

Human Factors and COVID-19:

Strategies for reducing human error

What is Human Factors?

Human Factors (HF) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system (International Ergonomics Association).

Why do I need to know?

Health professionals are all human and none of us are infallible; error is unavoidable. Training and experience alone will not stop us from making mistakes.

By thinking about potential issues ahead of time, you can identify risks or 'hot spots' in your area of work and then discuss with your team at handover and huddles and plan strategies to reduce, eliminate or mitigate the risks.

If we are to avoid or mitigate errors we need to:

1. Notice
2. Understand
3. Think and Plan ahead

What does human factors have to do with COVID-19?

The potential for error is heightened during uncertain times. It is acknowledged that staff are under significant pressure due to COVID-19 (coronavirus). There are fears around maintaining personal safety whilst ensuring patient safety. There are also many social pressures arising that impact on well-being.

Introducing the Dirty Dozen:

The Human Factors 'Dirty Dozen' is a concept developed by Gordon DuPont. He described elements that can act as precursors to accidents or incidents, or influence people to make mistakes.



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Dirty Dozen Element	Clinical Practice Examples	Strategies
Lack of Communication	<p>Ineffective communication/ not being heard/ misleading communication.</p> <p>Confirmation bias: when you lead the other person towards a decision, often without realising e.g. <i>“This result looks normal, don’t you think?”</i> or <i>“My PPE is right isn’t it?”</i></p>	<ul style="list-style-type: none"> • Use a structured communication tool e.g. ISBAR • Break down boundaries to promote open discussion • Ask <i>“How is the Patient?”</i> OR <i>“How is my PPE?”</i> • Frame your questions to encourage discussion and not confirmation bias
Complacency	<p>It is important to understand that knowledge is changing rapidly.</p> <p>Don’t assume that things are the same as they always have been.</p>	<ul style="list-style-type: none"> • Think outside the box: Challenge assumptions • Check in with yourself • Always view each patient individually and make an assessment based upon the full clinical picture
Distraction	<p>Worrying that you are wearing PPE correctly and that the environment is safe can distract you from the individual patient and their complexities.</p> <p>If you have underlying worries about this then you will be distracted and will be more prone to making an error.</p>	<ul style="list-style-type: none"> • Make sure you know what PPE you need and how to put it on and take it off correctly. If you have concerns, stop and attend to this urgently • Fresh Eyes from a colleague can pick up mistakes and provide reassurance • <i>“Stop the clock @ 1 o’clock”</i> safety huddles • Maintaining situational awareness/ helicopter view over the full clinical picture

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Stress	<p>Subconscious response to pressure and demands that have a physical impact on us.</p> <p>Stress can drain our energy levels and reduce our ability to concentrate.</p>	<ul style="list-style-type: none"> • Conscious awareness of our own stress levels • Promoting wellbeing within the team • Take 10 @ 10 – pause for thought • Call for help when you need it. If a colleague is asking for help, then assist them to get help
Lack of resources	<p>Searching for equipment in an emergency, not having the necessary equipment easily to hand in emergency situations.</p> <p>Equipment in rooms may have been removed to reduce contamination during COVID-19 pandemic.</p>	<ul style="list-style-type: none"> • Ensure you have the necessary equipment at hand • Speak to your manager if you have any concerns about essential equipment not being readily available • Raise equipment concerns at safety huddles and make sure teams are aware of resource locations.
Lack of teamwork	<p>Feeling unsure of what's happening/ unsure of the plan.</p> <p>May be working with new team members each shift.</p> <p>Not knowing the team's strengths and weaknesses.</p>	<ul style="list-style-type: none"> • MDT handovers including introductions. Ask about the wellbeing of the team • Work through problems together • Identify latent threats on the shift: Look at where the 'hot spots' may come from. Use the Dirty Dozen to predict and then apply strategies to prevent –

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Pressure	<p>Feelings of being overwhelmed and not in control can come from both external and internal sources.</p> <p>Working in situations that are new to us can put us under more pressure and we can respond inappropriately.</p>	<ul style="list-style-type: none"> • Prioritise, delegate and ask for help when you need it • Take “Stop moments” if needed • Think about patient safety and ask yourself if this is safe • Ask yourself if alteration to usual care is appropriate and in the best interests of the patient • Ensure you read information carefully and ask if you don’t understand
Lack of assertiveness	<p>Noticing significant issues in care practices but feeling unable to speak up within the team.</p>	<ul style="list-style-type: none"> • Breaking down hierarchy • Keep open channels of communication with the team • Promote a safe culture • Speak up for safety: Acknowledge and respond to your gut instinct
Lack of Knowledge	<p>COVID-19 is new to us all and there is a lot of new knowledge which changes every day</p>	<ul style="list-style-type: none"> • Team huddles: Share new information • Know where to access new information
Norms	<p>Working to a set of unwritten rules or beliefs which can detract from safety standards.</p>	<ul style="list-style-type: none"> • Challenge assumptions within the team and yourself • Refer to relevant policies, procedures and guidelines • Raise concerns within your team and escalate

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<p>Fatigue</p>	<p>Tiredness and an inability to perform tasks properly.</p> <p>It is important to acknowledge that home lives are also currently disrupted which can affect the ability for staff to rest adequately.</p> <p>The concerns around COVID-19 can lead to insomnia and disrupted sleep.</p> <p>Staff may be working longer hours and in difficult situations.</p>	<ul style="list-style-type: none"> • Use checklists and simplified guideline algorithms in practice. Ensure safety nets facilitated i.e. 2 person drug calculation checks and administration, 2nd opinion checks • Acknowledge the fatigue particularly associated with night shifts but also when you or your colleagues are not sleeping well. Check in with each other at the start of shift • Ensure you are aware of designated rest areas for staff and take breaks, especially at night. Take your break and support others to take theirs • Speak to your manager if you are feeling fatigued
<p>Lack of teamwork</p>	<p>Feeling unsure of what's happening/ unsure of the plan.</p> <p>May be working with new team members each shift.</p> <p>Not knowing the team's strengths and weaknesses.</p>	<ul style="list-style-type: none"> • MDT handovers including introductions. Ask about the wellbeing of the team • Work through problems together • Look at where the 'hot spots' may come from. Use the Dirty Dozen to predict and then apply strategies to prevent – team leaders have a key role here

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Lack of awareness	Remember so much is changing Not everyone will know	<ul style="list-style-type: none">• Communicate effectively• Talk about what's new at your huddles• Support each other• Have a clear message that is OK not to know• Be kind to ourselves and to each other