PATIENT SAFETY TEAM

MED439
KING SAUD UNIVERSITY

Patient Safety
Summary

Important notes

- You need to focus on **definitions** and **enumerations**
- You need to understand medication errors and teams lectures very well
- This work is done by students efforts, the doctor didn't revise it

DISCLAIMER

This is done by the effort of students and may fall short of what will actually come on the exam, some of the graphs were deleted as we think it's not important for the exam.

We are not held liable or responsible for any content in the exam out of this file.
Thank you and good luck.

Color index:

Slides

Important

Doctors notes

Extra

L1: Introduction To 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).

The 6 key elements & dimensions of healthcare quality

1. **Safe**
2. **Family- centered**
3. **Effective**
4. **Timely**
5. **Equal**
6. **Efficient**

Sources of System Errors

Sources of System Error

Active errors or human error

Are committed by frontline staff and tend to have direct patient consequences.

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

Example understaffed wards or inadequate equipment.

Errors in medicine

- 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.

"Swiss cheese" model of accident causation

- The systems have many holes: some from active(human)failures and others from
- latent (system) 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.

Patient safety culture

- Definition : is 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.
- Let us say a patient had received a wrong medications and suffered a subsequent allergic reaction , what type of culture should be used ?
First we have two types of Patient safety culture

Blame culture (The wrong way) :
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.

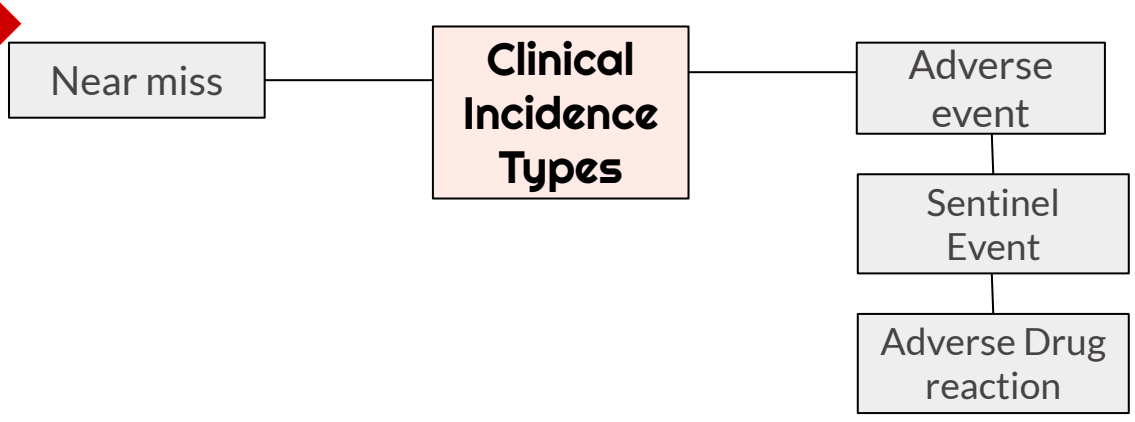
Just Culture (The right way) :
we look for the system defect such as communication , protocols and processes for medication management , in addition to investigate the negligence or recklessness of the worker.

The concept of Clinical incident

- Definition : is 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

IMPORTANT



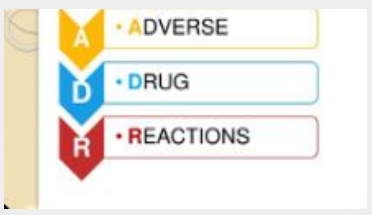
Types of Clinical Incidence

Near miss:

Definition :
Is any situations that did not cause harm to patients
(that did not reach the patient) , but could have done.

Adverse Drug Reaction:

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*



Adverse event

sentinel event

Definition :
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.

Example:
Hemolytic transfusion reaction involving administration of blood or blood products having major blood group incompatibilities

*(WHO,1972)

L2: Human Factors & Patient Safety

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.

OR Anything that affects an individual's performance.

Aspects of Human Factors

The Job	The Individual	The Organization
Including: • Nature of the task. • Workload. • Working environment. ❖ (This includes matching the job to the physical and the mental strengths and limitations of people).	**Including**: • Competency. • Skills (changeable). • Personality, attitude (fixed). • Risk perception. • Sleep deprivation . ❖ (Individual characteristics influence behavior in complex ways).	**Including:** • The culture of the workplace, resources Communications. • Leadership and so on.

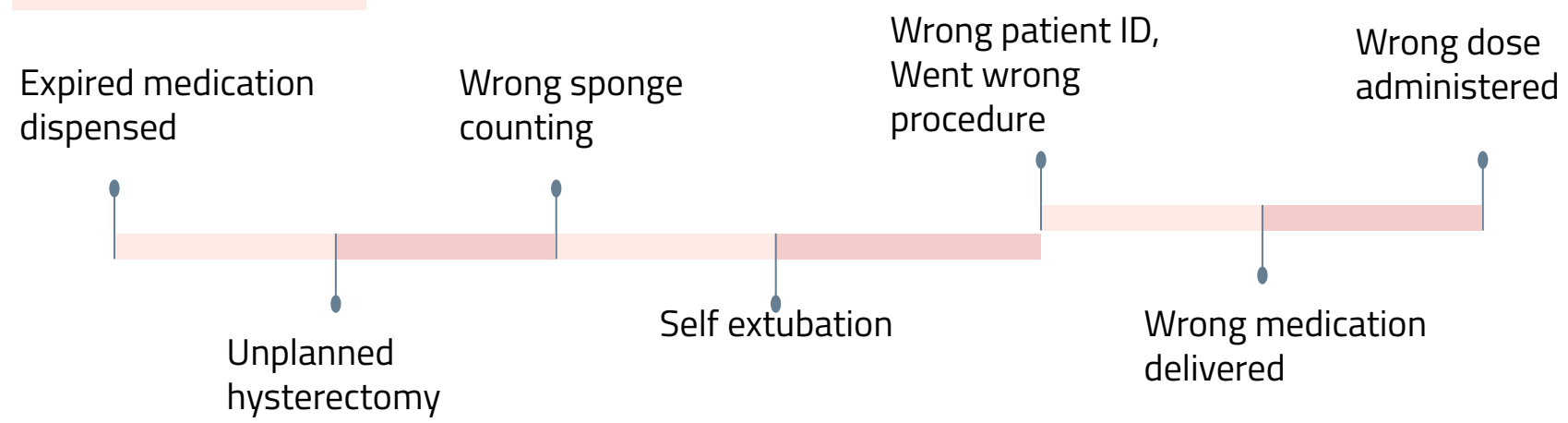
The Benefits of Applying Human Factors in Healthcare

- 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

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

Medical Errors:



Causes of Medical Errors

System and process design

- Inadequate communication
- Unclear lines of authority

Infrastructure failure

- Lack of documentation process
- Lack of continuous improvement process

1 2 3 4 5

Healthcare complexity

- Complicated technologies
- Drugs interaction.
- Intensive care
- Prolonged hospital stay.
- Multidisciplinary approach

Human Factors and Ergonomics

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

Environmental factors

- Over crowded services
- Unsafe care provision areas
- Areas poorly designed for safe monitoring

The Most Common Medical Errors

- **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.

Actions to Reduce Medical Errors as Related to Humans Factors

Making your care and work safer (individual level)	*Organizational Management and Human Factors*
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.	**Developing a positive safety culture** ● Just culture ● Reporting culture (e-OVR Reporting system) ● Learning culture(Morbidity and mortality review process)
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	● Human factors training in healthcare
Storage ● Look at the products you use and have stored. E.g Look-alike packaging	● Develop Clinical Practice Guidelines, Protocols, Algorithms.
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.	
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)	
● Poor lighting Look at the lighting in the areas where you need to perform detailed or complex tasks	

L3: Understanding & Managing Clinical Risk

Purpose of Risk Management

1. Improve organizational and client safety.
2. Identify and minimize the risks and liability losses.
3. Protect the organization resources.
4. Support regulatory, accreditation compliance.
5. Creating and maintaining safe systems of care, designed to reduce adverse events and improve human performance.

Process Used to Manage Clinical Risks

1. **Identify** the risk
2. **Assess** the frequency and severity of the risk
3. **Reduce** or **eliminate** the risk
4. **Assess** the costs saved by reducing the risk or the costs of not managing the risk

1- Identify The Risk

Use the following data as a sources for identification:

- Adverse event reports
- Mortality and morbidities reports
- Patient complaints reports

2- Assess The Frequency and Severity of The Risk

Severity Assessment Code (SAC) Score:
It is a matrix scoring system based on severity, consequences for whom? & likelihood of risks.
(These scores are multiplied to get a rating for the risk)

SAC steps

The SAC score is applied to all incidents whether they are of a corporate or a clinical nature. The SAC matrix is the method by which the SAC score is derived. The steps are:

- **Using Step 1**: determine the actual consequence of the incident (Serious, Major, Moderate, Minor and Minimal)

- **Using Step 2**: determine the likelihood of recurrence of this incident (Frequent, Likely, Possible, Unlikely, rare)

- **Using Step 3**: allocate a SAC score to the incident

- **Using Step 4**: determine the appropriate action to be taken.

IMPORTANT

Clinical Risk Management

Risk

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.

Hazard

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.

- Blood borne Pathogens.
- Hazardous Chemicals.
- Stress.

Activities Commonly Used to Manage Clinical Risk

1. **Incident monitoring**
2. **Sentinel events**
3. **Patient complaint**
4. **Fitness-to-practice requirements**

Incident monitoring

- **An incident:** as an event or circumstance that could have or did lead to unintended and/or unnecessary harm to a person and/or a complaint, loss or damage.
- **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.

Patient complaint

The role of complaints in improving care:

- **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.

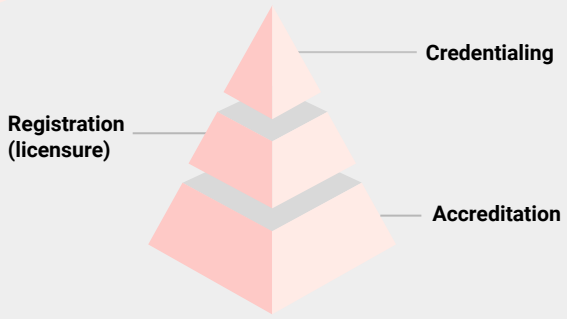
Benefits of complaints:

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

Fitness-to-practice requirements

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.



To fit for practice 3 things are needed:

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.

Registration (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).

L4: Being effective team player

What is a Team?

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

1. Have a common goal/objective/mission
2. Have been assigned for specific tasks
3. Possess specialized and complementary skill
4. Interact dynamically

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 embolism.
  - The health-care team might include nurses, a midwife, an obstetrician, an endocrinologist and a respiratory physician, as well as the patient.
- Increasing incidence chronic disease
- Initiatives for safe working hours
- Global workforce shortages
- Increasing co-morbidities

Teams found in health care:

1. Ancillary Services
2. Contingency Teams
3. Coordinating Teams
4. Support Services
5. Core Teams
6. Administration

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 Teams	Is the group responsible for day-to-day operational management, coordination functions and resource management for core teams. Nurses often fill such coordinating.
Contingency Teams	Contingency teams are formed for emergent or specific events(e.g. cardiac arrest teams disaster response teams, rapid response e teams).
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..
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.
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.

Stages of Team Development

1. Forming
2. Storming
3. Norming
4. Performing

Forming Stage: 1

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 Stage: 2

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 Stage : 3

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.

5. Work together to overcome personal disagreement.

6. Share responsibilities and help each other.

performing stage : 4

1. Members 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

1. Team members should be introduced to each other in more details by using icebreakers.
2. Responsibilities must be assigned accordingly.
3. Clear communication.
4. Social activities.
5. Role should be in rotation.
6. Everyone should be treated equally.

Characteristics of Successful Teams

Measurable Goals

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

Mutual Respect

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

Common Purpose

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

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.

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:**
○ **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?

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

L5: Learning From Errors To Prevent Harm

What is the meaning of "Error"

- **Non-deliberate deviation from what was intended:** When someone is trying to do the right thing, but actually does the wrong thing.
- "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:

- 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.

What are Silly mistakes?

- We often commit "silly mistakes" in our daily lives (forget our keys, text the wrong person.)
- Culture of infallibility: medical culture often denies the prevalence of error.

Patterns of error *"types of failures"*

1

Error of execution: actions do not go as intended:
- Slip: if this action is observable (e.g. accidently pressing wrong button.)
- Lapse: if it is not (e.g. forgetting to administer a medication.)

2

"Mistakes": a failure of planning:
- Rule based: a "wrong" rule is applied. (e.g. wrong diagnosis leads to wrong treatment plan.)
- Knowledge based: the clinician does not know the correct course of action. (e.g. in new situations.)

IMPORTANT

Situations that increase the risk of Error

Unfamiliarity with a task:

Shortness of time:

Inadequate checking:

Poor procedures:

Individual Factors That Predispose to Error

1. Limited Memory Capacity
2. Fatigue
3. Language or cultural factors
4. Hazardous attitudes
5. Stress, hunger, illness

Learning From Error

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.
- Open acknowledgement of successes 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.
- Goal is to evaluate, analyze and develop system improvements for the most serious adverse events.
- Triages the reported incidents to ensure those indicating the most serious risk to the organization are dealt with first.
- Prevention- not blame or punishment.
- Systems level vulnerabilities, not individual performance.
- Multiple factors: communication, training, fatigue, scheduling, rostering, environment, equipment, rules, policies and barriers.

Root Cause Analysis

Defining characteristics:
- Review by an interprofessional team knowledgeable about the processes involved in the event.
- 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

Practice Strategies to Reduce Errors

Know yourself (eat well, sleep well & look after yourself)

Preparation and planning (What if...)

Know your environment

Build checks into the routine

Know your task(s)

Ask if you do not know

Assume that errors will be made. Be prepared for them

Identify those circumstances most likely to lead to errors

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

L7: Using Quality Improvement Methods to Improve Care

The Purpose Of Quality Improvement Methods :

- Identify a problem
- Measure the problem
- Develop a range of Interventions designed to fix a problem
- Test whether the interventions worked

Three Main Types Of Measures:

1

Structure Measures:
Measures of infrastructure, capacity and system
➔ Ex: Nursing to Px ratio in ICU

2

Process Measures:
They measure if parts of steps in the system are performing as planned
➔ Ex: Bed occupancy rate

3

Outcome Measures:
Are results of overall process or system performance , reflect the impact of the health care service
➔ Example: The 30-day mortality rate

Picturing The Data:

There are many valuable tools for interpreting and presenting data eg. Bar chart, Pie chart & Line chart.

Types of Graphs

1- Bar Chart:

-Most common.
-Displays data using a number of bars, each representing a particular category.
-Useful for looking at a set of data and making comparisons.

2- Pie Chart:

-Circular graph that shows the relative contribution that different categories contribute to an overall total

3- Line Chart:

-A type of chart used to visualize the value of something over time.
-Also known as line graph.

Performance Improvement Methods

Focus PDSA | RCA | QIP | Brain Storming

Brainstorming / (ORID) method:

- It 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.

Plan-Do-Study-Act-Cycle / IHI Model:

The IHI (Institute for Healthcare Improvement) 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.

PDSA

PLAN	DO	STUDY[1]	ACT

Root Cause Analysis (RCA) / (ishikawa or fishbone):

It 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. It is a tool for solving problems & the diagram is used to explore and display the possible causes of a certain effect.

An effective root cause analysis requires the following components:
1) **Multidisciplinary team** 2) **The team develops a problem statement**

Root Cause Analysis Cont.

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

Site visit — to examine the equipment, the surroundings and observe the relationships of the relevant staff.
Documentation and review — medical records, incident forms, hospitals guidelines, literature review.

factors:

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

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

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

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

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

Patient factors
e.g. Distressed patients; communication and cultural barriers between patients & staff; multiple co-morbidities

Quality Improvement Plan (QIP):

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

L8: Engaging with Patients and Carers

1. Knowledge Requirements:

1. Basic communication techniques.
2. Informed consent procedures.
3. The basics of open disclosure.

2. Performance Requirements:

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

Gaining an Informed Consent

"What Information Do Patients Need?"

- The Diagnosis
- The degree of uncertainty in the diagnosis
- Risks involved in the treatment
- Information on recovery time
- The benefits of the treatment and the risks of not having the treatment
- Name, position, qualifications and experience of health workers who are providing the care and treatment
- Availability and costs of any service required after discharge from hospital

Aiding Good Communication *"SEGUE Framework"*

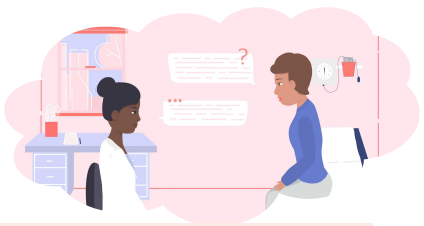
Set The Stage

Elicit Information

Give Information

Understand The Patient's Perspective

End The Encounter



Aiding Good Communication *"Cultural Competence"*

Understand that people have different ways of interpreting the world

Know that cultural beliefs impact on health

Be willing to fit in with the patient's cultural or ethnic background

Know one's own cultural values

Understand cultural differences

Patient Role in Minimizing Adverse Events

85% of patients were comfortable asking about a medication's purpose.

Patients want to be involved in their health care (depending on which tasks):

46% were very uncomfortable about asking health-care workers whether they had washed their hands.

SPIKES "A Communication Tool"

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

SETTING	PERCEPTION	INVITATION	KNOWLEDGE	EMPATHY	STRATEGY & SUMMARY
Sharpen your listening skills	Pay attention to patient perceptions	Invite the patient to discuss details	Know the facts	Explore emotions and deliver empathy	Strategize next steps with patient or family

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.

Key Principles of Open Disclosure:

- Open timely communication.
- Acknowledgment of the incident.
- Expression of regret/apology.
- Recognition of the reasonable expectations of the patient and the caregiver.
- Support for staff.
- Confidentiality.

Harvard Framework for Disclosure

1. **Preparing**
2. **Initiating Conversation**
3. **Presenting the Fact**
4. **Actively listening**
5. **Acknowledging what you have heard**
6. **Concluding the Conversation**
7. **Documentation**

L9: Improving Medication Safety

Medication Errors

What is it?

Is any preventable event that may cause or led to **inappropriate medication use or patient harm.**

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[1].

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, e.g being allergic to penicillin.

Adverse Drug Event:

- An **incident** in which a patient is harmed. It includes both errors & side effects of the medication.

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

Steps in Using Medication

1. Prescribing.
2. Preparation and Dispensing.
3. Administration.
4. Monitoring.

IMPORTANT

Strategies To Reduce Prescribing Errors

1. **"Avoid Illegible Handwriting".**
2. **"Write Complete Information"**
3. **"Look at Patient-Specific Information"**
4. **"Decimals"**

5 “Do Not Use Abbreviations.

6 “Be Alert To Drug Name”

7 “Write The Medication Reconciliation”.

8 “Know The High Alert Medications”

9 “More Attention to Dosage Calculations

10 “Verbal Orders

How Can Drug Administration Go Wrong ?

01 Wrong patient

02 Wrong route

03 Wrong time

04 Wrong drug

05 Omission, failure to administer

06 Inadequate documentation

07 Wrong dose

5 Rs When Prescribing and Administering

1: Right Patient

2: Right Route

3: Right Time

4: Right Dose

5: Right Medication

Factors for Medication Errors “Staff Factors”

- Inexperience
- Doing two things at the same time
- Rushing
- Poor teamwork and/or communication between colleagues
- Lack of checking and double checking habits
- Interruptions
- Fatigue, boredom, or stress

Medication Monitoring

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

medication involves:

Documentation

How can workplace design contribute to medication errors?

1. Inadequate staff number.
2. Absence of a safety culture in the workplace, e.g. poor reporting systems and failure to learn from past near misses and adverse events.
3. Absence of memory aids for staff.

Ways to make medication use safer

1: Use generic names where appropriate.

2: Tailor prescribing for individual patients.

3: Communicate clearly.

4: Develop checking habits.

5: Use memory aids.

6: Know the high-risk medications and take precautions.

7: Learn and practice collecting complete medication histories.

8: Be very familiar with the medications you prescribe.

9: Remember the 5 Rs when prescribing and administering.

10: Encourage patients to be actively involved.

11: Report and learn from errors.

L10: Infection Prevention & Control

Infection Control

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

"Understanding The Chain of Infection"

Susceptible Host
A person who is potentially vulnerable to an infection.

Infectious Agents
Pathogenic (disease-causing) microbes such as bacteria, parasites, viruses, or fungi.

Portal of Entry
Site through which a pathogen can enter the susceptible host and cause infection, such as a urinary catheter or central line.

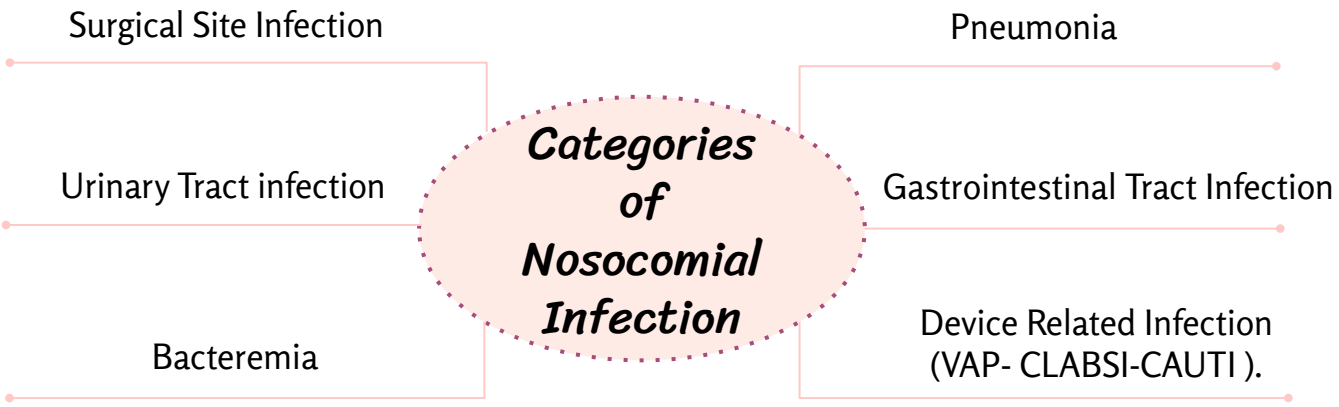
Reservoirs
Hosts or habitats - such as humans, animals, or environment - where infectious agents live and reproduce.

Presented on Admission (Community Acquired)

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.

Health Care-Associated (Hospital Acquired "Nosocomial")

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



	Clinical Definition
Surgical Site Infection	An infection that occurs after surgery in the part of the body where the surgery took place, can sometimes be superficial (involving the skin only). Other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material.
Pneumonia	An infection in one or both lungs (causes inflammation in the air sacs), can be caused by bacteria (most common type in adults), viruses, or fungi.
Urinary Tract Infection	An infection in any part of urinary tract , most infections involve the lower urinary tract (bladder and urethra).
Bacteremia	The presence of Bacteria in the bloodstream.
Device Related Infection	Any of the hospital acquired infections in which the use of a medical device is a risk factor. ★ **VAP** (Ventilator-associated pneumonia): a lung infection that develops in a person who is on a mechanical ventilator. ★ **CLABSI** (Central line - associated bloodstream infections): primary laboratory confirmed bloodstream infection in a patient with a central line. ★ **CAUTI** (catheter- associated urinary tract infections): is a hospital acquired UTI where an indwelling urinary catheter was in place for more than two days.
Gastrointestinal Tract Infections	are viral, bacterial or parasitic infections that cause gastroenteritis.

Patients at Risk to be infected by Nosocomial Infections

1. Immunocompromised patients (oncology, dialysis, diabetic).
2. Prolonged Hospital Stay (Long stay patients).
3. Use of invasive devices (ICU).
4. Post procedure (Surgical).

Standard Precaution

A group of practices of infection prevention and control based on a principle that all blood, body fluids secretions, excretions (except sweat), non intact skin and mucous membranes may contain transmissible infectious agents regardless of their diagnosis.

(Applied to all patients regardless of the patient diagnoses).

Elements Of Standard Precaution

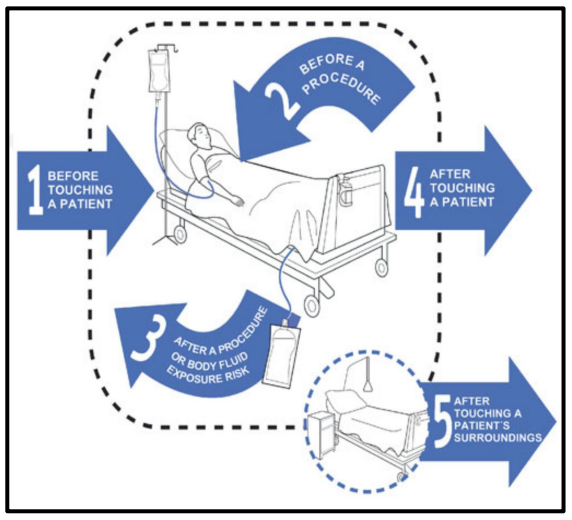
- Hand Hygiene
- Gown
- Mask
- Gloves
- Patient Placement and Transport
- Respiratory Hygiene / Cough Etiquette
- Safe injection practices
- Face Protection
- Worker Safety
- Patient Care Equipment/ Devices

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.

WHO "My five (KEY) Moments for Hand Hygiene"

- Before touching a patient
- Before clean/aseptic procedure
- After body fluid exposure risk
- After touching a patient
- After touching patient surroundings



Types of Hand Hygiene

Hand Washing

40-60 seconds

★ For visibly soiled hands & after using alcohol gel several times.

★ When handling patients colonized/infected with spore-forming organisms.

Use of Alcohol Rubs/Gels

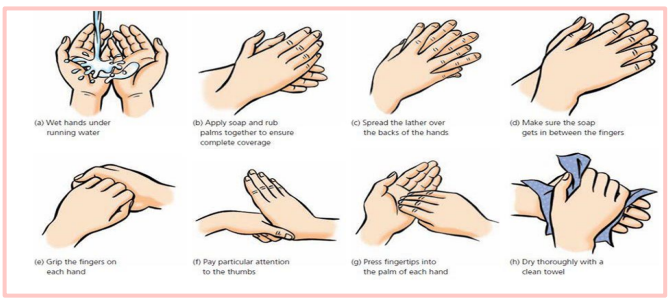
20-30 seconds

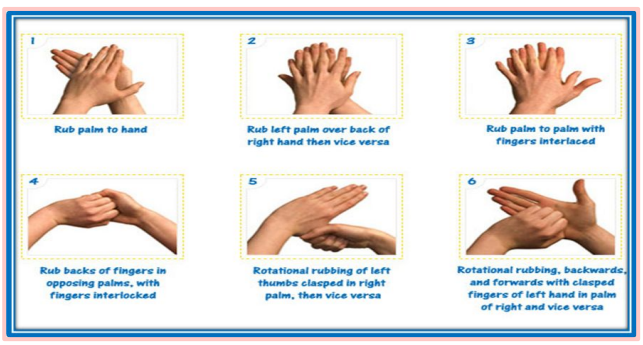
★ For hands that are not visibly soiled.

Surgical Hand Scrub

★ Brush and nail file.

★ 5 minutes (first wash of the day) & 2-3 minutes (in between operations).





Personal Protective Equipment

A variety of barriers to protect both the patient and HCW's (Health Care Workers) 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.





Safe Injection Practices

1. Do not recap, bend, break, or hand-manipulate used needles.
2. If recapping is required, use a one-handed scoop technique
3. Place used sharps in puncture-resistant container.

One Hand Scoop Technique & Finishing The Procedure

- Discard The Needle in Sharp Container.
- NEVER REUSE!!!!
- NEVER RECAP!!!!
- Remove Gloves & Wash Your Hands.

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.
Single Use, Disposable Items	Must be disposed properly.
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).

Respiratory Hygiene (Cough Etiquette)

- Turn your head away from others.
- Use a tissue to cover your nose and mouth.
- Drop your tissue into a waste bin.
- No tissue? Use your sleeve.
- Clean your hands after discarding tissue using soap and water or alcohol gel for at least 15 secs.

Transmission-Based Precautions

Airborne Precautions | **Droplet Precautions** | **Contact Precautions**

Airborne Precautions:

- Causative agents of diseases under airborne precaution are **less than 5 µm**, thus can be carried away by air currents.
- Diseases under airborne precautions:
  - Measles.
  - Tuberculosis (Pulmonary / Laryngeal).
  - Varicella.

1

Patient Placement

- Single room with negative air pressure.
- 12 air changes per hour.
- Room door closed.

2

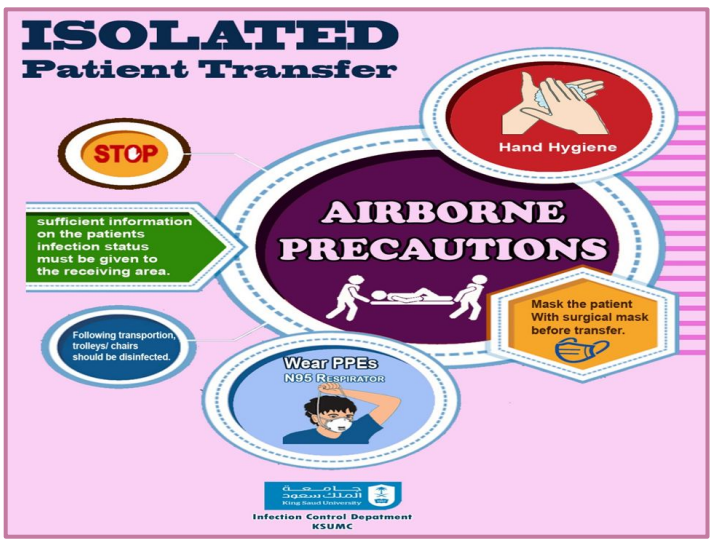
Protection for Health Care Workers (HCWs)

- Standard precautions.
- N95 respirator.

3

Patient Transport

- Limit movement.
- Mask the patient with surgical masks.



Transmission-Based Precautions

Airborne Precautions | **Droplet Precautions** | Contact Precautions

Droplet Precautions:

- Causative agents of diseases under droplet precaution are **greater than 5 µm**.
- They can travel up to 3 feet (1mtr).
- Diseases under droplet precautions:
  - Haemophilus influenzae type B disease, including meningitis, pneumonia, sepsis
  - Streptococcal (group A), scarlet fever in infants and young children
  - Influenza, Mumps.

1 2 3

Patient Placement

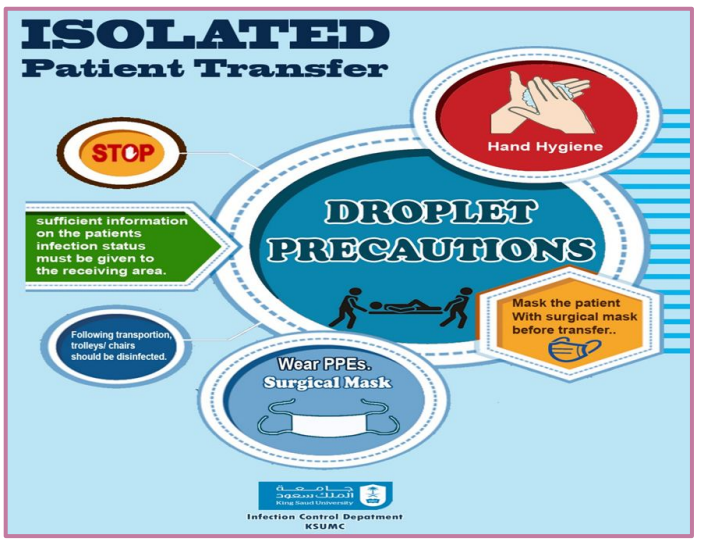
- Private room.
- Cohort nursing.

Protection for Health Care Workers (HCWs)

- Standard precautions.
- Surgical mask if working within 3 feet of the patient.

Patient Transport

- Limit movement.
- Mask the patient with surgical mask.



Transmission-Based Precautions

Airborne Precautions

Droplet Precautions

Contact Precautions

Contact Precautions:

- Use In addition to standard precaution, for patients known or suspected to have serious illness transmitted through contact.
- Diseases under contact precautions:
  - Multi-drug resistant microorganisms (MDRO's), VRE, MRSA, ESBL, B.cepacia.
  - RSV infection in infants, young children and immunocompromised patients.
  - Clostridium difficile enterocolitis.

1

Patient Placement

- Private room.
- Cohort nursing.

2

Protection for Health Care Workers (HCWs)

- Handwashing.
- Gloves.
- Gown.

3

Patient Transport

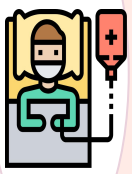
- Limit movement.

L11: Patients Safety & Invasive Procedures

The Main Causes of Adverse Events Associated With Invasive Procedural and Surgical Care

1

Poor Infection Control Methods
The implementation of safer infection control practices



2

Inadequate Patient Management
inadequate implementation of protocols or guidelines.

3

Failure to Communicate Effectively Before, During and After Procedures

The Main Adverse Events Due To Inadequate Patient Management Associated With Surgical Care

Infection and postoperative sepsis (Most important)

Cardiovascular complications

Thromboembolic complications

Respiratory complications

The Verification Processes for Improving Surgical Care

A verification process ensures that the correct procedure is performed on:

The right patient, right side, site and the right organ.

Effective methods exist, such as evidence-based guidelines, protocols or checklists, to support health-care providers achieve safer care.

IMPORTANT

Guidelines	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).

Examples for The Verification Processes for Improving Surgical Care

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.

- **Done by who?**
  Physicians **(consultants/senior)**

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.

- **Done by who?**
  Nurses

Examples for The Verification Processes for Improving Surgical Care cont..

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.

- **Done by who?**
  Nurses, surgeons, anesthesiologists.

Practice\Techniques in Operating Room that Reduce Risks and Errors

Comply with the surgical checklist

Asking questions

Participating in team briefings and debriefings

Starting or sharing intentions

Appropriately sharing information

Teaching

Managing workload

IMPORTANT

Types of Communication Failure Associated With Doctors

Type of Failure	Definition
Occasion	Problem in the situation or context of the communication event.
Content	Insufficient or inaccurate information being transferred.
Audience	Gaps in the composition of the group engaged in the communication.