HESAS

HEALTHCARE ENVIRONMENTAL SERVICES AUTOMATION SOICETY

Laundry Management

V0.1

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HESAS EMS Standards Document

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Message from the chairman

It is vividly evident that the world witnessed the worst public health and economic crisis due to COVID-19 pandemic. This inevitably mobilized the international community to act seriously and swiftly. However, the mortalities and morbidities induced by healthcare-acquired infections (HAI) are equally fatal, but the international community did not act similarly. Consequently, we are continuously and chronically suffering from HAI.

The current intervention for HAI is merely based on passively-set standards and enforcing these standards via regulatory agencies such as the centre for disease control and prevention (CDC), joint commission international (JCI), ministries of health, and other regulatory agencies. To efficiently address HAI, we inevitably need to mobilize the international community because HAI traverses a multitude of epistemological dimensions, requiring multidisciplinary tacit knowledge, and mandates active international collaboration. Besides, we believe that we can efficiently traverse deeply into the root-causes and solution landscapes by automating the entire healthcare environmental services and infection control within healthcare institutions using the latest advancements in computational epistemology, computational infection control models, computational epidemiological models, artificial intelligence, machine learning, distributed ledger technology, collective intelligence, cognitive technologies, internet of things, ubiquitous technologies, intelligent micro-measurement frameworks, artificial life, evidence-based program implementation, patient-centric care, strategy anchored execution, and symbiotic healthcare ecosystem services. Consequently, we developed these open standards that were tailored from diverse international standards to promote the automation of healthcare environmental services and infection control processes and best practices.

The Healthcare Environmental Services Operational Map (HESOM) and other standards were developed to efficiently leverage multidisciplinary experts and practitioners to contribute towards the eradication of HAI-induced mortalities and morbidities. Using ReXcels research and innovation environment, we cultivate collective intelligence by bringing together these multidisciplinary experts to iteratively develop these standards and adaptively support the innovation of computational technology that automates the execution and enforcement of these standards. As such, we cordially invite you to use these documents and participate actively in the further development of these standards to significantly reduce HAI-induced mortalities, morbidities, and their enormous negative economic externalities.

Hamid Adem
Interim Chairman, and Chief R&D Officer

Change Control

Version:	Date:	Changes:

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1 Laundry Management

Purpose

1 Purpose

1. PURPOSE

The aim of this policy is to ensure that all personnel involved in the management, handling and laundering of soiled linen are aware of the correct procedures to minimize infection risk and to foster cleanliness. Furthermore, highest degree of physical and mental health is guaranteed to the social well-being of laundry workers.

This process is based on international well acclaimed standards like:

- *NHS- National Health Services Standard*
- *OSHA- Occupational Safety and Health Administration standard*
- *CDC- Centers for Disease Control and Prevention standard*
- *Lean six sigma- Quality Standard*
- *JCI- Journal of Clinical Investigation standard*
- *JCAHO- Joint Commission on Accreditation of Healthcare Organizations (JCAHO)*
- *EPA- US Environmental Protection Agency*
- *HCAHPS - Hospital Consumer Assessment of Healthcare Providers and Systems*
- *HIPA- Health Information Privacy Act standard.*

*P.S: This Laundry Management process is a derivation from **ESM (Environmental Service Map),** which is a holistic and a comprehensive model for Environmental Services Management.*

2

Laundry Management

Structure of the Document

2 Structure of the Document

2. STRUCTURE OF THE DOCUMENT

The Laundry Management process document comprises the following chapters:

Chapter–3: *Scope*: This chapter describes the scope of the document and the Laundry Management.

Chapter–4: *General Assumptions*: This chapter describes the underlined assumptions made for both the document and Laundry Managementprocess.

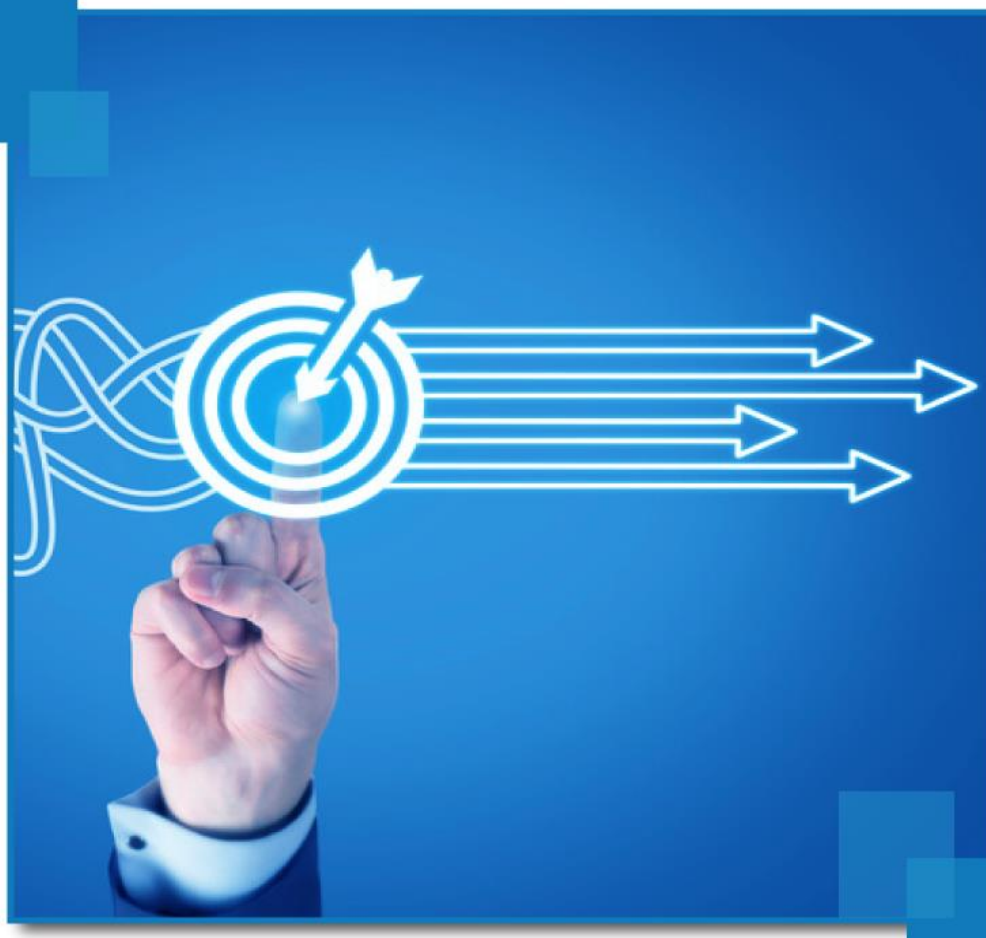
Chapter–5: *Laundry Management Framework***:** This chapter exhibits the interaction of Laundry Managementprocess with other related processes.

Chapter–6: *Laundry Management Process***:** In this chapter Laundry Managementprocess and sub processes (if any) will be depicted and specified using rigorous BPMN and process specification templates.

Chapter–7: *References***:** This chapter serves as a prime reference to Laundry Managementprocess and presents the details supporting it in tabular formats. The chapter describes relevant Business Rules, Risks, Quality Attributes, Data Quality Dimensions, Operation Policies, KPIs, CTQs, Abstract Time-scales and SLAs terms specific to Laundry Management process.

3 Laundry Management

Scope



3 Scope

3. SCOPE

This process is applicable to all the employees of Environmental Services Department.

4 Laundry Management

General Assumptions

4 General Assumptions

4. GENERAL ASSUMPTIONS

Following are the general assumptions made for this process:

- Laundry Service process used automated tools to facilitate its operation.
- Senior Management is committed towards quality of services.
- The roles defined in all processes within this document can be attached to the existing position e.g. marketing Manager Role can be attached to Sales Manager.
- Any activity related assumptions are explicitly identified in related Process Specification table in Chapter 6.

5

Laundry Management

Laundry Management Framework

5 Laundry Management Framework

5.1 Laundry Management Interactions

The following depiction shows the points of interaction of Laundry Management process with other related processes/ entities. The arrows moving into Laundry Management process signifies the inputs from the other processes/ entity to Laundry Management Process, and the arrows moving out of the Laundry Management process signify the inputs from Laundry Management process to other related processes.

5.2 Laundry Management Process Sequence

The Laundry Management process comprises of following high level sequence of processes:

1. **Establish Laundry Management**
2. **Collection of Linen**
3. **Storage and transportation**
4. **Cleaning Process**

5. **Establish MSD prevention program**
6. **Quality of Service**

Laundry Management process follows sequential steps mentioned below (**Section 5.2.1-5.2.4**). **Section 6.1** Process Model sheds more light on the flow of this process.

5.2.1 Establish Laundry Management

This process involves establishing:

- **Laundry management team members**: This would establish reasonable accountability for this process.
- **Roles and responsibilities**: this would identify as what is the capacity of roles to be played by each member of the team.
- **Laundry Management policy**. This comprises of policy, procedures and method involved in management of Laundry at the environmental services department.
- **Training**. This identifies training and awareness plans for those who are involved in this process.

5.2.2 Collection of Linen

This involves following:

- **Point of collection**: This comprises of :
  - Linen Cleaning request by customer: For example a staff sends his apron to clean.
  - Prescribed time for cleaning: For example curtains should be cleaned after every six month as per the Laundry policy.
- **Handling of Linen**: All the used linen should be placed into appropriate colour coded container (as per the policy) as soon as possible after removal.
- **Categorization of Linen**: the linen should be categorized as follows:

Type	Description	Handling Method
Disposable Linen	Linen which can be used only once	Disposal bag
Used	Routine used linen	White nylon/ plastic bag

Soiled (infected)	Linen that is wet or faecal	Red nylon/ plastic bag

5.2.3 Laundry Transportation

This comprises of:

- **Internal Transportation**: The trolley used for transportation of Laundry bags should be a dedicated trolley, and should be disinfected regularly.
- **External Transportation**: the containment area of the van used should be disinfected, and equipped with spill kits.

5.2.4 Cleaning Process

This comprises of following identifying the prescribed cleaning method for each type of linen and in accordance with the method performing:

- Mechanical Washing
- Drying (tumble drying)
- Ironing

5.2.5 Establish MSD prevention program

MSD is a term for injuries and disorders that affect our musculoskeletal system (i.e. muscles, tendons, ligaments, nerves, discs, and blood vessels). Work-related MSDs are caused or aggravated by various hazards present in the workplace. Few examples of MSD are as follows:

- Sprains and strains of muscles, ligaments and tendons (eg shoulder muscle strain leading to rotator cuff tear)
- Back injuries, including damage to the muscles, tendons, ligaments, spinal discs (eg ruptured discs), nerves (eg sciatica), joints and bones
- Joint injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet
- Bone injuries (eg fractures)
- Nerve injuries (eg carpal tunnel syndrome of the wrist)
- Soft tissue hernias (eg abdominal hernias)
- Muscular and vascular disorders as a result of hand-arm vibration (HAV)

This comprises of following phases:

5.2.5.1 Establishing Strategic foundation

This comprise of following:

- **Set objectives.** This involves establishing broad objectives depending on the needs of organization. Objectives could relate to legislative compliance, reducing the costs, MSD incidents, improving productivity, operational efficiency or a combination of these and other factors.
- **Clear Commitment:** All levels of management need to clearly communicate that they are committed to preventing MSDs in the workplace.
- **Resources availability:** Supervisors and workers should know that real efforts are being made to reduce exposures to MSD hazards and that resources will be allocated to make any necessary changes.

5.2.5.2 Categorizing hazards

Typically the MSD hazard can be classified as following:

- **Force**
  When a task requires them to exert a level of force that is too high for any particular muscle, it can damage the muscle or the related tendons, joints and other soft tissue.

  This damage can occur from a single movement or action that requires the muscles to generate a very high level of force. However, more commonly, the damage results when muscles generate moderate to high levels of force repeatedly, for a long duration, and/or while the body is in an awkward posture. Some job tasks result in high force loads on different parts of the body. For example, lifting a heavy load that is far from the body increases the load on the lower back. This can potentially damage both the spinal discs and the vertebrae.
- **Fixed or Awkward Postures**
  The farther a joint moves towards either end of its range of motion, or the farther away from the neutral posture, the more awkward or poor the posture becomes and the more strain is put on the muscles, tendons and ligaments around the joint. For example, when arms are fully stretched out, the elbow and shoulder joints are at the end of their range of motion. If the worker pulls or lifts repeatedly in this position, there is a higher risk of injury.
- **Repetition**
  The risk of developing an MSD increases when the same parts of the body are used repeatedly, with few breaks or chances to rest. Highly repetitive tasks can lead to fatigue, tissue damage, and, eventually, pain and discomfort. This can occur even if the level of force is low and the work postures are not very awkward.

- **Other MSD Hazards and Workplace Factors**

Other MSD hazards and workplace factors that should be considered include:

- Contact stress
- local or hand-arm vibration
- Whole-body vibration
- Cold temperatures
- hot work environments
- Repeated impacts
- Work organization, and work methods

5.2.5.3 Performing Initial MSD assessment

This comprises of following:

- **Checklist.** Checking the current status of MSD prevention awareness and implementation in the laundry worker. This comprises of performing assessment via a set of question "initial assessment checklist". This idea behind this step is to see if there are missing basic elements and furthermore, to help identify opportunities to strengthen existing program.

Appendix C provides a sample checklist.

- **Reviewing records.** This comprises of reviewing accident and injury record and performing verbal discussions with laundry workers, supervisors and managers. Common sources of such information include:
  - Injury records and trends
  - Incident and hazard reports
  - Issues raised by Check Inspectors, OHS committee members, deputies, employees, permanent and intermittent contractors

5.2.5.4 Conduct detailed MSD assessment

Based on the initial MSD assessment results, MSD detailed assessment might be conducted to identify MSD hazards. This comprises of following utilizing a general MSD hazard identification tool to identify which hazards are present, and take input from the laundry workers and staff with regards to the daily hazards that they encounter while performing their routine laundry job.

Appendix D provides a tool for General MSD hazard identification.

5.2.5.5 Establishing Priority

The next step is to prioritize their hazard identification findings to help determine the priority level for further action. This step can help workplaces determine which findings are of extremely high priority to address and which may require no further action except to continually monitor for any changes in status.

Appendix E shows a table for prioritizing hazard findings

5.2.5.6 MSD Hazard Root Cause

This involves using a fish bone structure for determining root cause of the hazards. This method can be useful in helping identify where something may be going wrong, or be improved. Such a diagram is typically the outcome of a brainstorming session where problem solvers can offer suggestions. The main goal is represented by the trunk of the diagram, and primary factors are represented as branches. Secondary factors are then added as stems, and so on. Creating the diagram stimulates discussion and often leads to increased understanding of a complex problem.
Causes are usually grouped into major categories to identify the sources of problem. The categories typically include:

- **Human**: Anyone involved with the process
- **Process**: How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws.
- **Equipment**: Any equipment, computers, tools etc. required to accomplish the job
- **Materials**: Raw materials, parts, pens, paper, etc. used to produce the final product
- **Environment**: The conditions, such as location, time, temperature, and culture in which the process operates.

Following points can be considered in each of the category:

Process

- Length of time allotted to tasks e.g., cleaning clothes.
- Machine paced tasks. E.g. cleaning using washing machine
- Duration of task e.g. ironing clothes.
- Variety of tasks
- Production/quality standards
- Communication between staff within the department

Equipment

- Working height e.g., how tall is the ironing board.
- Location of controls and/or displays

- Operation of the controls e.g the washing machine controls are easy to operated
- Mobility of washing machine
- Location of the laundry units
- Association with other equipment
- Insufficient adjustability
- Maintenance requirements of the machines

Materials

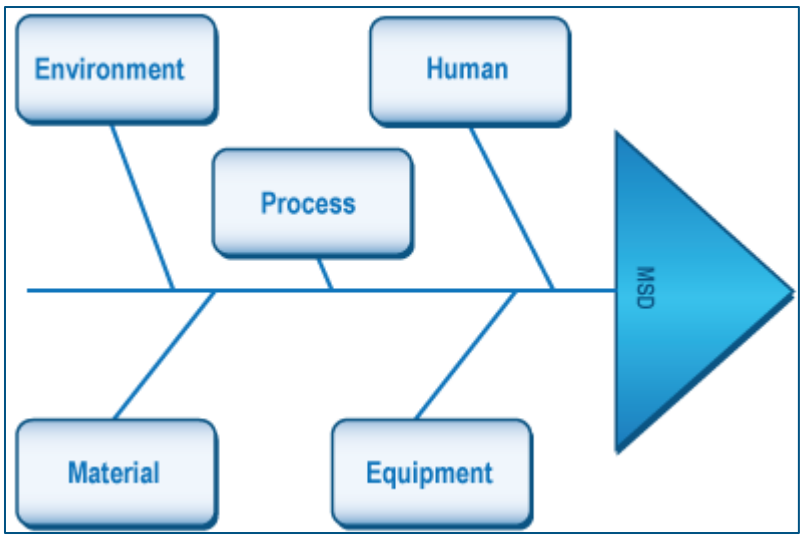
- Packaging
- Weight and dimensions of clean laundry
- Storage location
- Quality

Environment

- Working space
- Overcrowding
- Temperature of the laundry cleaning unit
- Flooring
- Housekeeping

Human

- Insufficient training on techniques/processes
- Insufficient supervision /coaching
- Production pressures and demands
- Inappropriate response to reports of MSD related concerns
- Differences in work methods/techniques
- Inconsistent use of equipment/controls that help reduce MSD risk



This comprises of following steps:

Step 1: Write down the specific MSD hazard you are concerned about to help focus the group.

Step 2: Ask why the MSD hazard exists – and identify the category on the worksheet

Step 3: For each answer, ask why again, and continue to do this until the group reaches consensus that the root cause has been identified.

5.2.5.7 Choose and implement MSD hazard controls

This phase comprises of choosing the hazard controls based on the brainstorming. Following are some solutions which can be undertaken for each category:

- **Process**: Following solution can be used to address process categories:
  - Job enlargement and/or task rotation between workers
  - Improve communication between workers performing task
  - Self-paced tasks, time allows for micro-breaks in between
  - Improved work/material flow by process redesigning
  - Improve communication between departments
  - Timely response to reported defects, equipment breakdown, product/tool/equipment damage

- Adequate staffing resources to handle workloads

- **Materials:** Following solution can be used to address materials categories:
  - Items weight should be taken into consideration for the organization of stock on shelves
  - Reduce use of sub-standard and poor quality materials
  - Lifting weight in manageable weights
  - Purchase materials in bulk containers
  - Redesign packaging to include handles and ease of lifting
  - Store materials in areas that are easy to access
- **Equipment:** Following solution can be used to address equipment categories:
  - Provide mechanical lifts, hoists, conveyors, motorized carts
  - Improved workstation design to facilitate its operation
  - Chair adjustability (sit/stand, height adjustable)
  - Perform preventative maintenance
  - Perform regular inspections
  - Provide space for workers to move
  - Allow unconstrained postures
  - Provide material handling equipment for moving materials
- **Environment:** Following solution can be used to address environment categories:
  - Redesign layout to provide space for movement and required job tasks
  - Improve housekeeping
  - Comfortable working temperature using coolers, air conditioning and warmers.
  - Provide anti-fatigue matting
- **Human**: Following solution can be used to address Human categories:
  - Training laundry staff on :
    - Signs & symptoms of MSD
    - MSD hazard awareness
    - How to report MSDs/MSD hazards
    - Work techniques and processes to avoid MSD
  - Reinforce need for use of equipment/controls that help reduce MSD risk
  - Improved communication from supervisors
  - Support for early reporting of concerns
  - Personal protective equipment (in-soles, knee pads, anti-vibration gloves)
  - Production pressures and demands

Appendix F provides tips that can be considered to remove various categories of MSD.

5.2.5.8 Follow up and evaluate success of MSD prevention program

This comprises of verifying whether the MSD hazards have been reduced or not. This comprises of:

- **Walk through surveys**. Making surveys and enquiring of the workers as to verify that the control is working (less pain, working as expected, no other hazards introduced)
- **Inspections**. This comprises of performing audits and inspections.
- **Record keeping**. Keep records of hazard identification, risk assessment and control processes to help meet regulatory requirements and ensure that MSD risks in performing manual task issues are being managed

Follow-up again after some time has passed to see if the control is still effective and to consider cost benefit issues.

5.2.5.9 Communicate results and acknowledge success.

This comprises of conveying the success of the program to all staff, and recognizing individual efforts undertaken to prevent MSD in the workplace

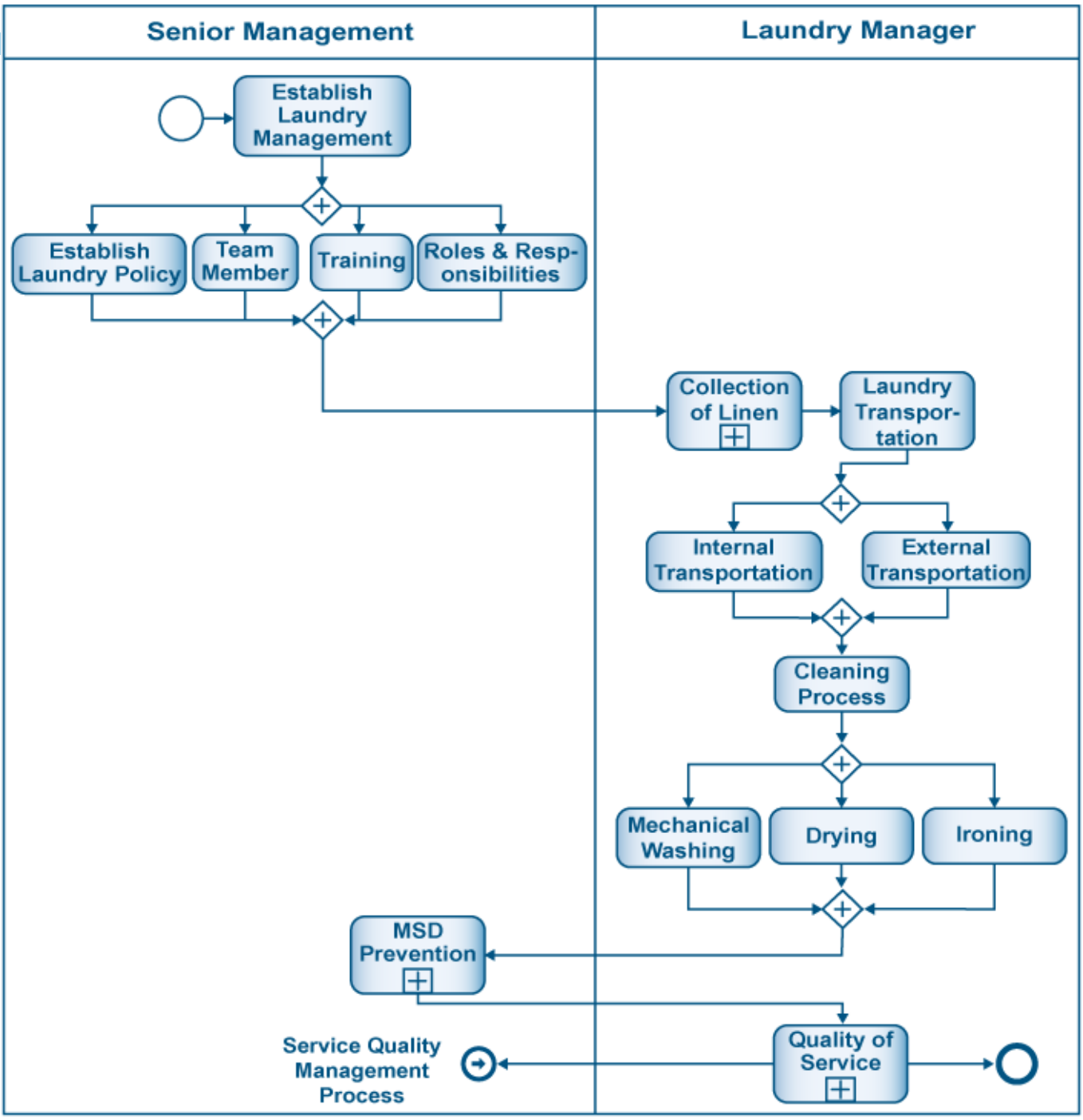
5.2.6 Quality of Service

The quality if this Service is managed as per the Service Quality management process.

Laundry Management Process

6 Laundry Management Process

6.1 Laundry Management – Process



6 Laundry Management Process

6.2 Laundry Management – Specification

Specification	Description
Summary/Purpose	The purpose of this process is to establish Laundry Management process.
Scope	This is a level 1 Process Specification.
Primary Reference	• National Health Standard
Related ESM Practices	Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management
Related Business Driver	Service performance improvisation
Related Operational Policies	OP-001, OP-002, OP-003 (Ref 7.5)
Assumptions	Senior Management Support exists.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	Link1, Link 2, Link 4, Link 5
Raw Materials	Washing Detergent, Nylon bags (colored), Plastic Bags
Equipment & Accessories	Washing Machines.

6 Laundry Management Process

MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)
EBC Procedures	None
Timing Dimensions	<table><tr><th>Type</th><th>Normal</th></tr><tr><td>Average</td><td>30 min</td></tr><tr><td>Std</td><td>12 min</td></tr></table>
Trigger	• Period event
Basic Course of Event	**Laundry Management** 1. Senior Management establishes Laundry Management (establish laundry policy, team member, roles & responsibilities) 2. Laundry Manager collection of Linen 3. Laundry Manager performs laundry transportation (internal as well as external transport) 4. Laundry Manager performs cleaning process (mechanical washing, Drying and ironing). 5. Senior Management establishes MSD hazards prevention program 6. Laundry manager ensure quality if service. 7. End
Alternative Path	None
Exception Path	**System Down** 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End.
Extension points	Service Quality Management process, Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management

6 Laundry Management Process

Preconditions	The cleaning facility is available.
Post -conditions	Laundry Management process is established.
Related Business Rules	BR-001, BR-002, BR-003, BR-004, (Ref 7.1)
Related Risks	RR-001, RR-002, RR-003, RR-004, RR-005 (Ref. 7.2)
Related Quality Attributes	Reliability, Availability, Accountability, Performance, Auditability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Reputation, Objectivity, free of error, Relevance, completeness, timeliness (Ref 7.4)
Related Primary SLA Terms	TBD (Ref 7.9)
Related KPIs	DR, CR, MHR, RCIR, MHPR (Ref 7.6)
Related CTQs	DRV,CRV, MOM, PWOM, CTQ, IOM, TOM, WRM, DRM, MHRV, RCIRV, MHPRV (Ref 7.7)
Actors/Agents	Senior Management, Laundry Manager
Delegation	Delegation Rule -1: Agent Not Available 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation Delegation Rule -2: Agent Overloaded 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation
Escalation	Rule 1: Performance or operational or legal Issues 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1

6 Laundry Management Process

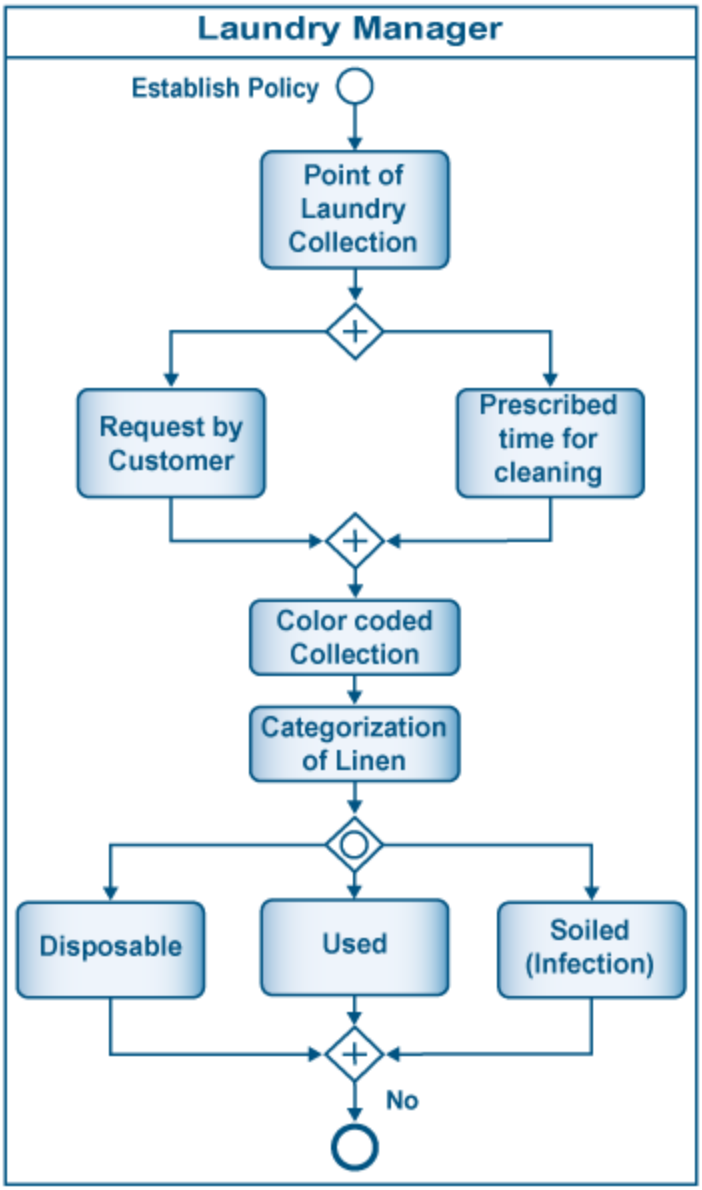
Process Model	Section 6.1
Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain of Infection Appendix c: sample checklist Appendix d: general hazard identification tool Appendix e: hazard priority table Appendix f:tips for preventing msd

6.3 Laundry Management - Roles and Responsibilities

Roles	Responsibilities
Laundry Manager	• Senior Management establishes Laundry Management (establish laundry policy, team member, roles & responsibilities) • Senior Management establishes MSD prevention program
Senior Management	• Laundry Manager collection of Linen • Laundry Manager performs laundry transportation (internal as well as external transport) • Laundry Manager performs cleaning process (mechanical washing, Drying and ironing).

6 Laundry Management Process

6.4 Sub Process – Collection of Linen



6 Laundry Management Process

6.5 Sub Process – Collection of Linen Specification

Specification	Description
Summary/Purpose	The purpose of this process is to establish process for collection of Linen.
Scope	This is a level 2 Process Specification.
Primary Reference	• National Health Standard
Related ESM Practices	Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management
Related Business Driver	Service performance improvisation
Related Operational Policies	OP-001 (Ref 7.5)
Assumptions	Senior management support is available to this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	Link1, Link 2, Link 4, Link 5
Raw Materials	Washing Detergent, Nylon bags (colored), Plastic Bags
Equipment & Accessories	Washing Machines.

6 Laundry Management Process

MSD Management	Lifting/carrying, Disability, Force, Loaded motion , Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)
EBC Procedures	None
Timing Dimension	<table><tr><th>Type</th><th>Normal</th></tr><tr><td>Average</td><td>30 min</td></tr><tr><td>Std</td><td>12 min</td></tr></table>
Trigger	• Establish Policy
Basic Course of Event	**Laundry Management** 1. Laundry Manager identifies points of laundry collection which comprises of cleaning request by customer as well as those linen whose prescribed cleaning time has arrived 2. Laundry Manager color codes the linen 3. Laundry Manager categorizes the linen into disposable or used or soiled (infected) 4. Ends.
Alternative Path	None
Exception Path	**System Down** 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End.
Extension points	Establish MSD prevention program
Preconditions	Laundry Policy has been established.
Post -conditions	Laundry collection process gets formulated.
Related Business Rules	BR-002 (Ref 7.1)
Related Risks	RR-003 (Ref. 7.2)

6 Laundry Management Process

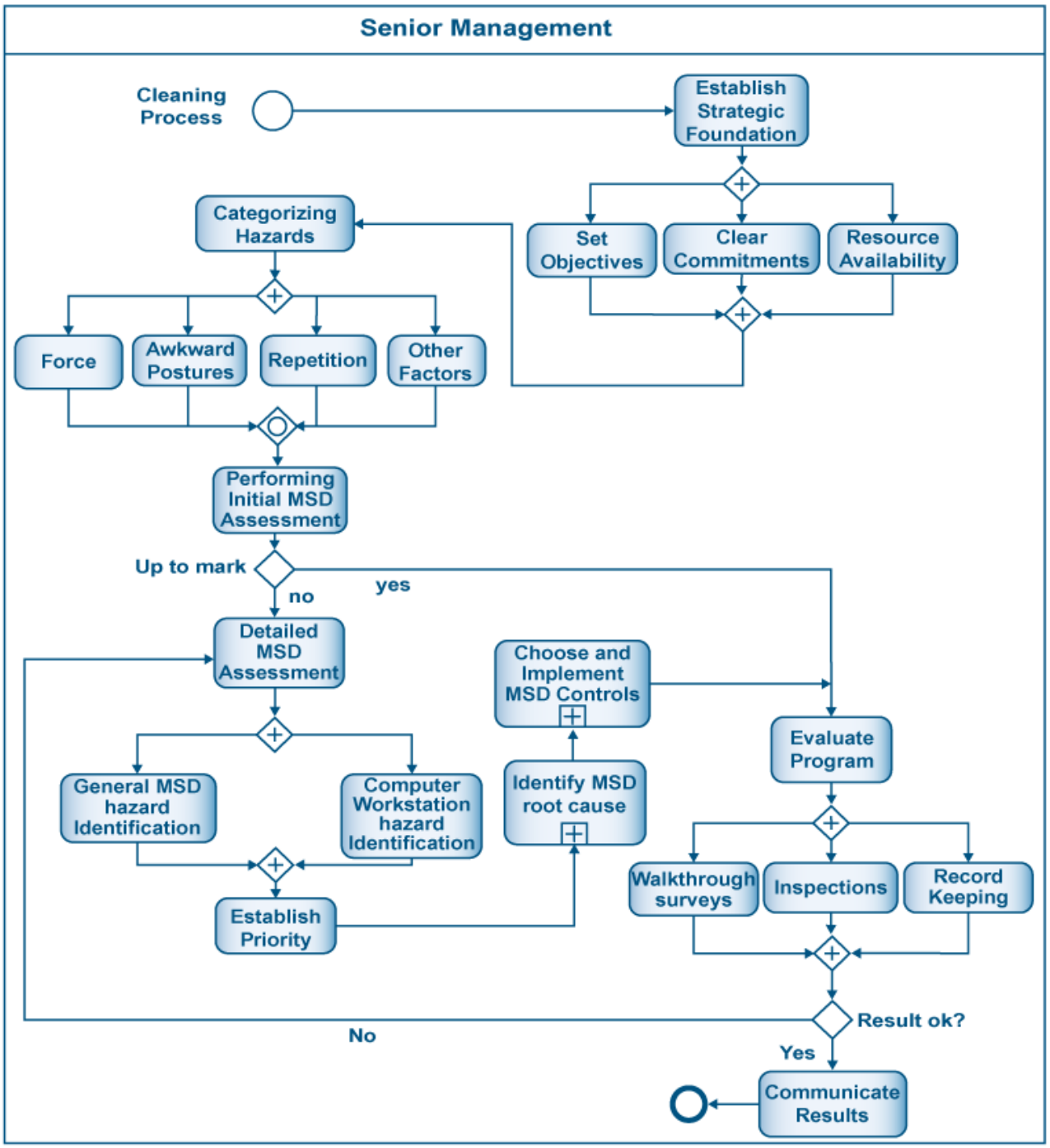
Related Quality Attributes	Reliability, Availability, Accountability, Performance, Auditability, non repudiation (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Reputation, Objectivity, free of error, Relevance, completeness, timeliness, Value added, Believability (Ref 7.4)
Related Primary SLA Terms	TBD (Ref 7.9)
Related KPIs	CR (Ref 7.6)
Related CTQs	CRV (Ref 7.7)
Actors/Agents	Laundry Manager
Delegation	Delegation Rule -1: Agent Not Available 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation Delegation Rule -2: Agent Overloaded 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation
Escalation	Rule 1: Performance, operational legal Issues 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.4
Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain of Infection

6.6 Sub Process – Collection of Linen Roles and Responsibilities

Roles	Responsibilities
Laundry Manager	• Laundry Manager identifies points of laundry collection which comprises of cleaning request by customer as well as those linen whose prescribed cleaning time has arrived • Laundry Manager color codes the linen • Laundry Manager categorizes the linen into disposable or used or soiled (infected)

6 Laundry Management Process

6.7 Sub Process – Establish MSD Prevention Program



6.8 Sub Process – Establish MSD Prevention Program Specification

Specification	Description
Summary/Purpose	The purpose of this process is to establish standard process for establishing MSD prevention program.
Scope	This is a level 1 Process Specification.
Primary Reference	• OSHA
Related ESM Practices	Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management
Related Business Driver	Ensure better safety of employees
Related Operational Policies	OP-002, OP-003,(Ref 7.5)
Assumptions	Senior Management Support exists.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

6 Laundry Management Process

<table>
<tr><td>Equipment & Accessories</td><td>Automated System for laundry Management</td></tr>
<tr><td>MSD Management</td><td>Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)</td></tr>
<tr><td>EBC Procedures</td><td>None</td></tr>
<tr><td>Timing Dimension</td><td>
<table>
<tr><th>Type</th><th>Normal</th></tr>
<tr><td>Average</td><td>30 min</td></tr>
<tr><td>Std</td><td>12 min</td></tr>
</table>
</td></tr>
<tr><td>Trigger</td><td>• Cleaning process</td></tr>
<tr><td>Basic Course of Event</td><td>Establish MSD Program
1. Senior Management establishes strategic foundation which comprises of setting objectives, clear commitments and resource availabilities.
2. Senior Management categorizes MSD hazards into categories (force, awkward postures, repetition, and other factors)
3. Senior Management performs initial MSD assessment which comprises of checklist and records reviews.
4. Senior Management evaluates program which comprises of walkthrough surveys, inspections, record keeping.
5. Senior Management communicates results to the staff and management.
6. End</td></tr>
<tr><td>Alternative Path</td><td>Establish MSD Program (detailed MSD assessment)
1. Senior Management establishes strategic foundation which comprises of setting objectives, clear commitments and resource availabilities.
2. Senior Management categorizes MSD hazards into categories (force, awkward postures, repetition, and other factors)</td></tr>
</table>

	3. Senior Management performs initial MSD assessment which comprises of checklist and records reviews. 4. Senior Management performs detailed MSD assessments 5. Senior Management establishes priority 6. Senior Management identifies MSD root cause 7. Senior Management choose and implement MSD controls 8. Senior Management evaluates program which comprises of walkthrough surveys, inspections, record keeping. 9. Senior Management communicates results to the staff and management. 10. End **Establish MSD Program (result not okay)** 1. Senior Management performs detailed MSD assessments. 2. Senior Management establishes priority 3. Senior Management identifies MSD root cause 4. Senior Management choose and implement MSD controls 5. Senior Management evaluates program which comprises of walkthrough surveys, inspections, record keeping. 6. Senior Management communicates results to the staff and management. 7. End
Exception Path	**System Down** 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End.
Extension points	Quality of service
Preconditions	There exists a capability at environmental Services department to monitor the performance of OSH
Post -conditions	MSD hazards get reduced.
Related Business Rules	BR-003, BR-004 (Ref 7.1)

6 Laundry Management Process

Related Risks	RR-004 ,RR-005(Ref. 7.2)
Related Quality Attributes	Reliability, Usability, Data Integrity, Non-repudiation, Accountability, Performance, Auditability, Service reliability, confidentiality, authenticity, availability, non repudiation, testability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Objectivity, Relevance, Completeness, timeliness, Understandability, interpretability, Reputation, Objectivity, Free-0f Error, Relevance, Completeness, Timeliness, Concise Representation (Ref 7.4)
Related Primary SLA Terms	TBD (Ref 7.9)
Related KPIs	MHR, RCIR, MHPR (Ref 7.6)
Related CTQs	MHRV, RCIRV, MHPRV (Ref 7.7)
Actors/Agents	Senior Management
Delegation	Delegation Rule -1: Agent Not Available 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation Delegation Rule -2: Agent Overloaded 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation
Escalation	Rule 1: Performance or operational or legal Issues 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.7

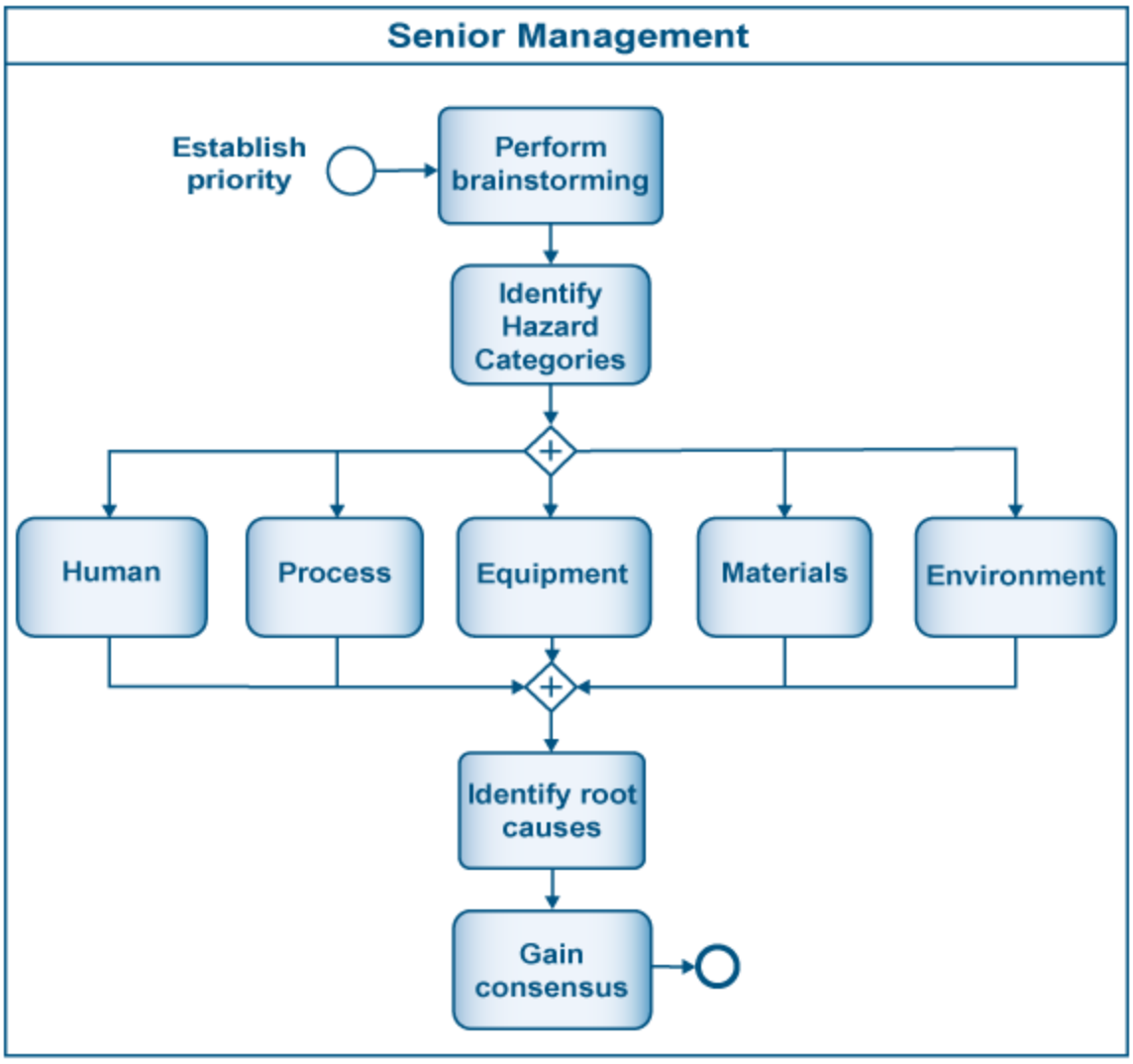
6 Laundry Management Process

Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain of Infection Appendix C: Sample Checklist Appendix D: General Hazard Identification Tool Appendix E: Hazard Priority Table Appendix F:Tips For Preventing MSD

6.9 Sub Process – Establish MSD Prevention Program Roles and Responsibilities

Roles	Responsibilities
Senior Management	• Senior Management establishes strategic foundation which comprises of setting objectives, clear commitments and resource availabilities. • Senior Management categorizes MSD hazards into categories (force, awkward postures, repetition, and other factors) • Senior Management performs initial MSD assessment which comprises of checklist and records reviews. • Senior Management performs detailed MSD assessments which comprises of general MSD hazard identification and computer workstation hazard identification. • Senior Management establishes priority • Senior Management identifies MSD root cause • Senior Management choose and implement MSD controls • Senior Management evaluates program which comprises of walkthrough surveys, inspections, record keeping. • Senior Management communicates results to the staff and management

6.10 Sub Process – Identity MSD Root Cause



6.11 Sub Process – Identity MSD Root Cause Specification

Specification	Description
Summary/Purpose	The purpose of this process is identifying MSD root causes.
Scope	This is a level 2 Process Specification.
Primary Reference	• Lean waste minimization • Six sigma quality model • OSHA
Related ESM Practices	Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management
Related Business Driver	Service quality improvisation
Related Operational Policies	OP-002 (Ref 7.5)
Assumptions	Senior Management Support exists.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None
Equipment & Accessories	Automated System for laundry management

6 Laundry Management Process

<table>
<tr><td>MSD Management</td><td>Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)</td></tr>
<tr><td>EBC Procedures</td><td>None</td></tr>
<tr><td>Timing Dimension</td><td><table><tr><th>Type</th><th>Normal</th></tr><tr><td>Average</td><td>30 min</td></tr><tr><td>Std</td><td>12 min</td></tr></table></td></tr>
<tr><td>Trigger</td><td>• Establish priority</td></tr>
<tr><td>Basic Course of Event</td><td>Identify MSD root cause
1. Senior Management performs brainstorming sessions
2. Senior Management identifies the hazard for categories (human, process, equipment, materials, environment)
3. Senior Management identifies the root cause for the hazards
4. Senior Management gains consensus.
5. End</td></tr>
<tr><td>Alternative Path</td><td>None</td></tr>
<tr><td>Exception Path</td><td>System Down
1. Keep paper track until system is up and running
2. Update the System and clear all logs.
3. End.</td></tr>
<tr><td>Extension points</td><td>Choose and implement MSD control</td></tr>
<tr><td>Preconditions</td><td>There exists a capability at environmental Services department to monitor the performance of this process.</td></tr>
<tr><td>Post -conditions</td><td>Root cause of hazard is identified.</td></tr>
<tr><td>Related Business Rules</td><td>BR-003 (Ref 7.1)</td></tr>
</table>

6 Laundry Management Process

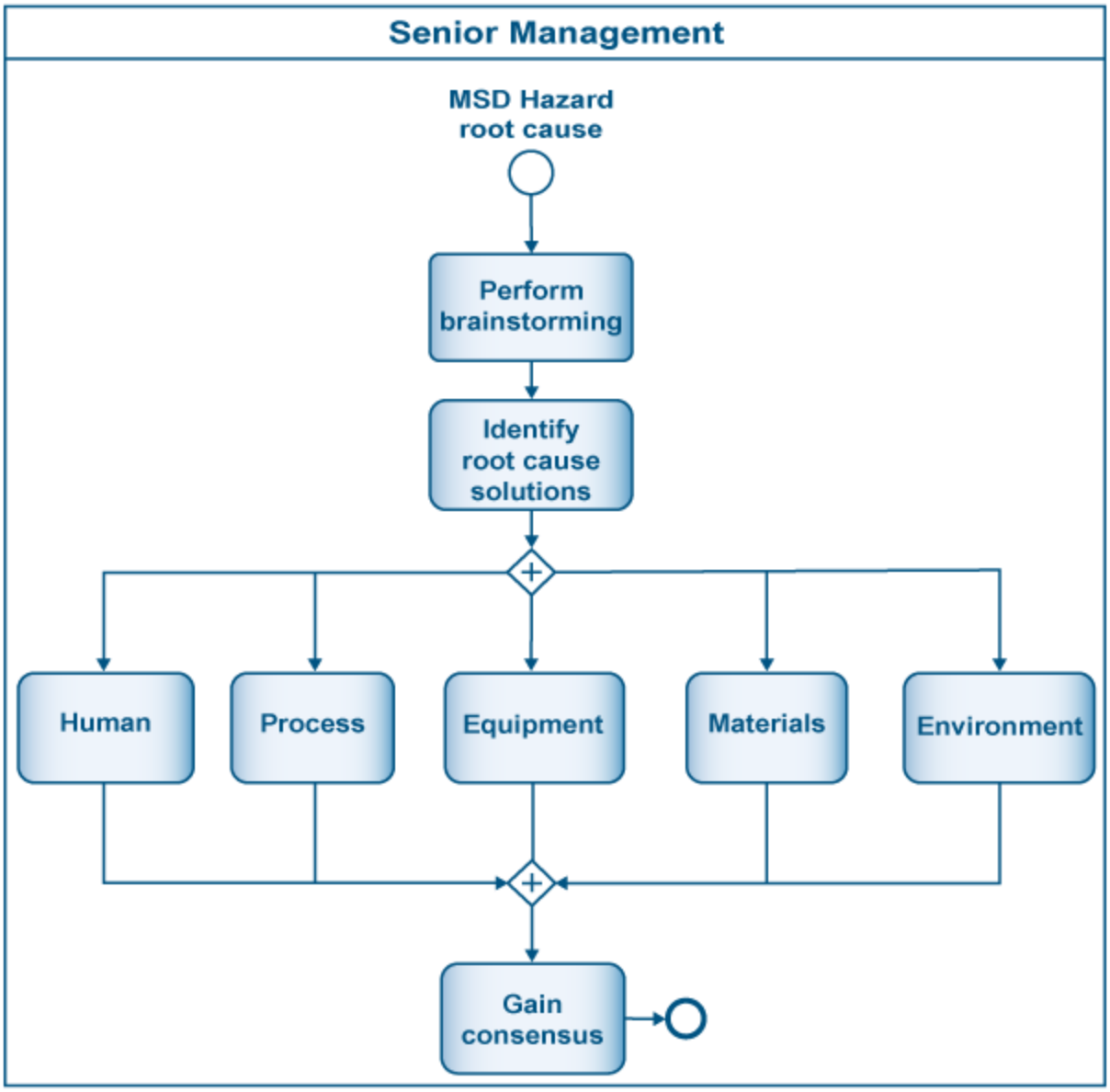
Related Risks	RR-004 (Ref. 7.2)
Related Quality Attributes	Reliability, Usability, Data Integrity, Non-repudiation, Accountability, Performance, Auditability, Service reliability, confidentiality, authenticity, availability, non repudiation, testability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Objectivity, Relevance, Completeness, timeliness, Understandability, interpretability, Reputation, Objectivity, Free-0f Error, Relevance, Completeness, Timeliness, Concise Representation (Ref 7.4)
Related Primary SLA Terms	TBD (Ref 7.9)
Related KPIs	RCIR (Ref 7.6)
Related CTQs	RCIRV (Ref 7.7)
Actors/Agents	Senior Management
Delegation	Delegation Rule -1: Agent Not Available 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation Delegation Rule -2: Agent Overloaded 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation
Escalation	Rule 1: Performance or operational or legal Issues 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.10

Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain of Infection

6.12 Sub Process – Identity MSD Root Cause Roles and Responsibilities

Roles	Responsibilities
Senior Management	• Senior Management performs brainstorming sessions • Senior Management identifies the hazard for categories (human, process, equipment, materials, environment) • Senior Management identifies the root cause for the hazards • Senior Management gains consensus.

6.13 Sub Process – Choose and Implement MSD Controls



6.14 Sub Process – Choose and Implement MSD Controls Specification

Specification	Description
Summary/Purpose	The purpose of this process is choose and implement MSD controls
Scope	This is a level 2 Process Specification.
Primary Reference	• Lean waste minimization • Six sigma quality model • OSHA
Related ESM Practices	Transportation Management, Quality Management, Service Strategy & planning, Maintenance Management, Waste Management, Project Management, Infection Management, Activity Based Management, House Keeping Management
Related Business Driver	Service quality improvisation and reduction of MSD hazards
Related Operational Policies	OP-003 (Ref 7.5)
Assumptions	Senior Management Support exists.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

6 Laundry Management Process

<table>
<tr><td>Equipment & Accessories</td><td>Automated System for Laundry B management</td></tr>
<tr><td>MSD Management</td><td>Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)</td></tr>
<tr><td>EBC Procedures</td><td>None</td></tr>
<tr><td>Timing Dimensions</td><td><table><tr><th>Type</th><th>Normal</th></tr><tr><td>Average</td><td>30 min</td></tr><tr><td>Std</td><td>12 min</td></tr></table></td></tr>
<tr><td>Trigger</td><td>• Identify MSD hazard root cause</td></tr>
<tr><td>Basic Course of Event</td><td>Choose and Implement MSD controls
1. Senior Management performs brainstorming sessions
2. Senior Management identifies root cause solutions for the hazard categories (human, process, equipment, materials, environment)
3. Senior Management gains consensus.
4. End</td></tr>
<tr><td>Alternative Path</td><td>None</td></tr>
<tr><td>Exception Path</td><td>System Down
1. Keep paper track until system is up and running
2. Update the System and clear all logs.
3. End.</td></tr>
<tr><td>Extension points</td><td>Evaluate program</td></tr>
<tr><td>Preconditions</td><td>There exists a capability at environmental Services department to monitor the performance of this process.</td></tr>
<tr><td>Post -conditions</td><td>Root cause of hazard is implemented.</td></tr>
</table>

6 Laundry Management Process

Related Business Rules	BR-004(Ref 7.1)
Related Risks	RR-005 (Ref. 7.2)
Related Quality Attributes	Reliability, Usability, Data Integrity, Non-repudiation, Accountability, Performance, Auditability, Service reliability, confidentiality, authenticity, availability, non repudiation, testability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Objectivity, Relevance, Completeness, timeliness, Understandability, interpretability, Reputation, Objectivity, Free-0f Error, Relevance, Completeness, Timeliness, Concise Representation (Ref 7.4)
Related Primary SLA Terms	TBD (Ref 7.9)
Related KPIs	MHPR (Ref 7.6)
Related CTQs	MHPRV (Ref 7.7)
Actors/Agents	Senior Management
Delegation	Delegation Rule -1: Agent Not Available 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation Delegation Rule -2: Agent Overloaded 1. Delegate the Issue to additional Agent with same Role 2. Update the Issue 3. Log the Delegation
Escalation	Rule 1: Performance or operational or legal Issues 1. Escalate to environmental services department head. 2. Log Escalation

Process Map	Section 5.1
Process Model	Section 6.13
Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain of Infection

6.15 Sub process – Choose and Implement MSD Controls Roles and Responsibilities

Roles	Responsibilities
Senior Management	• Senior Management performs brainstorming sessions • Senior Management identifies root cause solutions for the hazard categories (human, process, equipment, materials, environment) • Senior Management gains consensus.

Reference

7 Reference

This chapter serves as a prime reference to Chapter 6 and presents the details supporting Chapter 6 in tabular formats. This chapter consists of various variable values which would frequently evolve or change as Laundry Management process matures or changes.

7.1 Business Rules

BR ID	Description	Context	Rule	Source
BR-001	After each transfer, the vehicle interior and trolleys must be disinfected	Business	NA	NA
BR-002	Laundries should be cleaned at least daily	Business	NA	NA
BR-003	All MSD hazard should be identified and prioritized	Business	TBD	TBD
BR-004	All the root causes of MSD should be identified	Business	TBD	TBD

7.2 Risk

Risk ID	Description	Source	Severity Level	Status	Resolution
RR-001	It is difficult to keep track of the item such as carpets, curtains which have a prescribed time of cleaning e.g 6 month etc.	NA	High	TBD	An automated system should exist where by all such linens should be tracked and monitored proactively.

RR-002	Cleaner susceptible to infections	NA	High	TBD	All cleaner should be properly trained in handling laundry.
RR-003	Linen might be mixed.	NA	High	TBD	The categorization should be done properly and monitored regularly.
RR-004	The MSD assessment results are not accurate	NA	High	TBD	Detailed assessment techniques should be undertaken. If needed MSD professional bodies should be contacted to perform assessment/
RR-005	Root cause for some MSD is not identified	NA	High	TBD	For those MSD for which root cause can't be identified there should be a work around solution identified until the cause is identified.

7.3 Quality Attribute

QA ID	Description	Threshold
QA-001	Interoperability	TBD
QA-002	Reliability	TBD
QA-003	Service Reliability	TBD
QA-004	Availability	TBD
QA-005	Usability	TBD
QA-006	Normal Usability Operations	TBD
QA-007	Confidentiality	TBD
QA-008	Authenticity	TBD

QA-009	Data Integrity	TBD
QA-010	Availability	TBD
QA-011	Non-repudiation	TBD
QA-012	Accountability	TBD
QA-013	Security Integration	TBD
QA-014	Performance	TBD
QA-015	Scalability	TBD
QA-016	Extensibility	TBD
QA-017	Adaptability	TBD
QA-018	Testability	TBD
QA-019	Auditability	TBD
QA-020	Operability and Deployability	TBD

7.4 Data Quality Dimension

DQ ID	Description	Threshold
DQ-001	Accuracy	TBD
DQ-002	Believability	TBD
DQ-003	Reputation	TBD
DQ-004	Objectivity	TBD
DQ-005	Free-of-Error	TBD
DQ-006	Value Added	TBD
DQ-007	Relevance	TBD

DQ-008	Completeness	TBD
DQ-009	Timeliness	TBD
DQ-010	Appropriate Amount	TBD
DQ-011	Understandability	TBD
DQ-012	Interpretability	TBD
DQ-013	Concise Representation	TBD

7.5 Operation Policy

Policy ID	Description	Context	Importance (1-5)
OP-001	Under no circumstances should colour-coded bags be opened in the laundry and laundry sorted	TBD	TBD
OP-002	Advanced MSD assessment should be undertaken if the results from initial MSD assessment are not accurate	TBD	TBD
OP-003	Root cause identification and implementation would be done only when a consensus is reached by the brain storming team.	TBD	TBD

7.6 KPI

Name	Acronym	Description	Context	Importance	Soft Threshold	Hard Threshold
Delivery rate	**DR**	Linen Delivery on time per month	NA	TBD	TBD	TBD
Compliance rate	**CR**	Percentage of compliance achieved per month	NA	TBD	TBD	TBD
Cleaning rate	**CLR**	Number of Linen Cleaned per month	NA	TBD	TBD	TBD
MSD hazards rate	**MHR**	Number of MSD hazard in the organization identified quarterly	NA	TBD	TBD	TBD
Root cause identification rate	**RCIR**	Number of hazards with root cause identified	NA	TBD	TBD	TBD
MSD hazard prevention rate	**MHPR**	Number of MSD hazard in the organization prevented quarterly	NA	TBD	TBD	TBD

7 Reference

7.7 CTQ

Name	Acronym	Description	Context	Importance	Soft Threshold	Hard Threshold
Motion Optimization Measure	**MOM**	Management of motion optimization measure	NA	TBD	TBD	TBD
Paper work Optimization Measure	**PWOM**	Management of Paper work Optimization Measure	NA	TBD	TBD	TBD
Correction reduction measure	**CRM**	Management of Correction reduction measure	NA	TBD	TBD	TBD
Inventory Optimization Measure	**IOM**	Management of Inventory Optimization Measure	NA	TBD	TBD	TBD
Transportation Optimization Measure	**TOM**	Management of Transportation Optimization Measure	NA	TBD	TBD	TBD
Waiting Reduction Measure	**WRM**	Management of Waiting reduction Measure	NA	TBD	TBD	TBD

Delays reduction measure	**DRM**	Management of delays reduction measure	NA	TBD	TBD	TBD
Delivery rate variance	**DRV**	Standard deviation of DR	NA	TBD	TBD	TBD
Compliance rate variance	**CRV**	Standard deviation of CR	NA	TBD	TBD	TBD
Cleaning rate variance	**CLRV**	Standard deviation of CLR	NA	TBD	TBD	TBD
MSD hazards rate variation	**MHR**	Standard deviation of MHR	NA	TBD	TBD	TBD
Root cause identification rate variation	**RCIR**	Standard deviation of RCIR	NA	TBD	TBD	TBD
MSD hazard prevention rate variation	**MHPR**	Standard deviation of MHPR	NA	TBD	TBD	TBD

7.8 Abstract Time – Scale

Name	Acronym	Description	Quantification
TBD	TBD	TBD	TBD

7 Reference

7.9 SLA Terms

SLA ID	Description	Context	KPI	CTQ
TBD	TBD	TBD	TBD	TBD

7.10 Voice of Customer

VOC	Customer	Description	Perceived Value
Hygiene	Doctors, Patients, Nurses, Housekeeping Supervisors, Housekeepers, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker.	The environment should be attributing with great hygiene level.	• High quality healthcare services • Safe environment • Low infection rate • Low risk
High and Consistent Quality of standards	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	High and Consistent Quality of standards.	• Reputation of organization or hospital • Professionalism • Trust • Positive psychological bias

7 Reference

Free of Infections	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	Infections free and healthy environment.	• Safe environment • Reputation of hospital or organization • Trust • Quick healing • Positive psychological bias • Low risk
Timely Services	Doctors, Patients, Nurses, Housekeeping Supervisors, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The response time for any request should be very short.	• Professionalism • Trust • Positive psychological bias • Reputation of hospital or organization • Safe environment
High Coordinating	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	There should be high level of coordination between hospital employees and departments.	• Professionalism • Trust • Low risk • Excellent Ergonomic
Remove Waste	Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors,	Wastes should be either removed or minimized.	• Safe environment • Low infection rate • Low risk

	Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers		• Reputation of hospital or organization • Low cost • Timely response • High quality
Excellent Ergonomic	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The hospital environment and policy should comply with physical, organization and cognitive ergonomics.	• Professionalism • Trust • Job accuracy • Excellent communication • Low risk • Reputation of hospital or organization
Safety	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	Hospital environment should comply with occupational health and safety procedures.	• Safe environment • Professionalism • Low risk
Appearance	Housekeeping Supervisors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker,	The appearance of the workers, supervisors and manager should induce positive biases.	• Professionalism • Reputation of hospital or organization • Trust • Positive psychological bias

	Waste management worker, Housekeepers		
Excellent Worker Attitude	Housekeeping Supervisors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The environment service employee should be free from negative attitudes.	• Professionalism • Reputation of hospital or organization • Trust • Positive psychological bias • Minimum disputes • Less employee turn over

7.11 Customer Context Matrix

Name of Customer	Acronym	Context of Customer	Coordination Process Area
Doctors	**DOC**	Direct	HIS Coordination
Patients	**PAT**	Direct	HIS Coordination
Nurses	**NUR**	Direct	HIS Coordination, Nurse Coordination
Housekeeping Supervisors	**HKS**	Direct	Quality Coordination, Nurse Coordination, infection control coordination
Clerks	**CLR**	Direct	HIS Coordination
Visitors	**VIS**	Indirect	HIS Coordination
Environmental Services Management	**ESM**	Direct	Nurse Coordination, infection control coordination
Other hospital workers	**OHW**	Indirect	Security coordination

Laundry worker	**LDW**	Direct	Nurse Coordination, HIS Coordination
Transportation worker	**TRW**	Direct	Quality Coordination, HIS Coordination
Maintenance worker	**MAW**	Direct	Quality Coordination, HIS Coordination
Waste management worker	**WMW**	Direct	Quality Coordination, HIS Coordination
Infection control professional	**ICP**	Indirect	Infection Control Coordination
Housekeepers	**HK**	Direct	HIS Coordination, Nurse Coordination

7.12 MSD Attributes

MSD Attribute	Description
Lifting/carrying	Large vertical movements, long carry distances.
Disability	Pose a risk to those with a health problem or a physical or learning disability.
Force	High initial forces to get the load moving.
Loaded motion	High forces to keep the load in motion.
Physical ergonomics	Constraints on body posture/positioning, confined spaces/narrow doorways.
Posture change	Strong force and awkward movement/posture. E.g. bent wrists.
Excessive force	Excessive force to grip raw materials, product or tools

7 Reference

Scarceness	Inadequate tools for repetitive use screwdrivers, pliers, hammers.
Noise	Noise which cause stress and muscle tension.
Concentration	Tasks require high levels of attention/concentration especially where the worker has little control over allocation of effect to the task.
Floor hazards	Remove slip and trip hazards through provision of appropriate floor surfaces and good keeping.
Clothing	Clothing/PPE may prevent sufficient movement for the task or reduce capability. E.g. to grip consider handling needs when selecting work wear/gloves.
Psychosocial factors	Adverse psychosocial factors can increase the potential for manual handling injuries. A workers psychosocial response to work and the workplace conditions can affect their health in general and MSDs in particular. The factors include the content, design, organization and management of the work

Glossary / Acronyms

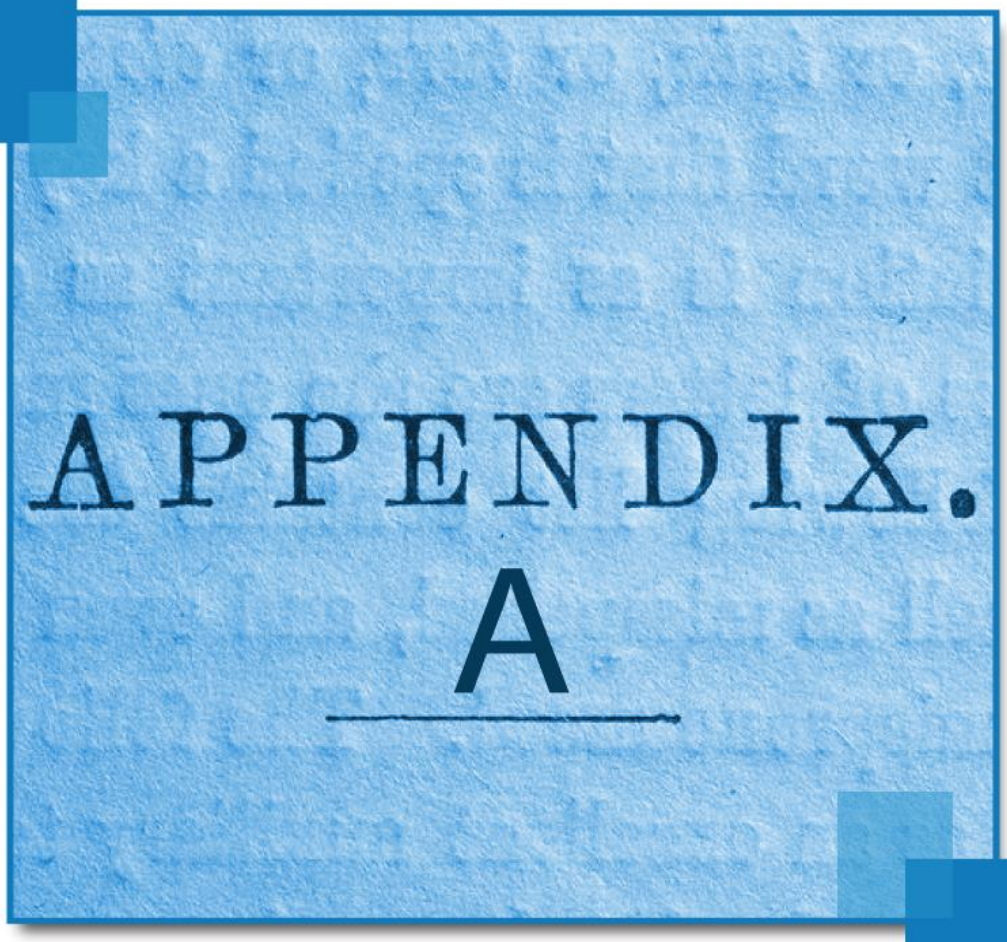
8 Glossary / Acronyms

Terminology	Description
Abstract Time Scale	Time Scale that will be quantified both during operations and continuous process improvement. These time identifiers are correlated with the soft thresholds that are dynamically specified during life span of the process.
BPMN	**Business Process Modelling Notation** Business Process Modelling Notation is the practice of documenting an organisation's key business processes in a graphical format.
Business Rules	Business Rules are intended to assert business structure or to control or influence the behaviour of the Business. Business rules describe the operations, definitions and constraints that apply to an organization
CRR	Contract Review Rate
CRRV	Contract Review rate Variation.
CTQ	**Critical to Quality** Critical To Quality (CTQ) is continuous measuring and monitoring tool agreed between the internal processes to achieve greater customer satisfaction.
Data Quality Dimensions	The totality of features and characteristics of data that bears on their ability to satisfy a given purpose
EBC	Evidence based Cleaning
ESM	Environmental services Map
KPI	**Key Performance Indicator** A metric that is used to help manage a process, IT service or activity. Many metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the process, IT service or activity. KPIs should be selected to ensure that efficiency, effectiveness, and cost effectiveness are all managed.
MSD	Macro skeleton Disorder
OLA	**Organization level Agreement**

8 Glossary / Acronyms

	An Agreement between an IT Service Provider and another part of the same Organization
Operational Policy	Rules defined to operate the process.
Quality Attributes	Quality attributes are non-functional requirements used to evaluate the performance of a process.
Risk	A possible event that could cause harm or loss, or affect the ability to achieve Objectives. A risk is measured by the probability of a threat, the vulnerability of the asset to that threat, and the impact it would have if it occurred.
SLA	**Service Level Agreement** An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer
VOC	**Voice of Customer**

Appendix A: Business Process Modeling Notation Reference



9 Appendix A: Business Process Modeling Notation Reference

INTRODUCTION

Business Process Modelling ("BPM") is the practice of documenting an organisation's key business processes in a manner which:

- Is highly graphical
- Focuses on business terminology rather than technical
- Allows all business steps/tasks to be included, not just those which involve a computer system

Mentioned below are the various core concepts of BPMN with the relevant definition and graphic notation.

PROCESS START

All processes have to start somehow, general notation for a process models commence with the START event, is a circle.	
One can use simply the *basic unmarked* start event as above, or one of the different types of start event, to provide more detail as described below.	
If a process starts when some sort of message arrives, mail, email, text. Following notation can be used	**Message start** 
If a process starts by virtue of the passage of time – e.g. 1st Jan review or 4 days after the purchase order is sent, following notation can be used	**TIMER Start** 
If the process starts when a rule/condition is met – e.g. when Incident Impact is more than 100,000.	**RULE Start** 
If a process starts when another process finishes. Following notation can be used	**LINK Start** 
If there is more than one 'trigger' for a process to start. Following notation can be used	**MULTIPLE Start** 

9 Appendix A: Business Process Modeling Notation Reference

TASK AND SUB PROCESS

Task	Task is a lowest level activity in a process map. A task is used when the work is not broken down to a finer level of detail	
Sub Process	A Sub-process is a compound activity which can be broken down into finer details.	
Loops	Loops task or sub process continues to iterate until the loop condition is true.	

INTERMEDIATE EVENTS

Following notation can be used to display the intermediate event, similar to start and end events.	**BASIC**	**MESSAGE**	**TIMER**	**RULE**	**LINK**	**MULTIPLE**
						

PROCESS END

All processes have to end somehow, general notation for a process models end will be a circle with a solid line.	
One can use simply use the *basic* end event as above, or you can use one of the different types of end event, to provide more detail, as described below:	
If a process ends by something being sent via a message of some sort e.g., mail, email, document, following notation can be used.	MESSAGE End

9 Appendix A: Business Process Modeling Notation Reference

	
If the end of this process causes the start of another, following notation can be used.	LINK End 
If more than one consequence of the process ending, following notation can be used.	MULTIPLE End 

SWIMLANES

Pool	A *Pool* represents a participant in a Process. It is also acts as a "swimlane" and a graphical container for partitioning a set of activities from other Pools	
Lane	A *Lane* is a sub-partition within a Pool and will extend the entire length of the Pool, either vertically or horizontally. Lanes are used to organize and categorize activities.	

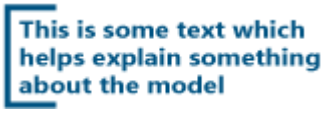
CONNECTORS

Sequence Flow	A *Sequence Flow* is represented by a solid line with a solid arrowhead (see the figure to the right) and is used to show the order (the sequence) that activities will be performed in a Process.	

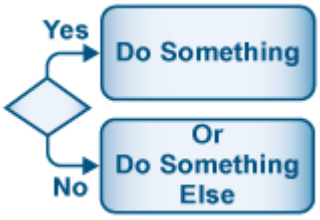
9 Appendix A: Business Process Modeling Notation Reference

Message Flow	A *Message Flow* is represented by a dashed line with an open arrowhead (see the figure to the right) and is used to show the flow of messages between two separate Process Participants. In BPMN, two separate Pools in the Diagram will represent the two Participants.	

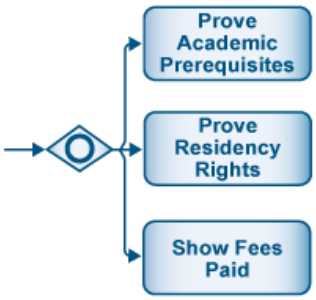
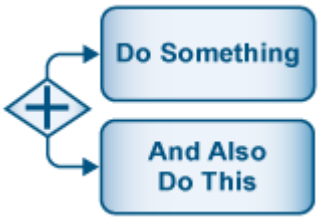
ARTIFACTS

Annotation	The ANNOTATION shape is used to add comments to a process model. It consists of text in a square left bracket	
Data Object	A data object represents a piece of data which is required or produced by the process eg. Customer details, output.	
Group	A grouping is purely for documentation or explanatory purposes. It has no impact on the model. It consists of a rectangle with dashed lines and rounded corners, usually enclosing other objects.	

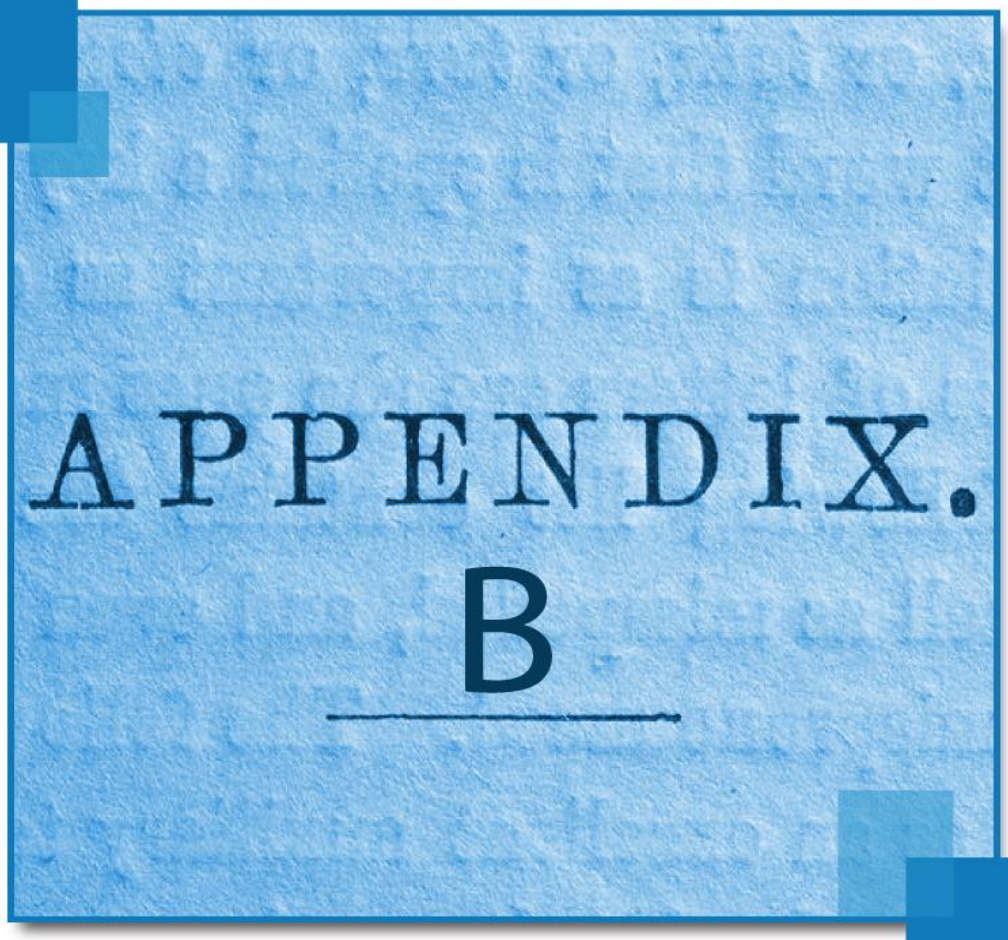
GATEWAYS

Exclusive	The values of the process are examined to determine which path to take	

9 Appendix A: Business Process Modeling Notation Reference

Inclusive	Each branch will be evaluated and will not stop when one branch condition becomes true.	
Parallel	Provides a mechanism to synchronise parallel flow and to create parallel flow.	

Appendix B: Chain of Infection



10 Appendix B: Chain of Infection

In order to control or prevent infection it is essential to understand that transmission stages of a pathogen resulting in infection requires the six vital links (Refer to the table below).

Each link mentioned below must be present for infection or colonization to proceed, and breaking any of the links can prevent the infection.

The section below details out the six stages:

Stage	Link	Description
1	Infectious Agent	Any disease-causing microorganism (pathogen)
2	The Reservoir Host	The organism in which the infectious microbes reside
3	The Portal of Exit	Route of escape of the pathogen from the reservoir.
4	The Route of Transmission	Method by which the pathogen gets from the reservoir to the new host
5	The Portal of Entry	Route through which the pathogen enters its new host
6	The Susceptible Host	The organism that accepts the pathogen

Link 1: Infectious Agent

The causative agent for infection is any microorganism capable of producing disease. Microorganisms responsible for infectious diseases include bacteria, viruses, rickettsiae, fungi, and protozoa. Sometimes, microorganisms are part of patient's own body flora and can cause infection in the immunocompromised host. These infections are called endogenous infections. Infections which are acquired from external sources are called exogenous infections.

Link 2: Reservoir Host

The second link in the chain of infection is the reservoir, i.e. the environment or object in or on which a microorganism can survive and, in some cases, multiply. Inanimate objects, human beings, and animals can all serve as reservoirs, providing the essential requirements for a microorganism to survive at specific stages in its life cycle.

10 Appendix B: Chain of Infection

Infectious reservoirs abound in health care settings, and may include everything from patients, visitors, and staff members to furniture, medical equipment, medications, food, water, and blood.

Link 3: Portal of Exit

The portal of exit is the path by which an infectious agent leaves its reservoir. Usually, this portal is the site where the microorganism grows. Common portals of exit associated with human reservoirs include the respiratory, genitourinary, and gastrointestinal tracts, the skin and mucous membranes and the placenta (transmission from mother to fetus)

Link 4: Route of Transmission

The microorganism can be acquired by inhalation (through respiratory tract), ingestion (through gastrointestinal tract), inoculation (through accidental sharp injury or bites), contact (during sexual intercourse) and transplacental transmission (microbes may cross placenta from the mother to fetus). It is important to remember that some microorganisms use more than one transmission route to get from the reservoir to a new host.

Of the six links in the chain of infection, the mode of transmission is the easiest link to break and is key to control of cross-infection in hospitals.

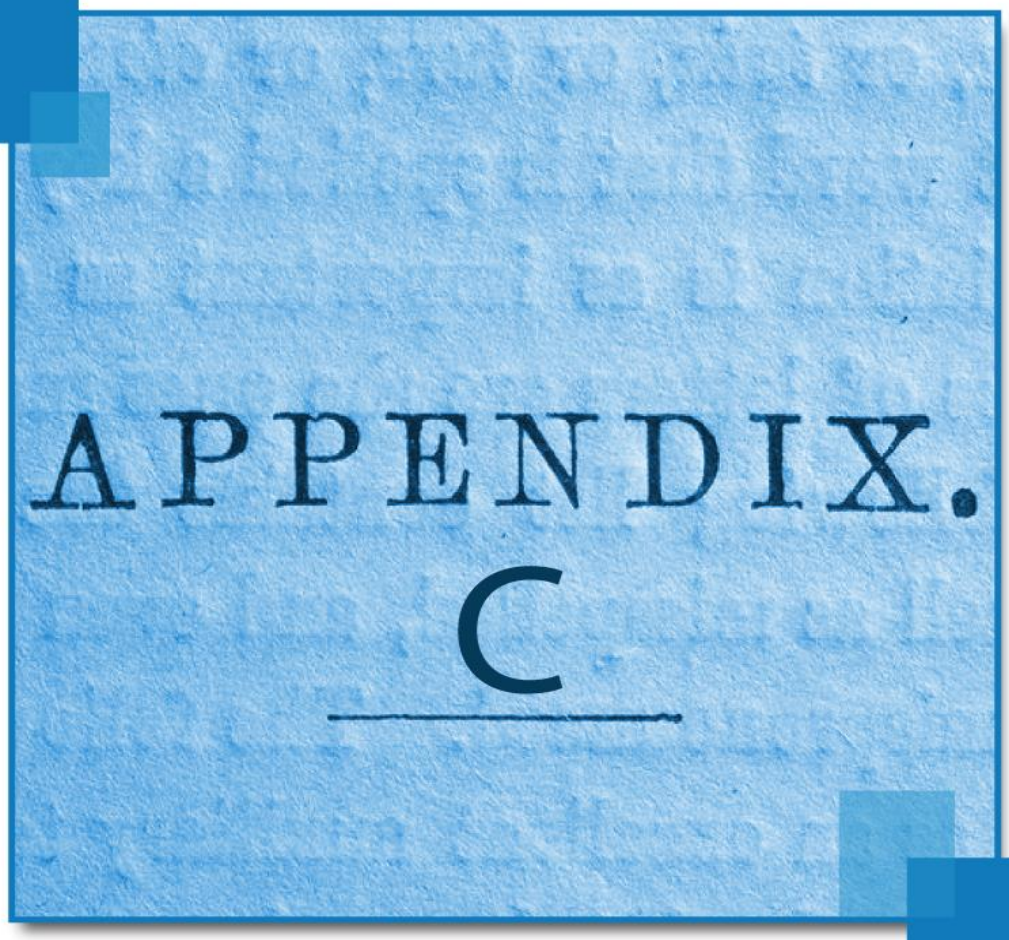
Link 5: The Portal of Entry

The portal of entry is the path by which an infectious agent invades a susceptible host. Usually, this path is the same as the portal of exit. For example, the portal of entry for tuberculosis and diphtheria is through the respiratory tract, hepatitis B and Human Immunodeficiency Virus enter through the bloodstream or body fluids and Salmonella enters through the gastrointestinal tract. In addition, each invasive device, e.g. intravenous line, creates an additional portal of entry into a patient's body thus increasing the chance of developing an infection.

Link 6: The Susceptible host

The final link in the chain of infection is the susceptible host. The human body has many defense mechanisms for resisting the entry and multiplication of pathogens. When these mechanisms function normally, infection does not occur. However, in immunocompromised patients, where the body defenses are weakened, infectious agents are more likely to invade the body and cause an infectious disease. In addition, the very young and the very old are at higher risk for infection because in the very young the immune system does not fully develop until about age 6 months, while old age is associated with declining immune system function as well as with chronic diseases that weaken host defenses.

Appendix C: Sample Checklist



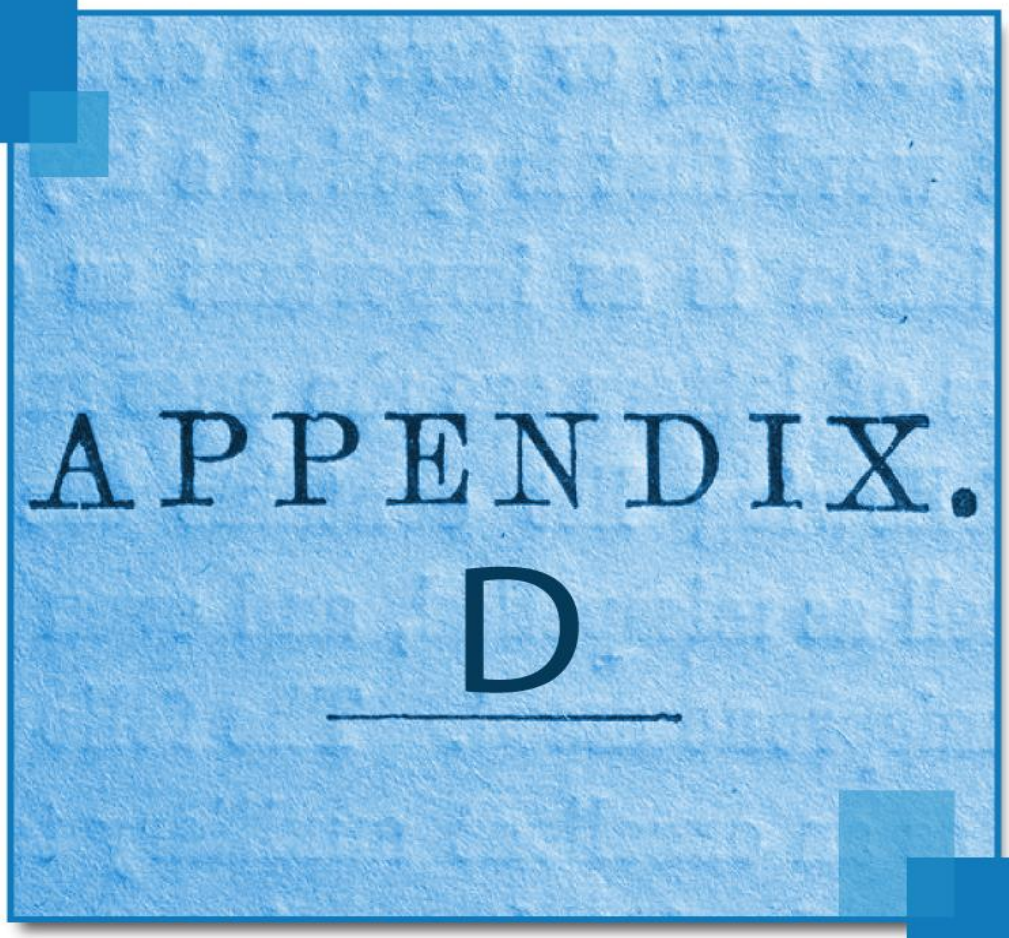
11 Appendix C: Sample Checklist

Establish a foundation for success	YES	NO
Managers, supervisors, and workers all know the workplace is serious about preventing MSDs	☐	☐
The workplace is ready to make changes to reduce the risk of MSDs	☐	☐
Resources are available to make any necessary changes	☐	☐
Understand MSDs and MSD hazards	**YES**	**NO**
Managers, supervisors, and workers know what MSDs are and what hazards can cause them	☐	☐
Recognize MSD hazards and related concerns	**YES**	**NO**
Incident/injury records are reviewed to find jobs/tasks where MSDs have been reported	☐	☐
Workers, supervisors and managers are asked about job/tasks that they believe contribute to any pain or discomfort	☐	☐
Problem jobs/tasks are observed and an MSD hazard identification tool is used, with full input and participation of workers who do the jobs/tasks	☐	☐
Conduct an MSD risk assessment	**YES**	**NO**
Problem jobs/tasks are prioritized for a simple risk assessment	☐	☐
Workers are asked to identify key concerns/activities/ task demands that are contributing to MSDs, pain or discomfort	☐	☐
Observations & MSD hazard identification tool results are compared to worker comments/concerns	☐	☐

11 Appendix C: Sample Checklist

Effort is made to agree on what issues/hazards should be addressed to help reduce the risk of MSDs (agreement between observations, hazard identification tool(s), and worker comments)	☐	☐
Effort is made to agree on why these hazards exist for this job/task	☐	☐
Choose and implement MSD hazard controls	**YES**	**NO**
When MSD hazard controls are needed, workers, supervisors, maintenance, and safety personnel discuss/brainstorm ideas and options to control identified MSD hazard(s)	☐	☐
Possible controls for MSD hazards are selected and reviewed	☐	☐
Preferred control ideas are identified and action plans are developed for implementation	☐	☐
Follow up on and evaluate success of MSD hazard controls	**YES**	**NO**
Workers are asked for their feedback on/opinions about MSD hazard controls	☐	☐
Workers receive training on how to use MSD controls and are using them	☐	☐
Observations and the MSD hazard identification tool results are used to help confirm that the exposure to the MSD hazard has been reduced	☐	☐
Reviews are done to ensure that no new hazards/concerns result from the MSD hazard control(s)	☐	☐
Communicate results and acknowledge success	**YES**	**NO**
Those involved in the process are acknowledged and the workplace is told about new MSD hazard control(s)	☐	☐

Appendix D: General Hazard Identification Tool



12 Appendix D: General Hazard Identification Tool

Job Title or Task: _____ **Date:** _____

Completed By: _____

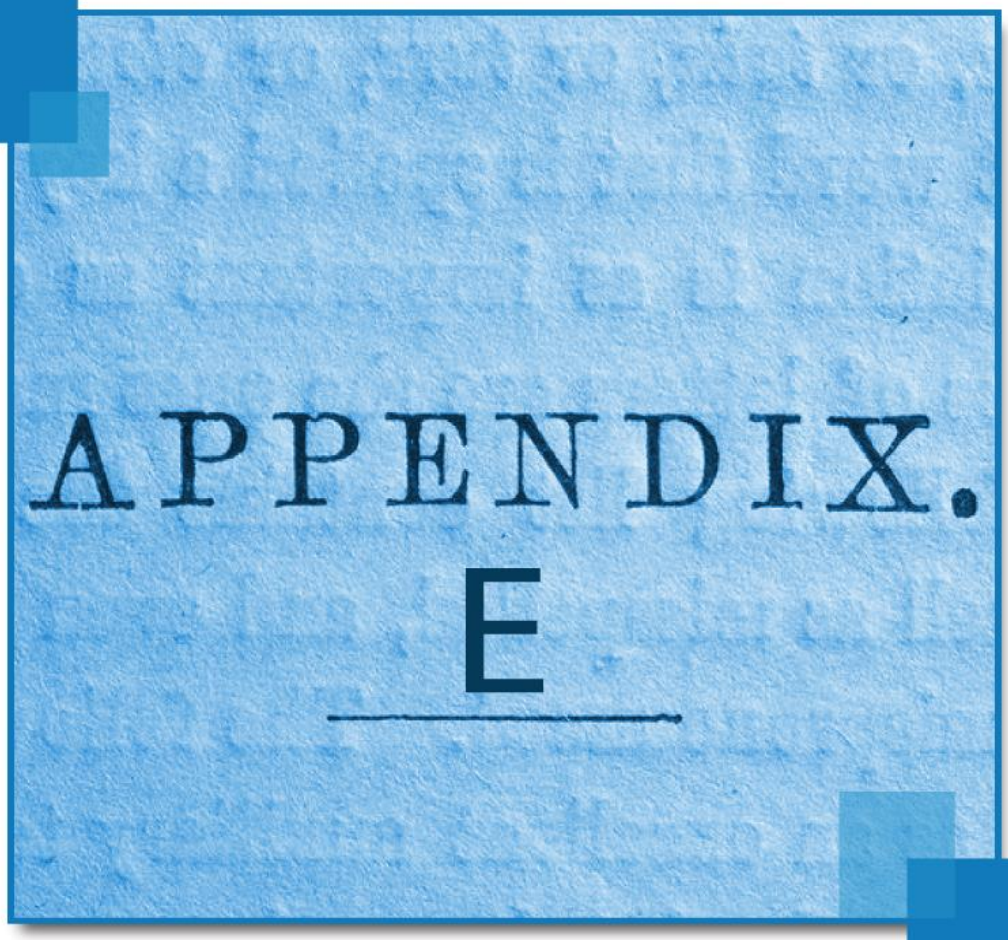
General Observations/Notes:

	MSD HAZARDS GRIPPING	Tick if present
Pinching Gripping	Unsupported heavy object(s)	
	Difficult/tiring holding or manipulating	
	Difficult/tiring squeezing to open/close	
Power Gripping	Unsupported heavy object(s)	
	Difficult/tiring holding or manipulating	
	Difficult/tiring squeezing to open/close	
	MSD HAZARDS FORCE	**Tick if present**
Lifting and Lowering	Object is heavy/difficult to lift/lower	
	Object is lifted/lowered repeatedly	
	Hands are above the shoulders when lifting/lowering object	
	Hands are below the knees when lifting/lowering object	
	Object is far away from the belly button	
	Loads are unstable, unbalanced, uncooperative, or unpredictable	
	Awkward lifting/lowering postures (bend, twist, kneel, reach, sit)	
Pushing Pulling	Object is hard/difficult to push/pull	
	Object is pushed/pulled repeatedly	
	Object is pushed with hands above the shoulders	
	Object is pushed with hands below the waist	
	Awkward pushing/pulling postures (bend, twist, kneel, reach, sit)	
	MSD HAZARDS AWKWARD POSTURE	**Tick if present**
Awkward Position	Neck visibly bent forward (chin close to chest)	
	Neck visibly bent to one side (ear close to shoulder)	
	Neck twisted to either side/chin close to the shoulder	
	Neck noticeably bent back	
	Neck bent forward and chin out (head forward)	
	Hand(s) at or above the head	
	Elbow(s) at/or above the shoulder	

12 Appendix D: General Hazard Identification Tool

	Elbows/hands behind the body	
	Sitting or standing with the back noticeably bent forward,	
	Sideways, or twisted	
	Back noticeably bent backward with no support for the back	
	Squatting/kneeling while working	
	Wrist noticeably bent down or up	
	Wrist noticeably bent to the side (toward thumb/little finger)	
	Hand turned so palm faces fully up or down	
Fixed Position	Sitting for long periods without standing (office work, driving)	
	Standing still on a hard surface for a long period of time	
	MSD HAZARD -REPITITION	**Tick if present**
Repetition	Performing the same neck motions repeatedly	
	Performing the same shoulder motions repeatedly	
	Performing the same elbow motions repeatedly	
	Performing the same wrist motions repeatedly	
	Performing the same hand/finger motions repeatedly	
	Performing intensive keyboarding	
	Performing intensive mousing	
	MSD HAZARDS -OTHERS	**Tick if present**
Repeated impacts	Using the hand or knee as a hammer	
Contact Stress	Tool handles dig into hand/palm	
	Workstation/equipment edges/products dig into body (hands,	
hand arm vibration	Forearms, trunk, thighs)	
	Using vibrating tools (impact wrenches, carpet strippers, chain saws, jackhammers, scalers, riveting hammers, grinders, sanders, jig saws, jack-leg drills)	
Whole body vibration	Operating mobile equipment/vehicles on rough, uneven surfaces	
cold hot temperature	Work environment is cold, hand/arms are exposed to cold air	
	Work environment is hot/humid	

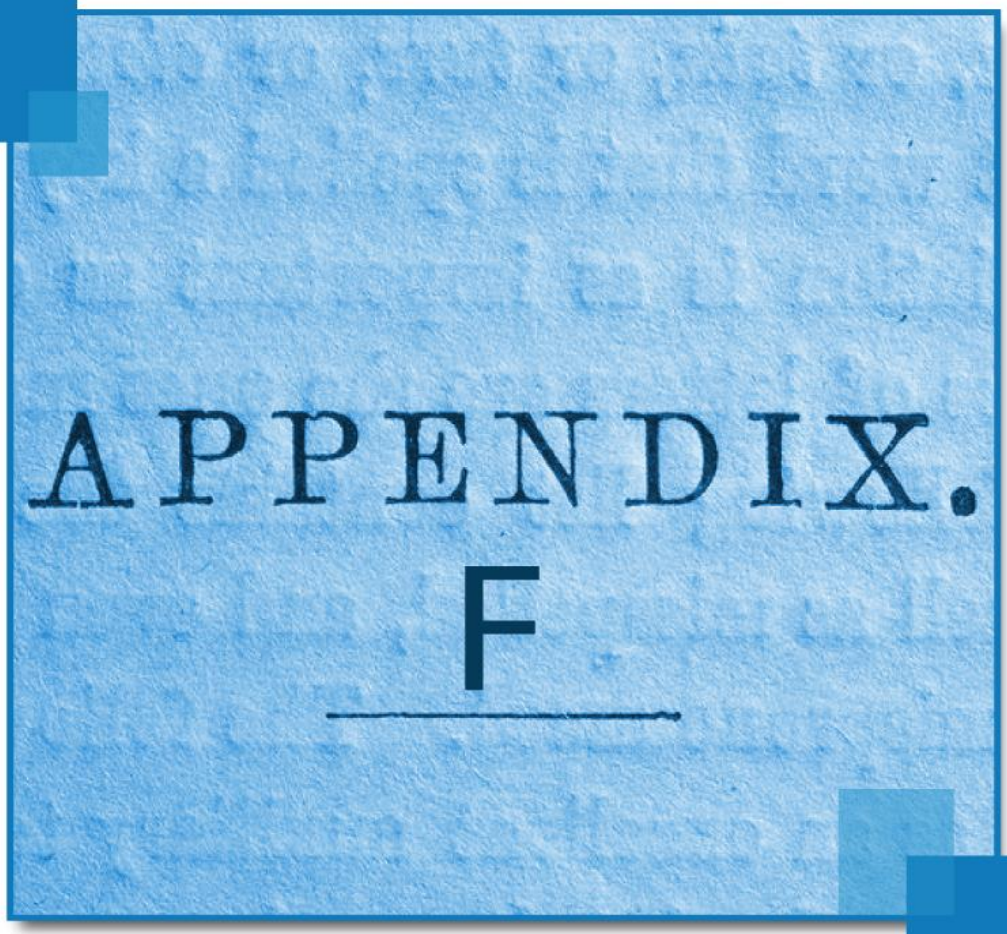
Appendix E: Hazard Priority Table



13 Appendix E: Hazard Priority Table

PRIORITY LEVEL	MSD REPORTED		WORKER DISCOMFORT		MSD HAZARD IDENTIFIED	
	YES	NO	YES	NO	YES	NO
VERY HIGH	√		√		√	
	√			√	√	
	√		√			√
HIGH	√			√		√
		√	√		√	
MEDIUM		√	√			√
LOW		√		√	√	
No Risk assessment needed		√		√		√

Appendix F: Tips for Preventing MSD



14 Appendix F: Tips for Preventing MSD

Force

Gripping tools/equipment

- Provide tools that allow workers to grip the tool using a power grip.
- Eliminate the use of pinch or key grips as much as possible.
- Choose tools that have triggers that allow for the use of multiple fingers rather than one finger or a thumb.
- Choose tools that can be used with the wrist straight.
- Choose tools with vibration reducing features.
- Choose tools that are lighter and designed to reduce hand torque and kickback.
- Ensure the tool is balanced and does not require extra muscular effort to hold it in position.
- Ensure the handle of a tool does not create pressure points in the palm of the hand.
- Use tools with handles that fit the hand, for example use a smooth, cushioned hand grip rather than one with hard ridges that space the fingers.
- Provide rubber or sponge-type grips on tool handles.
- Provide tools than be safely used by either left handed or right handed workers
- Maintain tools regularly.
- Inspect tools regularly. Ensure worn or damaged tools are fixed or replaced.

Pushing and pulling

- Provide carts that have vertical or height adjustable handles to enable different-sized workers to position their hands between waist and shoulder height.
- Use larger wheels on carts and bins as this reduces push and pull forces and they are easier to roll over cracks or holes.
- Ensure that wheels/casters that are suitable for the load being transported and are compatible with the type of flooring.
- Determine the most suitable swivel arrangement of casters – two or four, front or back.
- Ensure there is enough space so the worker does not have to use awkward postures to move the cart.
- Design/change the layout of the work area to eliminate the need to push wheeled objects upslopes or over uneven surfaces.
- Ensure the flooring is level, smooth and in good condition.
- Ensure workers can see over the top of the cart.
- Push rather than pull carts.
- Maintain carts, especially wheels and wheel bearings.

- Provide brakes on carts where practical.

Heavy, frequent or awkward lifting

- Use mechanical assists to lift/lower loads - such as hoists, pallet trucks, pump trucks ladder hoists, gin poles, daisy chains, cranes, or chain falls.
- Use lifting devices designed for specific tasks, e.g. lifting / moving people, lifting / moving animals
- Move objects as close to the body as possible before lifting them – use turntables to bring loads close.
- Ensure there are no obstacles between the worker and the load being lifted.
- Provide height adjustable pallet trucks/scissor lifts to keep loads off the floor and so that loads can be handled with the hands above knee height.
- Organize the starting and ending location of the lifts to limit the overall vertical travel distance a load has to be lifted.
- Avoid lifts below knuckle level and above shoulder level – limit use of high and low shelves.
- Avoid lifting loads that are heavier than four kg when seated – stand and use larger, stronger muscles.
- Improve grips/handles on objects being lifted.
- Split the overall weight of a load into smaller loads.
- Avoid uneven, unbalanced loads.
- Use gravity as an assist whenever possible (lower rather than lift).
- Use carts, motorized buggies, conveyors, gravity feed rollers to transport loads rather than carrying them.
- Provide tools/devices to help with carrying tasks - carrying handles, extension handles.
- Train workers to assess all material handling tasks and to ensure that the path is clear of obstructions/trip hazards when carrying items.
- Do not carry objects up and down stairs if two hands are needed to hold objects. Keep one hand free to hold hand rail.
- Improve housekeeping to prevent slips, trips and falls.
- Require suppliers to include the weight on all objects/packages that are manually handled
- Use shoulder pads when carrying loads on shoulders.

Fixed or awkward postures

- Provide height adjustability in a standing workstation.
- Establish a suitable working height depending on the type of work being done (i.e. precision, light or heavy work).
- Provide sit/stand stools at standing workstations and for tasks with prolonged standing.

14 Appendix F: Tips for Preventing MSD

- Provide height adjustable chairs.
- Utilize lift tables to keep the position the objects close to the worker.
- Utilize tilt tables to angle objects close to workers.
- Utilize rotating platforms to minimize reaching for objects.
- Provide self-elevating platforms in deep bins to keep items easily accessible and near the top of the bin.
- Provide false bottoms in deep sinks or containers.
- Limit shelf heights to between knee and shoulder height.
- Provide foot rests at standing workstations.
- Ensure the type of flooring will minimize shock absorption to the worker's body.
- Provide anti-fatigue matting for standing work areas with hard floor surfaces.
- Use devices such as lifts, duct jacks, scissor lifts, and extension poles or stands for operating tools overhead.
- Use adjustable scaffolds, aerial and other work platforms to raise the whole body closer to work.
- Place materials used often at appropriate height and less frequently used materials in less desirable locations.
- Use tables, benches, or stands to bring work to waist height

Repetition

- Implement well-designed job rotation.
- Add different tasks to the job to increase the variety of activities.
- Include flexibility in the job so the worker can control pace of work.
- Use a work/rest schedule that allows for frequent changes of activity.
- Encourage employees to take micro-breaks.
- Mechanize the task where necessary.

Repeated impacts

- Look for tools/equipment that will eliminate the need for repeated impacts:
    - use rubber mallets/other tools instead of the hand, and
    - use power stretchers for carpet installations.
- Provide workers with well-designed padded gloves/knee pads.
- Change fittings/parts/equipment to minimize the forces used with repeated impacts.
- Limit the time duration required for repeated impacts.

14 Appendix F: Tips for Preventing MSD

Contact stress

- Change or modify equipment (e.g. use a long-handled screwdriver to prevent the butt from digging into the palm).
- Change or modify work area to prevent sharp edges from digging into skin (e.g. cover sharp or metal edges with padding).
- Use personal protective equipment (e.g. use knee pads while kneeling; use padded gloves when lifting heavy objects by narrow plastic strapping).
- Improve or change work practice to reduce resting or leaning against sharp edges.

Local or hand-arm Vibration

- Use vibration-absorbing padding on grips or handles.
- Provide employees with anti-vibration gloves.
- Keep tools well maintained/sharp to reduce vibration.
- Source various suppliers who can supply tools with lower levels of vibration.
- Reduce total exposure to vibration by alternating between tasks that use vibrating tools and tasks with non-powered tools or by incorporating job rotation between tasks.
- Use cutting or powerhead vibration dampening devices.
- Use equipment that includes vibration-dampening rubber grommets on controls and control box.

Whole-body vibration

- Avoid sitting or standing for prolonged periods on vibrating surface if practicable (e.g. avoid working on catwalks attached to vibrating machinery).
- Isolate the source of vibration from the rest of the work space to prevent transmission of vibration to the sitting or standing area (e.g. isolation of truck cabs from diesel engine vibration).
- Train and instruct operators and drivers to:
    - Adjust the driver weight setting on suspension seats,
    - Adjust the seat position and controls correctly to provide good lines of sight and support,
    - Adjust the vehicle speed to suit the ground conditions to avoid excessive bumping and jolting,
    - Steer, brake, accelerate, shift gears and operate attached equipment smoothly, and
    - Follow worksite routes to avoid traveling over rough, uneven or poor surfaces.
- Choose machinery suitable for the job:

14 Appendix F: Tips for Preventing MSD

  - Select vehicles and machines with the appropriate size, power and capacity for the work and the ground conditions.
- Maintain machinery and roadways:
  - Make sure that paved surfaces or site roadways are well maintained (e.g. potholes filled in, ridges leveled, rubble removed),
  - Maintain vehicle suspension systems correctly (e.g. cab, tire pressures, seat suspension),
  - Replace solid tires on machines such as fork-lift trucks, sweepers and floor scrubbers before they reach their wear limits, and
  - Obtain appropriate advice (from seat manufacturers, machine manufacturers and/or vibration specialists) when replacing a vehicle seat. Seats need to be carefully matched to the vehicle to avoid making vibration exposure worse.
- Other measures
  - Introduce work schedules to avoid long periods of exposure in a single day and allow for breaks where possible.
  - Avoid high levels of vibration and/or prolonged exposure for older employees, people with back problems, young people and pregnant women.

Cold temperatures

- Ensure workers wear high-friction, well-fitting gloves.
- Ensure that workers wear clothing that keeps them warm without adding a lot of bulk
- Ensure hand tools are stored in a warm place prior to use.
- Provide alternating periods of cold and warm work (worker rotation) and allow workers to take rest breaks in warm areas.
- Avoid having workers use tools that discharge cold gases over the hand.
- Provide local source heating (portable heaters) for workers.
- Educate workers about the adverse effects of cold and its influence on MSDs.
- Encourage workers to stay well hydrated

Hot work environments

- Provide alternating periods of cool/shaded and warm work (worker rotation) and allow workers to take rest breaks in cool areas.
- Provide local source cooling (portable spot chillers) for workers.

14 Appendix F: Tips for Preventing MSD

- Educate workers about the adverse effects of heat and its influence on MSDs.
- Encourage workers to stay well hydrated.

Work organization

- Ensure that repetitive or demanding tasks incorporate opportunities for rest or recovery (e.g. allow brief pauses to relax muscles; change work tasks; change postures or techniques).
- Incorporate task variability so that the worker does not have to perform similar repetitious tasks throughout the full shift. Provide the worker with the opportunity to vary work tasks by rotating jobs or increasing the scope of the job.
- Ensure that work demands and work pace are appropriate.

Work methods

- Evaluate jobs to determine whether work methods are compatible with worker capabilities.
- Analyze the differences in work methods between individuals to find the best work methods.
- Ensure that the official work method is the best work method and corresponds with what workers are actually doing