinence pads Biopsy forceps Snares Wipes & Lancer</p> <p>Understocked: O²Specs Yankeurs</p> <p>Other Issues: Fridge sensor left out Stack not switched off Computer not switched off Out of date water left out Head of bed left out Unused argon probe left open - £80.00 Loss</p>			 <p>Left Out: Gloves Banders</p>

“Just setting the standard is not enough. Auditing the facilities must become part of everyday life in your department. If you want to maintain the benefits of 5S, never stop auditing.”

“The staff may lose interest if no-one is regularly checking the audit tools. It’s important the audit structure is maintained. Record comments such as “Well done!” for encouragement.”

Ensuring the audits are completed – audit planner

Using the audit planner (see the Toolkit) will show who needs to do an audit, when audits should be completed and whether audits are completed on planned days. The audit planner should be displayed in a prominent position within the area.

“Make sure whichever audit tool you choose, it is simple. Complicated charts will only discourage staff from using them.”

How can I make 5S stick?

Monitor and audit continually

- Conduct a daily audit on the areas to ensure the changes made are being followed.
- Discuss how often audits should be done and by whom (it is often best to rotate the auditor) - see toolkit example.

Do not stop improving

- Get your executive leader or equivalent to participate in auditing and regular maintenance of areas that have undergone 5S.
- If you are an endoscopy leader discuss audit results with endoscopy staff at least once a month at the weekly review meeting - see the Knowing How We Are Doing module.
- Ensure changes made are brought to the attention of the executive leader and senior leadership.

Maintain the standard

- Encourage endoscopy staff to continue to find newer and better ways of doing things – it is not about doing this once and then applying standard operating procedures, but about continually improving.
- Standard operating procedures can be used to make sure the changes are maintained and to create an endoscopy manual.

Sustain is the most difficult part of 5S. Persevere – it will be worth it!

If the change is not working:

- Discuss with those involved
- Re-sort
- Re-set
- Re-shine
- Re-standardise
- Re-sustain.

Sustain – milestone checklist

Move on to start 5S in a new area only if you have completed **all** of the items on this checklist

Checklist	Completed?
5S audit sheet developed	
Audit planner created and responsibilities agreed	
Regular 5S audits in place	
Audit results communicated	

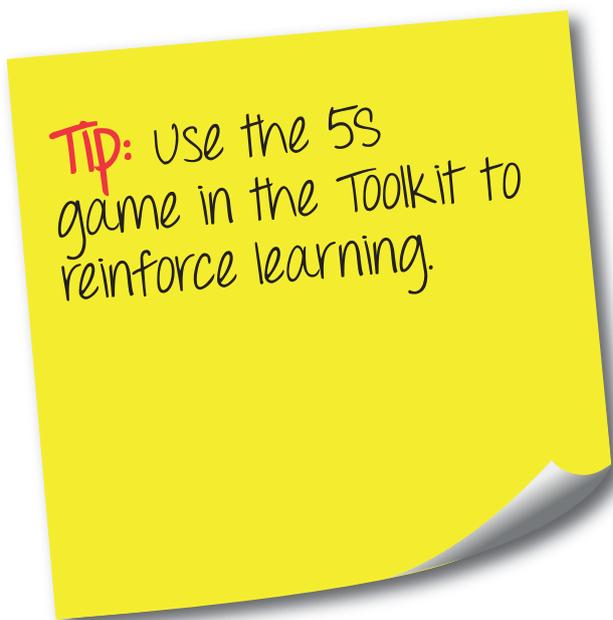
Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

7. Learning objectives complete?

Learning objectives were set at the beginning of this module. Test how successfully these objectives have been met by asking three team members the questions in the table on the following page. Ask the questions in the first column and make an assessment against the answer guidelines in the second column.

The results of this assessment are for use in improving the facilitation of this module and are not a reflection of staff aptitude or performance. If all three team members' responses broadly fit with the answer guidelines then the learning objectives of the module have been met.

Note the objectives where the learning has only been partly met and think about how you can change the way you approach the next module so the objectives are fully met. It sometimes helps to re-read the module and reflect on the experiences in implementing the module first time around.



Question (ask the team member)	Answers for outcome achieved
Why do we use the 5S process?	<ul style="list-style-type: none"> • Structured way to create an ideal workplace • Reduces time wasted looking for things • Makes the endoscopy unit an easier and safer place to work in • The endoscopy department will look and feel better • Saves space • Removes the seven wastes • Creates clear standards for areas
How does 5S eradicate the seven wastes?	<ul style="list-style-type: none"> • Reduces level of stock held • Places items in defined areas • Lays out rooms around their intended use • Reduces time spent finding equipment • Standardises the changes • Sustains through continuous audit
What is visual management and how is it used in the Well Organised Unit?	<ul style="list-style-type: none"> • Helps staff find items of equipment in three seconds • Uses pictures, symbols and colours instead of words • Marks out areas, stock levels, locations
Define standard work and how it is used to save time and make things easier	<ul style="list-style-type: none"> • There is an agreed and understood way of doing things • Key to sustaining new well organised endoscopy process • Records the best known (highest quality) way the team know the well organised endoscopy process
How have you made better use of space and reduced the amount of stock stored?	<ul style="list-style-type: none"> • By setting out areas • Only stocking what is required • Removed unessential items
Why are standards and audits necessary to sustain improvements?	<ul style="list-style-type: none"> • Ensures people are carrying out the new well organised endoscopy process • Maintains momentum • Helps embed new ways of working into everyday practice • Based on the standard created by the team

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