OB/GYN

MEDICINE
KING SAUD UNIVERSITY

Patient Safety

Done by: Jawaher Abanumy , Samar AlQahtani , Nouf Alogaily , Laila Mathkour

Revised by: Allulu Alsulayhim

References: 436 doctor's slides and notes

Color code: Notes | Important | Extra | Kaplan

Editing file: here

Objectives:

Not given.

Scope of Problem & History of Patient Safety

- In 1999, IOM issued "To Err is Human: Building a Safer Health Care System"
- 44,000 - 98,000 Americans die each year from medical errors, which equals or more than a Jumbo jet crashing each and every day in the U.S.!

Lucian Leape
Patient Safety Champion

Medical Error Theory

Four factors contributing to medical errors:

- Human fallibility
- Complexity
- System Deficiencies
- Vulnerability of defensive barriers

1/ Human Fallibility: Means that no matter how smart you are at the end of the day you are human and you are liable to make mistakes.

- "To err is human": mistakes are part of the human condition.
- System changes are needed to make it **harder to do the wrong and easy to do the right thing**

Forcing Functions	Reminders at Point of Care
Physical or process constraints that make errors **difficult** if not impossible.	Keeping a **checklist** to help ensure the steps are performed in the proper sequence.
Examples: Pic 1  pic 2 	Examples: Pic 3 

- **Pic 1**: in the past these endings of the couplings can be used to administer oxygen and nitrous oxide which is toxic
- So now they make a separate ending for oxygen and nitrous oxide to make it harder to fit so even when the surgeon/anesthesiologist sleepy it's difficult to make mistake.
- **Pic 2:** All of them are drugs that look the same and kept in the same place, so what to do? We change size, code label/color and keep them separated.
- **Pic 3:** Thermachoice Endometrial Ablation System, the machine will not move to the next step until you finish the current step.e.g. Did you check patient's ID? You can't proceed unless you click yes.

2/ Complexity: We usually see this in the ICU, so the more complex system the more risk of making an error.

- Modern health care is the **most complex** activity ever undertaken by human beings.
- Example: Inpatient medication system

Table 1
Inpatient medication system

Prescribe →	Transcribe →	Dispensing →	Administer →	Monitor
Clinical decision	Receive order	Data entry	Receive from pharmacy	Assess therapy effect
Choose drug	Verify correct	Prepare, mix, compound	Prepare to administer	Assess side effects
Determine dose	Check allergy	Check Accuracy	Verify order and allergy	Review labs
Med record document		Check allergy	Administer drug	Treat side effects
Order		Dispense to unit	Document in MAR	Document

Abbreviation: MAR, medication administration record.
Adapted from Aspden P, Wolcott J, Bootman, JL, et al. Preventing medication errors. Washington, DC: The National Academies Press; 2006. p. 60; with permission.

3/ System Deficiencies & Defensive Barriers:

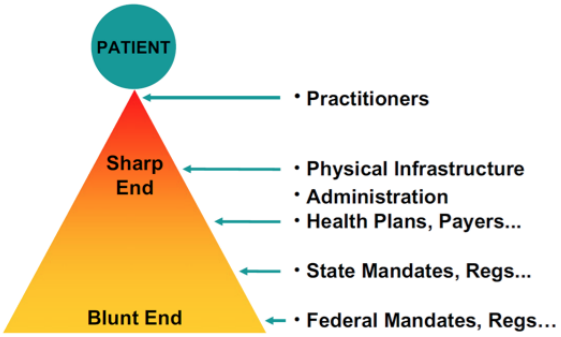


Fig. 1. Components of health systems.

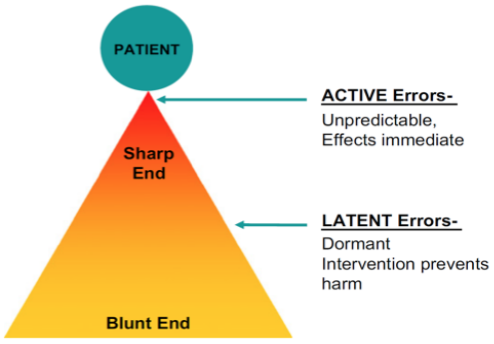


Fig. 2. Types of errors in health systems.

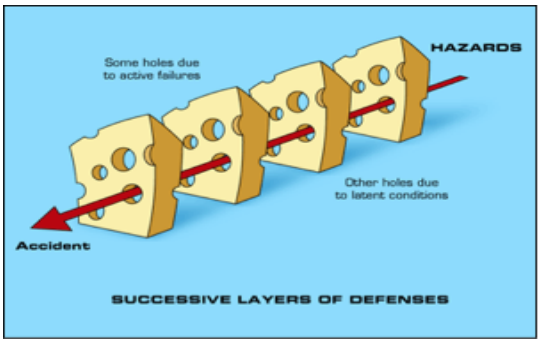
2 major components: Sharp & Blunt Ends

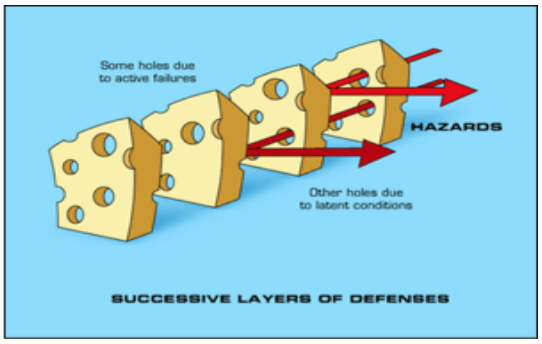
Active Errors	Latent Errors
• At the **sharp** end of care. • **Immediate** effects. • Generally unpredictable and unpreventable. • There is no " system" that would prevent this injury. • **Examples**: inadvertent bladder injury during a hysterectomy for endometriosis with multiple adhesions.	• System deficiencies hidden in the **blunt** end of care. • Holes in Swiss cheese (see below). • We work around these risks until the wrong set of circumstances occur → Patient injury. • **Examples**: understaffing Like during holidays there will be overcrowding , engineering defects

- **Active errors** are at the **sharp end** of the triangle which means that when a health practitioner make a mistake this mistake will affecting the patient directly and immediately.
  - Example: wrong dose, wrong site of surgery, wrong patient, wrong surgery, wrong blood transfusion.
- The responsible for the active errors are: nurses, physician, blood bank, pharmacist....
- **Blunt end**: وزارة الصحة if they make a mistake it will not affect patient directly.
- Who is responsible of **latent error**s? Health authority (إدارة المدينة الطبية، وزارة الصحة، هيئة الإدارة العامة للشؤون الصحية).

> *We cannot change the human condition, but we can change the conditions under which humans work*

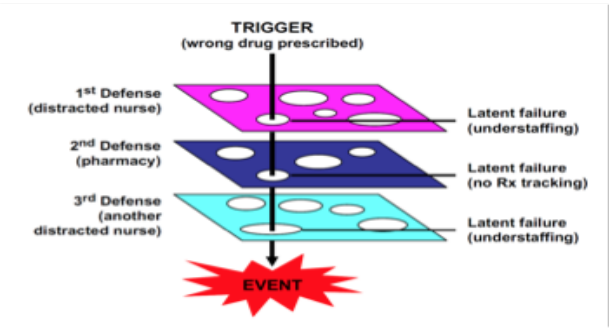
Defensive Barriers; Swiss Cheese Model

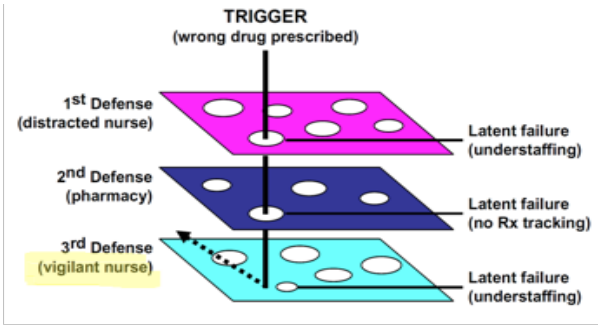




Here we were able to prevent the error, why?
maybe like we did a well staffing.
Just move the pieces so the error will not proceeds to the last slice

Trajectory of Error & Defensive Barriers



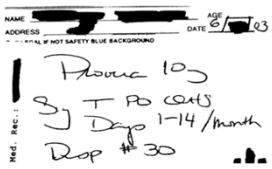


Ex: resident described the wrong medication then the nurse didn't check, the pharmacist didn't know that the patient has allergy from this medication, in the end the nurse who administer the medication didn't check. If anyone in this chain noticed the mistake and stopped it the patient will be fine.

Practical Solutions to Improve Safety in OB/GYN

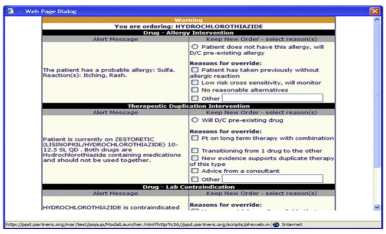
Medication Error

Medication errors account for the **largest** # of errors in health care!! MCQs

Example			
Explanation	The patient was given Prozac (instead of the intended Provera).	• **At indian hospital NICU, 3 preterm infants** died as a result of lethal overdoses of IV heparin Similar vials of heparin involved in fatal dispensing error in neonatal setting (the doses for adults and infants were similarly packaged). • Neonatal dosage: 10 U/ml, Adults: 10000 • Neonates were given the adults med → intracranial hemorrhage → death	• heparin and insulin vials on a bedside tray. • Don't keep similar meds beside each other!

Advance Decision Support Alert

We have this in our hospital now, it alerts you to drug-drug interaction and allergy...etc.



Medication Safety

- **Clear** handwriting.
- Distinguishing between **look-alike** and **sound-alike** drugs.
- **Avoid using abbreviations** / non-standard abbrev.
- Electronic system for generating & transmitting Rxs.
- All prescriptions should include detailed instructions to pt for using the medications.
- Comprehensive recommendations/guidelines published by ACOG, ACS & **Joint Commission**.

JCAHO's "do not use" list

To comply with Goal 2, hospitals are required develop a list of abbreviations, acronyms, and symbols that must not be used in orders or other medication-related documentation that are handwritten, are entered into a computer, or appear on pre-printed forms. JCAHO has created its own "do not use" list that facilities can emulate.

Do not use	Potential problem	Use instead
U (unit)	Mistaken for "0" (zero), the number "4", or "cc"	Write "unit."
IU (international unit)	Mistaken for IV or the number 10	Write "International Unit."
Q.D., QD, q.d., qd (daily) and Q.O.D., QOD, q.o.d., qod (every other day)	Mistaken for each other. Period after the Q mistaken for "I" and the "O" mistaken for "I"	Write "daily" or "every other day."
Trailing zero (X.0 mg) Lack of leading zero (.X mg)	Decimal point may be missed.	Write "X mg" or "0.X mg." (Trailing zero may be used only when required to demonstrate the level of precision of the value being reported, such as for lab results, imaging studies that report the size of lesions, or catheter/tube sizes.)
MS	Can mean morphine sulfate or magnesium sulfate	Write "morphine sulfate" or "magnesium sulfate."
MSO_4 and $MgSO_4$	Mistaken for each other	Write "morphine sulfate" or "magnesium sulfate."

In addition, JCAHO is considering the following items for inclusion on its do not use list: All abbreviations for drug names; the symbols "<" (less than), ">" (greater than), and "@" (at); the abbreviations "cc" and "μg"; and apothecary units. While these items are not currently prohibited, eliminating them now will make it easier to meet this requirement if JCAHO does add them to the list in coming years.

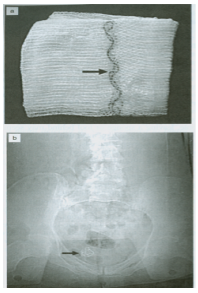
Source: Joint Commission on Accreditation of Healthcare Organizations. "The official Do Not Use list." 2006. www.jointcommission.org/PatientSafety/DoNotUseList2006 (11 Sept. 2006).

Patient Role in her Safety

- Speak up if you have questions or concerns. The patient shouldn't be the passive receiver of care, the patient should be active participant.
- Pay attention to the care you're receiving.
- Educate yourself about your diagnosis, tests you are undergoing and your treatment plan.
- Know **what** medications you take and **why** you take them (**medication errors are the most common healthcare errors**).
- Participate in **all** decisions about your treatment.

Surgical Environment

- **In Obstetrics and Gynecology, the risks of surgical error may have increased because:**
  - ↑ Cesarean sections.
  - ↑ Minimally Invasive Surgeries.
  - ↑ Robot-assisted laparoscopy.
  - ↑ Pressure for short lengths of stay post-op.
  - ↑ More outpatient procedures.

1. Retained Foreign Objects	• Sponges, surgical instruments. • Indefensible! • "Correct sponge count" does not exonerate the surgeon. Even if the nurse counted them it's not an excuse for the surgeon if it's retained in the patient. • Pic a & b: Surgical sponge with an embedded radiopaque thread on X-ray. 
2. Surgical Fire	• Rare • In OB/GYN there are all the 3 elements necessary to start / support fires: 1. **Oxidizers**: supplies of oxygen gas 2. **Ignition sources**: electrocautary, fiberoptic light cables, lasers. 3. **Flammable fuels**: surgical drapes, alcohol-based prepping agents, anesthetic gases.
3. Transition & Handoff Errors	• Care transition, Hand over or shift change are the riskiest time for medical errors • Breakage of the continuity of care • Risky time: 1. Provider handoff missing info between the two shifting persons. 2. Patient handoff Like if patients is shifted from the ER to the surgery, so ER staff will have to fill in surgery staff.

MCQs

1- Which of the following Is true for latent errors:

A- Errors are hidden at the sharp end of care

B- Unpreventable

C- Errors are hidden at the blunt end of care

D- Has immediate effect

2- The risk of surgical errors in ob-gyn increased because:

A- More inpatient procedures

B- Less robot- assisted laparoscopy

C- Minimally invasive surgeries

D- Long lengths of stay post-op

3- The most common medical errors in health care is:

A- Surgical errors

B- Medication errors

C- Laboratory errors

D- Adverse drug reactions

4- Performing the wrong procedure is an example of active error?

A- True

B- False

Answers: 1- C. 2- C. 3- B. 4- A.