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Ergonomics for Non-Clinical Activities

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Today's Agenda

- Defining the problems in non-clinical areas from experience and data
- Introduction/review of LEAN, Musculoskeletal Risk Analyses, and Participatory Ergonomics
- Applying these concepts to address problems in non-clinical areas
- Developing an A3 (or similar performance improvement plan)
- Setting performance indicators and measuring success
- Comparing yourself against best practices

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A Little About Me...



- Senior Consultant with BSI's RAPID Healthcare Injury Prevention Team
- Previously held Center of Excellence position for Healthcare Risk & Safety at the University of California's system of hospitals
- Exercise Physiologist by training

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Now, The Problems

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Chances Are That Everyone Here Has The Same Problems

- Research and experience tell us that nearly every hospital has the same problems in the same "support services" areas

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Environmental Services/Housekeeping

- Linen collection, transport, and transfers
- Trash collection
- Mopping
- Cleaning bathrooms
- Room discharges
- Pushing/pulling of carts
- Time limits for cleaning

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Materials Distribution/Materials Management

- Receiving
- Storing materials
- Distribution throughout the hospital
- Movement of LARGE equipment (*at some hospitals the Facilities group does this*)

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Information Technology

- Extended computer work (e.g. help desk)
- Carrying computers, equipment... and even servers (often up/down stairs and between buildings)
- Running wires in ceilings

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Clinical Labs/Pathology

- Pipetting
- Tube opening/closing
- Working under a hood
- Opening specimen bags
- Removing tape from cassettes
- Capping and uncapping tubes (literally thousands per day!)
- Opening, closing, and sending through the pneumatic tube system

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Phlebotomy

- Drawing blood in awkward postures
- Awkward grips on collection devices
- Heavy "toolboxes"

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Sterile Processing

- Heavy case trays
- Cleaning small debris from devices after processing
- Scrubbing debris off of devices in sinks
- Storage of cases at varying heights

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Patient Transport and Lift Team

- Transporting in gurneys, wheelchairs, beds... and bariatric beds
- Poor design of equipment causing awkward postures and forceful exertions
- Ramps, thresholds, and other floor level changes/obstacles
- Holding IV poles while transporting
- Poor instruction from nurses on mobility activity and patient needs
- Time limits for transport

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Office Workers

- Static work environments
- Poor office designs
- Computer equipment that doesn't fit the worker
- No design for "get up" activities

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Let's Get To
The Real Problems

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Let's Get To
The Real Problems

How many here have done a
process map for each of these
areas?
(e.g. process map each activity
completed in that job)

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**Let's Get To
The Real Problems**

How many have completed a FULL musculoskeletal risk analysis for each job and activity?

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**Let's Get To
The Real Problems**

How many have included workers in a "Kaizen", "Gemba", or other LEAN activity when looking at and solving ergo problems?

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**Let's Get To
The Real Problems**

How many have content and processes to train each role on the specific risks of their job?

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Let's Get To The Real Problems

How many have Hospital Administrators transitioning to "LEAN thinking"... without understanding LEAN in healthcare?

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A First Step For Change - Understanding Principles

- LEAN in healthcare
- Musculoskeletal injury risk analysis (forces, frequency, etc.)
- Participatory ergonomics

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LEAN In Healthcare

- LEAN is simply a process improvement methodology
- It focuses on eliminating waste... of ANY kind (time, materials, injury, etc)
- It requires a full mapping of all activities involved in a job task to understand processes and requirements
- It has a heavy emphasis on obtaining worker level feedback and insight

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BUT...Traditional LEAN Principles Don't Always Apply

- LEAN was designed for manufacturing... where variables can be nearly eliminated and processes are nearly identical EVERY time
 - In healthcare, variability is the only constant... and only a select few activities can be repetitively identical.
- LEAN assumes consistency in all processes – and that it takes a definitive time to complete a given task.
 - In healthcare, many activities have too many variables to EVER be consistent in terms of time requirements.

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22

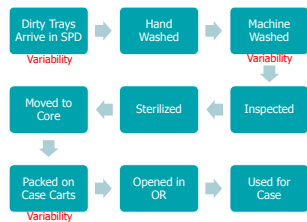
Plan For Variability, But Design In Consistency

- Draw out a picture of the process from start to finish for a task or job, branching as necessary on the front end or back end to account for variability
- Identify the most common causes of variability in a given job role and task.
- Establish "if this, then that" plans with ergonomics (and safety) as a focus
- Eliminate or minimize the impacts of variables wherever possible
- Create mechanisms to educate workers on the "if this, then that" procedures, and continually reinforce education

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23

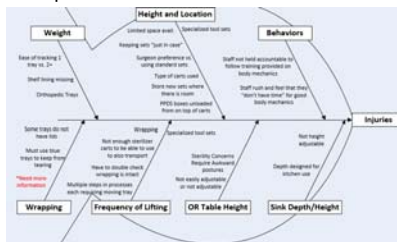
Process Flow Map



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Fishbone Example



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Throughout The Process...

- Practice "Participatory Ergonomics"
 - Maximize the involvement of the people that actually do the jobs
 - Train them on what to look for and how they should approach fixing things
 - Break paradigms!!
 - Have them collect data & help in mapping process steps

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An Example



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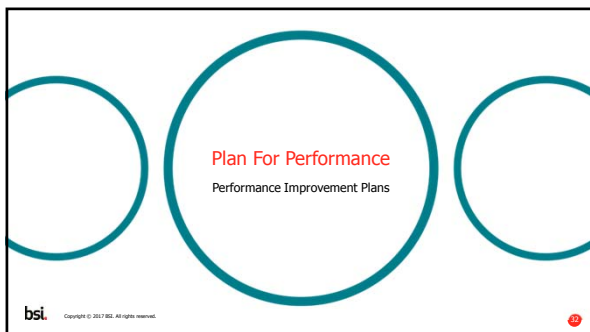
22

A Case Study Using These Principles – Laundry Handling

- Situation
 - Large nationally ranked hospital
 - Rapid growth, staff turnover, & constant construction
 - Linen handling accounted for 30% of all injuries
- Process & Solution
 - Process mapping
 - Ergo analysis and participatory ergo
 - Solutions ranging across the hierarchy of controls, and adopted by staff
- Results
 - 44% reduction in injury costs, 60% reduction in lost work days, and 23% reduction in restricted work days

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10



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Planning For Performance

- Always have a written performance improvement plan with the department
 - Establishes a clear outline and common agreement for what needs to happen
 - Defines current and "desired" states
 - Holds accountability
 - Documents what has been done in the past
 - Can, and probably should, be updated as new info comes in
- Some examples of performance improvement plans:
 - A3s
 - Project plans
 - Performance improvement plans
 - ...many names... same idea

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Performance Indicators

- Indicators provide a **snapshot** (at a given point in time) and a **story** (over time) of safety performance
- Need to choose the metrics that tell the right story
- **Leading indicators** tell us about events that lead to, or prevent, injuries from happening
- **Lagging indicators** tell us about injuries and incidents that have **already happened**

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Example Performance Indicators

- Total change in risk scores (on a JHA, on an ergo risk assessment, etc.)
- Staff discomfort and fatigue survey score changes over time
- Operational output (e.g. case rate by type) risk score to show operations/risk correlation (requires risk scoring by job task and correlation to operational demand)
- Number of hazards reported
- Number of actions generated/outstanding
- Ergonomic assessments completed
- Number of employee safety suggestions received

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Measuring Yourself Against Best Practices

- Don't be introspective – measure your program against best practices



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Conclusion

- Apply LEAN, risk analysis, and participatory ergonomics principles
- Outline and document risks and controls
- Establish a performance improvement plan'
- Establish metrics
- Measure yourself against best practices and keep improving

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Thank you!

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Questions?



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