RISK ASSESSMENT:
The Healthcare Experience

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Outline of Presentation

- Historical perspective of Risk Assessment (RA)
- Definition and Aims of Risk Assessment
- Addressable Elements in Risk Assessment
- The steps to RA
- Suitable and Sufficient RA
- Risk Control System
- Challenges & take home message
Historical perspective of Risk Assessment

- Originated from questions of how to avoid losing games of chance (*a then unrecognized question of economic risk*)
- Blaise Pascal and Pierre de Fermat (1654) solve Paccioli’s puzzle and created the *Theory Of Probability* (Bernstein, pp. 60 – 70).
Common Terminologies

- **Hazard:**
  - is something that can cause harm if not controlled.
  - A condition or behavior that has the potential to cause injury or loss.

- **Risk:**
  - is a is the chance or uncertainty, great or small that someone will be harmed by the hazard.
  - combination of the LIKELIHOOD that a particular outcome will occur and the SEVERITY of the harm involved.

- **Danger:**
  - un-quantified risk
What is Risk Assessment?

- Risk Overlooked.wmv
What is Risk Assessment?

- Is a process which allows to identify anything that has the potential to result to an adverse or devastating effect, and so that one can plan to make changes and to prevent any adverse effect from occurring.

- Should identify significant hazard and aim to make the risk small.
Objectives of Risk Assessment

- To protect workers’ health and safety.

- To minimize the possibility of the workers or the environment being harmed due to work-related activities.

- To eliminate, mitigate or totally manage risk associated with identified hazard that can potentially impact the PEME element of business operation.
Qatar National Vision 2030

- Recruitment of the right mix of expatriate labor, protecting their rights, securing their safety, and retaining those who are outstanding among them.
Risk Assessment in Qatar

QCS 2014  Section 11: Health and Safety  Part 2.4.01: Risk Assessment Guides and Method Statement

2. SAFETY AND ACCIDENT PREVENTION MANAGEMENT / ADMINISTRATION SYSTEM (SAMAS)

2.4 RISK ASSESSMENT GUIDES AND METHOD STATEMENT

2.4.1 INTRODUCTION
2.4.2 What is risk assessment?
2.4.3 Legal requirements for risk assessment and written method of Work
2.4.4 Risk assessment in practice
2.4.5 Hazard and risk
2.4.6 Risk assessment Process
2.4.6.1 Identify the Hazards
2.4.6.2 Work out who might be harmed and how
2.4.6.3 evaluates the risks and decides on precautions
2.4.6.4 Record your findings and implement them
2.4.6.5 Review your risk assessment and update if necessary
2.4.7 Suitable and sufficient risk assessment
2.4.8 Recording the assessment
2.4.8.1 Qualitative and quantitative risk assessments
2.4.8.2 Qualitative assessments
2.4.8.3 Quantitative assessments
2.4.9 Consultation in development of risk assessment
2.4.10 Young persons and children
2.4.11 Language issues
2.4.12 Safety Culture and other Behavioral Safety issues
2.4.13 Other issues
2.4.14 Health Surveillance
How is Risk Assessment carried out?

- Done by a competent team of individuals who have a good working knowledge of the workplace.
- Involves/includes staff, supervisors & workers who work with the process and are the most familiar with the operation.
- Include both people familiar with the work area, as well as people who are not with consideration to:
  - "experienced" and
  - "fresh eye" to conduct the inspection.
Workplace Hazard Identification Technique

It is all about **ABBI A**: Looking **Above, Below, Behind Inside & Around** the workplace.
Five steps to risk assessment
The Steps to Risk Assessment

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Identify the hazard and associated risk</td>
</tr>
<tr>
<td>Step 2</td>
<td>Who might be harmed and how</td>
</tr>
<tr>
<td>Step 3</td>
<td>Risk evaluation and setting of risk control measures</td>
</tr>
<tr>
<td>Step 4</td>
<td>Record findings and implement control measures.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Review of risk assessment and update if necessary.</td>
</tr>
</tbody>
</table>
Risks to Deal with the PEME+O Elements

- Biological agents - bacteria, viruses, insects, plants, birds, animals, and humans, etc.,
- Chemical agents - depends on the physical, chemical and toxic properties of the chemical.
- Ergonomic agents - repetitive movements, improper set up of workstation, etc.,
- Physical agents - radiation, magnetic fields, pressure extremes (high pressure or vacuum), noise, etc.
- Psychosocial - stress, violence, excessive work hours
- Safety - slipping/tripping falls, inappropriate machine guarding, equipment malfunctions or breakdowns
Addressable Elements of Risk Assessment

- People
- Equipment
- Materials
- Environment

Can become Risk or be impacted by the Risk
The Steps to Risk Assessment

1. Identify the hazards
   Findings thru the ABBIA Technique

2. Identify the element/s at risk.
   People, Equipment, Materials, Environment + Org.

3. Evaluate, remove, reduce and protect from risk.
   Detection and warning, FAFFE, Means of Escape, Lighting,
   Safety Signs and Notices, PPM, MDER

4. Record, plan, inform, instruct and train.
   Cooperation, Coordination, Communication, Control

5. Review
   Changes made with respect to PEME Elements
The Steps to Risk Assessment

- **Step 1: Hazard Identification**
  - Workplace rounds – what can cause harm/damage
  - Ignore the trivial, and concentrate on significant hazards
  - Stakeholders can be consulted
  - Use manufacturers instructions or data
  - Refer to accident/incident records
The Steps to Risk Assessment

- Step 2.
  - Who can be by affected the risk?
    - People
    - Equipment
    - Materials
    - Environment
    + Organization

- How can the elements be affected?
  - Risk of:
    - Fire aggravation
    - Physical damage
    - Safety (slips, trips and falls) entrapment
    - Financial, operational disruption
The Steps to Risk Assessment

- **Step 3: Evaluate the risk:**
  - Consider *how likely* is it that each hazard could cause harm.
  - *Residual risk* in spite of implemented control measures.
  - Decide for each significant hazard whether this *remaining risk is high, medium or low*
  - What does the plan and/or policy say regarding safety?
Step 3: Evaluate the risk: (The Traffic Light Model)

Risk Rating (3 X 3)

- Low
- Medium
- High
# Risk Evaluation

<table>
<thead>
<tr>
<th>SEVERITY</th>
<th>LIKELIHOOD</th>
<th>RISK RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Cuts, Grazes, Sprains, Damaged but functional</td>
<td>Unlikely To Occur</td>
<td>1 (L-Low)</td>
</tr>
<tr>
<td>Serious Injury, Fractures, Concussion, Repairable Damage</td>
<td>May Occur</td>
<td>2 – 4 (M-Medium)</td>
</tr>
<tr>
<td>Major Injury Or Death, Total Damage</td>
<td>High Probability Of Occurring</td>
<td>6 – 9 (H-High)</td>
</tr>
</tbody>
</table>

- **Risk Rating**
  - 1 - Low
  - 2 - Medium
  - 3 - High

- **Likelihood**
  - Unlikely To Occur
  - May Occur
  - High Probability Of Occurring

- **Severity**
  - Minor Cuts, Grazes, Sprains, Damaged but functional
  - Serious Injury, Fractures, Concussion, Repairable Damage
  - Major Injury Or Death, Total Damage

- **Risk Rating**
  - No further control measures are required.
  - Justifiable Risk
  - Risk is not acceptable
The Traffic Light Model of Risk Tolerance

High
Prohibition or Substitution

Medium
Reduction necessary

Low
Acceptable
The Steps to Risk Assessment

- **Step 3: Evaluate the risk:**
- The “Principles of Prevention” (**ERICPD**)
  - **E** – Elimination of hazard
  - **R** – Replacing/Reducing risk
  - **I** – Isolation of hazard
  - **C** – Controls (Engineering, Administrative)
  - **P** – Personal Protective Equipment (**appropriateness**)
  - **D** – Discipline (**Information, Instruction, Training & Supervision**)
## The Steps to Risk Assessment

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Record findings and implement control measures.</th>
</tr>
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<tr>
<td>Step 5</td>
<td>Review of risk assessment and update if necessary.</td>
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</table>
The Steps to Risk Assessment

- **Step 4: Recording of significant findings**
  - Risk assessment log/registry
  - Communicating the risk to relevant parties
  - Ownership of the risk
    - Corrective measures to be carried out by whom?
    - Time frame
Points to ponder before implementing risk controls

1. **Assess the risk controls** for any hazards that may result from their implementation and conduct a risk assessment.

2. **Advise affected workers** of the control and **train** them in the procedures surrounding the control.

3. **Amend checking, reporting and auditing documents** to reflect the new control (e.g. maintenance records).

4. **Review (countercheck) the control regularly** to determine whether it is working to eliminate or reduce the original risk.

5. **Provide adequate supervision (plus I.I.T if necessary)** to ensure controls are being implemented correctly.
The 5 points are important process to ensure that a new control does not create a problem in your workplace in the process of trying to fix the original problem.
The Steps to Risk Assessment

- In taking action, the aim is:
  - Get rid of the hazard altogether
  - Control the risk so that harm is unlikely

- Apply the “Principles Of Prevention” (ERICPD) in hazard elimination or controlling risk.
Workplace & People Controls

• Workplace
  ▪ E – Elimination
  ▪ R – Reduction
  ▪ I – Isolation

• People
  ▪ C – Controls
    ✓ Engineering
    ✓ Administrative
  ▪ P – aPPE
  ▪ D – Discipline
    ✓ I - Information
    ✓ I - Instruction
    ✓ T - Training
    ✓ S - Supervision
The Steps to Risk Assessment

- **Step 5: Review of risk assessment**
  - New people, equipment, materials, environment and organizational procedures will be introduced which could lead to new hazards
  - If there is any significant change, add to the assessment to take account of the new hazard
  - It is good practice to review the assessment from time to time to ensure precautions are still working effectively.

**Note:** trivial change may or may not affect risk assessment
Risk Dynamics
Suitable and Sufficient Risk Assessment

- **Suitable**
  - A RA should take into account the severity of hazards well known in the type of activity/business.
  - It can only refer to concrete findings (or anticipated risks) on site and at a certain point of time.
Suitable and Sufficient Risk Assessment

**Sufficient**

- A RA should develop prioritized control measures to improve the occupational health and safety situation according to the well known hierarchy of prevention principles.
Risk Control Measures

- Proper allocation of appropriate resources
- Making the level of control proportionate to the risk
- Anticipation of “foreseeable” risk
- Setting up of timeframe for implementation of control measures
- Sensible review of activities
- Compliance to regulations, policies, standards
- Addressing workplace health and safety issues
Sample Risk Assessment Data
Collected January 2013 – January 2014

Identified Hazards

SAFETY ELEMENTS

Amount of identified hazard/risk subjects

372
143
163
123
Risk Assessment Data
Collected January 2013 – January 2014

Risk Analysis & Rating in relation to Control Measures

- High: 71%
- Medium: 23%
- Low: 2%
Sample Risk Assessment Form

<table>
<thead>
<tr>
<th>HAZ. ID</th>
<th>IDENTIFIED HAZARD</th>
<th>ASSOCIATED RISK/S</th>
<th>WHO / WHAT CAN BE AFFECTED?</th>
<th>RISK RATING (L x S = RR)</th>
<th>EXISTING CONTROL MEASURES</th>
<th>ADDITIONAL RECOMMENDED MEASURE/S</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Main Location/Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Sub-Location/area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>Main Location/Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Sub-Location/area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>Main Location/Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Sub-Location/area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Photograph/s can be attached as supporting evidence of high risk rating and to justify the need for immediate remediation/mitigation.

LEGEND:

<table>
<thead>
<tr>
<th>LIKELIHOOD (L)</th>
<th>SEVERITY (S)</th>
<th>RISK RATING (RR)</th>
<th>RISK SCORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>3   HIGHLY LIKELY to occur</td>
<td>MAJOR damage to equipment, Materials, Environment and harm to People or Strategic Objectives</td>
<td>3 6 9</td>
<td>HIGH Identified risks are Not Acceptable. Further control measures required.</td>
</tr>
<tr>
<td>2   LIKELY to occur</td>
<td>SERIOUS damage to equipment, Materials, Environment and harm to People or Strategic Objectives</td>
<td>2 4 6</td>
<td>MEDIUM Risk/s Justified by existing controls.</td>
</tr>
<tr>
<td>1   UNLIKELY to occur</td>
<td>MINOR damage to equipment, Materials, Environment and harm to People or Strategic Objectives</td>
<td>1 2 3</td>
<td>LOW/TRIVIAL No Further Control measures are required</td>
</tr>
</tbody>
</table>
Risk Assessment Exercise

- Following the 5 steps to Risk Assessment, let us do a simple assessment:
  - Step 1:
  - Step 2:
  - Step 3:
  - Step 4:
  - Step 5:
Risk Assessment Exercise

- Following the 5 steps to Risk Assessment, let us do a simple assessment:
  - Step 1:
  - Step 2:
  - Step 3:
  - Step 4:
  - Step 5:
Significant Risk?
Footrest or Risk?
What can be the organizational impact of this risk?
Challenges in Risk Assessment

- Suitability and sufficiency of RA
- Individual capabilities in conducting risk assessment.
- Organizational system adopted in the RA process.
- Singling out of a safety element targeted during RA.
Take home message

Risk comes from not knowing what you're doing.

By: Warren Buffett

Risk comes from around us that we fail to associate with any hazard which we miss to recognize.

By: Leo Dote
Useful References

- HSE-UK 5 Steps to Risk Assessment
- Health and Safety Risk Management, Dr. Tony Boyle
Any Risky Question?
Thank you for listening

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