

Developing a Culture of Performance Improvement

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Objectives

- Paramount importance of selecting the appropriate goal
- Understanding underlying causes
- Formulating effective and sustainable intervention
- Critical factors to achieve successful implementation of change

GOAL

No patient will be
inadvertently harmed
while under our care

Our mission and challenge is to adopt measures and
implement programs that improve care

Identify the Problem

Reporting Dashboard

- Overview
- Neuromuscular Monitoring
 - NMB-01
 - NMB-02
- Glucose Management
 - GLU-01
 - GLU-02
- Transfusion Management
 - TRAN-01
 - TRAN-02
- Blood Pressure
 - BP-01
 - BP-02
- Pulmonary
 - PUL-01
 - PUL-02
- Medication Overdose
 - MED-01
- Fluids
 - FLUID-01-NC
 - FLUID-01-C
- Normothermia
 - TEMP-01
 - TEMP-02
 - TEMP-03
- Avoiding MI
 - CARD-01
- AKI
 - AKI-01
- Transfer of Care
 - TOC-02
- PONV
 - PONV-01

Neuromuscular Monitoring

NMB-01 ✓ 98% Target 90%

NMB-02 ✓ 99% Target 90%

Glucose Management

GLU-01 ✓ 97% Target 90%

GLU-02 ✓ 93% Target 90%

Transfusion Management

TRAN-01 ✗ 82% Target 90%

TRAN-02 ✓ 91% Target 90%

Blood Pressure

BP-01 ✓ 99% Target 90%

BP-02 ✓ 93% Target 90%

Pulmonary

PUL-01 ✓ 98% Target 90%

PUL-02 ✗ 78% Target 90%

Fluids

FLUID-01-NC i 99%

FLUID-01-C i 84%

Medication Overdose

MED-01 ✓ 100% Target 95%

Normothermia

TEMP-01 ✗ 90% Target 90%

TEMP-02 ✗ 86% Target 90%

TEMP-03 ✓ 99% Target 90%

Avoiding MI

CARD-01 ✓ 100% Target 95%

AKI

AKI-01 ✓ 94% Target 90%

Transfer of Care

TOC-02 ✓ 96% Target 90%

PONV

PONV-01 ✗ 82% Target 90%



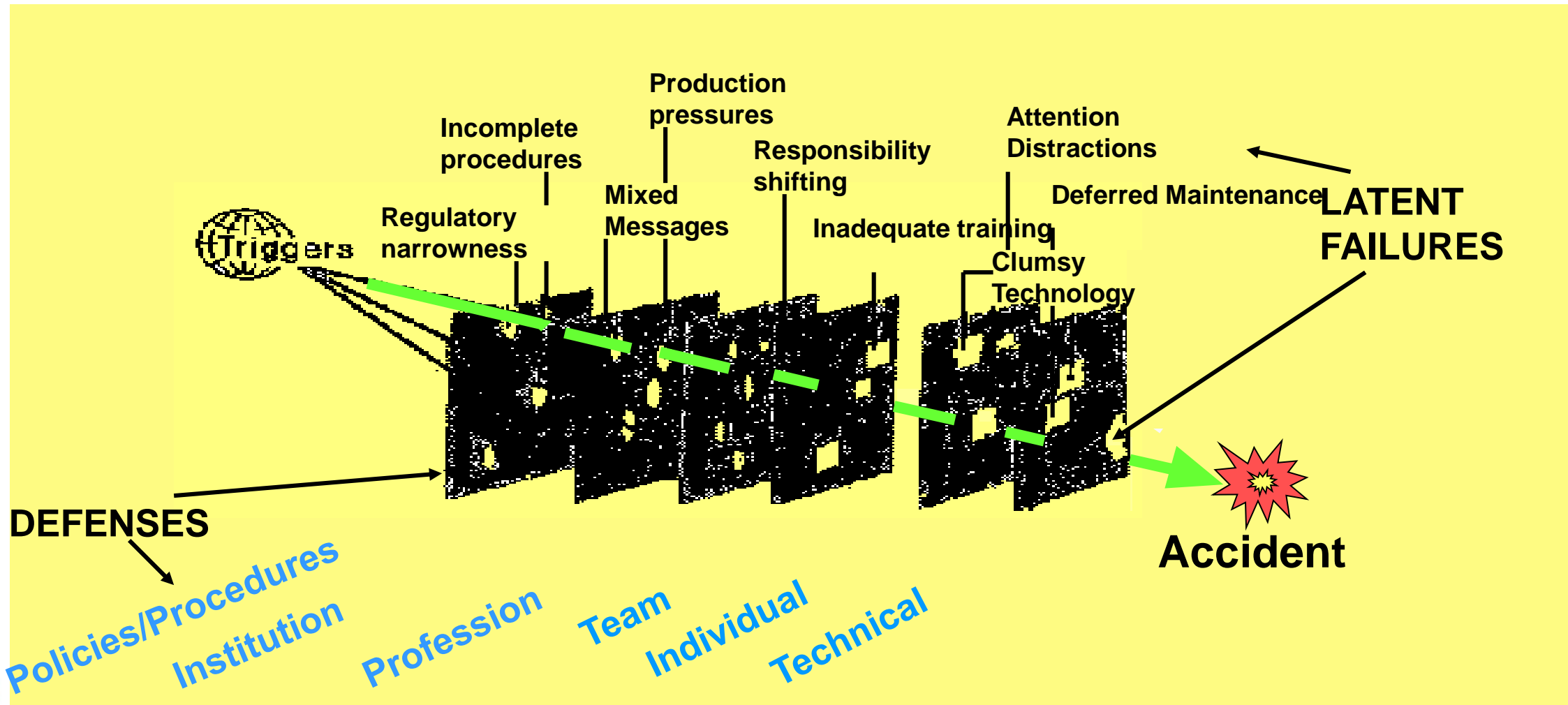
Identifying Root Cause/Contributing Factors

Safety & Human Error: Cornerstones

- People Don't Come to Work to Hurt Someone or Make a Mistake
- Must Keep Asking "Why?"

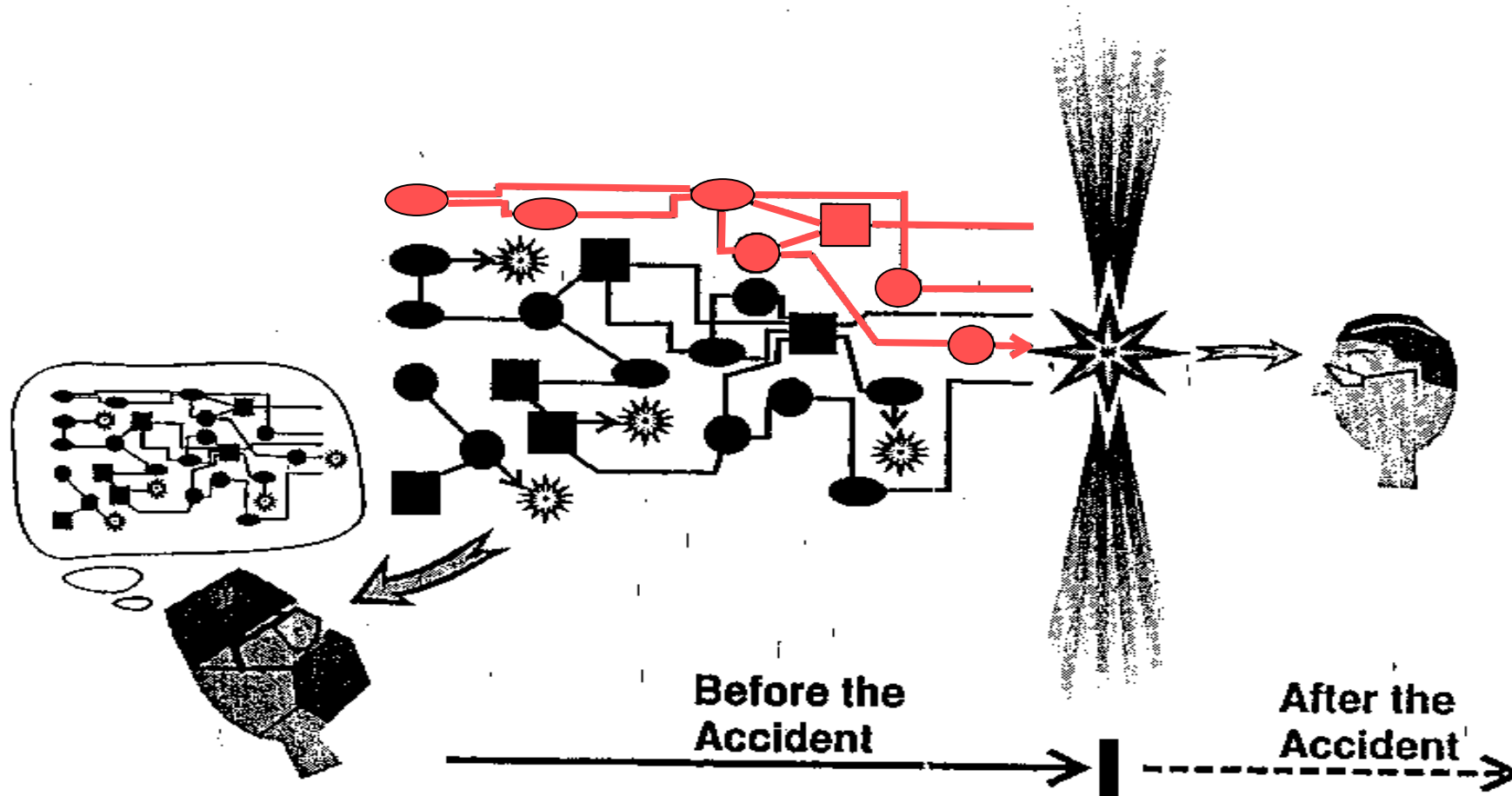


Safety – Human Error



Safety – Human Error

Hindsight Bias



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Causation/Actions: Who vs. What & Why

- Who
 - ‘Whose Fault Is This?’
 - Actions focused on correcting individual
 - ‘Corrects’ only after problem occurs
 - Limited scope of action and generalizability
- What & Why
 - Actions focus on systems level causation
 - Widespread applicability
 - Stronger preventive strategy



Systematic (5 Rules of Causation)

- Cause and Effect
- ★ Human Error Must Have Preceding Cause
- ★ Failure to Follow Procedure By Itself Is **NOT** a Root Cause
- Negative Descriptors Aren't Actionable
- Failure To Act Is **Not** A Cause Without Pre-existing Requirement To Act

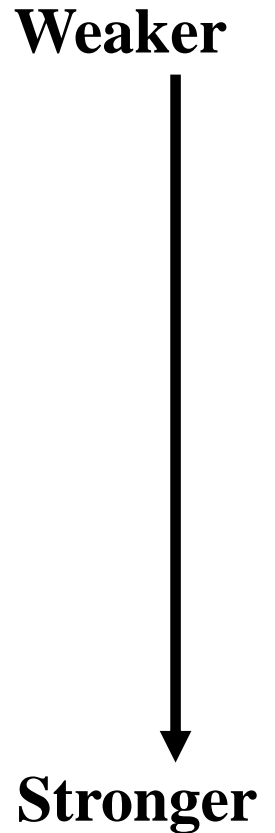
Why,Why,Why,Why,Why,Why.....



Strength of Actions

Human Factors Engineering and “Actions”

- **Warnings and labels** (watch out!)
- **Training** (don't do that)
- **Procedure changes** (work around that)
- **Interlock, lock-in, lock-out, etc** (design it so you cannot do that – forcing functions)
- **Is there one right action???**



Action Hierarchy

*Less memory or
reliance on individual
performance*

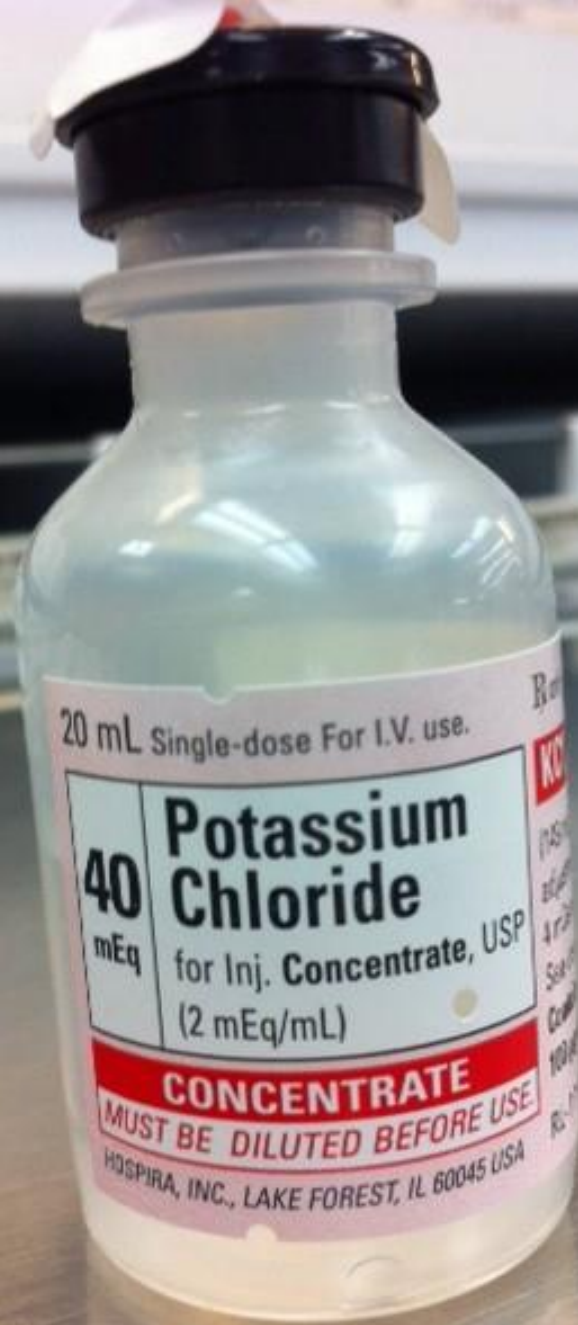


*Greater reliance on
memory and
individual
performance*

Stronger Actions	<ul style="list-style-type: none">Architectural/physical plant changesNew devices with usability testing before purchasingEngineering control or interlock (forcing functions)Simplify the process and remove unnecessary stepsStandardize on equipment or processTangible involvement and action by leadership in support of patient safety
Intermediate Actions	<ul style="list-style-type: none">RedundancyIncrease in staffing/decrease in workloadSoftware enhancements/modificationsEducation using simulation-based learning with a competency assessment completed on a recurring basisEliminate/reduce distractions (sterile medical environment)Checklist/cognitive aidEliminate look and sound-alikesRepeat-back/Read-backEnhanced documentation/communication
Weaker Actions	<ul style="list-style-type: none">Double checksWarnings and labelsNew procedure/memorandum/policyTraditional trainingAdditional study/analysis

Examples





20 mL Single-dose For I.V. use.

40
mEq

Potassium Chloride

for Inj. Concentrate, USP
(2 mEq/mL)

CONCENTRATE
MUST BE DILUTED BEFORE USE

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LOT 04-622 FW EXP 1 APR 2013

20 mEq POTASSIUM

1000 mL
20 mEq **POTASSIUM CHLORIDE**

in 5% Dextrose and 0.45% Sodium Chloride Injection, USP

EACH 100 mL CONTAINS POTASSIUM CHLORIDE 129 mg; SODIUM CHLORIDE 450 mg; DEXTROSE HYDROUS 5 g IN WATER FOR INJECTION. MAY CONTAIN HCl FOR pH ADJUSTMENT. ELECTROLYTES PER 1000 mL (NOT INCLUDING IONS FOR pH ADJUSTMENT): POTASSIUM 20 mEq; SODIUM 77 mEq; CHLORIDE 97 mEq. 447 mOsm/LITER (CALC.) pH 4.2 (3.5 to 6.5)

ADDITIVES MAY BE INCOMPATIBLE. CONSULT WITH PHARMACIST, IF AVAILABLE, WHEN INTRODUCING ADDITIVES. USE ASEPTIC TECHNIQUE. MIX THOROUGHLY AND DO NOT STORE.

SINGLE-DOSE CONTAINER. FOR I.V. USE USUAL DOSAGE. SEE INSERT. STERILE, NONPYROGENIC. USE ONLY IF SOLUTION IS CLEAR AND CONTAINER IS UNDAMAGED. MUST NOT BE USED IN SERIES CONNECTIONS.

Rx ONLY



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21

Implementation

Getting to Sustainable Improvement

- Problem Identification
- Clear Goal Definition
- Involvement Of All Sectors
- Identify Systems Influences
- Identify Systems Controls
- Identify Constraints
- ***Critique – Go To Worst Critics Early On***
- Pilot – Volunteers First Then Others
- Evaluate

Cause/Contributing Factor (CCF) Statement #1:	<i>The lack of a ferromagnetic detection system at the entrance into the MR magnet room increased the likelihood that the patient's oxygen cylinder would be permitted in the room resulting in the cylinder being drawn into the bore of the magnet, the magnet being quenched, and the MR room being out of service for 5 days.</i>
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Action 1	<i>Install a ferromagnetic detection system at the entrance to all four MRI magnet rooms.</i>
Action Due Date	April 30, 2015
Date Action Completed	Pending
Responsible Person:	Ms. B, Facility Engineer

Process/Outcome Measure 1 (Each Process/Outcome Measure needs to include: what will be measured; how long it will be measured; and the expected level of compliance.)	<i>Five ferrous objects including an oxygen cylinder will be passed by the ferromagnetic sensors of each detector and 100% will result in alarms sounding in the adjacent MR Control Room.</i>
Date To Be Measured:	May 10, 2015
Responsible Person:	Dr. A, MRI Safety Officer
Was the Compliance Level Met?	To be determined

Management concurs with this Action and Process/Outcome Measure	Yes
If No, why not? (Answered by Management)	
Is the identification of another action required?	To be determined

Essential Elements For Sustainable Improvement

- Appropriate Goal Identification & Selection
- Transparent Prioritization
- Identification of Real Causes
- System-based Countermeasures That Address Underlying Causes
- Stronger Actions That Are Explicit
- Measurement of Actions
 - Process & Outcome
- Top Leadership Involvement/Visibility

Topics for Discussion

- Process vs Outcome Measures – which is most important?
- Value of Pilots and Who Should Participate
- Transparency of Performance
- Respect for Work – Volunteers vs Real Job

There is no shame in failing while attempting to achieve a worthy goal, the only shame is in not attempting to achieve a worthy goal.