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DuPont's Dirty Dozen

These are the twelve contributing factors that can set you up to make an error no matter what your occupation. Following each factor are strategies which can be used to prevent or mitigate the risk factor.

1. Lack of communication

Put simply this is the failure to exchange information. We should be aware of how this comes to happen, and also what safety nets will prevent it. In good communication, "the mental pictures must match."

- Use handover effectively to discuss work to be done and what has been completed.
- Never assume, ask.

2. Complacency

This is where we become so self-satisfied that we lose awareness of dangers. It is sometimes called overconfidence and can creep in as we become more proficient at what we do. Awareness of this insidious factor is one of the safety nets that helps to reduce it.

- Expect to find a problem and have a fall-back plan.
- Do not sign for work you did not verify was done.

3. Lack of knowledge

With constantly changing technology, this contributor is more common than we think. Be aware that the average human only retains about 20 percent of what they learn, unless they use it often. Training is one of the best safety nets to address this issue.

- Use drawings, instruction books, guidelines, procedures.
- Use current version of guidelines.
- Ask someone who knows.

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4. Distraction

This is anything that takes your mind off the job at hand even for an instant. Our mind works much quicker than our hands, and thus we are always thinking ahead. Any distraction can cause us to think we are further ahead than we actually are. This contributing factor is known to be responsible for a significant percentage of accidents in complex environments.

- Finish the job before dealing with distractions.

- Mark uncompleted work.

- Self-check, peer check or independently check your work is complete.

- Use a check list.

- When you return to the job, always go back three steps.

- If interrupted using a checklist, go back three steps to insure you do not skip a step.

5. Lack of teamwork

The larger an organisation becomes, the more common this contributing factor is. Because teamwork is constantly evolving and changing, it must be constantly worked on to prevent accidents from occurring. It is hard to gain and very easy to lose.

- Use the job brief to discuss what, who and how a job is to be done.

- Insure everyone understands and agrees.

6. Fatigue

This is considered a major contributor to human error. It is insidious, and the person fails to realise just how much his/her judgment is impaired until it's too late. Fatigue seldom works alone but is a contributor to one or more of the other dirty dozen.

- Be aware of the symptoms and look for them in yourself and others.

- Avoid complex tasks between 03:00 and 05:00 AM (the low of circadian rhythm).

- Sleep and exercise regularly.

- Self-check, peer check or independently check your work.

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7. Lack of resources

Lack of resources to safely carry a task has caused many accidents. For example, equipment which would provide a safety net in an emergency situation.

- Check for needed material and equipment before starting work.
- Order and stock anticipated equipment before it is required.

8. Pressure

Pressure to be on time is ever-present. Most organisations are time-sensitive and many decisions centre around that fact. Many pressure-caused errors are caused by self-pressure. We must learn to recognise and deal with pressure.

- Be sure that pressure isn't self-induced.
- Communicate your concerns.
- Ask for extra help.
- Just say 'No'.

9. Lack of assertiveness

Lack of assertiveness in failing to speak up when things don't seem right has resulted in many accidents. However, assertiveness also calls for listening to the views of others before making a decision. Assertiveness is that middle ground between being passive and aggressive.

- If you see something, say something, get other people looking at the problem.
- Do not compromise your standards.

10. Stress

Stress is the subconscious response to the demands placed upon us. We all have some stress in our lives, and it is not all bad unless it becomes excessive. We must learn how to manage stress, or it will manage us with a high probability that human error will occur.

- Be aware of how stress can affect your work.
- Stop and look rationally at the problem.
- Determine a rational course of action and follow it.
- Take time off or at least have a short break.
- Discuss it with someone.
- Ask fellow workers to monitor your work.
- Exercise your body.

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11. Lack of awareness

Lack of awareness occurs when there is a lack of alertness and vigilance. This often occurs with very experienced persons who fail to reason out possible consequences to what may normally be a good practice. One of the safety nets for lack of awareness is to ask more "what ifs" when there is conflicting information or things don't quite seem right.

- Anticipate what may occur in the event of an accident.

- Check to see if your work will conflict with other work being performed.

- Ask others if they can see any problem with the work done.

12. Norms

Norms is short for "normal," or the way things are done around here. Norms are unwritten rules followed or tolerated by the majority of a group. Negative norms are those that detract from an established safety standard.

- Be aware the "norms" don't make it right.

- Be aware that "norms" may lead to reduction of safety margins as organisations become comfortable with practices.