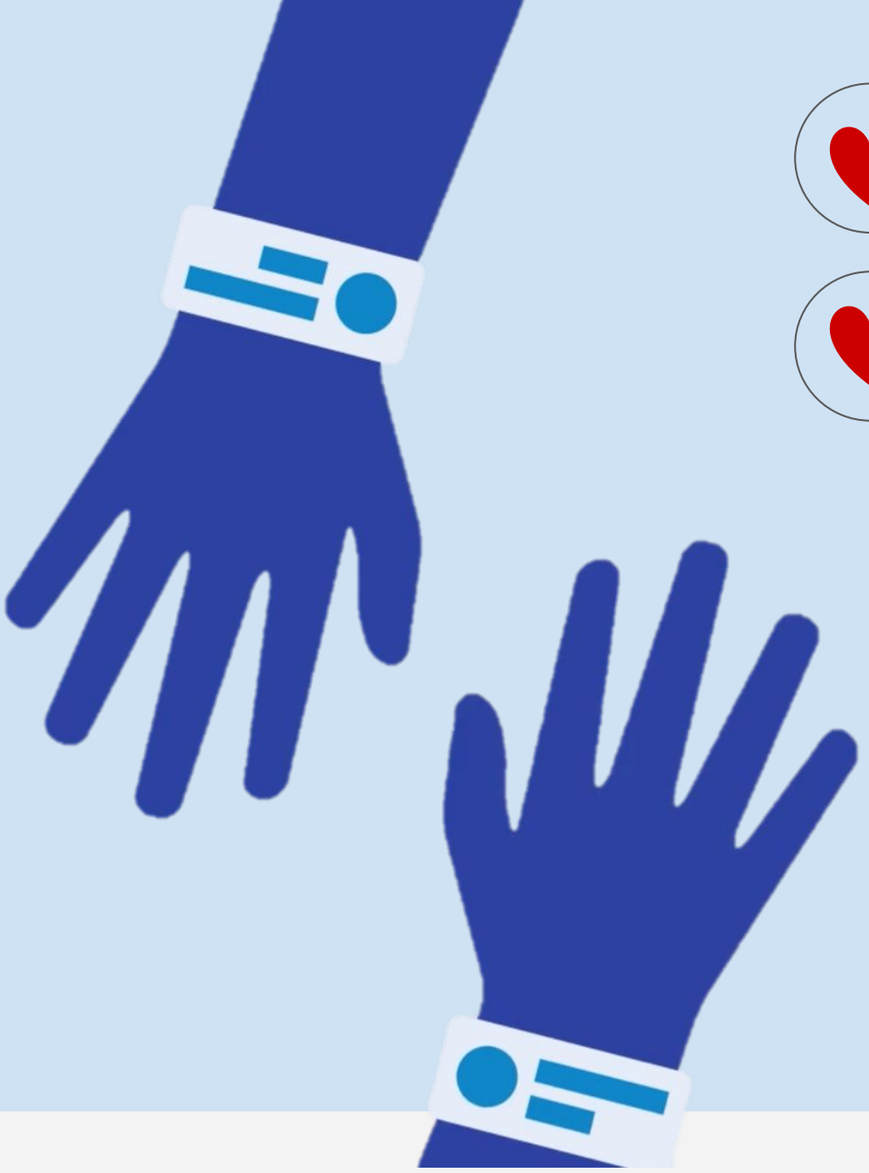


Patient Safety

"Be enlightened, knowledgeable and accountable; keep your patient safe"

Team Leaders:

Anas Alsaif

Aseel Badukhon

Done by:

Khaled Adosari

Abdulrahman Alduhayyim

Rinad Alghoraibi

Majd Albarrak

Rahaf AlShammari

Fayez Aldarsouni

Alfahdah AlSalem

Saleh Mahjoub

Abeer Alabduljabbar

Abdulelah Aldossari

Durrah Alhamdi

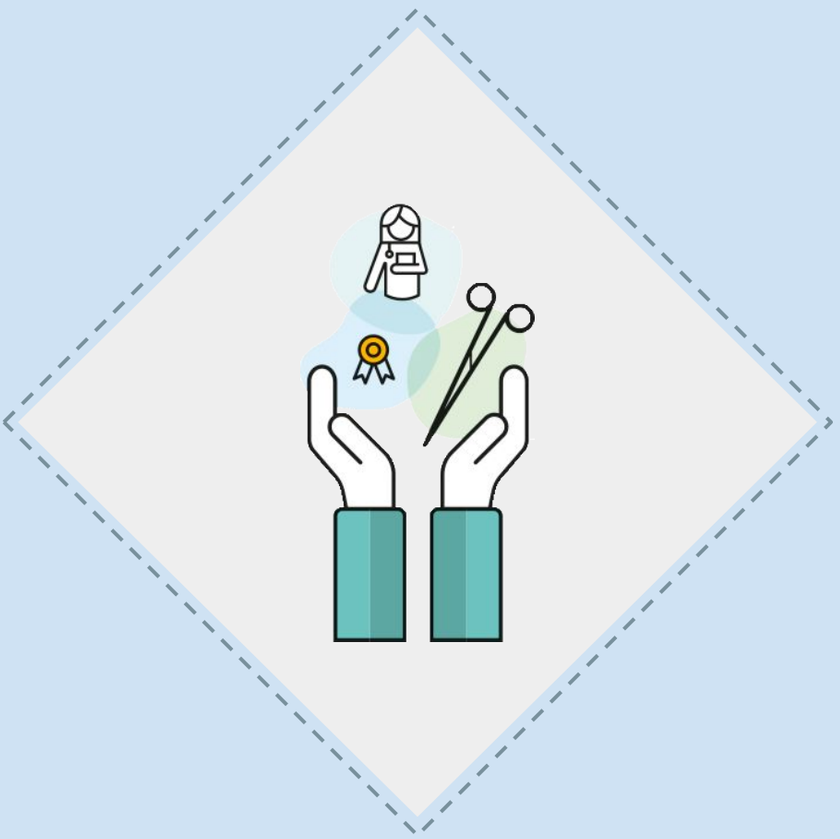
Alanoud Almansour

Rakan Almetary

Thekrayat Omar

Riham Alhlabi

What is Patient Safety?



Defining patient safety

The reduction of risk of unnecessary harm associated with health care to an acceptable minimum. (WHO, World Alliance for Patient Safety 2009).

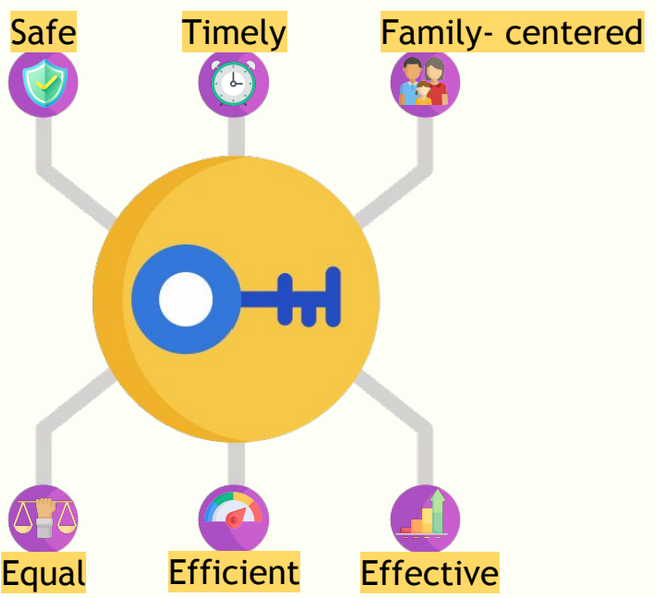
0 error is not applicable in the hospital, because in hospital we deal with human not machines, human can be affected by many factors: stress, facilities, resources, skills, ect

Introduction

-Sentinel event=الحدث الجسيم:
Like; Operating on the wrong patient or on the wrong part of the body, forgetting equipments inside the patient.
-sentinel event all over the world is 0.5, if doctors exceed this number they will be held accountable, if they don't exceed it they will be fine

- Significant numbers of patients are harmed due to their health care, either resulting in permanent injury, increased length of stay (LOS) in health-care facilities, or even death.
- There are more deaths annually as a result of health care than from road accidents, breast cancer and AIDS combined.

Key Elements of Professionalism



The 6 key dimensions of healthcare quality

Important!, لا يخلو اختبار من هذه الجزئية

Safe Avoiding injuries to patients from the care that is intended to help them.

Effective Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse). Doing the right thing for the right person at the right time.

Effective=staff; their competency, knowledge, ability to handle the patient, ect.

The 6 key dimensions of healthcare quality

efficiency= resources
It is important to differentiate between efficiency and effectiveness

Timely Reducing waits and sometimes unfavorable delays for both those who receive and those who give care.

Efficient Avoiding waste, in particular waste of equipment, supplies, ideas and energy.

Family-centered Providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.

Equal Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socio-economic status.

Sources of System Error

All errors can be divided into two main groups:

Active errors or human error

Are committed by frontline staff and tend to have direct patient consequences.
Everything is okay with the organization and the system, a staff made a mistake on his own.

Example, giving the wrong medication, treating the wrong patient or the wrong anatomical site, or not following the correct policies and procedures.

Latent or system errors

Are those errors that occur due to a set of external forces and indirect failures involving management, protocols/processes, organizational culture, transfer of knowledge, and external factors.a staff made a mistake due to failure in the system

Example: understaffed wards or inadequate equipment.

Error in medicine

important

- Errors in health care can be caused by ‘‘active failures’’ or ‘‘latent conditions.’’
- Most errors are not a result of personal error or negligence, but arise from system flaws or organizational failures (80%)

physicians will be held responsible if they were negligent toward the patient

Patient safety culture

Definition:

An integrated pattern of individual and organizational behavior, based on a system of shared beliefs and values, that continuously seeks to minimize patient harm that may result from the process of care delivery.

Sometimes lack of knowledge can cause error.
Example: bringing a new equipment to the OR without training the technician to use it , if technicians made mistake in this situation they won't be blamed, the organization will be held responsible for not training them

• If a patient is found to have received the wrong medication and suffered a subsequent allergic reaction,

• **Blame culture:** we look for the individual student, pharmacist, nurse or doctor who ordered, dispensed or administered the wrong drug and blame that person for the patient's condition care at the time of the incident and hold them accountable

• **Just Culture:** we look for the system defect such as communication, protocols and processes for medication management , in addition to investigate the negligence or recklessness of the worker

The concept of Clinical incident

Definition:

A clinical incident is an event or circumstance resulting from health care which could have, or did lead to unintended harm to a person, loss or damage, and/or a complaint. (deviation from standard of care and safety)

Examples:

Medication errors (e.g. Wrong medication, omission, overdose)
Patient falls;Intended self harm or suicidal behaviour;
Therapeutic equipment failure; Contaminated food; Problems with blood products;
Documentation errors; Delayed diagnosis;
Surgical operation complications; Hospital acquired infection;

Clinical Incident

Difference is that in never event, such events can be avoided and if you followed guidelines and roles, they will not happen but adverse events happen even under controlled conditions!!

Types of Clinical Incidents:

Never Event

Events should never happen while in a hospital, and can be prevented in most cases.

Example:

-Infant discharged to the wrong person
-Wrong surgical procedure performed on a patient
-Patient death or serious disability associated with a medication error

Adverse Events

It is an unintended injury or complication which results in disability, death or prolonged hospital stay, and is caused by health-care management.

Types:

- Sentinel
- Adverse drug reaction

Example:

-Medication Errors (we have a whole lecture illustrating this topic!)

Unexpected means that the patient was not at risk to the harm that happened,unlike known complications for a specific surgery which can be predicted.

Adverse Event

Near Miss

Sentinel Event	Adverse drug reaction	Near miss
A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function. Should be reported within 48 hrs	A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modifications of physiological function'. (WHO,1972)	Is any situations that did not cause harm to patients (that did not reach the patient), but could have done. All near miss must be reported.
Example: Hemolytic transfusion reaction involving administration of blood or blood products having major blood group incompatibilities Hysterectomy by mistake		

Clinical Incident

How to maintain safety in clinical incident ?

important

Adhere and follow the National Patient Safety Goals / ROP (Required Organization Practice)

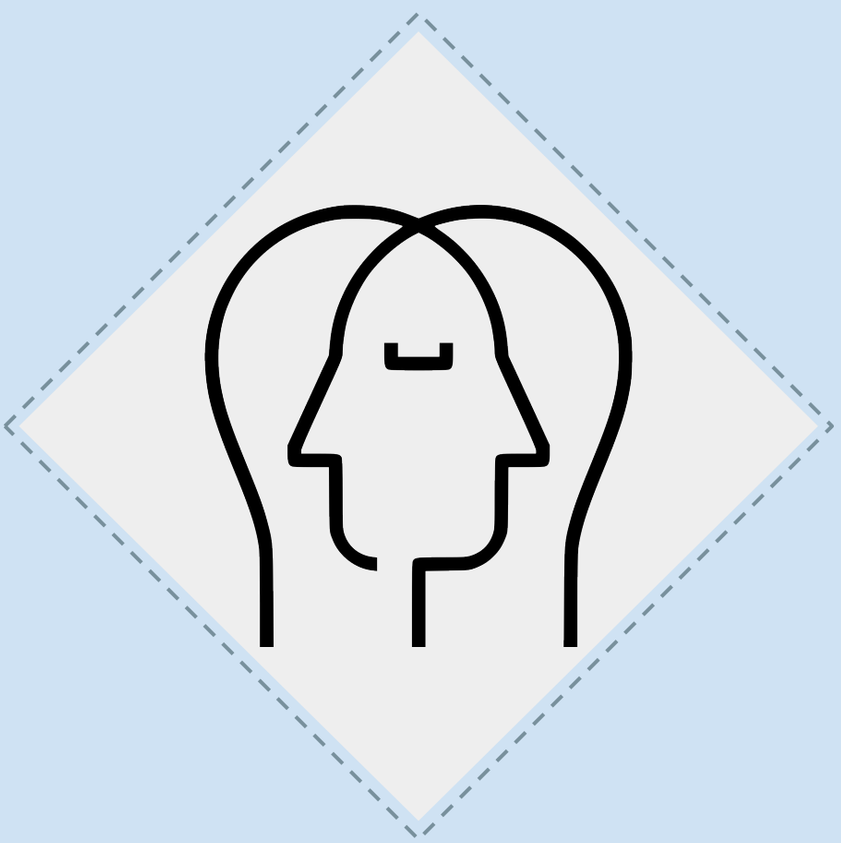
- Adverse reporting
- Client verification
- Medication reconciliation
- Dangerous abbreviations
- Transfer of client information at transition points
- Control of concentrated electrolytes
- Infusion pumps training
- High-alert medications

- Hand hygiene
- Antibiotic prophylaxis during surgery
- Falls prevention strategy
- Pressure ulcer prevention
- Venous thromboembolism prophylaxis
- Safe injection practices
- Safe surgical practices
- Preventive maintenance program

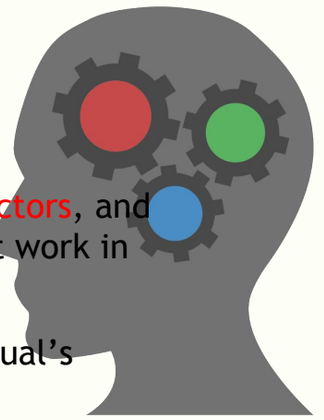
In conclusion

- Patient safety is the avoidance, prevention and amelioration of harm from healthcare.
- Two approaches to the problem of human fallibility exist:
  - The person approach focuses on the errors of individuals, blaming them
  - The system approach concentrates on the conditions under which individuals work
- Some errors cause harm but many do not.
- Blaming and then punishing individuals is not an effective approach for improving safety within the system
- Adverse events often occur because of system breakdowns
- Standardizing and simplifying clinical processes is a powerful way of improving patient safety

Why Applying Human Factors is Important for Patient Safety?



Human Factors



What Are Human Factors?

- Human factors refer to environmental, organizational and job factors, and human and individual characteristics which influence behavior at work in a way which can affect health and safety.
- Human factors can be defined as anything that affects an individual's performance.
- **A simple way to view human factors is to think about three aspects:**

The Job

Including:

- Nature of the task
- Workload
- Working environment

❖ This includes matching the job to the physical and the mental strengths and limitations of people.

The performance of a family medicine doctor differ than the performance of an ER doctor bc the nature of the task is different, as well as the workload and the environment. For example the performance of a doctor working in Alshumaisy hospital and he sees more than 40 patient will differ from a doctor working on his own clinic and he only sees 15 patients a day.

The Individual

Including:

- Competency
- Skills (changeable)
- Personality, attitude (fixed)
- Risk perception
- Sleep deprivation

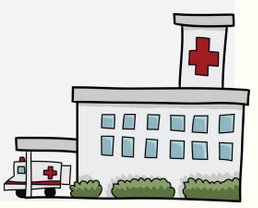
❖ Individual characteristics influence behavior in complex ways.

Sleep deprivation is the cause of many medical errors, such as during medical documentation where the doctor might forget to write one of the treatment or the procedure which might lead to incorrect treatment method and in the end the patient might be harmed.
Q: during rounds the consultant was rude, his behaviour lies under which category of the individual aspect? personality

The Organization

Including:

- The culture of the workplace, resources Communications
- Leadership and so on
  - Leadership is what affect the workers' performance the most.

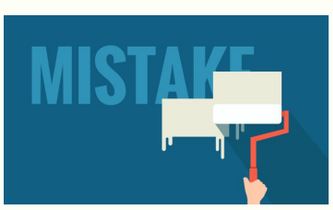


What is the difference between a complication and a medical error?

- **A complication: something that can happen or expected to potentially happen.(for example, complications after surgeries or side effects of drugs**
- **A medical error: simply it is not expected**

The Benefits of Applying Human Factors in Healthcare:

Awareness of human factors can help you to:



- To prevent Medical Errors
- Understand why healthcare staff make errors
- Identify 'systems factors' threaten patient safety
- To prevent occupational accidents and ill health

Medical Errors

Medical Errors

Failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.

Examples:

- Expired medication dispensed
- Self extubation
- Unplanned hysterectomy
- Wrong medication delivered
- Wrong Sponge counting
- Wrong dose administered
- Wrong patient ID, went to wrong procedure

The Most Common Medical Errors

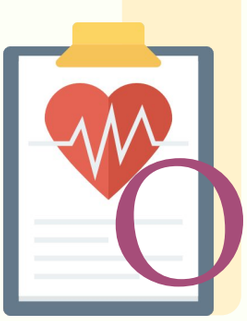
So, the most common error is wrong site site surgery and the least common is patient fall (;

- Wrong site surgery (13.4%)
- Patient suicide (11.9%)
- Operative and postoperative complication (10.8%)
- Delay in treatment (8.6 %)
- Medication error (8.1 %)
- Patient fall (6.4 %)

OVR (Occurrence Variance Reporting) or IR (Incident Reporting)

Occurrence: An Occurrence is defined as any event or circumstance that deviates from established standards of care & safety.

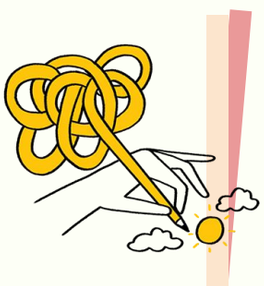
OVR: an internal form/system used to document the details of the occurrence/event and the investigation of an occurrence and the corrective actions taken. (used by staff not patients!)



Medical Errors

Causes of Medical Errors:

MCQs only

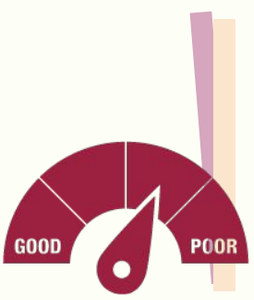


Health Care Complexity

- Complicated technologies
- Drugs interaction
- Intensive care
- Prolonged hospital stay
- Multidisciplinary approach
  - A form used by all the physicians and healthcare staff treating this specific patient to make sure that everyone is following the same plan.

System and Process design

- Inadequate communication
- Unclear lines of authority
  - who should i report to when there's a question related to the patient



Infrastructure Failure

- Lack of documentation process
- Lack of continuous improvement process
- Failure within the hospital system itself

Environmental Factors

- Over crowded services e.g ER
- Unsafe care provision areas
- Areas poorly designed for safe monitoring

The doctor said that her questions would be like, "overcrowded services is under which of the following causes of medical errors?"

Human Factors and Ergonomics

- Hungry
- Angry/ Emotions
- Late/ lazy
- Tired/fatigue/sleep less
- lack of skilled workers
- Lack of training.

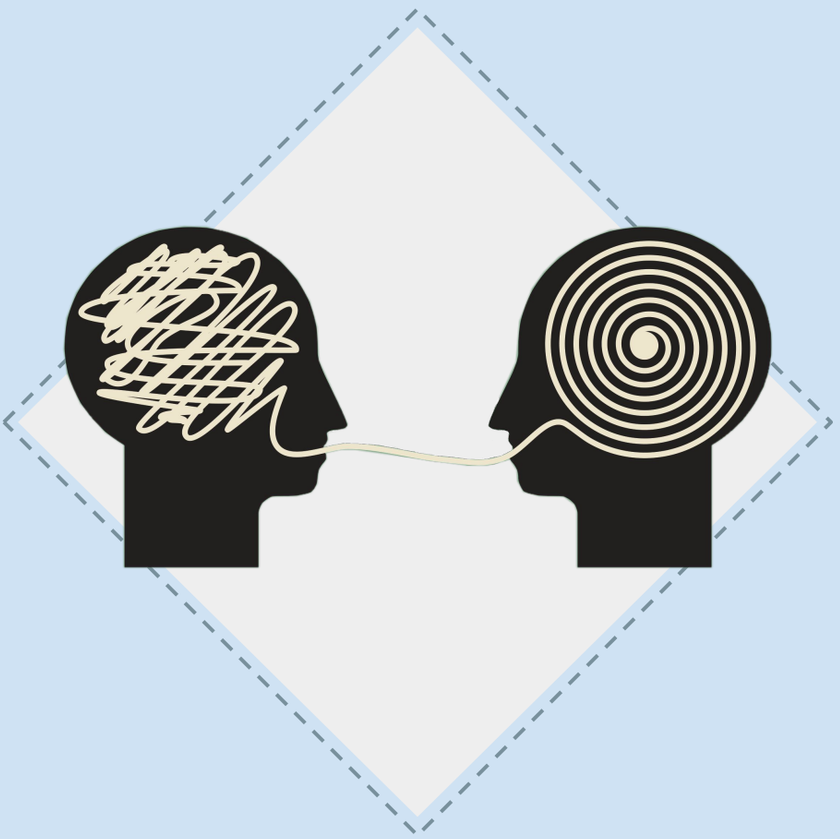


Medical Errors

[Actions to Reduce Medical Errors as Related to Humans Factors]

Organizational Management and Human Factors	Making your care and work safer (individual level)
1- **Developing a positive safety culture:** - Just culture - Reporting culture (e-OVR Reporting system) - Learning culture (Morbidity and mortality review process)	1- **Stress :** - Focus first on the tasks that are high risk or where it is particularly important - In emergency situations : use algorithms and protocols - Quickly allocate a clear leader - Consider if there is a way of running a simulation with your team
2- Human factors training in healthcare	2- **Complex calculations :** - Find out if there is a pre-calculated list available in your area - Before you start the task, think about ways of managing or avoiding distractions. For example : ask a colleague to take your bleep for a minute - Look at the dose strengths of ampoules in your drug cupboard - Double check with your colleague
3- Develop Clinical Practice Guidelines, protocols, algorithms.. etc	3- **Storage** - Look at the products you use and have stored. E.g Look-alike packaging
	4- **Physical demands** - Physical tiredness :get enough sleeping before your duty - Demands exceeding capability : Most people at some time overestimate their abilities or underestimate their limitations.
	5- Teamwork - Briefing and debriefing can help teams develop a shared mental model of a planned procedure or a patient's clinical status SBAR (Situation, Background, Assessment, Recommendation)
	6- Poor lighting - Look at the lighting in the areas where you need to + perform detailed or complex tasks

Understanding Systems & Effect of Complexity of Patient Safety



Health Care System

What is a system?

The word system describes any collection of two or more interacting parts or “an interdependent group of items forming a unified whole”.

Complex System

A complex system is one in which there are so many interacting parts that it is difficult, if not impossible, to predict the behaviour of the system based on knowledge of its component parts. The delivery of health care fits this definition of a complex system.

A system —buildings, people, processes, desks, equipment, telephones—yet unless the people involved understand the common purpose and aim, the system will not operate in a unified fashion.

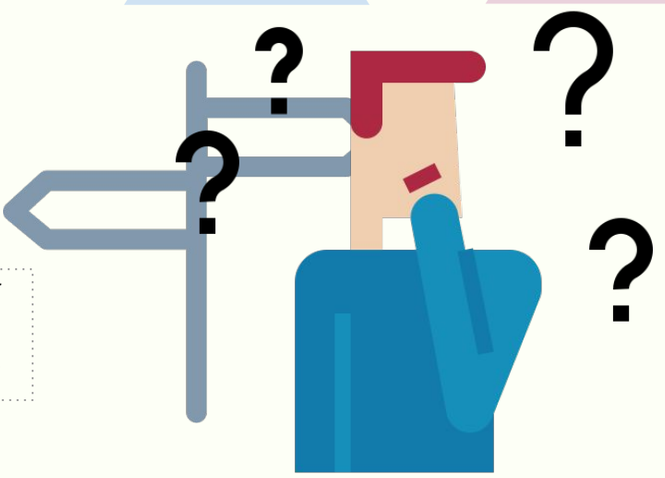
People are the glue that binds and maintains the system.

Why Healthcare is Complex?

- **The diversity of tasks involved in the delivery of patient care.**
- **The diversity of patients, clinicians and other staff.**
- **Variations in the physical layout of clinical environments.**
- **The vulnerability of patients.**
- **The dependency of health-care providers on one another.**
- **Implementation of new technology.**
- **The diversity of care pathways and organizations involved.**
- **Variability or lack of regulations.**
- **The huge number of relationships**
- **Increased specialization of health-care professionals**

Between patients, carers, health-care providers, support staff, administrators, family and community members.

While specialization allows a wider range of patient treatments and services,it also provides more opportunity for things to go wrong and errors to occur



A Systems Approach

- A systems approach requires us to look at health care as a whole system, with all its complexity and interdependence, shifting the focus from the individual to the organization.
- It forces us to move away from a blame culture towards a systems approach.

A systems approach examines the organizational factors that lead to dysfunctional health care and accidents/errors (poor processes, poor designs, poor teamwork, financial constraints and institutional factors); Rather than focus on the people who are blamed for an error. This type of approach helps to move away from blaming, towards understanding and improving the transparency of the processes of care.

It has 2 types

Traditional Approach

It is about you, neither your boss or the system! Even if your boss got in trouble with his wife, you will be blamed!

New Approach

No marriage issues you will be engaged in because your boss knows that human factors can lead to some errors and system should be fixed to reduce these unintended mistakes!

The Traditional Approach

This approach is to blame and shame the health-care professionals most directly involved in caring for the patient at the time of an adverse event or error.

Who wants to be blamed? See next slide to check why such an approach is not acceptable anymore..!

A Systems Approach

The Traditional Approach

- Health-care professionals do not deliberately (Intentionally) harm a patient (deliberate action is called a violation).
- Health-care professionals are hesitant to report incidents/errors if they will be blamed.
- Operating in a culture of blame, a health-care organization will have great difficulty in learning from errors and thus decreasing the chance of future adverse incidents.
- A health-care professional involved in an adverse event /error can inadvertently be destroyed and become the “second victim”.
- A systems approach emphasises the importance of understanding the underlying factors that caused an adverse event without diminishing the responsibilities or accountability of health professionals.

The New “A Systems” Approach

Experts say that although it is hard to change aspects of complex systems, it is even harder to change the behaviour of human beings, in terms of errors. Therefore, the foremost response to health-care errors should be making changes to the system using a systems approach.

A systems approach requires an understanding and action on the multiple factors involved in each of the areas that make up the health-care system.

The intention of a systems approach is to improve the design of the system so that errors are prevented from occurring and/or their consequences minimized.

Systems Thinking Approach

Be aware, don't write only Patient without factor "same goes for others" because if you did, then you are not talking about System Approach but Traditional Approach "Involving individuals rather than FACTORS"

The System Elements

J. Reason outlined these elements and considered them as part of the Systems-thinking:

- Patient Factors
- Provider Factors
- Task Factors
- Team Factors
- Environmental Factors
- Organizational Factors Technology and Tool Factors

(Image)

Swiss Cheese Model In Health Care

Important!!

7:00 min

J. Reason created this model to explain how faults in different layers of a system lead to adverse events and medical errors.

This model shows how a fault in one layer of a system of care is usually not enough to cause an accident.

Adverse events usually occur when a number of faults occur in a number of layers (e.g. fatigued workers + inadequate procedures + faulty equipment).

The systems have many holes: some from active failures and others from latent conditions.
These holes are continuously opening, shutting, and shifting their location.
In any one slice, they do not normally cause harm , because the other intact slices prevent hazards from reaching the potential victim.
Only when the holes in many layers momentarily line up does the trajectory of accident opportunity reach the victim causing the damage

High Reliability Organization

Definition of HRO

HRO (High Reliability Organization) refers to organizations that operate under hazardous conditions, but manage to function in a way that is almost completely "failure-free". They have very few adverse events.

Some examples of HRO

- Air traffic control system
- Nuclear power plants
- Naval aircrafts carriers

Characteristics of HRO:

Preoccupation with failure: acknowledge and plan for the possibility of failure due to the high-risk, error-prone nature of their activities

Commitment to resilience: proactively seek out unexpected threats and contain them before they cause harm

Sensitivity to operations: pay close attention to the issues facing workers at the frontline

Establishing and maintaining a culture of safety in which individuals feel comfortable drawing attention to potential hazards or actual failures without fear of criticism.

HRO Theory Principles

Maintain a powerful and uniform culture of safety

Use optimal structures and procedures

Provide intensive and continuing training of individuals and teams

Conduct thorough organizational learning and safety management.

Going Back To Professionalism!

Accountability

Some memories are good to keep them alive (;

Your professionalism comes before your tie....!

All health professionals have ethical and legal responsibilities for which they are accountable.

They aim to give confidence to the community that the health professionals can be trusted to have the knowledge, skills and behaviours set by the relevant professional body.

Accountability is a professional obligation and no one believes that health-care providers should not be held accountable.

In conclusion

A systems approach helps us to understand and analyze the multiple factors underpinning adverse events.

Therefore, using a systems approach to evaluate the situation—as distinct from a person approach—will have a greater chance of resulting in the establishment of strategies to decrease the likelihood of recurrence of an error and the promotion of a culture of safety in health care.

Learning from Errors to Prevent Harm

Introducing Errors

Definition Of Errors:

Non-deliberate deviation from what was intended.

Fancy Definition:

A planned sequence of mental or physical activities that fails to achieve its intended outcome, when this failure cannot be attributed to a systematic failure.

Errors may occur through: They both considered active failure

Commission

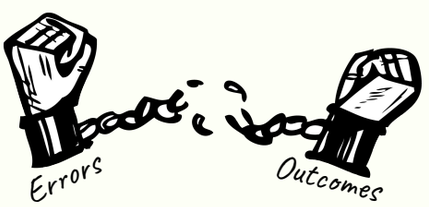
"Doing the wrong thing

Omission

"Failing to do the right thing

Violations: errors caused by a *deliberate* deviation from an accepted protocol or standard of care.

Errors & Outcomes:



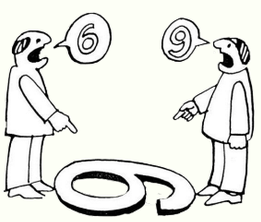
Errors and outcomes are not always linked:

A patient may have a bad outcome without human error (e.g. well-recognized complications)

Some errors do not result in bad outcomes (e.g. not severe, caught in time.) → near miss

Still, bad outcomes usually draw attention to errors.

Basically it is when something wrong happened and you keep saying I expected that to happen



Knowing an error has occurred negatively affects our perception of the standard of care before and during the incident in question.

Hindsight Bias

The nature of the outcome influences perception of the error.

Introducing Errors

ERROR

HARM

Important in SAQ

An error is a failure to carry out a planned action as intended. Errors may manifest by either:

- Doing the wrong thing (Commission)
- Failing to do the right thing (Omission)

Example

A patient with shortness of breath is diagnosed with pneumonia and treated with an antibiotic. A few days later, she is admitted as her condition worsens. Subsequent investigations reveal a pulmonary embolism as the true problem. **This is treated with anticoagulant.**

ERRORS...!

Impairment of structure or function of the body and/or any deleterious effect arising from interaction with health care. Harm includes disease, injury, suffering, disability and death.

Example

A patient with breast cancer undergoes chemotherapy. The treatment causes severe nausea and vomiting (a known complication "well all drugs cause it >_<" and she is **admitted with clinical dehydration**.

HARM...!

Errors & Human Factors

Patterns Of Error:

0% **Culture of infallibility:**

Medical culture often denies the prevalence of error.

Sometimes we are in the left and other days on the right; so admit your mistakes because it is not about your dignity but your patient's life!

Errors occur as a result of two main types of failures:

Errors of execution*	Mistakes
Actions don't go as intended (you know what you were doing but you just did it incorrectly)	A failure of planning (you're doing it incorrectly bc you lack enough knowledge)
1-Slip: If this action is observable (e.g. accidently pressing wrong button.) **2-Lapse:** If it is not (e.g. forgetting to administer a medication.) *This kind of errors usually on skill based actions such as a test you always do it right except this time forget something (Lapes) or you were tired and added something wrong to it (slip)	**1-Rule based:** A "wrong" rule is applied. (e.g. wrong diagnosis leads to wrong treatment plan.) **2-Knowledge based:** The clinician does not know the correct course of action. (e.g. in new situations.)

Factors contributing to Errors:

*To understand this point remember the kind of people who are risk takers and put their self on a difficult position which any individual can avoid

Individual factors that predispose to errors

Limited Memory Capacity	-Guidelines and protocols assist clinicians to provide care following the best available evidence. -Routinely use checklists and avoid reliance on memory.
Fatigue	A known factor in errors. Many countries are reforming the excessive hours worked by doctors.(Sleep deprivation)
Stress, hunger, illness	Clinicians must monitor their own well-being.
Language or cultural factors	-Communication errors caused by language and cultural factors. -Many patient-doctor interactions occur without an interpreter or understanding of the language.
Hazardous attitude*	E.g. being more interested in practicing or getting experience than having concern for the patient's well-being.

Situations that increase the risk of errors

Unfamiliarity with a task	-Students/Juniors performing a procedure for the first time -Should be practiced on an educational aid -If performed on patient, it must be supervised
Shortage of time	Might result in cutting corners and taking shortcuts (e.g. not washing hands properly.)
Inadequate checking	Proper checking techniques ensure patients receive the correct medications.
Poor procedures	-Inadequate preparation (sterilization, equipment.) -Inadequate staffing -Inadequate attention to the particular patient.

Managing Errors

Learning From Errors:

How to learn from errors? First thing, you must admit that you have done an error and that will be reflected by you reporting this error after that, you should evaluate and analyze the error and that remind us of the important concept (Reflection); you can use the following models and strategies to learn from your errors (:

1-Incident Reporting:

- Collecting and analyzing information about any event that harmed or could have harmed a patient.
- An incident-reporting *system* allows the health organization to identify and eliminate "error traps".
- Organizations with a strong reporting culture learn from errors because staff report problems without fear of ridicule or reprimand.

Successful reporting strategies:

Anonymous reporting

Timely feedback (reporting errors that could've occurred)

Open acknowledgment of success resulting from reporting

2-Root Cause Analysis:

- A highly structured system approach to incident analysis that is generally reserved for the most serious patient harm episodes.
- Triages the reported incidents to ensure those indicating the most serious risk to the organization are dealt with first.

If you want to know further details about Root Cause Analysis, please do check "Quality Improvement Methods" lecture (:

Practice Strategies to Reduce Errors & Managing Risks:

KNOW

- ➔ Know yourself (eat well, sleep well and look after yourself).
- ➔ Know your environment.*
- ➔ Know your task(s).
- ➔ Ask if you do not know. Request that a more experienced person.

*Get to know the ppl in your team

PLAN

- ➔ Preparation and planning (What if) have a worst case scenario in ur mind
- ➔ Build checks into the routine.
- ➔ Decrease the reliance on vigilance. (Don't think that u know everything)
- ➔ Standardize common processes and procedures.

IDENTIFY

- ➔ Assume that errors will be made. Be prepared for them.
- ➔ Identify those circumstances most likely to lead to errors.

BE READY

- ➔ Have contingencies in place to cope with problems, interruptions and distractions.
- ➔ Always mentally rehearse complex procedures or if it is the first time you are doing an activity involving a patient.
- ➔ Simplify processes

RESPOND

- ➔ Participate in meetings to discuss risk management and patient safety
- ➔ Respond appropriately to patients and families after an adverse event
- ➔ Respond appropriately to complaints

DOCUMENT

➔ Practice the good documentation:

-A referral or request for consultation : it is important to only include relevant and necessary information
-Keep accurate and complete health-care records
-Provide sufficient information
-Note any information relevant to the patient's diagnosis or treatment and outcomes
-Document the date and time

Understanding & Managing Clinical Risk

Introduction to Clinical Risk Management

- Risk management is routine in most industries and has traditionally been associated with limiting litigation costs
- Usually associated with patients taking legal action against a health professional or hospital

Your highly 'qualified' surgeon had removed my client's wife uterus when she only needed a rhinoplasty!

Hospitals are potentially dangerous places for patients as well as medical workers. It's important to keep in mind that while there are a lot of potential hazards in hospitals.

Hazard

It is any activity, situation or, substance that potential to cause harm, including ill health, injury, loss of product and/or damage to plant and property.

Examples of hazardous agents

- B — Blood borne Pathogens
- H — Hazardous Chemicals
- S — Stress

Risk

It is the probability that harm (illness or injury) will actually occur.

Risk Management

Organizational effort to identify, assess, control and evaluate the risk to reduce harm to patient, visitors and staff and protect the organization from financial loss

These three terms are important!

Purpose of Risk Management:

- Improve organizational and client safety
- Identify and minimize the risks and liability losses
- Protect the organization resources
- Support regulatory, accreditation compliance
- Creating and maintaining safe systems of care, designed to reduce adverse

Manage Clinical Risks

To manage risks, we use:

- Incident monitoring
- Sentinel events
- Fitness-to-practice requirements
- Patient complaint

Simple 4 Process — Activities

The following simple four process is commonly used to manage clinical risks:

1 Identify the risk

Use the following data as a sources for identification:
-Adverse event reports OVR, incident monitoring
-Mortality and morbidities reports
-Patient complaints reports

Important in SAQ

2 Assess the frequency and severity of the risk

SAC (Severity Assessment Code) Score:
-It is a matrix scoring system/ numerical scores are given to the severity and likelihood of risks and these scores are multiplied to get a rating for the risk
-Click here to see the used systems (please do check it!)

3 Reduce or eliminate the risk

The taken measure is dependent upon the score found by SAC: (CLICK! CHECK IT!)
1-Extreme risk (immediate action required)
2-High risk (notify senior management)
3-Medium risk (management responsibility must be specified)
4-Low risk (Managed by routine procedures)

4 Assess the costs saved by reducing the risk or the costs of not managing the risk

Severe risk >> caused death
Major >> permanent loss of function
Moderate >> Decreased in function
Minor >> Increased level of care “needs more attention”
Minimum >> No injury or increased care

Manage Clinical Risks

To manage risks, we use:

Simple 4 Process

Activities

Activities Commonly Used to Manage Clinical Risk:

Incident monitoring

"Refers to mechanisms for identifying, processing, analyzing and reporting incidents with a view to preventing their reoccurrence The key to an effective reporting system is for staff to routinely report incidents and near misses."

Click to see the full list of these issues (':

Types of issues identified by incident monitoring:

- Falls
- Oxygen problems

Sentinel Events

"Many health-care facilities have mandated the reporting of these types of events because of the significant risks associated with their repetition."

Patient complaint

"A complaint is defined as an expression of dissatisfaction by a patient, family member with the provided health care"

[Complaints often highlight problems that need addressing, such as poor communication or suboptimal decision making Communication problems are common causes of complaints, as are problems with treatment and diagnosis.]

Benefits of complaints:

- Assist the maintenance of high standards
- Reduce the frequency of litigation
- Help maintain trust in profession
- Encourage self-assessment
- Protect the public

Manage Clinical Risks

To manage risks, we use:

Simple 4 Process

Activities

Activities Commonly Used to Manage Clinical Risk:

Fitness-to-practice requirements

-Accountability
-Competency of healthcare professionals.
-Are they practicing beyond their level of experience and skill? Are they unwell, suffering from stress or illness

Credentialing

The process of assessing and conferring approval on a person's suitability to provide specific consumer/patient care and treatment services, within defined limits, based on an individual's licence, education, training, experience, and competence.

Important: MCQ

Registritation (Licensure)

-Registration of health-care practitioners with a government authority, to protect the health and safety of the public through mechanisms designed to ensure that health practitioners are fit to practice. E.g. Saudi Commission for Health Specialties
-Proper registration/licensure is an important part of the credentialing and accreditation processes

Accreditation

Is a formal process to ensure delivery of safe, high-quality health care based on **standards** and processes devised and developed by health-care professionals for health-care services.
National Accreditation Program: CBAHI
International Accreditation Program: Joint commission (US), Accreditation Canada(Canada)

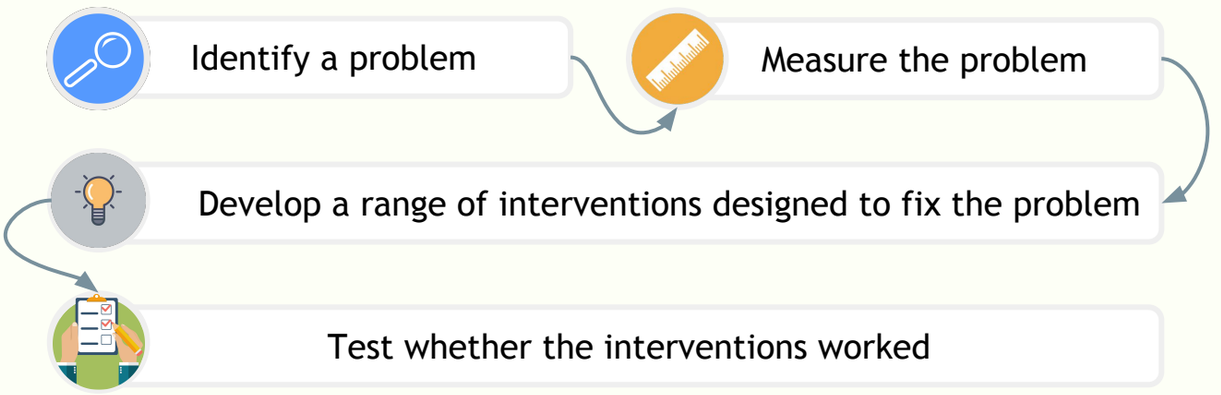
Summary from slides:

- Health-care professionals are responsible for the treatment, care and clinical outcomes of their patients.
- Personal accountability is important, as any person in the chain might expose a patient to risk.
- One way for professionals to help prevent adverse events is to identify areas prone to errors.
- The proactive intervention of a systems approach for minimizing the opportunities for errors can prevent adverse events.
- Individuals can also work to maintain a safe clinical working environment by looking after their own health and responding appropriately to concerns from patients and colleagues.

Introduction to Quality Improvement Methods

The Science of Improvement

The Purpose of Quality Improvement Methods



The Role of Measurement in Improvement

- Measurement (collect and analyze data) is an essential component of quality Improvement.
- There is strong evidence to show that when people use the appropriate measures to measure change, significant improvements can be made.
- All quality improvement methods rely on measurement.

Three Main Types of Measures

Important! Know the indications of each measure (:

Structure Measures	Processes Measures	Outcomes Measures
Measures of infrastructures, capacity and system Only numbers, no other results	They measure if parts of steps in the system are performing as planned	Are results of overall process or system performance , reflect the impact of the health care service
E.g.: Nursing to patient ratio in the ICU	*E.g.:* Bed occupancy rate	*E.g.:* The 30-day mortality rate

Picturing The Data

Types of Graphs

There are many valuable tools for interpreting and presenting data.
eg. pie chart, bar chart ,line chart

Bar Charts

- Bar charts are one of the most commonly used types of graph.
- The bar chart displays data using a number of bars, each representing a particular category.
- Useful for looking at a set of data and making comparisons.

Pie Charts

- A pie chart is a circular graph that shows the relative contribution that different categories contribute to an overall total.

Line Charts

- A line graph, also known as a line chart, is a type of chart used to visualize the value of something over time

Performance Improvement Methods

Focus PDCA	**RCA**	**QIP**	**Brainstorming**

Plan Do Study Act Cycle

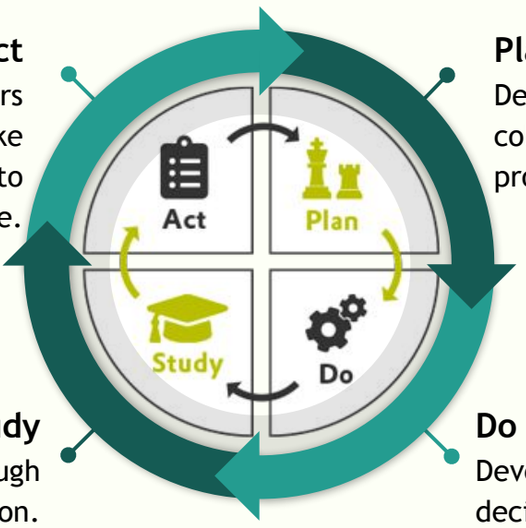
The IHI model has two parts:

- Three fundamental questions, which can be addressed in any order.
- The PDSA cycle to test and implement changes in real work settings—the PDSA cycle guides the test of a change to determine if the change is an improvement.

Performance Improvement Methods

PDSA

Act
Document the results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.

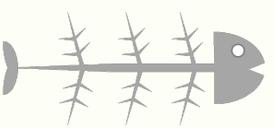


Plan
Define the problem to be addressed, collect relevant data, and ascertain the problem's root cause.

Study
Confirm the results through before-and-after data comparison.

Do
Develop and implement a solution; decide upon a measurement to gauge its effectiveness.

Root Cause Analysis (RCA) (Ishikawa/Fishbone)



The head of the fish is the problem while the skeleton reflects the causes of that problem!

- **Is a defined process that seeks to explore all of the possible factors associated with an incident by asking what happened, why it occurred and what can be done to prevent it from happening again. Reserved for the most serious patient harm episodes.**
- A tool for solving problems. The diagram is used to explore and display the possible causes of a certain effect.
- Triages the reported incidents to ensure those indicating the most serious risk to the organization are dealt with first. Blames system not the individual.
- **An effective root cause analysis requires the following components:** (In other words, defining characteristics)

Review by an interprofessional team knowledgeable about the processes involved in the event.

Multidisciplinary Team

Analysis of systems and processes rather than individual performance.

Deep analysis using “what” and “why” probes until all aspects of the process are reviewed and contributing factors are considered.

Identification of potential improvements that could be made in systems or processes to improve performance and reduce the likelihood of such adverse events or close calls in the future

The team develops a problem statement

- **Root cause analysis effort is directed towards finding out what happened:**

Documentation and review (medical records, incident forms, hospitals guidelines, literature review).

Site visit—to examine the equipment, the surroundings and observe the relationships of the relevant staff.

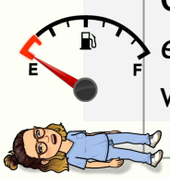
Performance Improvement Methods

Root Cause Analysis (RCA)

Establishing the contributing factors or root causes are accomplished through A brainstorming process of all possible factors:

Environmental factors:
e.g. The work environment; medico-legal issues

Individual staff factors:
e.g. Level of knowledge or experience



Organizational factors:
e.g. Staffing levels; policies; workload and fatigue

Task factors:
e.g. Existence of clear protocols and guidelines

Team staff factors:
e.g. Supervision of junior staff; availability of senior doctors

Patient factors:
e.g. Distressed patients; communication and cultural barriers between patients and staff; multiple comorbidities

Quality Improvement Plan (QIP)

- A Quality Improvement Plan is a detailed work plan intended to enhance an organization's quality in a specific area.
- Quality Improvement Plan includes essential information about how your organization will design, implement, manage, and assess quality.

Brainstorming

- Brainstorming is a technique by which a group attempts to find a solution(s) to a specific problem by amassing ideas spontaneously.
- It is a highly effective technique for maximizing group creative potential.

Being an Effective Team Player

Being an Effective Team Player

What is a team?

A team is a group of two or more individuals (have limited lifespan of membership) who:

- Interact dynamically
- Have a common goal/objective/mission
- Have been assigned for specific tasks
- Possess specialized and complementary skill

Why teamwork is an essential element of patient safety?

The importance of effective teams in health care is increasing due to factors such as:

- The increased incidence of complexity and specialization of care
  - *Example:* a pregnant woman with diabetes who develops a pulmonary embolus
  - The healthcare team might include nurses, a midwife, an obstetrician, an endocrinologist and a respiratory physician, as well as the patient
- Increasing comorbidities ex: heart failure, fatty liver
- Increasing incidence chronic disease
- Global workforce shortages
- Initiatives for safe working hours

Teams Found in Healthcare

Core Teams	Coordinating Team	Ancillary Services
Administration	Support Services	Contingency Teams

Being an Effective Team Player

Teams Found in Healthcare

Core Teams

Core teams consist of team leaders and members who are directly involved in caring for the patient.

- Include direct care providers such as nurses, pharmacists, doctors, dentists, assistants and, of course, the patient.

Coordinating Team

Is the group responsible for day-to-day operational management, coordination functions and resource management for core teams.

- Nurses often fill such coordinating.

Ancillary Services

Ancillary service teams consist of individuals who provide direct, task-specific, time-limited care to patients or support services that facilitate patient care.

- Such as radiologist, pharmacist..

Administration

Administration includes the executive leadership of a unit or facility and has 24-hour accountability for the overall function and management of the organization.

Support Services

Support services teams consist of individuals who provide indirect, task-specific services in a health-care facility.

- Such as Transportation team, security team, cleaners.

Contingency Teams

Contingency teams are formed for emergent or specific events (e.g. cardiac arrest teams disaster response teams, rapid response e teams).

Stages of Team Development

Being an Effective Team Player

Stages of Team Building

FORMING

No working, members are only getting to know each other.

1. Initial stage when the team is formed and the members are coming together for the first time.
2. A best candidate should be selected to form a dynamic team, but a flexibility should be adopted in selection process.
3. The skills of the members should match the team task and goals.
4. Voluntary team membership seems to work best when given as a choice.

STORMING

-This is the worst stage.
-In this stage we have to focus on the goal of the team.

1. Each member tend to rely on his/her own experience.
2. Resistance to work together openly.
3. Hesitate to express new ideas and opinions.
4. Interpersonal disagreement and conflicts.
5. Personal goals rather than team goal.

NORMING

1. Start to know each other.
2. Start to accept each others ideas and opinions.
3. Understand the strengths and weaknesses of the Team.
4. Members become friendly to each other. start socializing
5. Work together to overcome personal disagreement.
6. Share responsibilities and help each other.

PERFORMING

1. Member are satisfied with the team progress.
2. Members are capable to deal with any task based on their strength and weaknesses.
3. Work together to achieve the team goals.

How to Move from Storming to Norming Stage

- We must have leader
- Team members should be introduce to each other in more details.
- Responsibilities must be assigned accordingly.
- Clear communication.
- Social activities.
- Role should be in rotation.
- Everyone should be treated equally.

Being an Effective Team Player

Characteristics of Successful Teams

Effective Leadership

- Teams require effective leadership that set and maintain structures, manage conflict, listen to members and trust and support members.
- Effective leadership is a key characteristic of an effective team.

Effective Communication

The following strategies can assist team members in sharing information accurately

- **SBAR** Important
- ***Situation:*** What is going on with the patient?
- ***Background:*** What is the clinical background or context?
- ***Assessment:*** What do I think the problem is?
- ***Recommendation:*** What would I do to correct it?

Common Purpose

- Team members generate a common and clearly defined purpose that includes collective interests and demonstrates shared ownership.

Measurable Goals

- Teams set goals that are measurable and focused on the team's task.

Good Cohesion

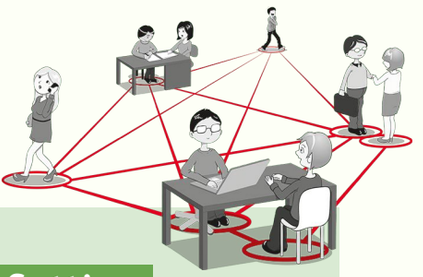
- Cohesive teams have a unique and identifiable team spirit and commitment and have greater longevity as team members want to continue working together.

Mutual Respect

- Effective teams have members who respect each others talents and beliefs, in addition to their professional contributions.

Being an Effective Team Player

Challenges to Effective Teamwork



Changing Roles

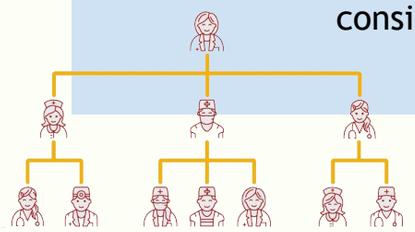
In many health-care environments there is considerable change and overlap in the roles played by different health-care professionals

Changing Settings

The nature of healthcare is changing in many ways, including increased delivery of care for chronic conditions in community care settings and the transfer of many surgical procedures to outpatient centers, outbreaks, shortage of staff.

Healthcare Hierarchies

Health care is strongly hierarchical in nature, which can be counterproductive to well functioning and effective teams where all members' views should be considered



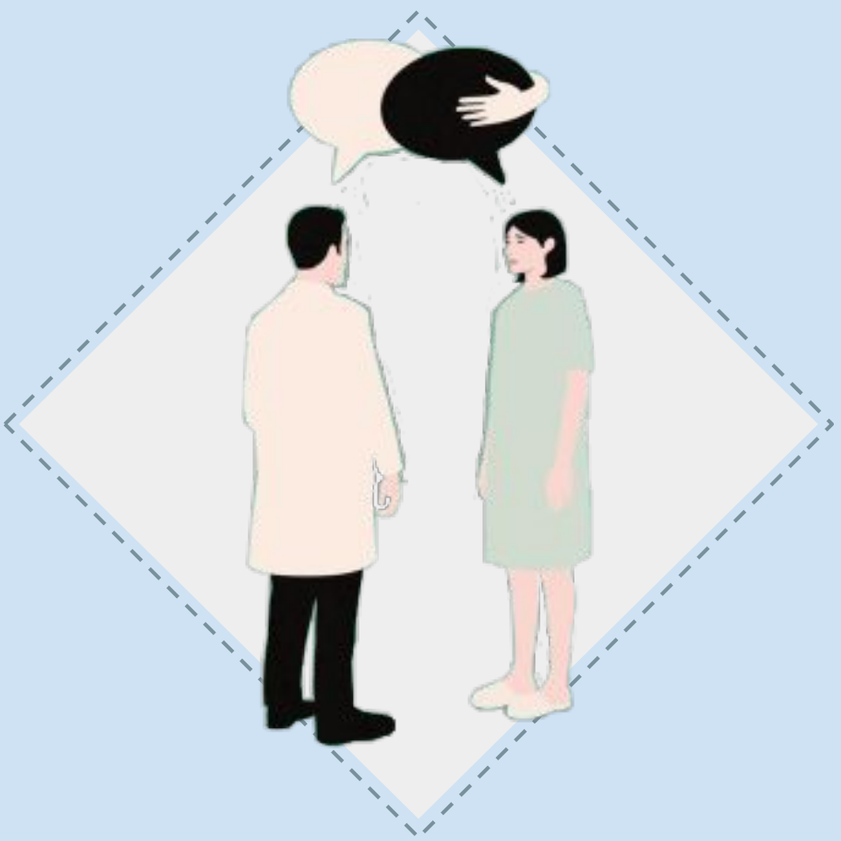
Individualistic Nature of Healthcare

Many health-care professions, such as nursing, dentistry and medicine, are based on the autonomous one-to-one relationship between the provider and patient

Conclusion

- The effective teamwork in health-care delivery can have an immediate and positive impact on patient safety.
- The effective teamwork is essential for minimizing adverse events caused by miscommunication, associated with improved and reduced medical errors.
- The teamwork can have benefits for the individual practitioners in the team and the team as a whole, as well as the organization.
- The Characteristics of the effective team are :Common purpose, Measurable goals, Effective leadership (the key element), Effective communication.
- SBAR, Call-out, Check-back are strategies can assist team members in accurately sharing information.

Engaging with Patients and Carers



Engaging with patients and carers is important

Through informed consent, patients -in collaboration with health-care providers- make decisions about interventions.

Ways to Engage Patients

- Actively encourage patients and carers to share information.
- Show empathy, honesty and respect for patients and carers.
- Communicate effectively.
- Obtain informed consent.
- Show respect for cultural and religious differences.
- Understand the basic steps in an open disclosure process.
- Apply patient engagement thinking in all clinical activities.
- Recognize the place of patient and carer engagement in good clinical management.

Benefits of Patient and Carer Engagement

- Patients' experiences play a role in:.

Diagnosis | Treatment decisions | Care provider decisions | Proper treatment administration | Identifying adverse events.

SPIKES : A communication tool

Used to guide in communicating bad news in "end-of-life" situations, but may also be used more generally.

Setting — Privacy, significant others, sit down, listen.

Perception — Ask patients what they think is going on.

Invitation — Ask patients how much they want to now about their diagnosis and treatment.
قبل ما نبدأ نسوي أي شي و في اول مقابلة مع المريض، نسأله قد ايش حاب تعرف، التفاصيل أو التشخيص فقط، ومين من أهلك تبغى نعلم

Knowledge — Help patients anticipate disturbing news.

Empathy — Listen for and identify the emotions, identify the source, acknowledge emotion, be quiet.

Strategy & Summary — Summarize key information, encourage questions, assess understanding, share plan.

Communications Techniques

Aiding Good communication

SEGUE Framework

What they know? what they want to know? and LISTEN

Set the stage → **E**licit information → **G**ive information → **U**nderstand the patient perspective → **E**nd the encounter

Cultural Competence

Cultural competence: knowledge, skills and attitudes necessary to provide care in a way that respects and honors cultural values:

For example when women doesn't want to be examined by male doctor, or she can't make decisions by her own So always ask the patient about their life story and what they want , Don't assume every patient form this particular culture will be have the same way

- Be aware and accept cultural differences.
- Be aware of one's own cultural values.
- Recognize that people have different ways of interpreting the world.
- Recognize that cultural beliefs impact how patients perceive their health, treatment options, and health practitioners.
- Be willing to fit in with the patient's cultural or ethnic background.

Gaining Informed Consent

- Consent is more than a signature on a form.
- The consent process enables the patient or carer to consider all options.
- Information exchange is a process not an event.
- Elements of informed consent:

1-To tell the patient every single thing, diagnosis, procedure, risks. Patient has to have all the information

Inform the patient:

- **Disclosure** of information by the health-care practitioner.
- Understanding or **comprehension** of the information by the patient.

Enable the patient to make a decision:

- Free and **voluntary** choice by the patient.
- **Competence**. Ethical terminology: "Decision making capacity."

Focus on competence, is the patient competent to make decisions? Does he have dementia?

What information do patients need?

- The diagnosis.
- Risks involved in the treatment.
- Information on recovery time.
- Availability and costs of any service required after discharge from hospital.
- The degree of uncertainty in the diagnosis.
- Benefits of the treatment.
- Name, position, qualifications and experience of health workers who are providing the care and treatment.

Open Disclosure

Informing patients and their families of bad outcomes of health-care treatment, as distinguished from bad outcomes that are expected from the disease or injury being treated. This includes:

- Expressing regret for what has happened.
- Providing feedback on investigations.
- Providing any information arising from the incident or its investigation that would lead to improved patient safety.

Key Principles of Open Disclosure

- Open timely communication
- Acknowledgement of the incident
- Recognition of the reasonable expectations of the patient and their carer
- Expression of regret/apology
- Support for staff
- Confidentiality

The Harvard Framework for Disclosure

1. Preparing:
   - Review facts, identify and involve participants, choose appropriate setting.
2. Initiating conversation:
   - Determine patient and family readiness, level of medical understanding.
3. Presenting the facts:
   - Simple description, speak slowly, explain current outcome, describe next steps.
   - Sincerely acknowledge the patient's and family's suffering.
4. Active listening:
   - Allow ample time for questions, do not monopolize the conversation.
5. Acknowledging what you have heard.
6. Responding to any questions.
7. Concluding the conversation:
   - Summarize, repeat key questions raised, establish the follow-up.
8. Documentation:
   - Describe the event, describe the discussion.

When something occur and you want to talk to patient: ask question listen (active listening), don't use medical terminology

Do patients want disclosure of adverse events?

Studies have shown that a majority of patients want:

- An explanation of what happened.
- An admission of responsibility.
- An apology.
- The assurance of prevention of similar events to others in the future.
- Punishment and compensation.

Common barriers to disclosing adverse events:

- Want to avoid confrontation.
- Causing more distress to patients
- Loss of reputation, job, insurance.
- Fear legal action

Promoting patients' Involvement in Their Own Care

- Patients who play active roles in the management of chronic health conditions enjoy better outcomes.
- Patients and their families can be made aware of opportunities to engage in adverse event prevention by:
  - Awareness raising about the risks of preventable harm.
  - Encouragement to speak up to providers about safety concerns.

Active role when patient know their medication, what the medication do . and know their appointments

Patient Safety and Invasive Procedures



The Main Causes of adverse events associated with invasive procedural and surgical care

Poor infection control methods	Inadequate patient management
The implementation of safer infection control practices such as: 1-Administration of prophylactic antibiotics 2-Hand hygiene (5mts) has reduced postoperative 3-Personal protective equipment	• inadequate implementation of protocols or guidelines • poor leadership and poor teamwork • conflict between different departments/groups • inadequate training and preparation of staff • inadequate resources • Overwork • lack of a system for managing performance
Failure to communicate effectively before, during and after procedures:	
to communicate effectively before, during and after operative procedures (e.g. insufficient use of SBAR & Miscommunication).	

Types of communication failure associated with doctors

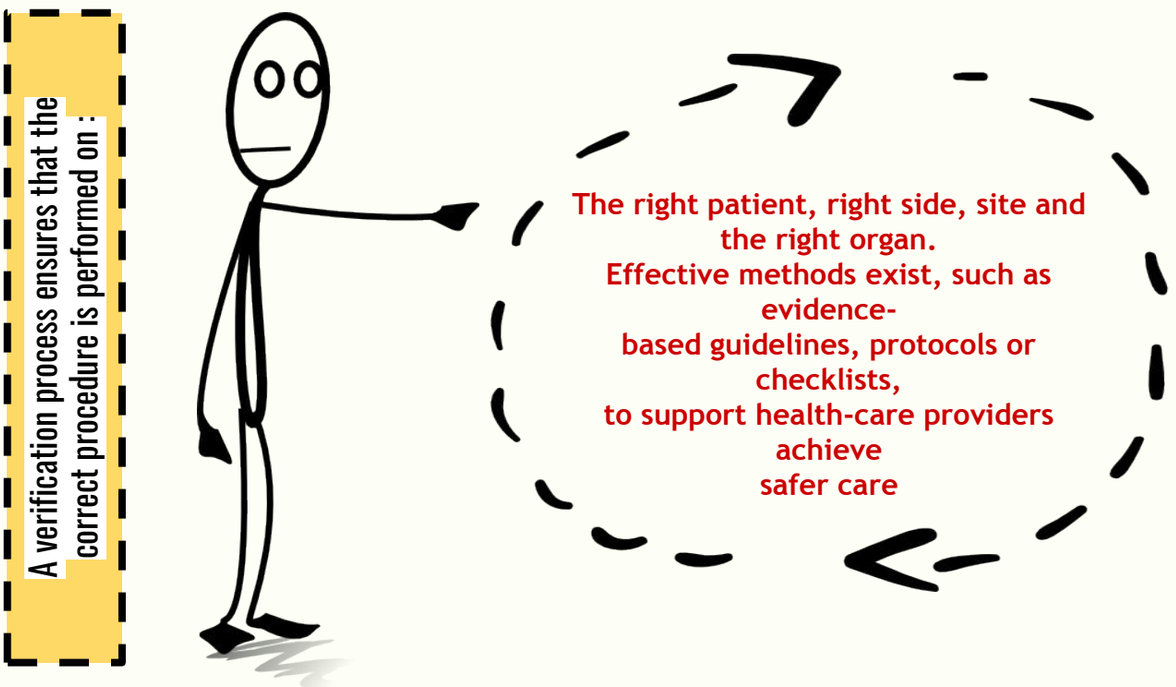
Type of failure	Definition	Illustrative Example
Occasion	Problem in the situation or context of the communication event	The staff surgeon asks the anesthesiologist whether antibiotics have been administered. At this point, the procedure has been under way for over an hour
Content	Insufficient or inaccurate information being transferred	As they are preparing for the procedure, the anesthesia fellow asks the staff surgeon if an ICU bed has been reserved for the patient. The staff surgeon replies that the "bed is probably not needed, and there is not likely one available anyway, so we'll just go ahead
Audience	Gaps in the composition of the group engaged in the communication	The nurses and the anaesthesiologist discuss how the patient should be positioned for surgery without the participation of a surgical representative

The main adverse events due to inadequate patient management associated with Surgical Care

Include

- Infection and postoperative sepsis
- Cardiovascular complications
- Respiratory complications
- Thromboembolic complications

The Verification Processes for Improving Surgical Care



Guideline	protocol	Checklist
Systematically derived statements that help practitioners to make decisions about care in specific clinical circumstances. These should be research or evidence based	is a set of sequential steps that should be followed in a particular order, enabling the task to be completed.	is used to ensure that certain mandatory items are not forgotten. Such as (timeout)

Verification processes must done:
-Before anesthesia
-Before skin incision
-Before patient leaves OR

In The OR!

Examples for the verification processes for improving surgical care

	Definition	Done By who ?
Surgical consent form	• A form signed by a patient prior to a medical procedure to confirm that he or she agrees to the procedure and is aware of any risk that may be involved. • The primary purpose of the consent form is to provide evidence that the patient gave consent to the procedure	• Physician (senior/consultant)
Pre-operation checklist	• Tool to promote patient safety in the perioperative period . • Intended to give teams a simple efficient set of priority checks for improving efficient set of priority • Checks for improving effective teamwork and communication	• Nurses
Surgical safety checklist	• Communication tool that is used by a team of operating room professionals (nurses, surgeons, anesthesiologists,and others) to discuss important details about a surgical case at three distinct stages or phases during surgery:pre-induction,time out, debriefing	• Nurses • surgeons • anesthesiologists

Practice \Techniques in Operating Room that Reduce Risks and Errors

- Participating in team briefings and debriefings
- Appropriately sharing information
- Asking questions
- Asserting oneself appropriately
- Stating or sharing intentions
- Teaching
- Managing workload

Surgical mortality and morbidity meetings:

- Is the meeting structured?
- Is there an emphasis on education and understanding?
- Is prevention the goal of the discussion?
- Are these meetings considered a core activity?
- Is everyone involved?
- Are juniors, including students, encouraged to attend?
- How are deaths handled?
- Is a written summary of the discussions kept?

A '**briefing**' is the information given to the operatives prior to their action by the authorities who will stay behind.

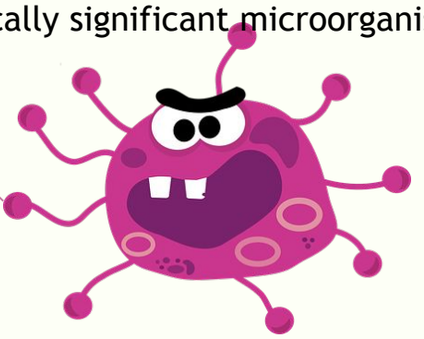
A '**debriefing**' is the explanation and report the operatives give to the authorities who stayed behind, of what happened, what was confirmed or refuted by information collected during their action, after they have returned.The 'briefing' includes a lot of 'we think you will see/experience/find this' and the 'debriefing' includes a lot of 'well, THAT was wrong'.

Infection Prevention & Control

Infection Control

Infection Control and Prevention:

Infection Control is the prevention of the spread of clinically significant microorganisms that cause infection; or the potential to cause disease.



FOCUS of Infection Control:

- Protect the patient
- Protect healthcare staff
- Protect the visitors
- In a cost effective manner

-How to eliminate infectious agents? Vaccination
-How to protect someone at risk? By using personal protective equipments (PPE)
-Precautions: we always have to consider that every patient is at risk and we all should take proper precautions.
-consider and treat each patient if he/she has a contagious disease, until proven otherwise.

UNDERSTANDING The Chain of Infection

Susceptible Host	Infectious Agents	Portal of Entry	Reservoirs
A person who is potentially vulnerable to an infection	Pathogenic (disease-causing) microbes such as bacteria, parasites, viruses or fungi	Site through which a pathogen can enter the susceptible host and cause infection, such as urinary catheter or central line	Hosts or habitats - such as humans, animals, or environment - where infectious agents live and reproduce

ELEMENTS Of Standard Precaution: Important!!

-Safe injection (wear gloves & insure the site is cleaned)
-Patient care equipment (make sure they're clean & a single-used equipments shouldn't be used more than once)
-Worker safety (screening then vaccinate them)

The comments way to prevent infection is hand hygiene

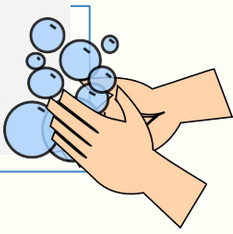
Hand Hygiene	Face Protection	Safe injection practices	Respiratory Hygiene/Cough Etiquette
Gown	Gloves	Patient Care Equipment/Devices	
Mask	Worker Safety	Patient Placement and Transport	

ALL is important (:

Hand Hygiene

Healthcare-associated Pathogens are most often transmitted from patient to patient through the hands of healthcare workers.

Hand Hygiene is the single most important measure for preventing the spread of microorganisms in healthcare settings.



[Hand hygiene is the single most effective measure to reduce health care associated infections.]

-Hand washing (soap)
-Hand rubs (antiseptic gels)
-Hand scrubbing (for surgeries)
-You should know the indication of each type of hand hygiene!

What, When, How?

-some organisms are spore forming. Dr said, if you hands appear soiled. You must wash hands with water and soap first, then alcohol rubs will be effective.
Spores can't be removed by alcohol alone.

Hand washing	Use of alcohol rubs/gels	Surgical hand' scrub
• 40-60 seconds • For visibly soiled hands & after using alcohol gel several times • When handling patients	• 20-30 seconds • For hands that are not visibly soiled	• Brush and nail file • 5 minutes (first wash of the day); 2-3 minutes (in between operations)

5 WHO Five Moments of Hand Hygiene....!

BEFORE touching a patient

-Before touching a patient mucous membrane. Such as Vaginal examination, foley's catheter installation...

BEFORE clean/aseptic procedure

-Before touching (patient's safety)
-Before procedure (patient's safety)
-After (for us and the others)

AFTER body fluid exposure risk

AFTER touching a patient

-Patient surroundings could be covered with spores. Usually spores sit on surfaces.

AFTER touching patient surroundings

The most common missed parts of a hand while washing:
-Dorsum
-Under nails
-In between fingers
-Thumb
-Knuckles

Elements of Standard Precautions

Personal Protective Equipment

A variety of barriers to protect both the patient and HCW's from the potential risks of cross infection whenever blood/body fluid splashes are expected to come in contact with mucous membranes, airways, skin and clothing

Donning

It is put on PPE

Doffing

To remove PPE!

The doctor showed us a video on how to do it! Please, visit this site to read all steps shown in the video:
-https://www.infectioncontroltoday.com/personal-protective-equipment/donning-and-removing-ppe-infection-prevention

Safe Injection Practices

-Do not recap, bend, break, or hand-manipulate used needles.

-If recapping is required, use a one-handed scoop technique only.

-Place used sharps in puncture-resistant container.

Negative pressure VS Positive pressure:
-Negative Pressure room is used for infectious case (works as vacuum). In a negative air pressure cleanroom, the air pressure in the room is lower than the pressure outside of the room. Generally this is achieved by filtering air out of the room. In most situations, air enters through filters near the floor, and then is sucked out through filters in the room ceiling.
-Positive pressure is used for immunocompromised patients. This means that the air pressure inside your cleanroom is greater than the pressure outside of it. This is achieved by pumping clean, filtered air into the cleanroom, generally through the ceiling.

Patient Care Equipment

Handle used patient care equipment soiled with blood, body fluids in a manner that prevents transfer of microorganisms to one's self, other patients and environments.

Types of Items

Single Use

Single use, disposable items must be disposed properly.

Reusable

Reusable items have to be been cleaned and reprocessed appropriately, prior to use on another patient based on the manufacture recommendation and the intended use (Spaulding criteria)

-Gowns: used when we're dealing with any form of body fluids like urine, blood and mucus.
Types of masks:
1-surgical mask (used for OR)/
2-N95 mask (used for airborne infections like TB & it filters 95% of the air)
3-Industrial mask (filter the air before it enters in case we're working with chemicals)
4-Filtered mask (used for body fluid like when someone's coughing and sneezing)
-Face protection: goggles to protect our eyes and face protection in case fluids will come to our faces
-Gloves: sterile gloves for surgical procedure.

-In PPE: remember gloves are last thing to put on.



TRANSMISSION-BASED PRECAUTIONS

	Airborne precautions	Droplet precautions	Contact precautions
Definition	Causative agents of diseases under airborne precaution are less than 5 µm, thus can be carried away by air currents.	Causative agents of diseases under droplet precaution are greater than 5 µm. They can travel up to 3 feet (1mtr)	Use In addition to standard precaution, for patients known or suspected to have serious illness transmitted through contact
Disease/Causative Organisms	Measles Varicella Tuberculosis (Pulmonary/Laryngea)	Haemophilus influenzae type B disease, including meningitis, pneumonia, sepsis Streptococcal (group A), scarlet fever in infants and young children Influenza, Mumps	Multi-drug resistant microorganisms (MDRO's), VRE, MRSA, ESBL, B.cepacia RSV infection in infants, young children and immunocompromised patients Clostridium difficile enterocolitis
Patient Placement	Single room with negative air pressure 12 air changes per hour Room door closed	Private room Cohort nursing	Private room Cohort nursing
Protection for HCW*	Standard precautions N95 respirator	Standard precautions Surgical mask if working within 3 feet of the patient	Handwashing Gloves Gown
Patient Transport	Limit movement Mask the patient with surgical mask	Limit movement Mask the patient with surgical mask	Limit movement

*Health Care Workers

-Droplet (fluid from coughing, sneezing, yawning or laughing)
-Make sure to maintain a proper distance from the patient
-Cohort: place the patients with similar sign, symptoms and diagnosis together
-Airborne (patient placement: single room is the most important)
-patient transport: we wanna eliminate the source thus we cover the patient face with a surgical mask
-Standard precautions is used with all patients but transmission based precautions
-Contact (direct: from the patient & indirect: from surfaces surrounding the patients and equipments)

Hospital Acquired Infections

Definition of Infection:

Infection that presented or incubating at the time of admission to the hospital at the first 2 calendar days from admission and according to each disease case definition

Presented on Admission (POA) (Community acquired)

It is presented after 2 calendar days of admission or within a defined period after hospital discharge according to the disease incubation period

Health care - Associated (Nosocomial)

"We are sorry if we caused some trouble for our patient, either because we didn't follow the precautions as we supposed to do or because our patient was susceptible! So can you tell me who is at **Risk ¿**

Patient at Risk to Develop Hospital Acquired Infections: Important!!

- Immunocompromised patients (oncology, dialysis, diabetic)
- Use of invasive devices (ICU)
- Post procedures (Surgical)
- Prolonged hospital stay (Long stay patients)

Hospital Acquired Infections

It is very **IMPORTANT** to know the difference between clinical and epidemiological definitions!!!

[Categories of Nosocomial Infections]

	Clinical Definition	Epidemiological Definition
Surgical site infection (SSI)	A surgical site infection is an infection that occurs after surgery in the part of the body where the surgery took place	An infection arising after an eligible operative procedure, including incision, bur hole or laparoscopic approach, done in an operation room (that meets FGI/AIA requirements)
Pneumonia	Pneumonia is an infection in one or both lungs. It can be caused by bacteria, viruses, or fungi. Bacterial pneumonia is the most common type in adults. Pneumonia causes inflammation in the air sacs in your lungs.	A pneumonia that meets the surveillance criteria according to a combination of imaging, clinical and laboratory criteria, after the 3rd calendar day of admission
Urinary tract infection (UTI)	An infection in any part of your urinary system (kidneys, ureters, bladder, and urethra. Most infections involve the lower urinary tract {the bladder and urethra})	**Hospital Acquired UTI:** A UTI that meets the surveillance criteria that manifested after the 3rd calender of admission to the hospital
Bacteremia	Is the presence of bacteria in the bloodstream	A Laboratory Confirmed Bloodstream Infection (LCBI) that is not secondary to an infection at another body site, after the 3rd calendar day of admission

Any of the hospital acquired infections in which the use of a medical device is a risk factor

Device Related Infection

Ventilator-associated pneumonia: A lung infection that develops in a person who is on a mechanical ventilator.

VAP

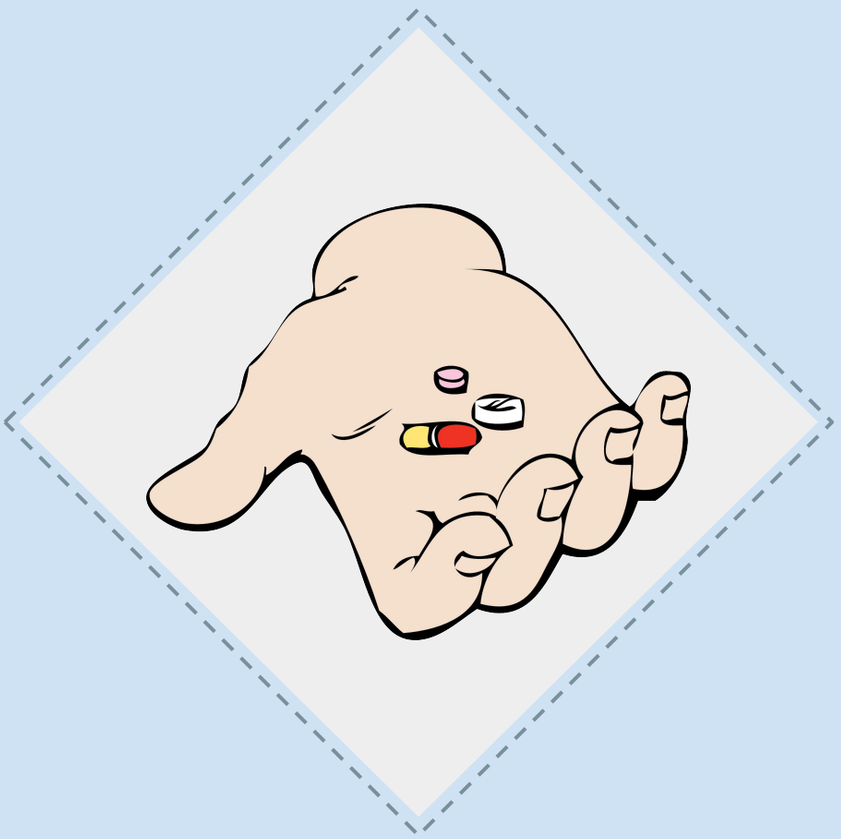
Central line-associated bloodstream infections: primary laboratory confirmed bloodstream infection in a patient with a central line.

CLABSI

Catheter-associated urinary tract infections: Is a hospital acquired UTI where an indwelling urinary catheter was in place for more than two days.

CAUTI

Improving Medication Safety



Introduction

Definitions:

Medication Error

-It is any preventable event that may cause or led to inappropriate medication use or patient harm.

-A major cause of preventable patient harm

May **Result** in

- An adverse event if a patient is harmed
- A near miss if a patient is nearly harmed.

Side Effect of a Drug

A known effect, other than that primarily intended, relating to the pharmacological properties of a medication e.g. opiate analgesia often causes nausea.

Adverse Reaction of a Drug

Unexpected harm arising from a justified action where the correct process was followed for the context in which the event occurred e.g.An unexpected allergic reaction in a patient taking a medication for the first time.

Adverse Drug Event

An incident in which a patient is harmed. It includes both:

- Errors
- Side effects of medications

May be:

- May be preventable (e.g. the result of an error)
- May not preventable (e.g. the result of an adverse drug reaction or side-effect)

Medication use has become increasingly complex in recent times

The drugs errors are the most common cause of medical errors in hospitals, affecting 3.7% of patients

Steps in Using Medications

Prescribing

Preparation & Dispensing

Administration

Monitoring

Medication Use

Medication Prescription:

- **Choosing an appropriate medication** for a given clinical situation, taking individual patient factors into account, such as allergies
- **Selecting the administration** route, dose, time and regimen
- **Documentation**
- **Communicating details of the plan with** whoever will administer the medication (written-transcribing and/or verbal) and the patient

H O W..?

Being familiar with the medications you prescribe is important to make the use of medication safer; this skill can be acquired through years of practicing
Encourage patients to be actively involved
Report and learn from errors

Sources of Errors in Prescribing

Important!!

Inadequate knowledge about drug indications and contraindications

Not considering individual patient factors such as allergies,pregnancy, comorbidities, other medications

Wrong patient, wrong dose, wrong time, wrong drug, wrong route

Mathematical error when calculating dosage

Documentation: incomplete, ambiguous & dangerous abbreviation

Inadequate communication (written, verbal)

Incorrect data entry when using computerized prescribing e.g. duplication, omission, wrong number


[Strategies to Reduce Prescribing Errors]

Strategy	Details
Avoid illegible handwriting	• Write/print more carefully • Use computers
Write complete information	Patient's Name, Patient-Specific Data, Generic and Brand Name, Drug Strength, Dosage Form, Amount, Directions for Use, Purpose, Refills
Look at patient-specific information	• Age, Weight • Renal and Hepatic Function • Laboratory Test Results, Concurrent Medications • Allergies, Medical/Surgical/Family History • Pregnancy/Lactation Status
Don't use abbreviations	• Drug names • "QD" or "OD" for the word daily • Letter "U" for unit • "µg" for microgram (use mcg) • "QOD" for every other day Click to see full list of abbreviations: -List 1 -List 2
Decimals	• **Avoid whenever possible** (Use 500 mg for 0.5 g)(Use 125 mcg for 0.125 mg) • **Never use a terminal zero** (Colchicine 1 mg not 1.0 mg) • **Space between name and dose** (Inderal40 mg ® Inderal 40 mg)
Be alert to drug name	• Use generic name rather than trade name • **"Look-Alike" or "Sound-Alike"** Drug Names • **Celebrex** (celecoxib, anti-inflammatory) • **Cerebryx** (fosphenytoin, anticonvulsant) • **Celexa** (Citalpram, antidepressant)
Write the medication reconciliation	**Learn and practice thorough medication history taking:** • Include name, dose, route, frequency, duration of every drug the patient is taking • Enquire about recently ceased medications • Ask about over-the-counter medications, dietary supplements and complementary medicines (Drug-drug interactions)
Know the high alert medication	**Need double check , Example :** • Oral anticoagulants • Insulin • Chemotherapeutic agents • Neuromuscular blocking agents • Concentrated electrolytes • Emergency medications (potent and used in high pressure situations) Small mistakes can cause severe consequences; patient death
More attention to dosage calculations	**Use patient specific information:** Height, weight, age and body system function
Verbal Orders	• Avoid when possible • Pronounce slowly and distinctly • State numbers like pilots (i.e., **"one-five mg" for 15 mg**) • Spell out difficult drug names • Specify concentrations -Verbal orders are commonly used in ER, surgery and code blue -Use SBAR technique and other techniques for effective communication

Medication Use

Strategies to Reduce Dispensing Errors

Standardized concentrations for all IV medication

Use commercially prepared solutions

Dispense a unit of use

Medication Monitoring

-This is the job of physicians
-You **MUST** documente for other doctors!!

Monitoring involves

Observing the patient to determine if the medication is working, being used appropriately and not harming the patient.

Documentation

Communication clearly is important to avoid a lot of errors;
-Lack of checking habits and miscommunication are most common causes of medication errors, if not all medical errors!!

HOW monitoring go wrong?

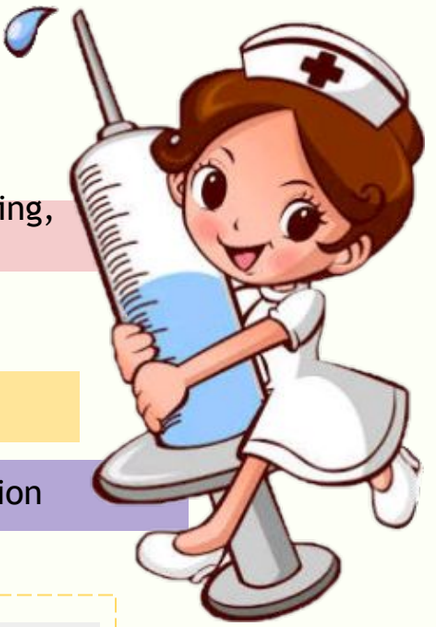
-Lack of monitoring for side-effects
-Drug not ceased if not working, or course completed

-Drug ceased before course completed
-Drug levels not measured, or measured but not checked or acted upon.

Communication failures:

-This is a risk if the care provider changes, for example, if the patient moves from the hospital setting to the -Community setting or vice versa.

Medication Use



Administration:

This is usually the job of nurses

Obtaining the medication in a ready-to-use form may involve counting, calculating, mixing, labeling or preparing in some way (inpatient).

Checking for allergies

Giving the right medication to the right patient, in the right dose, via the right route, at the right time.

Documentation

How can drug administration go wrong

Wrong patient Wrong route Wrong time	Wrong dose Wrong drug Omission, failure to administer	Inadequate documentation

IMPORTANT!!

5Rs

When Prescribing AND Administration

Right patient	Check the name in the order and the patient, use two identifier and ask the patient identify themselves	Right Time	Check the frequency of the ordered medication and confirm when last dose was given
Right Medication	Check the medication label and order	Right Dose	Confirm appropriateness of the dose using a current drug reference and correct calculation
Right Route	Confirm that the patient can take or receive the medication bty rh ordered route		

Strategies To Reduce Administration Errors

Be familiar with the institution policy

Preprinted & standardized infusion rate charts

Use programmable infusion device

Infusion tubing should be traced from the infusion bag to the point of delivery

Medication Errors

Which patients are most at risk of medication errors?

Important!

Hard to communicate with them

- Patients on multiple medications
- Patients with another condition (e.g. renal impairment or pregnancy)
- Patients who can't communicate well
- Patients who have more than one doctor
- Children & babies (dose calculations required?)

Medication Errors Factors:

Inexperience

Rushing

Doing two things at the same time

Interruptions

Fatigue, boredom or stress

Lack of checking and double checking habits

Poor teamwork and/or communication between colleagues

Staff Factors

How can workplace design contribute to medication errors?

-Absence of a safety culture in the workplace E.g. poor reporting systems and failure to learn from past near misses and adverse events

-Inadequate staff numbers.

-Absence of memory aids for staff

Workplace Factors

[Work hard now, so later you won't regret your choices ... Keep your patient safe]

Keep our work safe and give us your feedback!