# Patient Safety
# Needs & Concept

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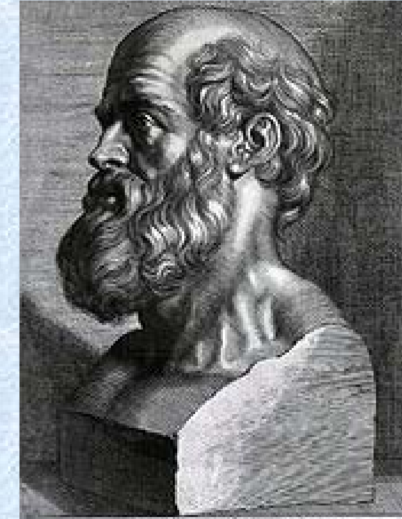
# HISTORY



- Hippocrates recognized the potential for injuries that arise from the well intentioned actions of healers. -drafted the Hippocratic Oath and pledged to:

"prescribe regimens for the good of my patients according to my ability and my judgment and **never do harm to anyone**."

Since then, the directive ***primum non nocere*** ("first do no harm) has become a central tenet for contemporary medicine

- More than 140 years ago, Florence Nightingale warned, “the very first requirement in a Hospital is that it should do the sick no harm” (Nightingale, 1863, preface).

# Aims & Objectives of the Program

- To protect the citizens against preventable harms due to healthcare.

by

- put in place adequate strategies to prevent and control adverse events including healthcare associated infections

# Call for Action

- Political commitment to make Patient safety a Priority objective in Public health system
- Developing Safety Culture in hospitals
- Involvement of Patient and family by raising effective communication
- Sharing of best practices and data collection

# Challenges

- Evolving Public Expectations
  - Doctor no more a god figure – dogmatic and paternalistic figure fading away
  - Increase participation in decision making
- Increased complexity in management of patients
  - Advancements in knowledge and disease management
  - Advanced instrumentations
  - Ageing society
- Lack of concept of Medical errors & Patient safety in medical education curriculum

*"The knowledge, skills, and attitudes needed for safe practice are not normally acquired in medical school."*

# Magnitude of Problem

- Recent studies suggest that:
  - Medical errors occur in 2.9% to 3.7% of hospital admissions.
  - 8.8% to 13.6% of errors lead to death.
  - As many as 98,000 hospital deaths may occur each year as a result of medical errors.
  - Increased LOS of 4.6 days
  - Increased hospital cost

# The Problem is Large

- In U.S. Healthcare system
  - 7% of patients suffer a medication error [2]
  - On average, every patient admitted to an ICU suffers an adverse event [3,4]
  - 44,000- 98,000 people die in hospitals each year as the result of medical errors [5]
  - Nearly 100,000 deaths from HAIs [6]
  - Estimated 30,000 to 62,000 deaths from CLABSIs [7]
  - Cost of HAIs is $28-33 billion [7]
- 8 countries report similar findings to the U.S.


2 **Bates DW, Cullen DJ, Laird N, et al.,** *JAMA,* 1995
3. **Donchin Y, Gopher D, Olin M, et al.,** Crit Care Med, 1995.
4. **Andrews L, Stocking C, Krizek T, et al.,** Lancet, 1997.
5. **Kohn L, Corrigan J, Donaldson M.,** To Err Is Human, 1999.
6. **Klevens M, Edwards J, Richards C, et al.,** PHR, 2007
7. **Ending Health Care-Associated Infections,** AHRQ, 2009.


37 – 51% of AEs are potentially preventable

# Definitions

**Medication Error**

*The failure of a planned action to be completed as intended or use of*

*a wrong inappropriate, or incorrect plan to achieve an aim.*

***Sentinel event***

*An unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function.*

- **Medication Error:** A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packing and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use. (Zipperer, et al)

# Definitions

## Adverse event

- An unintended injury or complication resulting in death, disability or prolong hospital stay that arise from healthcare management.

## Near miss

- ***Any event*** *or situation that could have resulted in an accident, injury or illness, but did not, either by chance or through timely intervention.*

# Definitions

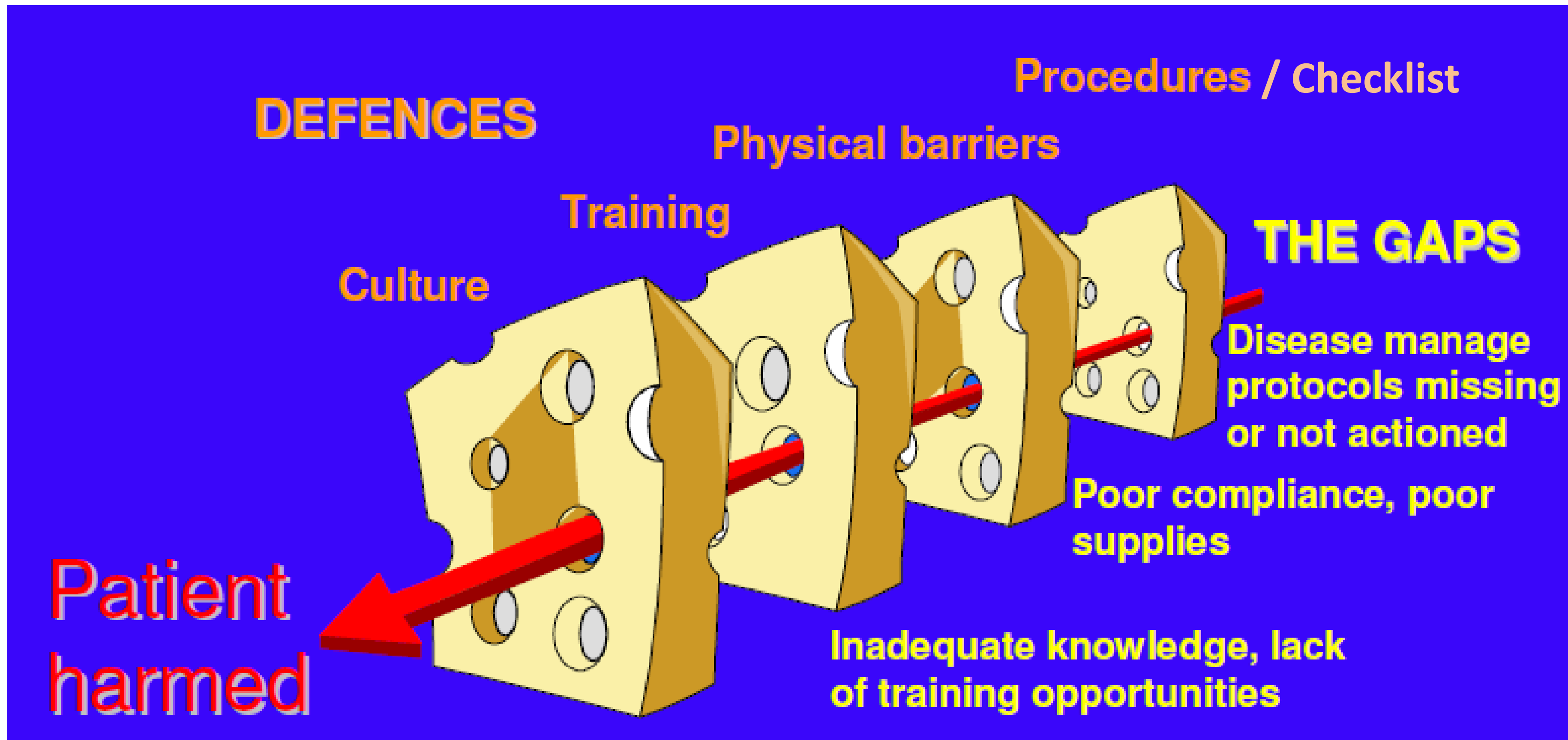
**Patient safety**

The avoidance, prevention, and amelioration of adverse outcomes or injuries stemming from the processes of health care.

- Safety emerges from the interaction of the components of the system; it does not reside in a person, device, or department.

- Patient safety is a subset of health care quality

# A Systemic Problem that Harms Patients

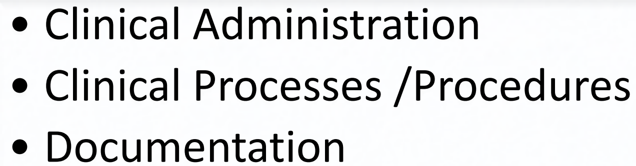


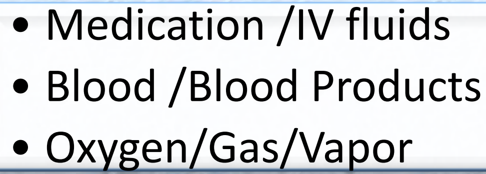

*No clear leadership, no cohesive team structure*

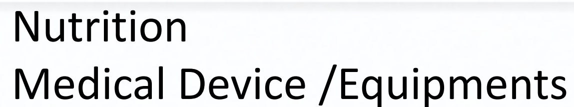
# Researchers have shown that causes of Medical errors :

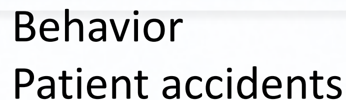
- 24% — Communication problems
- 20% — Discontinuity of care (includes referrals of existing patients and itinerant/new patients)
- 19% — Lab results (logistics, timing, follow-up)
- 13% — Missing values/charting
- 8% — Clinical mistake (knowledge and skills)
- 8% — Prescribing errors (dosage, choice, allergy or interaction)
- 8% — Other

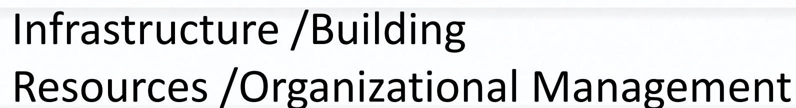
# Type of Errors /Incidence





# CASE Scenario # 1

- Inj Piptaz 2.2gm IV 8hrly omitted on 26/11/2010 in case file but it was noted in Treatment book till 27/11/10, 10:00 am.
- Patient got 3 extra doses of inj Piptaz.

# Case scenario # 2

- A plastic wall fan left open in OT complex
- Fan got overheated –starts smoldering & smoke
- Fire alarms –failed to activate in time
- Staff recognize smoke & luckily disaster averted
- Introspect: Sister forgot to switch off fan after duty
- Plastic fan body got heated up and started burning, more of smoke than fire
- all 5 fire alarms sensors were heat sensitive and no smoke sensitive alarm in that area.

# Case scenario # 3

- Staff nurse informed resident doctor in ICU that patient on bed no 10 is having tachycardia.
- Resident was half asleep at 1 am and attending another patient ordered digoxin to be given.
- Staff nurse gave 0.125 mg i.v  stat.
- Patient died.
- The patient was pediatric patient & she gave adult dose.

Introspect: communication error/memory bias/overwork

# Case scenerio # 4

- Patient on tracheostomy  on process of weaning
- Doctor on duty decreased the oxygen flow from 5 litre to 3 litre at 7 am in morning.
- no sister around due to change over time.
- Doctor is called to attend another patient in second cubicle
- No doctor/sister monitoring for next 15 min
- Patient desaturates & develop respiratory distress & arrested

Introspect: communication error/wrong timing of intervention

“Human beings make mistakes because the systems, tasks and processes they work in are poorly designed”

- Errors can be ***prevented*** before they result in injury and become ***adverse events***

# SEVEN STEPS TO PATIENT SAFETY

| | |
|---|---|
| Step 1 | • Build a safety culture |
| Step 2 | • Lead and Support your staff |
| Step 3 | • Integrate your risk management activity |
| Step 4 | • Promote reporting |
| Step 5 | • Involve and communicate with the patients and public |
| Step 6 | • Learn and share safety lessons |
| Step 7 | • Implement solution to prevent harm –safety designs |

# Root Cause Analysis

*Every adverse event /incident needs detail study*

1. Gather the facts.
2. Choose team.
3. Determine sequence of events.
4. Identify contributing factors.
5. Select root causes.
6. Develop corrective actions & follow-up plan.

# A Few Simple Rules for Health Care in the 21st Century

*Shift from blame & shame culture to system culture*

| Current Approach | New Approach |
| --- | --- |
| • *Do no harm* is an individual responsibility | • Safety is a system property |
| • Information is a record | • Knowledge is shared and information flows freely |
| • Secrecy is necessary | • Transparency is necessary |
| • The system reacts to needs | • Needs are anticipated |
| • Professional autonomy drives variability | • Decision-making is evidence based |

**Just Culture** -- Mistakes Vs Reckless behavior

# How Can We Improve?
# Understand the Science of Safety

## Principles of Safe Design

**STANDARDIZE**
**PROTOCOLS**
**CHECKLISTS**
**LEARN WHEN THINS GO WORNG**

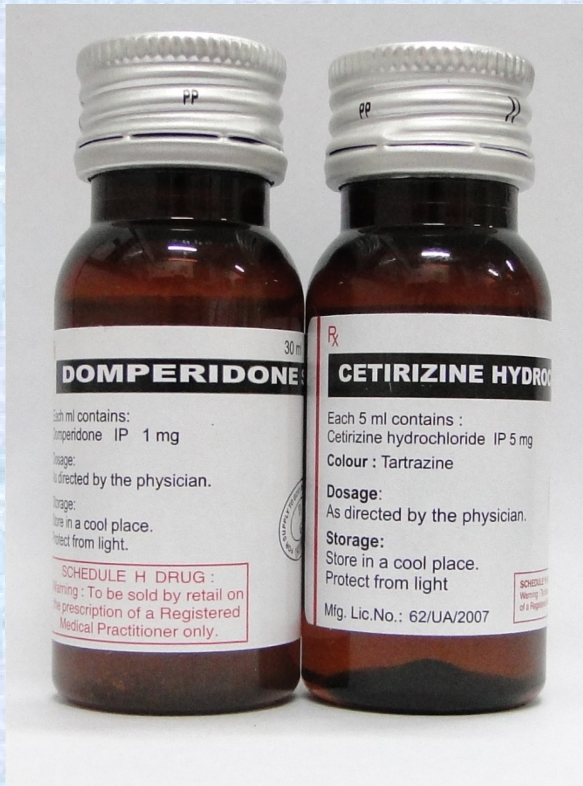
Biogel
Biogel

# Packaging and Labeling Problems

**Look-alike packaging**

**Hard-to-read labels**

# L A S A



World Health Organization

# SURGICAL SAFETY CHECKLIST (FIRST EDITION)

Before induction of anaesthesia ▸▸▸▸▸▸▸▸▸ Before skin incision ▸▸▸▸▸▸▸▸▸▸▸▸▸▸ Before patient leaves operating room

## SIGN IN

- ☐ PATIENT HAS CONFIRMED
  - IDENTITY
  - SITE
  - PROCEDURE
  - CONSENT
- ☐ SITE MARKED/NOT APPLICABLE
- ☐ ANAESTHESIA SAFETY CHECK COMPLETED
- ☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY?
- ☐ NO
- ☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK?
- ☐ NO
- ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?
- ☐ NO
- ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

## TIME OUT

- ☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
  - PATIENT
  - SITE
  - PROCEDURE

ANTICIPATED CRITICAL EVENTS

- ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?
- ☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?
- ☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?

HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?
- ☐ YES
- ☐ NOT APPLICABLE

IS ESSENTIAL IMAGING DISPLAYED?
- ☐ YES
- ☐ NOT APPLICABLE

## SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

- ☐ THE NAME OF THE PROCEDURE RECORDED
- ☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- ☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
- ☐ WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

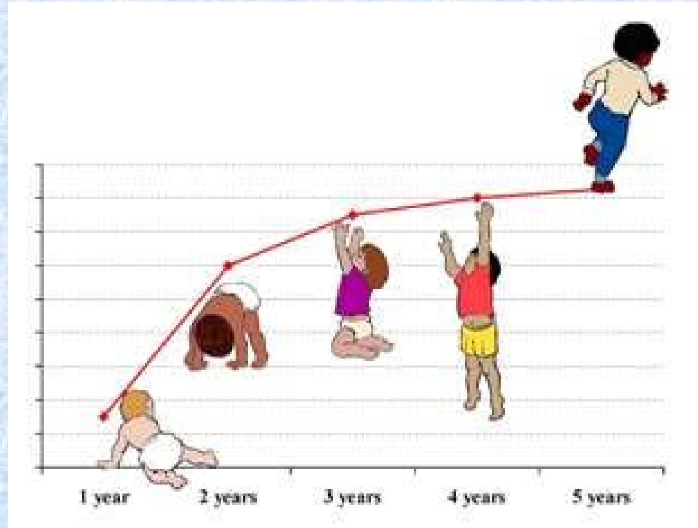
# Patient Safety initiative by CNBC

- Training of core teams including stakeholders from each Delhi Govt hospital (6- 8 staff from each Hospital)
- Helping devising protocols and procedures for individual hospital - provide technical support and prepare HCOs for patient safety
- Common database for feedback and monitoring systems

# Key Message…

Based on principles for redesigning care:

- Standardize care processes
- Create independent checks (such as checklists)
- Encourage reporting of events
- Periodic analysis and improvement
- Learn from mistakes
- Regular training
- Have continuous monitoring system



Thank you