

# **QUALITY AND PATIENT SAFETY**

Clinical skills for the third year

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Everyone in healthcare really has two jobs  
when they come to work everyday:  
  
to do their work and to improve it.

Batalden and Davidoff  
Center for Evaluative Sciences, Dartmouth;  
IHI (Institute for Healthcare Improvement) Cambridge  
JAMA 2007;298(9):1059-61

# OBJECTIVES

- Understand problems with medical communication
- Describe SBAR communication
- Discuss emotional aspects of medical errors
- Describe ARCC--a tool for raising safety concerns
- Learn error reduction methods
- Understand Core Measures
- Name National Patient Safety Goals

# **HANDOFFS AND COMMUNICATION**

# CHEST PAIN UNIT

## “Nothing to check”

- 54 yo M, 7 PM here with CP with exertion lasting 1 hr recurrently. Hx of renal stones and now w/ brown urine. Neg helical CT for stones and treated for UTI w/ ciprofloxacin.
- Transferred to chest pain unit before midnight. Only sign-out was to check repeat enzymes.
- Troponin neg and pt discharged to f/u w/ PCP

# CPU (cont)

- Pt returned 2 mo later w/ SOB and CP and found mass on CXR w/c was bronchogenic CA w/ mets to brain and abd.
- On review, CXR report from 1 AM on initial visit noted mass, recommended CT and notation, “ED notified”, yet, no one involved can remember being notified.

# What happened?

- Failure to note CXR abnormality
  - ED team did not review films themselves
  - ED did not see report
  - Radiology did not successfully transmit critical report to responsible physicians
  - PCP did not note report
  - Pt not notified of report
- Exacerbated by handoff

# Of Course I Communicate Well

- Communication issues are contributing factors in 26-31% of cases of malpractice claims
- Handoffs also contribute to error outside the hospital and in the ED
  - 20% in ambulatory setting, 24% in ED of medical errors
- In malpractice cases with communication breakdowns, 43% involved handoffs
  - 28% of surgical errors



# Problem with Communication

- Gakhar and Spencer administered surveys of sign-out practices and directly evaluated medicine interns
  - 88% said “I am comfortable that I give a complete and accurate sign-out”
  - 48% replied “I receive a complete and accurate sign-out on every patient”
  - 36% reported “I have been taught how to do a proper sign-out

# Who's on First



<https://www.youtube.com/watch?v=airT-m9LcoY>

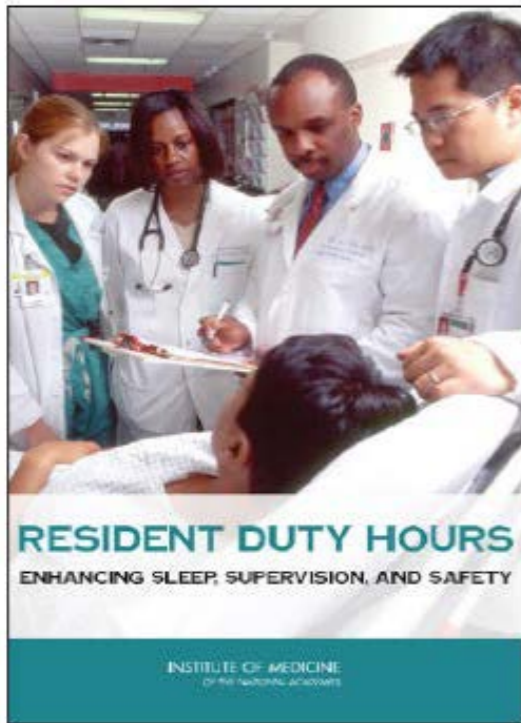
# Problems with Communication

- Speakers systematically overestimate how well their messages are understood by listeners
- Senders assume that receiver has all the same knowledge that they do
  - Even worse for those familiar with each other
- Chang et al. showed most important piece of information was not successfully communicated 60% of the time despite the sender believing it had been

# A Call to Action

- 2006 JC National Patient Safety Goal 2E
- What are the regulatory expectations for handoffs in hospitals?
  - Interactive communication with opportunity for questions
  - Limited interruptions
  - Process for verification: “read back” techniques
  - Up to date information available
  - Opportunity to review prior care

# 2008 Institute of Medicine Report



- Teaching hospitals should design, implement, and institutionalize structured handover process to ensure continuity of care and patient safety
- Programs should train residents and teams in how to hand over their patients using effective communication

# Common Program Requirements

## VI. Transitions in Care



- VI.B.2 Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care & patient safety
- VI.B.3 Programs must ensure that residents are competent in communicating with team members in the hand-over process

# ACGME CLER Pathway to Excellence

- Clinical Learning Environment Review (CLER) performs site visits at hospitals with residents/fellows
- Includes evaluation of care transitions
  - Education
  - Resident/fellow engagement
  - Communication between primary and consulting services
  - Faculty assessing residents/fellows at times of transition

# Transitions

- In 2012, the average length of stay for all hospitalized patients was 4.8 days
  - These patients experience on average 5-10 hand-offs per hospitalization
- Discontinuity in patient care (cross-cover/night float) leads to:
  - Higher in-hospital complications
  - Increased preventable adverse events
  - Increased cost due to unnecessary tests



# SBAR

- What we use at Loyola
- Acts as communication framework between members of health care team about a patient's condition
- Useful for conversations, especially critical ones, requiring immediate attention and action
- Developed by team at Kaiser Permanente of Colorado

# SBAR

- Situation
  - Patient
  - Location
  - Current issues/problems
  - Sick or not sick
- Background
  - Admitting diagnosis
  - Other medical conditions
  - Current medications, allergies, labs
  - Most recent vital signs
  - Code status

# SBAR

- Assessment
  - Overall impression
- Recommendations
  - Issues to follow-up
  - Anticipatory guidance and plan of action

# The Transfer to the ICU

- Situation
  - Mr. X is in room 2306 and I am calling you about his respiratory distress.
- Background
  - He is a 56 year old man with CAD, HTN, and COPD admitted for chest pain, shortness of breath, and new onset heart failure.
  - He is on Lasix, metoprolol, lisinopril, and digoxin.
  - His HR is 120, BP 80/40, 88% on 2 L and he has JVD and crackles
  - His labs were significant for a creatinine of 2.4, which is uptrending
  - He is full code

- **Assessment**

- I believe that his respiratory distress is due to worsening heart failure

- **Recommendation**

- I am going to get a CXR, and order IV Lasix, but I would like you to evaluate him for ICU transfer

# **DISCLOSING ERROR**

# Error

- Failure of a planned action to be completed as intended (error of execution) or use of a wrong plan to achieve an aim (error of planning)

IOM terminology

# Emotional Aspects

- There are two sets of victims after a system failure or human error has led to injury
  - The patients and families
  - Health care workers involved
    - NEJM wrong operation case
- We do a poor job caring for both groups



# Admitting Error

- If we did something wrong, we should admit it
- Institutions with full disclosure have less malpractice claims and have lower payouts
- These institutions still provide strong defense of physicians if no error was committed
- Attending should be doing this

# What do patients and families need?

- They need to know what happened
- They need an apology
- Some will need medical and financial assistance and compensation to help them deal with their loss
- They need to know that something is being done to prevent similar tragedies in the future

1<sup>st</sup> Victim



2<sup>nd</sup> Victim



# The Second Victim

- “Virtually every practitioner knows the sickening feeling of making a bad mistake. You feel singled out and exposed--seized by the instinct to see if anyone has noticed. You agonize about what to do, whether to tell anyone, what to say. Later, the event replays itself over and over in your mind. You question your competence but fear being discovered. You know you should confess, but dread the prospect of potential punishment and of the patient’s anger.”

• *Wu, JGIM, 2000*

# Why is Disclosure so Hard?

- Discomfort we feel in dealing with failure
- Lack of knowledge of how best to proceed in addressing these issues
  - Most training programs lack teaching on disclosing errors and breaking bad news
- Fear of litigation
  - Remember, patients and families sometimes will sue just to find out what happened

# Mistakes are a part of medicine

- Mistakes are inevitable in the practice of medicine because:
  - Complexity of medical knowledge
  - Uncertainty of clinical predictions
  - Time pressures
  - The need to make decisions despite limited or uncertain knowledge

# House Officers and Mistakes

- Wu et al. (1991) studied the relationship of internal medicine house officers and “their most significant medical mistake in the last year”
- Causes of mistakes included:
  - 54% due to not knowing information they should have known
  - 51% being busy with too many other tasks
  - 41% fatigue

# House Officers and Mistakes

- Only 54% of cases were discussed with supervising attending
- 88% discussed the mistake with another physician other than their supervisor
- Only 24% discussed the mistake with the patient or patient's family
- Feelings after the mistake included:
  - Remorse (81%), anger at themselves (79%), guilt (72%), inadequacy (60%)
- Those who responded to the mistake with greater acceptance of responsibility and more discussion were more likely to report constructive changes



# How Does the Medical Student Fit In?

- Why should they listen to me?
  - Medicine is a hierarchical system
  - Health care traditionally is a culture of individual experts
  - Junior staff members may not feel confident that the problem they're observing is really a problem
- **Because it is the right thing to do!**

# How Do I Do It?

- ARCC
- When there is concern about the safety of a patient, use ARCC to protect without offending in the face of authority
  - **A**sk a question
  - Make a **R**equest
  - Voice a **C**oncern
  - Use **C**hain of command

# Example of ARCC

- You are excited to watch your resident (or attending) perform a thoracentesis, but you notice she is lined up on the wrong side.
  - 1) You say – “Dr. Smith, do you mind if I percuss his chest first to hear the pleural effusion.”
  - 2) “I thought I remembered the fluid on the left side, but I could be wrong. Can you show me the fluid on the x-ray?”
  - 3) “I’m sorry, but I really think the pleural effusion is on the left side.”
  - 4) Call your attending. If you are not getting a response from the resident, ALWAYS the right answer

# **ERROR REDUCTION METHODS**

# DATA PURSUIT

- Read ALL the notes from nursing home, EMS, RN and address any items
- Address all patient complaints
- Pursue abnormal VS until comfortable with cause
- Check all lab/xray results that have been ordered and review xrays yourself

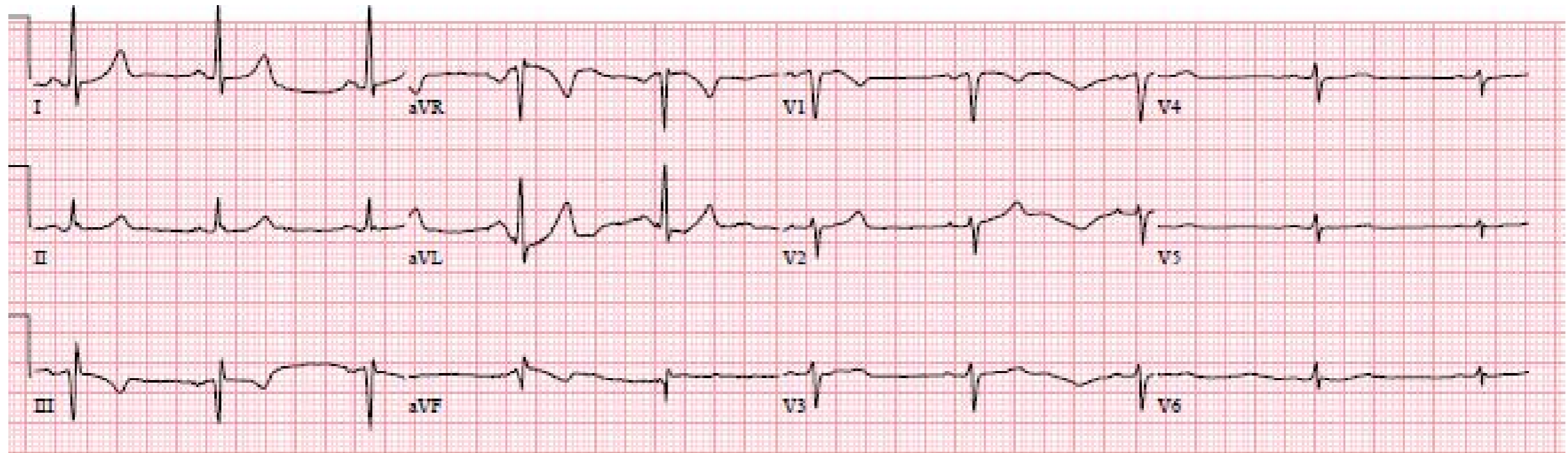
# COGNITIVE BIAS

- 47 yo female seen by triage doctor for chest pain, cough, mucus production, myalgia, sore throat for weeks with hx of cigarette smoking. No risk factors for PE. Normal physical exam.
- CXR neg
- EKG similar to prior 15 months ago with neg stress echo at that time
- No blood work done
- Assess: Not consistent with Acute Coronary Syndrome
- Dx: bronchitis>>Azithromycin

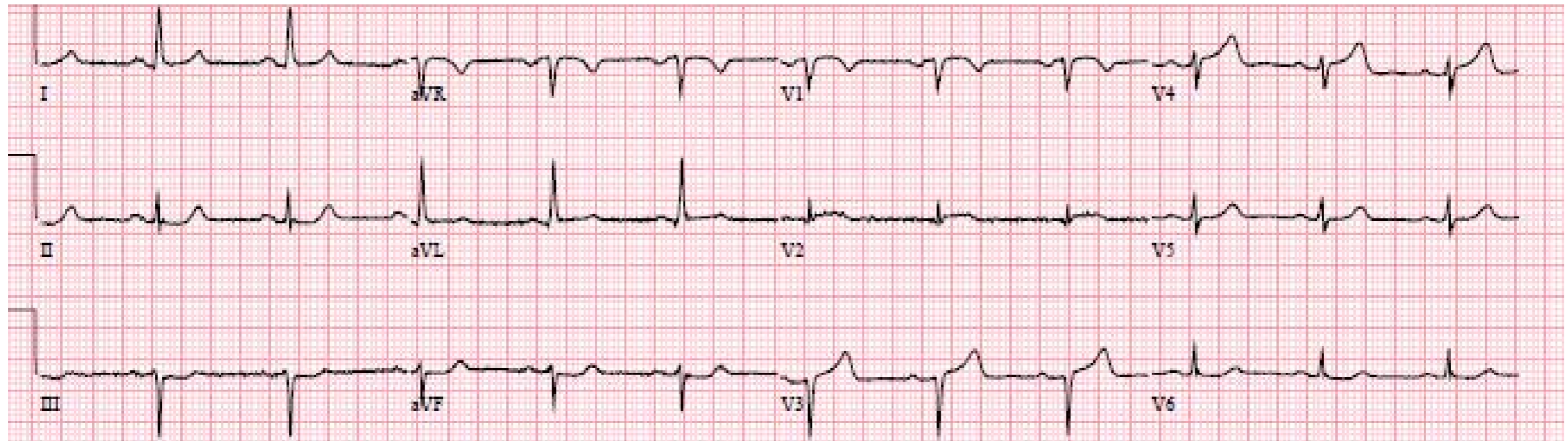
# Bias (cont)

- Cardiology calls next day to say that EKG is concerning for ischemia.
- Pt called back to ED. Chest pain was worse and persistent, with SOB and Vomiting.
- EKG now shows STEMI>>pt to cath lab with complete LAD occlusion

# Old EKG

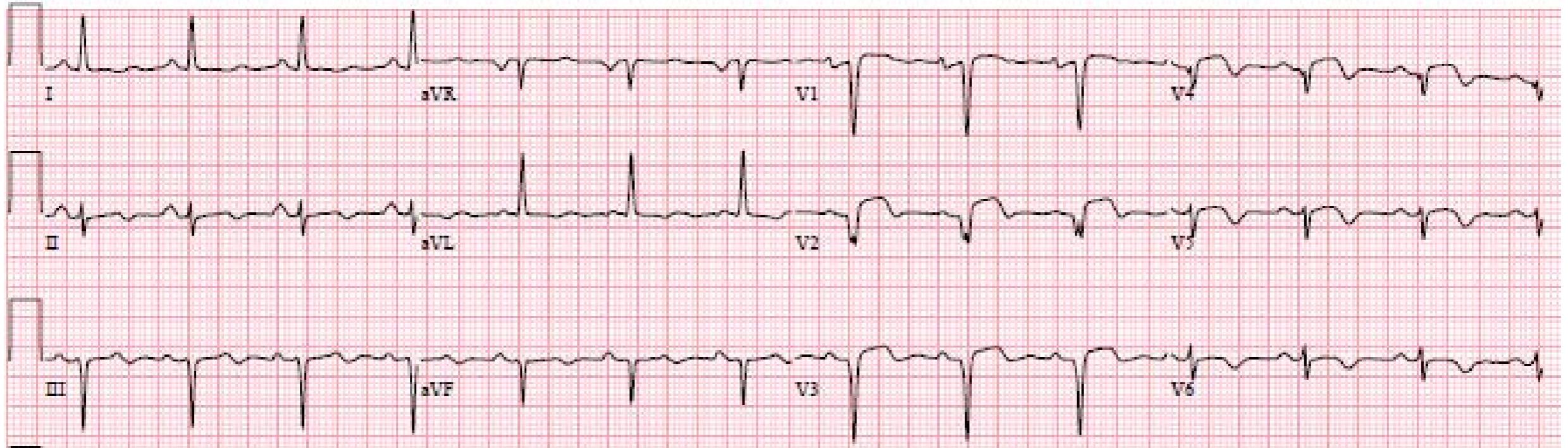


# Presenting EKG





## 2ND VISIT

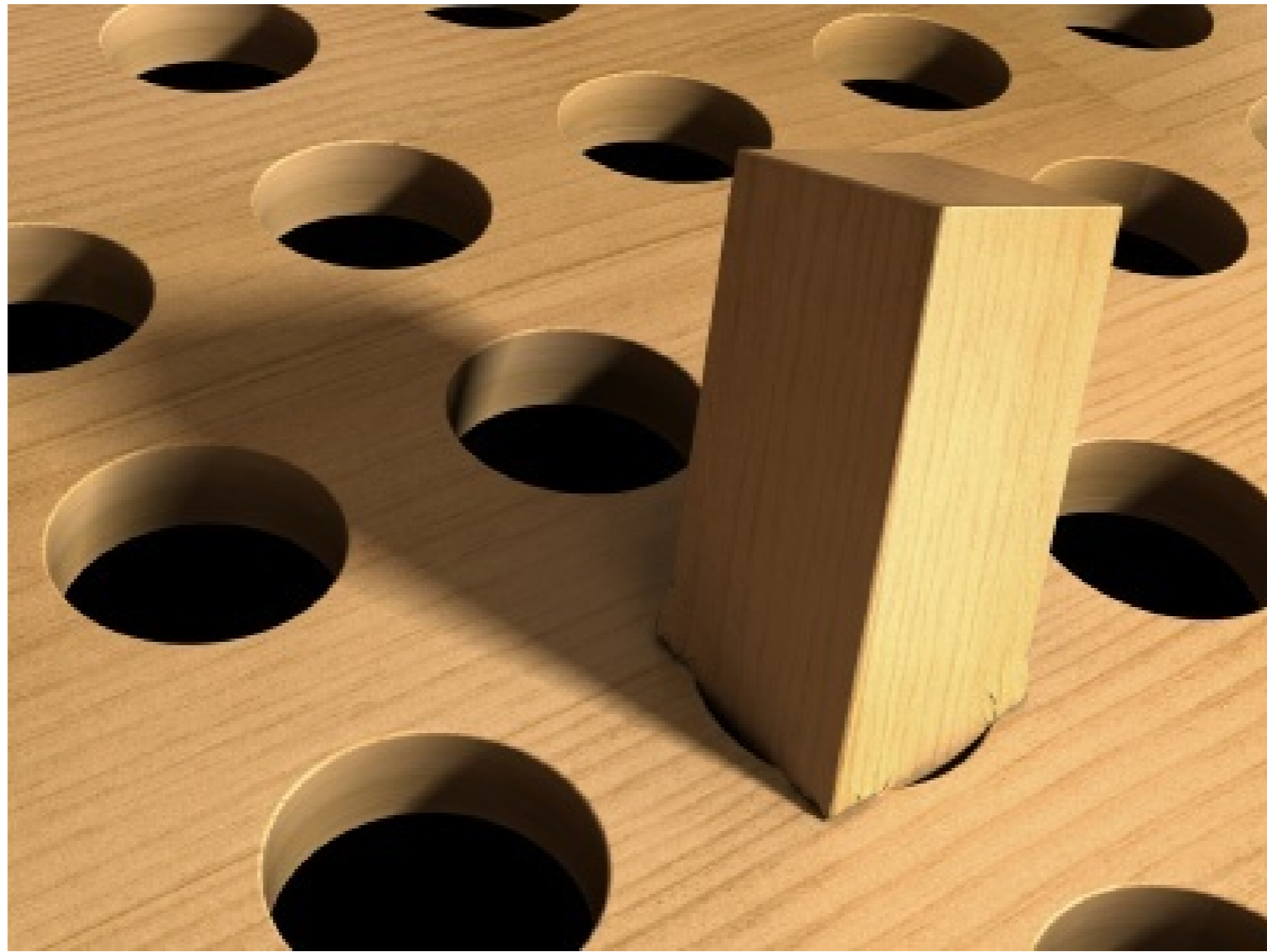


# Bias: What happened?

- Pt being seen quickly in triage, *anchors* notion that patient doesn't have serious problem, or, you're expected to spend limited time with them
- Note refers to PMHx as "See above" but nothing is present, even though pt had DM, CVA, HTN. Also strong FHx for early CAD
- No troponin done
- ***Premature closure***: conclude diagnosis early and fail to be inclusive of other diagnoses.

# STRATEGIES TO AVOID COGNITIVE BIAS

- Avoid anchoring without independently confirming
- Generate life threatening differentials and R/O
- Make a problem list that covers all significant abnormalities and address as appropriate
- If hx/PE/tests do not easily fit presumptive dx, look further for a better fit: Do *NOT* force a square peg to fit into a round hole



# BEWARE HIGH RISK SITUATIONS

- Pts: hostile, intoxicated, psych
- Complaints: alt MS, infants < 1 mo, cannot walk
- New or rarely done procedures, medications
- Atypical presentation
- Return visit
- Times: sign out, high volume, fatigue, off-hours, interruptions

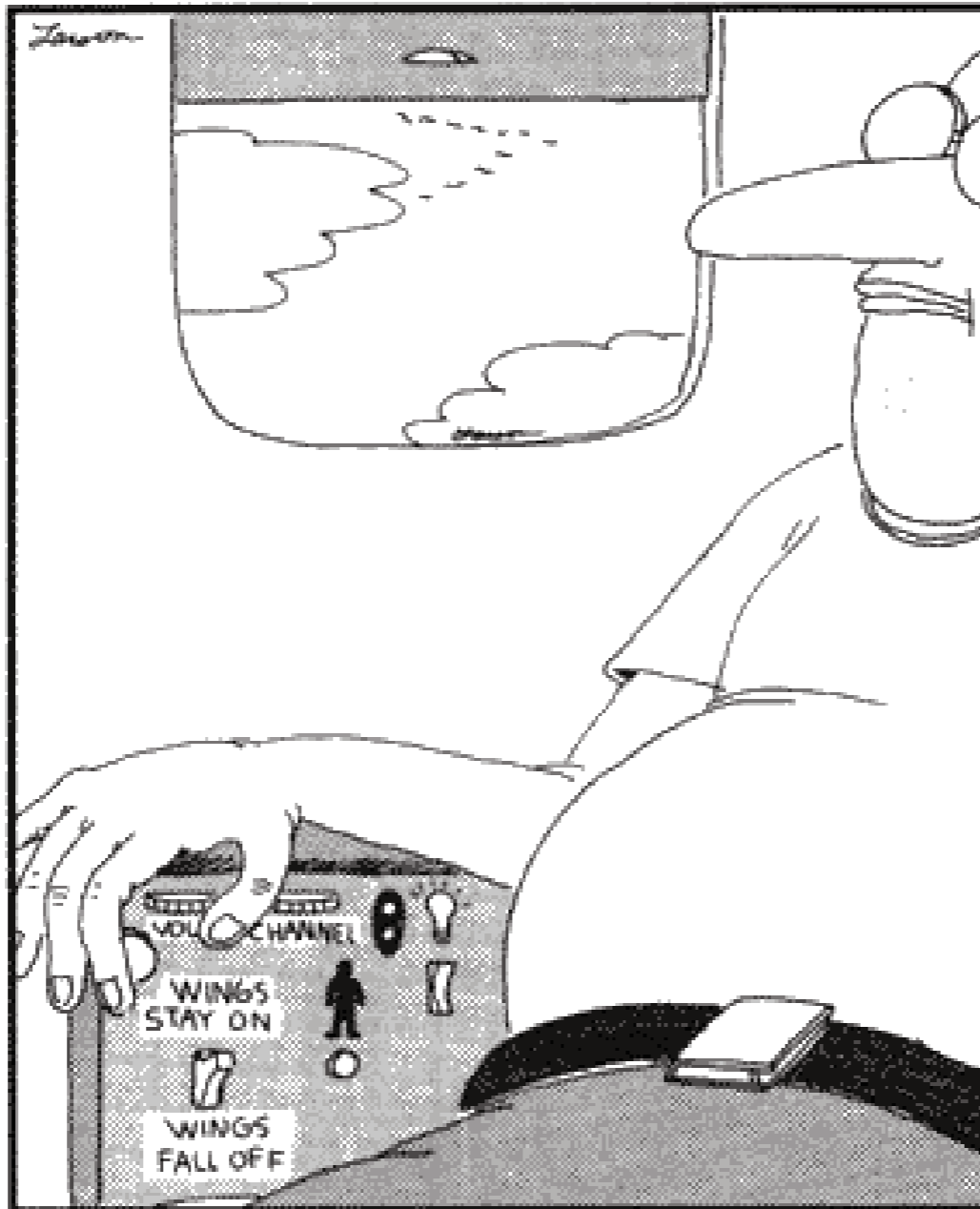
# HUMAN FACTOR PRINCIPLES

Use constraints and forcing functions

- Avoid “alert fatigue” e.g. “Zosyn” (piperacillin/tazobactam) should be “Zocillin”
- Some “hard stops” in orders

Use protocols wisely

- Simplify: reduce choices vs LUMC Epic Godzilla
- Standardize: keep order sets similar
- Provide added benefit: reduced work; improved care
  - Early goal directed therapy for sepsis



Fumbling for his recline button,  
Ted unwittingly instigates a disaster.

# HUMAN FACTOR PRINCIPLES

- Decrease reliance on memory: can only store 5-7 items in short term memory
  - Order sets
  - Checklists
- Evidence based algorithms, e.g. Well's criteria for PE; Early Goal Directed Therapy for sepsis
- Smart phone apps, pediatric Broselow tape, Library Network, Up to Date, Cyborg





Loyola  
Medical  
Student  
2030

# **QUALITY and SAFETY METRICS**

# History of Quality Reporting

- Employers who were using Managed Care Plans in late 1980's and early 1990's were concerned about costs and quality
- Institute of Medicine report on poor quality: To Err is Human, 1999
- Comparative studies of discrepancies between cost and resources
- Increasing costs of Medicare
- Physicians, particularly at major medical centers, contended that the quality was great
- Various national organizations took the initiative from physicians and hospitals and began voluntary reporting in early 1990's
  - NCQA: National Committee for Quality Assurance 1990, private not-for-profit started by Robert Wood Johnson Foundation;
  - AHRQ (Agency for Healthcare Research and Quality, 1989 part of Health and Human Services)

A long time ago in a galaxy far, far away

# Hospital “Value-Based Purchasing”

- A CMS program that financially incentivizes hospitals to “improve care”
- CMS withholds 2% of Medicare payments that hospitals can “earn” back or increase their revenue based on whether certain metrics were met
- Program has moved from exclusively “process” measures e.g. Did you give aspirin for AMI?, to *multiple* categories of differing weight, e.g. outcome/mortality of AMI; cost of managing AMI; and patient satisfaction with hospital stay for AMI

# LUMC priorities FY17-18

- Derived from CMS Value Based Purchasing, as well as other local issues identified as important: sepsis, mortality rates
- Hospital Acquired **Infections** (HAI)
  - ✓ CAUTI (Catheter Associated Urinary Tract Infection)
  - ✓ CLABSI (Central Line Associated Blood Stream Infection)
  - ✓ C diff (Clostridium Difficile)
  - ✓ MRSA bacteremia (Methicillin Resistant Staph Aureus)
  - ✓ Surgical site infection after colon surgery
  - ✓ Hand hygiene

# Priorities (cont)

- Reducing mortality
  - ✓ **Sepsis**: timely and appropriate antibiotics and fluid resuscitation
  - ✓ **RRT (Rapid Response Team)**: increase calls that bring expertise to patient bedside who is deteriorating before they are more critical
- Decreasing costs
  - ✓ Reduce 30 day **readmissions** for AMI, CHF, pneumonia, COPD, total hip and knee replacement
  - **VTE** (Venous ThromboEmbolicism) prophylaxis
  - **Patient experience**

# *PRIOR CORE MEASURES*

(CMS NATIONAL HOSPITAL INPATIENT QUALITY MEASURES)

- Severe **SEPSIS**: Initial lactate, broad spectrum antibiotics, blood cultures prior to antibiotics, IV fluids, repeat lactate
- **VTE** (Venous Thromboembolism): Discharge instructions for patients on warfarin, hospital acquired preventable VTE
- **STROKE**: Thrombolytic therapy within 3 hours of time last known well
- **ED**: ED arrival to departure time for admitted patients
- **IMMUNIZATION**: Influenza vaccination for >6 months
- **SUBSTANCE ABUSE**: Alcohol or drug use screening and treatment provided/offered
- **SMOKING**: Tobacco use and treatment provided/offered





# 2017 Hospital JC (Joint Commission) National Patient *Safety* Goals (NPSG)

- Identify pts correctly – name & DOB
- Prevent infections
  - Hand hygiene
  - Use proven guidelines to prevent central line, urinary catheter and postoperative infections
- Use medications safely
  - Update medication lists at each transition of care (Medication Reconciliation—“Med Rec”)
  - Resolve: omissions, duplications, contraindications, unclear information
  - Take extra care with anticoagulants
  - Label all meds in OR/procedural areas

# 2017 Hospital JC NPSG (cont)

- Prevent mistakes in surgery ⬠NEJM case from M1⬠
  - Correct surgery on correct pt and correct site (preop verification)
  - Site marked by licensed practitioner *BEFORE* procedure
  - Time out *immediately* prior to procedure (correct pt, site, procedure, equipment)
- Get important test results to the right staff person on time
- Ensure alarms are heard and responded to on time NEW
- Prevent pt suicide

# LECTURE SUMMARY

- Use **SBAR** (Situation, Background, Assessment, Recommendation) and **Read-Backs** to improve communication
- Use **ARCC** (Ask, Request, Concern, Chain) for safety concerns
- Pursue all data
- Avoid square peg in round hole bias
- Use checklists, memory aids
- Wash your hands before and after patients

# MAKE A DIFFERENCE

- Begin to work on your “second job” of *improving* care (in addition to job #1 of providing care)
- Use the above strategies
- Your lack of experience allows a fresh look at process that often is at best lacking good evidence and at worst is unsafe
  - Think of system errors during M&M
  - Observe hierarchical behavior
  - Figure out the **Root (or underlying) Cause** of *why* an error occurred, e.g. medication error, retained foreign body, time out not followed, injury during procedure, factors like SATO (Speed Accuracy Trade Off), fatigue, supervision
  - Has care been a good steward of resources? been patient centered? timely?

# Quality care enhanced by empathy

- [https://www.youtube.com/watch?v=cDDWvj\\_q-o8](https://www.youtube.com/watch?v=cDDWvj_q-o8)

# REFERENCES

- Wu et al. Do house officers learn from their mistakes? JAMA. 1991; 265: 2089-2094.
- Goldberg RM et al. Coping with medical mistakes and errors in judgment. Annals of Emergency Medicine. 2002; 39: 287-292.
- Wears RL and Wu AW. Dealing with failure: the aftermath of errors and adverse events. Annals of Emergency Medicine. 2002; 39: 344-346.
- Shojania KG et al. Understanding medical error and improving patient safety in the inpatient setting. The Medical Clinics of North America. 2002; 86: 847-867.
- Beach C et al. Profiles in patient safety: emergency care transitions. Academic Emergency Medicine. 2003; 10: 364-367.
- Moskop et al. Emergency physicians and disclosure of medical errors. Annals of Emergency Medicine. 2006; 48: 523-531.
- Wusthoff CJ. Medical mistakes and disclosure: the role of the medical student. 2001;286:1080-1081.
- Farnan JM et al. Hand-off education and evaluation: piloting the observed simulated hand-off experience (OSHE). 2009; 25: 129-134.
- Gakhar B and Spencer AL. Using direct observation, formal education, and an interactive curriculum to improve the sign-out practices of internal medicine interns; 2010; 85: 1182-1188.

# REFERENCES

- Wears RL. Beyond error. Acad EM 2000; 7:1175-76. Editorial on the new approach by leader in EM error research. [The whole Nov 2000 issue is good]
- Schenkel S. Promoting patient safety and preventing medical error in emergency departments. Acad EM 2000; 7:1204-22. Good overview.
- Gawande A. Complications. New York, NY: Metropolitan Books, Henry Holt and Company, 2002. Entertaining insight into errors as well as acquiring expertise during a surgical residency.
- [www.annals.org](http://www.annals.org) series on Quality Grand Rounds. Began in 2002. Free download of great cases and discussion.
- [www.webmm.ahrq.gov](http://www.webmm.ahrq.gov) Agency for Healthcare Research and Quality web site. Free download of great cases and discussion.
- Leape LL. Error in medicine. JAMA 1994; 272:1851-57. Great overview by the guru.
- Gawande A. The checklist manifesto. New York, NY: Picador, 2009.
- Beach C, et al. Profiles in patient safety: emergency care transitions. Academic Emergency Medicine 2003; 10:364-367. (missed MI case)
- Ring DC et al. Case 34-2010: a 65 year old woman with an incorrect operation on the left hand. NEJM 2010;363:1950-7.