Insights into Risk Tolerance

Risk tolerance involves weighing a number of factors that influence a decision to either accept or reduce risk.

Dave Fennell and the ExxonMobil Human Factors COE Task Force explored:
• Relationship between Hazard Recognition, Risk Perception and Risk Tolerance
• Factors that influence decisions to take chances
Risk Perception and Tolerance Model

EXPOSURE

IDENTIFY the Hazard

Do I See It?

PERCEIVE the Risk

Do I Understand it?

The hazard is NOT RECOGNIZED

The hazard is NOT UNDERSTOOD

At Risk Behavior

The risk is ACCEPTED

Safe Behavior

The risk is Not Tolerated

The DECISION

Do I Accept it?

Hazard Identification ≠ Risk Tolerance
10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk
1) Overestimating Capability/Experience

“I can lift 75 kg in the gym ... I can lift this nitrogen bottle”

“I have driven in worse conditions than this and did just fine”

Strategies for Reducing Tolerance

• Reflect on your role as a mentor
• Acknowledge that the capability or skill may be sufficient and then reinforce the way that it should be done.
2) Familiarity with the Task - Complacency

“He had done this task 500 times without hurting himself”

“We had stacked about 200 of them when ...”

“You get used to it after a while”

Strategies for Reducing Tolerance

• ‘Situational Awareness’ – Every time like the first time .... ‘Stop and Think’

• ‘What could go wrong this time?’
3) Seriousness of the Outcome

‘Pinch Point’ ... what about ‘Crush’ or ‘Amputation’ point

“Sweet gas” ??  Hot Water” ??

Strategies for Reducing Tolerance

• **Stop and Think** “How bad could it be? Really ...How bad could it be?”

“It’s just a skid steer”
4) Voluntary Actions and Being in Control
Key factor in off the job risk – **15 times** more likely to be hurt off the job

**Strategies for Reducing Tolerance**
- Integrate ‘**Stop and Think**’ into your personal activities
5) Personal Experience with an Outcome

**Challenge:** As Incident Rates improve, fewer people will have had personal experience and leads to **Scepticism**

**Strategies for Reducing Tolerance**

- ‘Expert observers’, supervisors, ‘keepers of the corporate memory’ have the obligation to ensure workers know:
  a) Incidents **have** occurred because of not following that standard
  b) Demonstrate that there **have** been serious consequences
6) Cost of Non Compliance

Greater cost for non-compliance can lower risk tolerance

Strategies for Reducing Tolerance

• Identify the cost of non compliance and increase it where necessary
• Remove barriers and increase reward for compliance
7) Confidence in the Equipment

This ladder is twice as stable …

1995 US Study – Drivers of vehicles with ABS and airbags have more accidents

Parachuting – Safer equipment … why is the sport not safer?

Strategies for Reducing Tolerance

Training on limitations of the equipment and engineering

Stop and Think … What will happen if it does fail?
8) Confidence in Protection and Rescue
Excellent PPE can result in over confidence in it’s ability to protect

Strategies for Reducing Tolerance
Understand the limitations of protection & rescue
See them as ‘last lines of defence

“How every job should be able to be done safely by a 65 year old with a bad back and ...” Howie Dingle
9) Potential Profit and Gain from Action

- US Highways Study – deaths on highways tracks directly with the economy
- Alberta WHS – fatalities and lost time incidents in the oil patch increase and decrease with the price of oil.

Strategies for Reducing Tolerance

- Remove rewards for risk taking
- Eliminate barriers to doing it the ‘right way’
10) Role Models Accepting Risk

- When Role Models in a work group accept a certain level of risk, they influence the decisions to accept risk by other members of the group.

Strategies for Reducing Tolerance

- Identify and address the risk takers (including yourself – where are you on the ‘risk-taking’ scale?)
- Recognize ‘Erosion of Standards’ and address immediately
Move to Action

What Could Go Wrong?

How Bad Could It Be?

What can I do about this?
Conversations about Risk Tolerance

... during Behaviour Observations
... during Stop and Think moments
... at Safety Meetings

... which Influencing Factor could be impacting our decisions?
Before and during a task or activity

Stop & Think

What am I trying to do here?
What could go wrong?
How bad could it be?

Is this the safest way to do this?
Has anything changed? Could something change?
Am I physically and mentally ready?
Do I have the right tools and equipment?

What do I need to do to make it safer?
Use the right tools. Use the correct PPE. Reduce the risk! STOP if it cannot be.

I Choose to Reduce Risk

Identify one personal behaviour that you know presents a risk at your work site:

I am committing to take the following action to eliminate that risk from my work:

by (date) Signature

Keep this card for a follow up discussion with your team.
Resources to Get You Started

Before and during a task or activity

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What could go wrong?
How bad could it be?

Is this the safest way to do this?
Has anything changed? Could something change?
Am I physically and mentally ready?
Do I have the right tools and equipment?

What do I need to do to make this safe?
Use the right tools. Use the correct procedure. Reduce the risk! STOP if it can’t be done safely!

Job Safety Analysis Worksheet

Tailgate FLHA LMRA JSA

10 Factors That Influence Risk Tolerance

1) Overestimating Capability and Experience
   - Overdo the job (LBE, Stop & Think)
2) Familiarity with the Task
   - What can go wrong “first time”
   - How would I teach a new person how to do this task?
3) Seriousness of Outcome
   - How can it fail?
4) Voluntary Actions and Being in Control
   - Integrate stop & think into personal and voluntary activities
5) Personal Experience with an Outcome
   - Keep the “corporate memory” alive
   - Find personal stories to reduce apathy
6) Cost of Non-Compliance
   - Remove barriers to compliance
   - Increase cost of non-conpliance
7) Confidence in the Equipment
   - Stay informed on the limitations of the equipment
   - Keep it simple; “what would happen if it failed”?
8) Confidence in Protection and Rescue
   - PPE is a tool of defense and not defense
9) Potential Profit & Gain from Actions
   - Remove rewards for risk-taking
   - Eliminate barriers to doing the task “right way”
10) Role Models Accepting Risk
    - Address role models immediately
    - Recognize (mention of training on the spot, if necessary)
    - Correct risk at every stop and time

Stop & Think

STOP & Think

Stop
Think
Act

What am I trying to do here?
What could go wrong?
How bad could it be?

Is this the safest way to do this?
Has anything changed? Could something change?
Am I physically and mentally ready?
Do I have the right tools and equipment?

What do I need to do to make this safe?
Use the right tools. Use the correct procedure. Reduce the risk! STOP if it can’t be done safely!
You can create a safety culture that reduces Risk Tolerance

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