Atrium Health

ERROR PREVENTION

SKILLS

How we use Error Prevention Skills to improve the reliability and safety of care for our patients and teammates at Atrium Health

Our mission: To improve health, elevate hope and advance healing – *for all*

Our vision: To be the first and best choice for care

PATIENT PRIORITIES
Don't harm me
Heal me
Respect me

OUR VALUES
Caring
Commitment
Integrity
Teamwork

OPERATIONAL EXCELLENCE
Quality & Safety
Patient Experience
Teammate Engagement
Efficiency

Operational Excellence through Reliable safety, quality and service

Error Prevention Tools

PAY ATTENTION TO DETAIL	Self-check using STAR (Stop, Think, Act, Review) Cross Monitoring
COMMUNICATE CLEARLY	Ask clarifying questions Phonetic and numeric clarification Repeat back
APPLY A QUESTIONING ATTITUDE	Validate and verify
KNOW AND COMPLY WITH PROTOCOL	Continuous use and reference us protocol
SPEAK UP	I am concerned, I am uncomfortable, STOP, this is a safety issue (CUS)

Patient Safety

What is patient safety?

The Institute of Medicine (IOM) defines patient safety as freedom from accidental injury. The Joint Commission takes a broader view of safety and defines patient safety through their definition of a sentinel event—any unanticipated event in a health care setting resulting in death, permanent harm, severe temporary harm or psychological injury to a patient or patients, not related to the natural course of the patient's illness. Safety would then be protecting patients from those events while they are receiving care.

No matter how safety is defined, safety is protecting people from harm. Harm is defined as any bad outcome caused by and/or allowed to occur in the course of helping patients reach their best possible outcome.

Some types of harm are closely associated with direct patient care, such as a medication error. Other types of harm are less associated with direct care and more associated with being in a care setting, such as falls and pressure ulcers. Furthermore, some harms are not closely associated with patient care at all and are only labeled as patient safety because the harm happened to a patient, such as a physical assault.

The table below, while not all inclusive shows the diversity of patient harm.

Types of Patient Harm		
Procedure on wrong patient	Infections	Discharge to wrong person
Procedure on wrong site	Falls	Elopement
Wrong procedure on patient	Pressure ulcers	Suicide or attempt
Preventable procedural complications	Restraint entanglement	Discharge to wrong care setting
Medication errors	Burns	Abduction
Hemolytic reactions	Wrong on toxic gases	Sexual assault
Hypoglycemia	Contaminated drugs	Physical assault
Delay in diagnosis or treatment	Contaminated devices	

In 1999 the Institute of Medicine put out a report called "To Err is Human" where they described the magnitude of patient harm, stating that between 44,000 to 98,000 deaths occur each year as the result of medical mistakes and errors. That's like a 747 full of people crashing each and every day! There have been other studies that support this number – including one presented in the Journal of Patient Safety in 2013 that found between 210,000 and 440,000 patients suffer EACH YEAR from preventable harm that contributes to their death. The BMJ came out with a study last year that said 251,000 people die each year from medical error, making it the third leading cause of death in the U.S. behind cancer and heart disease.

What can I do?

Everyone has a role in keeping patients safe. There are four general things we should all do for every patient, every time:

1. Do your job very well—pay more attention and be more compliant when performing tasks associated with safety.
2. Know how patients may be harmed, anticipate those conditions that lead to harm, and take action to prevent harm.
3. Pay attention to your colleagues (cross monitoring) and help them to prevent harm (with an assist).
4. Speak up if you see conditions that could lead to harm. Use chain of command if colleagues are unresponsive to your concerns

Systems thinking and high reliability

What is systems thinking?

Systems thinking is the science of reliability in complex systems. And since health care is a human-based system, where people, not machines, do most of the important work, systems thinking in health care is essentially the science of human performance in complex systems.

Reliability simply means the probability that a system will perform correctly. Reliability can be expressed as a ratio (e.g., 98:100) or a percentage (e.g., 98%). Reliability is perfect performance minus the error rate:

Reliability = 1 – Error Rate So the example 98% reliability would have a 2% error rate.

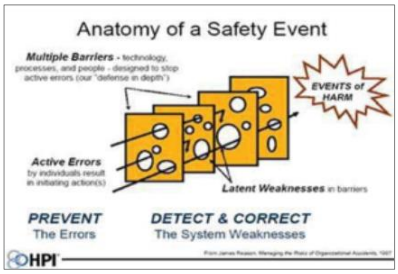
In systems thinking, system problems are the majority cause of error. All people are presumed to be capable of experiencing human error. Reliability is the mix of best behavior-shaping factors in the system: people, process, policy and protocol, technology, and environment of care.

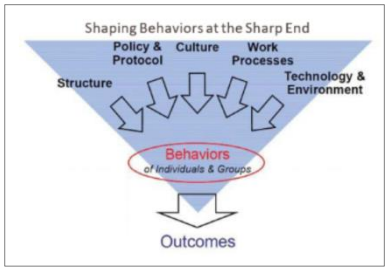
People left on their own can only be as reliable as one (1) error per every 1,000 attempts or 10-3 performance. 10-3 performance is the limit of human reliability. If we want more reliable performance, we must give the people assistance in the form of the other system behavior-shaping factors such as technology or a protocol.

Making reliability a reality

We use two models to describe and help us better understand human reliability in complex systems. James Reason's Swiss Cheese Effect shows how multiple errors in a system lead to events of patient harm. David Woods' Sharp-End Model reinforces this concept of systems causing human error, and also defines the behavior-shaping factors of complex systems which impact human behavior and thus determine outcomes.

The Swiss Cheese Effect shows that events of harm are a combination of active errors that trigger the system and latent system weakness (the holes) that allow the error to reach the patient and cause harm. Safety is the absence of events—zero events of harm. This model shows two basic approaches to achieving zero: 1) Prevent active errors that trigger events. 2) Find and fix the latent system weaknesses.





Cook & Wood's Sharp End Model (inset left) shows that systems cause human error. The inverted blue triangle represents the system. People work at the point, the sharp end. The blunt end represents the ideal state where information is always correct and resources are always available. In the middle of the triangle is the real world. The difference between the real world and the ideal world causes the stress on people that results in human error.

The arrows are the five groups of behavior-shaping factors. There are two approaches to preventing error: 1) Make the real world more like the ideal world. 2) Use behavior of people at the sharp end (the red oval) to prevent human error even when the system cause is present. In practice, all health care systems use some sort of approach to both.

Culture

What is culture?

Culture is the shared values and beliefs of an organization. Culture is important because culture determines behavior, and in human-based systems, behavior determines outcomes.

Culture is one of the five behavior-shaping factors in Cook & Wood's Sharp End Model. The other four are organizational structure (which dictates job design), work processes, policy and protocol, and technology and environment (of care). These four factors are sometimes referred to as forcing functions. Culture is the stronger of the five because culture is a choosing function—we choose the behavior because we believe the behavior is the best for us and our patients.

Patient safety culture is the sum of several subcultures. Many of those subcultures are shared with other aspects of the performance culture—a few subcultures are virtually unique to safety. In this respect, patient safety culture is like a gumball machine, with each gumball representing a subculture or a property of a subculture. The entire machine is the sum of the parts.

Patient safety culture can be organized into properties of people/teams, leadership, the systems people work in, and learning the people apply to themselves and the systems in which they work (see table below based on the HPI Safety Governance Index).

People and Teams	Leadership	Systems	Learning
Situational awareness	Safety as a core value	Simple work processes	Leader involvement
Attention to detail	Behavioral expectations	Training programs	Measurement
Conservative and compliant	Just accountability	Standardized protocol	Transparency & reporting
Critical thinking	Situational awareness	Intuitive environment	Cause solving
Knowledge and skills	Resource allocation	Intuitive devices	Learning from others
Clear communications	Task prioritization	Technology accelerators	Continuous improvement
Cross monitoring	Problem solving	Emergency plans	Process simplification
Resilient – committed to outcome	Consequence confinement		Monitoring and assessment

To summarize: Patient safety culture is comprised of people who think safety is important, have the knowledge and skills to perform their tasks with high reliability, are mindful of anticipating harm, are resilient to take action to prevent harm, work in systems that support high reliability, manage those systems for high reliability, and are transparent with failures so that systems are improved.

Culture

What is human error?

Human error is the science of human performance when performance does not meet standards. Human error is a cross discipline study of psychology, organizational behavior, and human factors engineering. There are many ways to categorize human error:

- exogenous versus endogenous (i.e., originating outside versus inside the individual)
- situational assessment versus planning
- distinctions in:
    - errors in problem detection (signal detection theory)
    - errors in problem diagnosis (problem solving)
    - errors in planning and execution (e.g., slips—errors of execution versus mistakes—errors of intention)

Human performance includes perception, cognition, and execution. As a result, human error is studied as perceptual (e.g., optical illusions), cognitive communication, and organizational. The cognitive study of human error is a very active research field, including work related to limits of working memory and attention, and also to decision making strategies such as heuristics and other cognitive biases. In health care, nursing commonly refers to this bias as critical thinking while medical staff tend to call the bias cognitive error. Heuristics and breaking biases are error prevention strategies that are useful and often correct, but can lead to systematic patterns of error.

The human error classification most useful in field applications to prevent human error is the Generic Error Modeling System (GEMS). This system was first developed by Jens Rasmussen in 1974 as the Skill-Rule-Knowledge system. James Reason made improvements to the system in 1988 and renamed it GEMS. This system is most efficient for use in error prevention because the system is simple and practical. The table below summarizes each of the error types and shows the indicated error prevention skill(s).

Performance mode	Error type	People prevention	System prevention
Skill-based Auto-pilot. Routine acts performed in familiar environments using learned skills.	Slip	Self-checking	Automation, error proofing
	Lapse	Cross checking	Checklist
	Fumble	Visualization	Automation, error proofing
Rule-based Expert choosing. Conscious choices using learned principles or rules.	Wrong rule	Questioning attitude	Protocol, checklist
	Misapplication	Questioning attitude	Collegial team
	Noncompliance	Intelligent compliance	Simplification, forcing function
Knowledge-based Out of the box. Conscious choices where no rules exist or are unknown to user.	Decision-making	Stop when unsure	Collegial team
	Problem solving	Stop when unsure	Collegial team

Why so much focus on human error?

When people mean well and are competent, only human error remains. Harm is mostly a human error issue. And while human error is system-caused, human error can be human prevented. 74.5% of errors leading to serious patient harm can be prevented using safety culture. These data come from a 96-hospital study of 1,964 cases of serious patient harm. Critical thinking was the single largest contributor to error, seen in 33.2% of the acts leading to harm. Noncompliance was second with 22.5% of the acts.

At this point in the continuous improvement of patient safety, practicing human error prevention is the best way to prevent patient harm.

Nontechnical Skills

What are nontechnical skills?

Nontechnical skills describe how people interact with technology, environment, and other people. These skills include attention, information processing, and cognition. Nontechnical skills are shared across a wide range of job functions—technical skills are not. To change from a pharmacist to laboratory technician for example, one must develop new knowledge and skill sets. However, the nontechnical skills are the same.

Nontechnical skills are very well studied and are best summarized in Rhona Flin's Safety at the Sharp End. Generic nontechnical skills are:

- Situational awareness
- Attention
- Critical thinking
- Protocol use
- Decision-making
- Communication
    - repeat-backs
    - call outs
    - phonetic and numeric clarification
    - clarifying questions
    - inquiry, advocacy, assertion

Remember that patient harm is essentially a human error issue. When people mean well and are competent, only human error remains. And while human error is system-caused, human error can be human prevented. 74.5% of errors leading to serious patient harm can be prevented using safety culture through the use of nontechnical skills. This data comes from a 96-hospital study of 1,964 cases of serious patient harm. Critical thinking was the single largest contributor to error, seen in 33.2% of the acts leading to harm. Noncompliance was second with 22.5% of the acts. At this point in the continuous improvement of patient safety, practicing human error prevention is the best way to prevent patient harm. And bundles of nontechnical skills are the best way to learn and practice human error prevention.

The Error Prevention Skills at Atrium Health is a bundle of nontechnical skills. The nontechnical skills in the bundle were selected because each skill is evidence-based in health care and was indicated by a common cause analysis of patient harm events at Atrium Health.

Self-checking using STAR
(stop, think, act, review)

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	Wrong rule	Decision-making
Lapse	Misapplication	Problem solving
Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Self-checking is a habit of the mind that keeps our attention on task. STAR is a tool for developing strong self-checking habits.

Skill-based errors occur when we are not paying attention. Since patient safety is our priority, we will be putting our best attention on everything related to patient safety.

Stop:	Pause for one second
Think:	Think about the act
Act:	Perform the act
Review:	Check for response

How should we use this tool?

Use self-checking when processing information such as reading a label, flow-sheet, warning sign, posting, computer screen, indicator, etc. Use self-checking when doing things with your hands such as entering data, documenting, connecting devices, selecting supplies, selecting medications, etc. The one second pause keeps our thinking ahead of our doing, so that we never act without thinking.

Did you know?

1. Skill-based errors occur when we are not paying attention. Since patient safety is our priority, we will be putting our best attention on everything related to patient safety.
2. 24% of acts leading to serious patient harm at Atrium Health are skill- based errors.
3. Self-checking with a one second pause reduces the probability of a skill- based error by a factor of 10. A one second pause results in a factor of 100 to 1,000 reduction!
4. Skill-based error probability increases with task and environmental factors such as:
    - Time pressure
    - Interruptions
    - Distractions
    - Fatigue
    - Task complexity

A Case in Point

A radiologist reading a study for a 68-year-old female patient stops to answer a question for a surgeon. The radiologist opens the electronic medical record for a 73-year-old male to answer the question. Following the consult, the radiologist proceeds to read his impression of the 68 year old female into the record of the 73-year-old male. This results in an unnecessary surgical procedure for the 73-year-old male. The 73-year-old male died 8 days later from complications of the procedure. The radiologist could have avoided the error by self-checking following the interruption.

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Three-way repeat-back and read-back

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	**Wrong rule**	Decision-making
Lapse	**Misapplication**	Problem solving
Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Complete and accurate communication is a practice habit that ensures that we understand the patient we are asked to care for and/or the task we are asked to do. This understanding is called situational awareness.

Clear communication is the best way to maintain situational awareness. And since patient safety is our first priority, we will be repeating important information, especially orders, to ensure that we heard what was said.

Repeat-back is oral communication and can be used over a wide range of communications. Read-back is a related practice. Read-back includes documenting the information and reading what was documented back to the sender. Read- back is required by policy for telephone orders and critical lab values.

A three-way repeat-back and read-back

1. Sender initiates using receiver's name
2. Receiver acknowledges with "I understand…" (… and repeats or reads the message verbatim)
3. Sender acknowledges with "that's correct"

How should we use this tool?

Use repeat-back for oral communications where precise detail must be communicated as well as meaning. The correct response for sender acknowledgement is "that's correct." Do not say "right" because this can be interpreted as a laterality instead of an acknowledgement.

Did you know?

1. The word communication comes from the word commune—to be as one, as in "one in thought."
2. Repeat-backs ensure authenticity of communication—you heard it the way I said it.
3. Clarifying questions ensure understanding. Use repeat-backs and clarifying questions together.
4. 19% of acts leading to serious patient harm at Atrium Health are in communication activities.

A Case in Point

A 50-year-old male in urgent care had a blood glucose of 27. The urgent care technician immediately reported this value to the nurse, who thought the technician said 527. The nurse asked the technician to repeat the blood glucose. The second blood glucose was 29, which was reported to the nurse as "the same." The nurse then obtained an order for insulin; she should have obtained an order for D50.

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Phonetic and numeric clarification

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	**Wrong rule**	Decision-making
Lapse	**Misapplication**	Problem solving
Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Complete and accurate communication is a practice habit that ensures that we understand the patient and/or the task we are asked to do. This understanding is called situational awareness.

Understanding gives context to the choices we make. So a poor understanding leads to poor choices—garbage in, garbage out. Since patient safety is our first priority, we will be clarifying letters by saying a word that starts with that letter. And we will be clarifying numbers by saying the number and then saying the digits.

Phonetic Alphabet

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-Ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

How should we use this tool?

The three best times to use phonetic clarification are for patient name, drug name, and procedure name. When using phonetic clarification, say the name, then spell the name by saying the letter and the phonetic clarification for that letter. Numeric clarification is even easier and saves more lives. The best times to use numeric clarifications are for room number, dose, rate, and result. When using numeric clarification, say the number and then say the digits.

Did you know?

1. Situational awareness is a critical thinking skill that gives us the ability to anticipate future problems and notice existing problems.
2. 19% of acts leading to serious patient harm at Atrium Health are in communication activities.
3. Phonetic clarification was developed by military organizations for high reliability when communicating under difficult conditions. Until 1957, each U.S. military service had their own phonetic alphabet. Now, each service uses the alphabet inset above.

Numeric Clarification

For 15, say “15, that’s one – five”

For 50, say “50, that’s five – zero”

For 0.9, say “0.9 that’s zero-point-nine”

For 3-4, say “the range of three to four”

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Ask clarifying questions

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	**Wrong rule**	Decision-making
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Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Complete and accurate communication is a practice habit that ensures that we understand the patient and/or the task we are asked to do. This understanding is called situational awareness.

Understanding gives context to the choices we make. So, a poor understanding leads to poor choices—garbage in, garbage out. Since patient safety is our first priority, you should know that it is OK for anyone to ask a question. If you are unsure, or you just want to be sure, ask.

Ask clarifying questions

- When in high-risk situations
- When information is incomplete
- When information is ambiguous

How should we use this tool?

Good thinking starts with a questioning attitude (see the fact sheet for Questioning Attitude). Ask the question in a polite, professional, and helpful way. If you are uncomfortable speaking up, or the person doesn't seem to recognize or respond to your question, consider using the CUS tool for speaking up safety (*see the fact sheet for cross monitoring and speaking up using CUS*).

Did you know?

1. Situational awareness is a critical thinking skill that gives us the ability to anticipate future problems and notice existing problems.
2. Good communications are the best way to maintain situational awareness among team members and be- tween units. The word communication comes from the word commune—to be as one, as in "one in thought."
3. 19% of acts leading to serious patient harm at Atrium Health are in communication activities.
4. In one study, those who asked one or two clarifying questions were in the top 10% of communicators in the sample, and this group in the study experienced two and one-half times fewer communication errors!

Critical Thinking Promoting Behaviors and Comments

Rubenfeld & Scheffer, 2006

1. That's an interesting question.
2. There is no such thing as a bad question.
3. Do you have a different idea on how to do this?
4. Let's explore this.
5. Let's think this through.
6. I'm not sure; can we figure this out?
7. Don't believe everything that you read or hear.
8. Show me how you came to that conclusion.
9. Can we look at this from a different angle?
10. What do you think?
11. Walk me through your thinking on this.
12. Tell me what you learned here.
13. Let's see what others have to say.
14. That's one option: let's see what other ways might also work.
15. What are some possible outcomes of that approach?
16. That was a great example of .
17. That is a great idea, let's expand on it and make it better.
18. Use a neutral voice.
19. Use an enthusiastic voice tone.
20. Sit silently and patiently.

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Validate and Verify

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	**Wrong rule**	Decision-making
Lapse	Misapplication	Problem solving
Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

A questioning attitude is a habit of the mind that ensures that our choices are best for the given situation. A questioning attitude is both asking questions and questioning the answers. Rule-based and knowledge-based errors occur when we are not thinking clearly. Since patient safety is our first priority, we will be thinking about what we are seeing and doing. Stop if things do not make sense.

Validate the information

Verify the information

How should we use this tool?

Use a questioning attitude every time you interpret information and every time you choose a rule from memory. First, validate the information. Validation is an internal consistency check. Does this information make sense? Is the information consistent with what I would expect? Then, verify the information using an independent, qualified source when: the information is very important (high-risk), the information fails the source qualification or validation tests, or the information appears to have changed.

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Did you know?

1. Rule-based errors are sometimes called errors of the head (not errors of the hand) because the execution of the act is correct, but it's the choice of the act that is incorrect.
2. Questioning attitude is the first of 20 critical thinking skills.
3. 28.4% of acts leading to serious patient harm at Atrium Health are critical thinking errors.
4. 8.8% of acts leading to serious patient harm were noncompliance. Noncompliance means a choice was made to deviate from policy, protocol, or practice. Since people do not violate policy with the intent to cause harm, every noncompliance is also a critical thinking error.
5. Dr. Jerome Groopman devoted an entire book, How Doctors Think, to critical thinking in physician care. Gaie Rubenfeld did the same for nursing with Critical Thinking Tactics for Nurses.

A Case in Point

An environmental services worker was headed into the magnet room of a MRI suite with a blower. His coworker's validation meter went off: "The MRI is a magnet. Can we take a blower into the MRI suite?" "Sure," said the first worker, "it's plastic." So they proceeded into the MRI suite. The blower—having a motor with steel and iron— immediately flew to the center of the magnet, causing significant damage to the scanner of the MRI machine.

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Continuous use and reference use protocol

Know why and comply

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	Wrong rule	Decision-making
Lapse	**Misapplication**	Problem solving
Fumble	Noncompliance	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Know Why and Comply is a habit of the mind that ensures that our choices are compliant with best practice. Compliance has always been a cornerstone of safety culture. Blind compliance is not safe—intelligent compliance is safe. Following a policy or protocol without thinking (called cook-booking) is— forgive the pun—a recipe for patient harm.

Rule-based errors occur when we do not follow policy and protocol. Since patient safety is our first priority, we will be thinking about policy and protocol and applying the rule to the letter and the intent of the rule. Stop if rules do not make sense.

Continuous use protocol (e.g., checklist) for infrequent or complex tasks

Reference use policy and protocol for performing familiar tasks from memory

How should we use this tool?

Use Know Why and Comply when making choices based on policy, protocol, and professional practice. Think about the rule and the reasons the rule exists. Apply a questioning attitude. If the rule makes sense, then apply the rule in a way that meets both the letter of and the intent of the rule.

Having a protocol in hand makes the user four times more reliable in applying that protocol. This type of protocol is called continuous use. The protocol is with the user, the user reads and understands a step, the user performs the step, and the user often initials or signs for task tracking. Infrequent or complex tasks should have continuous use protocols. Reference use pro- tocol is for performing familiar tasks per policy and protocol from memory..

Did you know?

1. Rule-based errors are sometimes called errors of the head (not errors of the hand) because the execution of the act is correct—it's the choice of the act that is incorrect.
2. 8.8% of acts leading to serious patient harm were noncompliance. Noncompliance means a choice was made to deviate from policy, protocol, or practice. Since people do not violate policy with the intent to cause harm, every noncompliance is also a critical thinking error.
3. An additional 6.4% of acts leading to harm were normalized deviance. Normalization of deviation means that our provider adopted a practice habit that was noncompliant.

A Case in Point

A nurse knew his patient very well from several visits in his clinic. This nurse chose to short-cut the patient identification check—thinking he was perfectly confident he was with the correct patient. He was. What he did not realize was the patient identification check is a three-way matching of patient identity, medication administration record, and the medication. He had the right patient but the wrong medication. His patient survived the medication error, but required an 11 day stay in the ICU.

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Cross monitoring and speaking up using CUS

(concerned, uncomfortable, stop)

Error types prevented in the Generic Error Modeling System (GEMS)

Skill-based	Rule-based	Knowledge-based
Slip	**Wrong rule**	**Decision making**
Lapse	**Misapplication**	Problem solving
Fumble	**Noncompliance**	

Note: Primary shown in **bold red**; secondary shown in red

The least you should know

Cross monitoring is a habit of the mind that keeps our attention on the people, equipment, and environment around us. This habit provides for instant recognition of problems.

Since patient safety is our first priority, we will be mindful of each other's work and we will be saying something to help each other and our patients, family, and friends. We are all equals in patient safety and in personal safety. If you suspect there may be a problem, speak up.

Speak up for safety using CUS

C – I am Concerned

U – I am Uncomfortable

S – Stop, this is a safety issue

How should we use this tool?

Use cross monitoring at all times—keep an eye and ear out for trouble. Use cross monitoring with assist for quick and easy helping of others. This act of support can be as simple as the polite, "stop, you are about to back into the wet floor sign" followed by the "thanks" reply from your coworker.

Speaking up using CUS

CUS is a common language we can use to advocate for the patient while being assertive and respectful. Use CUS when you are uncomfortable speaking up. Start by expressing your concern using the phrase, "I am concerned that…". If the response does not satisfactorily address your concern, use the phrase "I am uncomfortable." Again, if your concern is not addressed, use the phrase "Stop, this is a safety issue." Even then, you can still invoke the chain of command.

Did you know?

1. Power distance is the extent to which the less powerful expect and accept that power is distributed unequally. Power distance is a measure of interpersonal power or influence between superior and subordinate as perceived by the subordinate.
2. People are less likely to ask a question when power distance is high. People are also more likely to do what they are told, even if they know it is wrong.
3. Part of safety culture is having the courage to speak up for safety, even when power distance is high.
4. Part of safety culture is people with high power distance using their influence to make it safe for others to ask questions

Cross monitoring is watching out for each other and sharing situational awareness.

Peer checking with an assist is providing an on-the-spot second opinion.

Multiply your error probability

$0.001 \times 0.001 = 10^{-6}$

How can I use this tool in what I do at work?

An example of a success story using this tool:

An example of an event that could have been prevented if we had used this tool:

Atrium Health

Don’t harm me

Heal me

Respect me