Understanding and Influencing
Risk Tolerance

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They knew the hazard but they proceeded anyway. Why??

Why wouldn't they see that coming?

Do we understand Risk Tolerance? Risk Appetite? Different types of Risk?

Reflecting on Risk

Dave Fennell Safety Inc.
Reflecting on Risk Tolerance

Risk Tolerance

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

Risk tolerance is individual
Reflecting on Risk Tolerance

Risk Tolerance

- How these factors are perceived and weighed in the mind of the worker and work group
Risk Tolerance

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?

The hazard is NOT RECOGNIZED

PERCEIVE the Risk

Do I Understand it?

The hazard is NOT UNDERSTOOD

At Risk Behavior

The risk is NOT TOLERATED

The DECISION

Do I Accept it?

The risk is ACCEPTED

Safe Behavior

The risk is TOLERATED
Risk Perception / Tolerance Model

Hazard Identification  ≠  Risk Tolerance
In the Classroom

In the ‘Workplace’
• JSA often identify the hazard
• Hazard is discounted or no mitigation

“BE CAREFUL”
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 stack 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?’
• ‘How would I teach a new person to do this?’
3) Seriousness of the Outcome
How Bad Could it Be?
‘Pinch Point’ … or is it a ‘Crush’ or ‘Amputation’ point

Strategies for Reducing Tolerance

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

“It’s just a skid steer”

Hot Water????
4) Voluntary Actions and Being in Control

Key factor in off the job risk – **28 times** more likely

"While managing the risks on the road can be a difficult challenge, ‘Stop & Think’ is my most valuable tool. Every intersection, blind corner, congested area... What could go wrong? How bad could it be?"

**Before and during a task**
- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
- Am I physically and mentally ready?
- Do I have the right tools and equipment?
- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.
- Stop if it can’t be done safely!

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

If you have seen a serious outcome, you will be less tolerant of the risk

Challenge: If we haven’t seen it, we become Sceptical

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
Effective when used selectively

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

“Ladder is twice as stable, therefore ... ”

- 1995 US Study – Drivers of vehicles with ABS and airbags have more accidents
- Parachuting – *Risk Homeostasis*

“*It’s got a trip wire*”

**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’

“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 Safety Observations
... during Stop and Think moments
... at Safety Meetings
... refresh the ‘corporate memory’
... which Influencing Factor could be impacting our decisions?
"I Choose to Reduce Risk"

**Before and During a Task**

- What could go wrong?
- How bad could it be?
- Has anything changed?
- Am I physically and mentally ready?
- Do I clearly understand my role?
- Do I have the right tools and equipment?
- Make it safe.
- Use right procedure.

**STOP & Think**

**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
- What could go wrong?
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- Has anything changed?
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- Do I have the right tools and equipment?
- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can’t be done safely!

10 Factors That Influence Risk Tolerance

1) Overestimating Capability and Experience
   - Reinforce the correct way of doing the job (LPC, Stop & Think)

2) Familiarity with the Task
   - What could go wrong THIS time?
   - How would I teach a new person how to do this task?

3) Seriousness of Outcome
   - How bad could it be?

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’ active
   - Find personal stories to reduce scepticism

6) Cost of Non-Compliance
   - Remove barriers to compliance
   - Increase cost of non-compliance

7) Confidence in the Equipment
   - Stay informed on the limitations of the equipment
   - Stop and Think ... “What would happen if it failed?”

8) Confidence in Protection and Rescue
   - PPE is a last line of defence and has limitations

9) Potential Profit & Gain from Actions
   - Remove rewards for risk taking
   - Eliminate barriers to doing the tasks the ‘right way’

10) Role Models Accepting Risk
    - Address risk takers immediately
    - Recognize ‘Erosion of Standard’ address it immediately
    - Calibrate risk tolerance at every Stop and Think moment

Before and during a task
- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
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- Make it safe.
- Use right tools.
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Stop if it can’t be done safely!
We can create a safety culture that reduces Risk Tolerance

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