There’s no EYE in TEAM

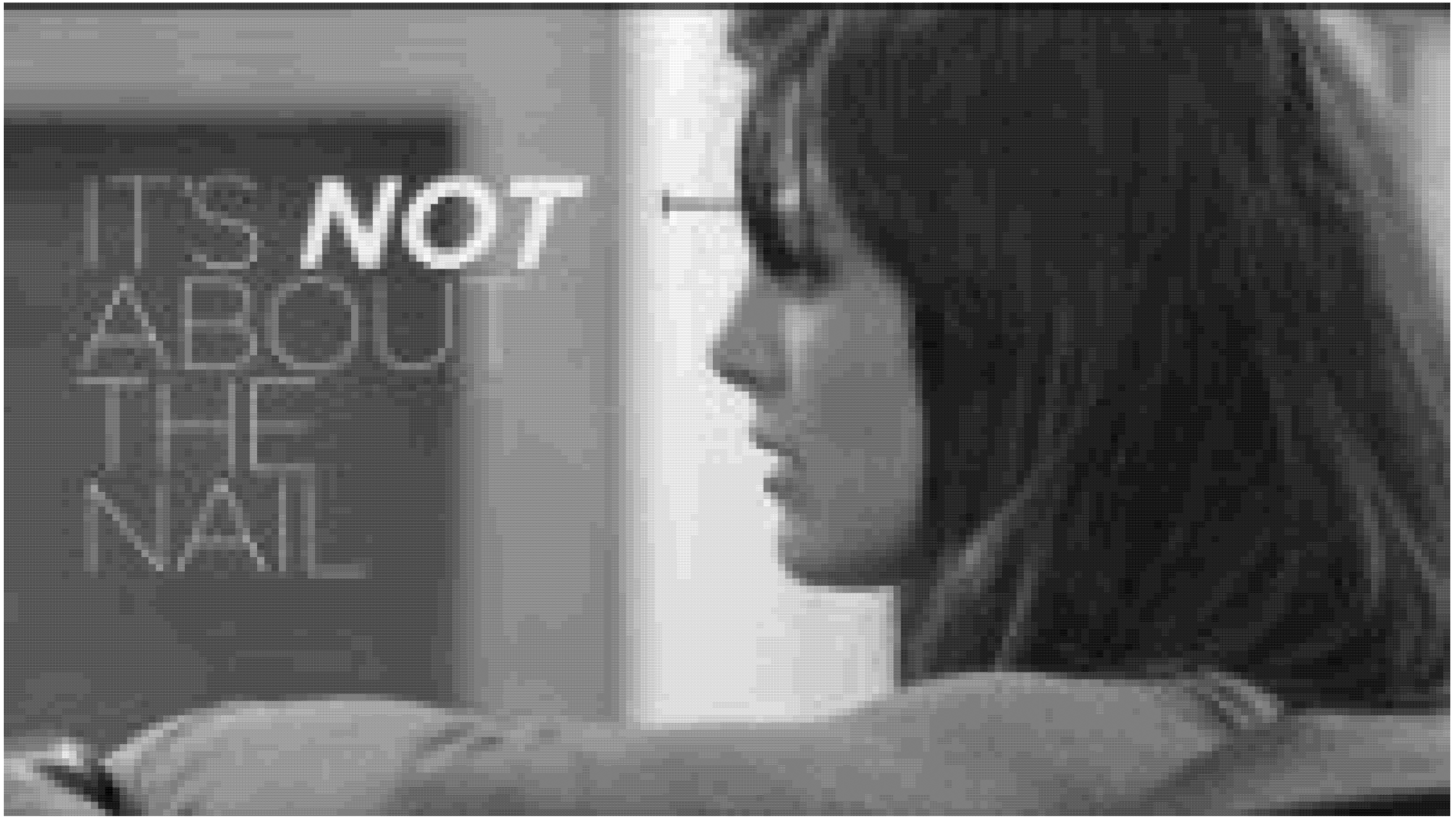
Improving communication between team members and the implications on OR efficiency and patient safety.

Disclosures

I have no relevant financial relationships to disclose

Disclaimers

- The first video is not meant to be sexist or give marital advice.
  - For the purpose of this talk, it's about different perspectives.
- I'll be using extreme examples to make a point
- Not affiliated with nor am I promoting a specific training system
- Anyone have a fear of flying?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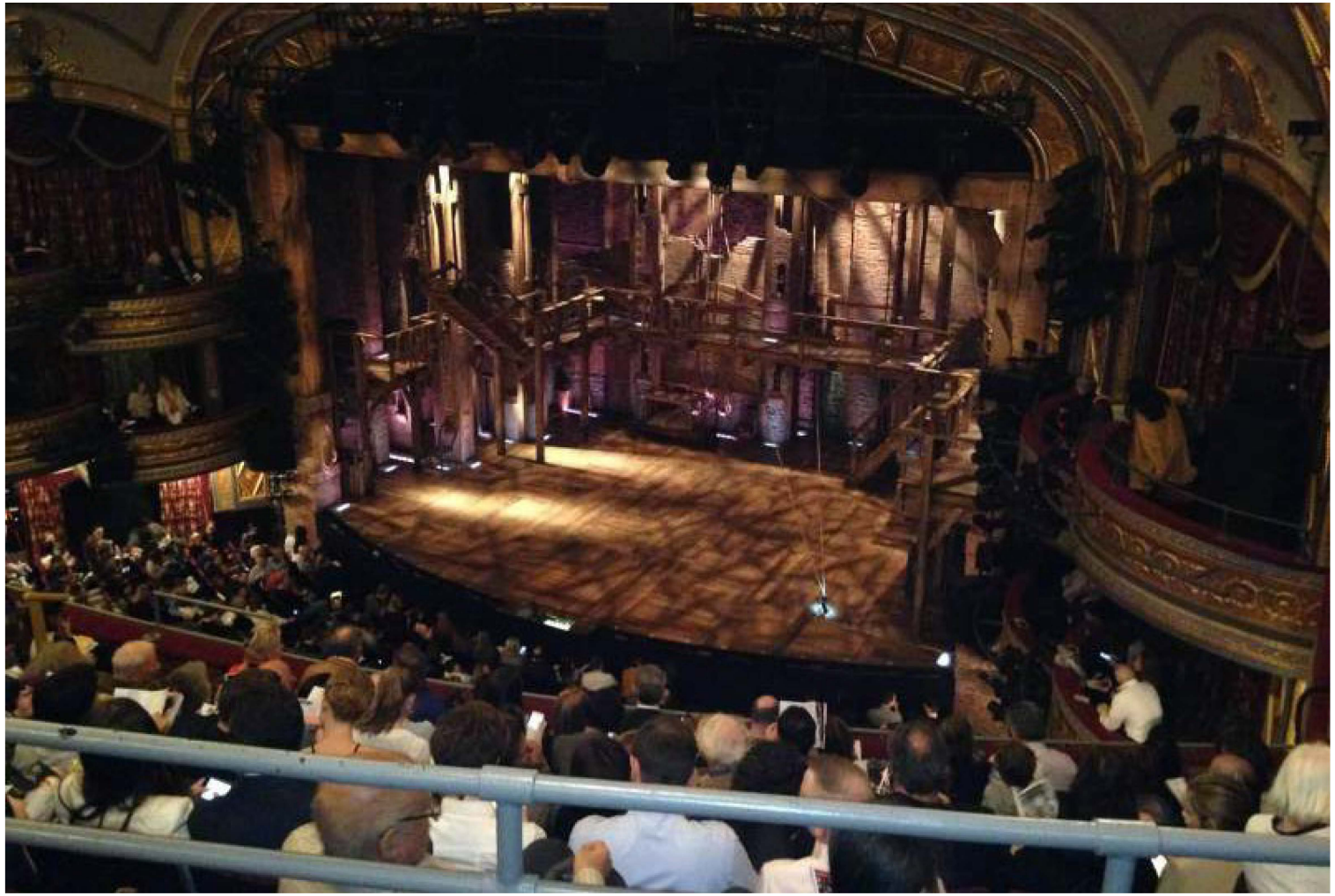
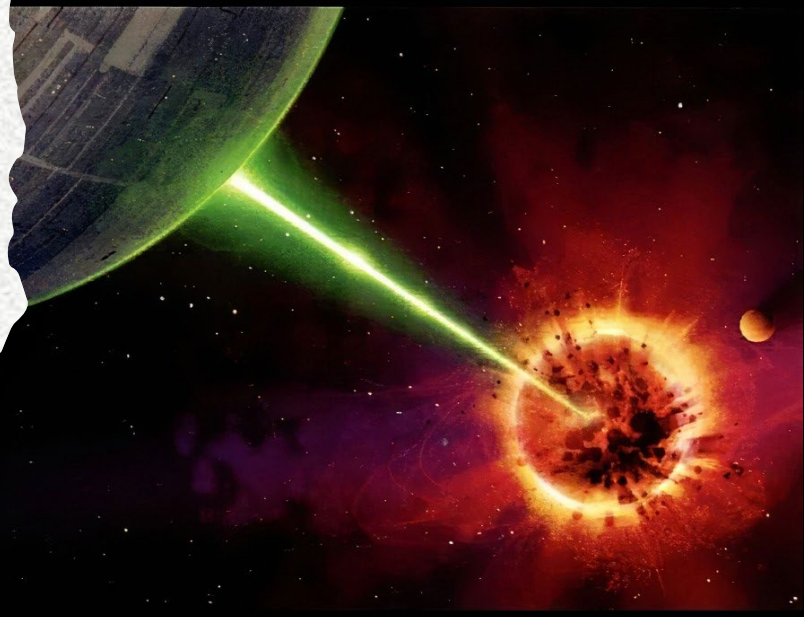


Theater lighting

How do we each see each other?

How do you see yourself?



Perspective

- Surgeon: “c’mon, it’s just a MAC. “
- Anesthesia provider: “it’s just a cataract surgery”

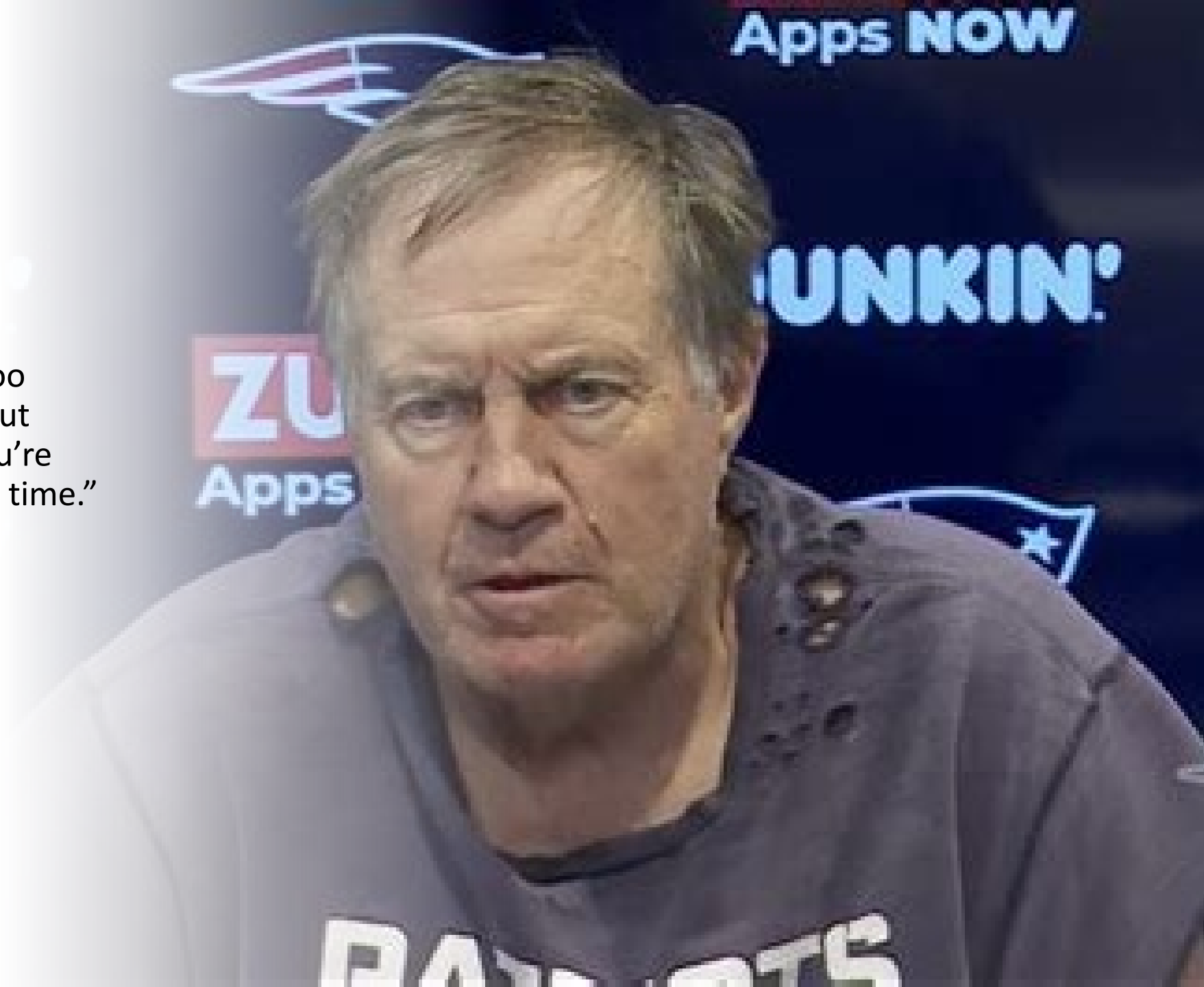
Perspective

- Surgeon: “I could blind someone”
- Anesthesia “I could kill someone”

Easy to get complacent when you're winning

- Modern cataract surgery is a very low risk procedure and very successful
- anesthesia for cataract surgery is very safe

- “If you sit back & spend too much time feeling good about what you did in the past, you’re going to come up short next time.”
- ……and then mistakes will happen



Resulting

- Poker term
- Use results to judge quality of your decisions
- Works in games like chess where there isn’t a lot of luck involved
- Arguably not great for life decisions…….or medical decision making

Institute of Medicine “To Err Is Human”

- Published in 1999
- Created a big stir
  - Report estimated 44,000 to 98,000 deaths annually due to errors in hospital care
  - Not necessarily due to individual health care workers but rather result of error-prone institutional systems
- Wave of new research and projects both governmental and private to study the cause and reporting of such events.

That was over 20yrs ago surely, it's improved?

- Difficult to say given that original estimates were extrapolated
  - more recent "reports" are also extrapolations and likely overestimate
    - Makary MA, Daniel M. Medical error-the third leading cause of death in the US. BMJ 2016;353:i2139. doi:10.1136/bmj.i2
  - don't explicitly deal with separating out deaths where error is the primary cause from deaths where errors occurred but did not cause a fatal outcome.

Joint Commission Top 10 list

- The Joint Commission began publishing a list of sentinel events in 2007
  - includes a top 10.
- 2021 list included the highest number of sentinel events ever reported in one year.
- Sentinel event definition
  - Death of the patient
  - Permanent harm to the patient
  - Severe temporary patient harm that requires medical intervention to save the patient's life
- The Joint Commission advises that conclusions about frequency and long-term trends can't/shouldn't be drawn from dataset.
  - Only a small portion of all sentinel events are reported

10 most frequently reported sentinel events for 2021:

1. Fall: 485 reported events
2. Delay in treatment: 97
3. Unintended retention of a foreign object: 97
4. Wrong surgical site: 85
5. Patient suicide: 79
6. Assault/rape/sexual assault of a patient: 55
7. Patient self-harm: 45
8. Fire: 38
9. Medication management: 35
10. Clinical alarm response: 22

10 most frequently reported sentinel events for 2022:

1. Fall:199
2. Unintended retention of a foreign object: 30
3. Suicide: 26
4. Delay in treatment: 25
5. Wrong surgery: 19
6. Assault/Rape/Sexual Assault: 16
7. Medication management:12
8. Self-harm: 11
9. Fire: 10
10. Clinical alarm response: 7

2021 vs. 2022

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Communication

- Communication errors or lack of communication are thought to be the most common cause of sentinel events and wrong-site operations.

Why is communication important?

Stereotypes and Biasis

- Communicate!?! I just want to operate!!
- Bone broke, me fix.
- “I went into anesthesia so I wouldn’t have to talk to patients.”
- “Just move the transducer, the surgeon won’t know the difference.”
- “You don’t care about when my case starts, you’re just going to go home at the end of your shift.”

Stereotypes and Biasis

- We’ve all heard them
- We all have them
- Have you ever stopped to ask:
  - Am I a stereotype?
  - Am I being seen as stereotype? Is it deserved?
  - Do I see others through the lens of stereotype?

Biases

- Royal College of Surgeons Guide for Avoiding Unconscious Bias
  - “Everyone has biases – some of which we are aware of, others we are not. Doctors, probably more than most, are conditioned to make assumptions or spot diagnoses and are uniquely exposed to a full spectrum of individuals at their most vulnerable. Our biases can affect our thinking about what is required to do a particular role. It is important to focus on the requirements of the task and to separate this from the individual.”

Ego in the O.R.

- Excising the "surgeon ego" to accelerate progress in the culture of surgery. Myers CG, Lu-Myers Y, Ghaferi AA. BMJ. 2018 Nov 21;363:k4537. doi:10.1136/bmj.k4537.
- A kinder remedy than excising the "surgeon ego" to accelerate progress in the culture of surgery. Forrest AD, Smith MA. BMJ. 2019 Jan 7;364:l57. doi: 10.1136/bmj.l57.
- A surgeon's view of excising the "surgeon ego" to accelerate progress in the culture of surgery. Newman KJH. BMJ. 2019 Jan 7;364:l58. doi: 10.1136/bmj.l58.

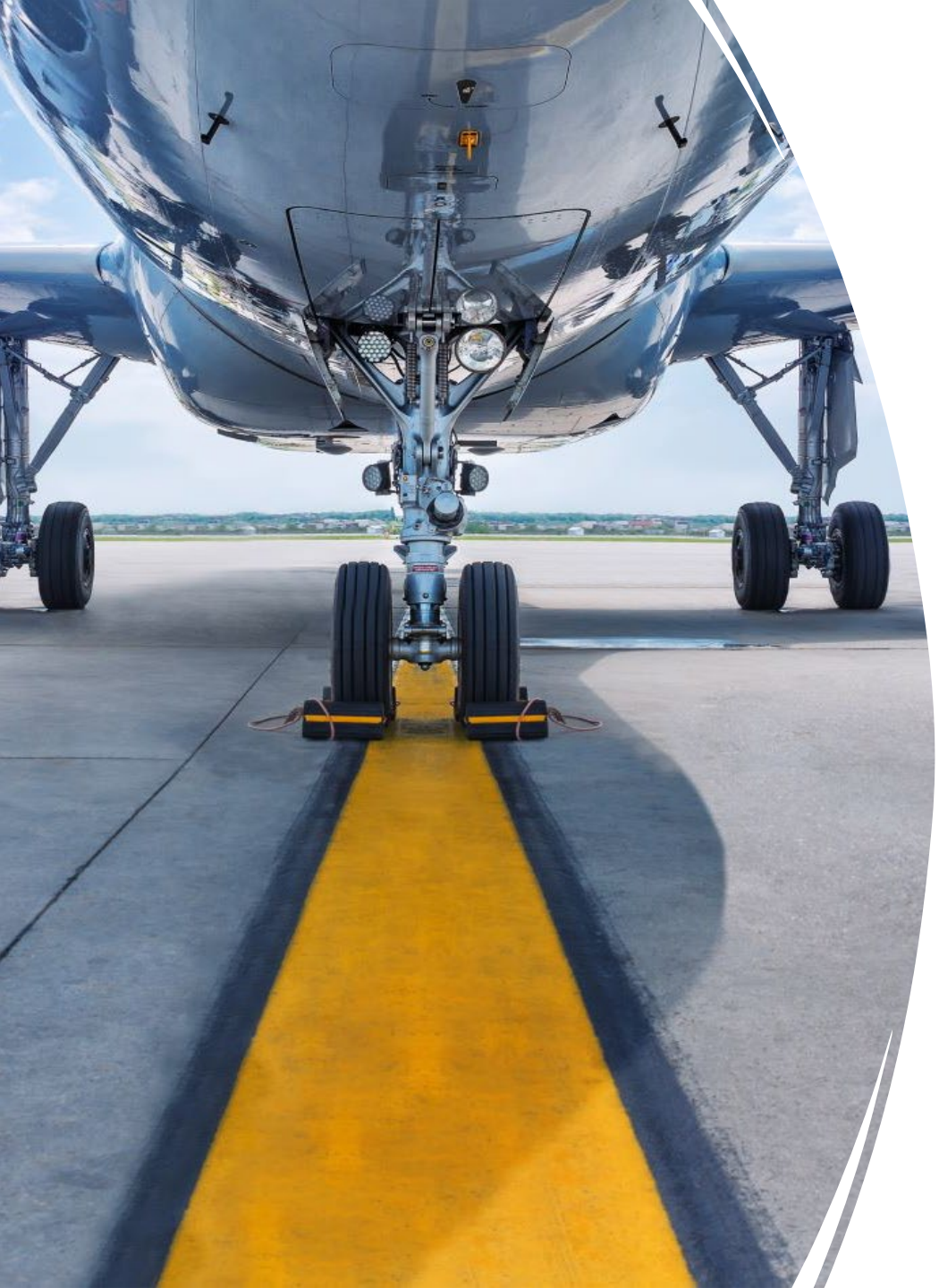
Is it just the Surgeon that has an Ego?

- Perceptions of who is in charge and of what
- Who is the captain of the ship?
- Should there be “captain”?
- “That’s not in my job description”

- The Anaesthetists is often called the '**captain of the ship**,' but the surgeon has a crucial role in how smooth the sailing is.

High-performance teams outside of medicine that focus on teamwork in stressful situations

- Aviation



Crew Resource Management (CRM)

- 1970s NASA researchers evaluated airline pilots
  - over 70 percent of airline accidents were caused by human error.
- “Cockpit resource management” was coined by John Lauber in 1970’s.
- Promoted less-authoritarian cockpit culture.
  - Crewmembers needed to take a more team-oriented approach to flying
  - Co-pilots were encouraged to question captains if they observed them making mistakes.

Crew Resource Management

- **Situation awareness**

  Situation awareness involves having knowledge of your surroundings at all times. Planning, prioritization and stress reduction are all part of situation awareness.

- **Communication skills**

  There is constant communication occurring between all personnel and air traffic control. Crewmembers must have excellent communication skills for this reason.

- **Teamwork**

  Teamwork is very important in aviation. You're required to collaborate with your crew in order to get all individuals aboard the plane to their destination safely.

- **Task allocation**

  Task allocation involves dividing up responsibilities among teammates in order to accomplish goals effectively.

- **Decision-making**

  In the aviation industry, decision-making is an essential skill to possess. Crewmembers need to be able to confidently act in all situations, keeping safety as a priority.

Crew Resource Management

- Everyone loved the idea, and it was widely adopted shortly after the concept was introduced.
- **Nope!**

United Airlines Flight 173
Dec 28, 1978

- While on approach to Portland international had landing gear problem.
- Captain decided to circle while he figured out what to do about landing gear.
- He spent an hour focused entirely on landing gear issue.
- Ignored warnings from the flight engineer and first officer about running out of fuel.
- Only when the engines began to flame out, did he realize there was another problem
- The plane crashed in a suburb killing 10.

United 173

- The captain was described by an investigator as an “arrogant SOB”
- United abandoned traditional “the captain is God” airline hierarchy and completely changed its cockpit training
- Started using the then-new concept of Cockpit Resource Management(CRM), emphasizing teamwork and communication
- Over the years CRM has become standard in the airline industry.

Air France 447, June 1, 2009

Air France 447, 2009

- So many things went wrong.
- Inconsistencies measured airspeed caused autopilot to turn off and the flight control mode to change to an alternate setting that didn’t protect against stall
  - Neither the pilot or copilot understood what was happening with their instruments

Air France 447, 2009

- Each thought they were in control of the plane.
  - flight controls are not mechanically linked between the two pilot seats
  - left-seat pilot believed he had taken over control of the aircraft trying to get them out of the stall unaware that the right-seat pilot continued to hold the stick back, which overrode his controls
  - Ultimately the airplane stalled and continued to fall as the two pilots moved their joysticks in opposite direction

Crew Resource Management

- The basic idea behind CRM is that crew communication and coordination behaviors are identifiable, teachable, and applicable to high-stakes environments.

- Can be seen spontaneously
- But unless specific training and reinforcement is established and practiced, they won't be the norm.

United 232. July 19, 1989

- DC-10 had catastrophic failure of tail mounted engine which also caused a loss of hydraulics
  - something considered “virtually impossible”
  - there were no written procedures on how to deal with issue.
- Pilots worked through multiple problems and ended up using throttles to control altitude and turning and were able to crash land.

United 232. July 19, 1989

- Despite 112 deaths - 296 passengers and crew on board,184 people survived, and it is considered a prime example of successful CRM
- The flight crew handled the emergency by working together as team to solve multiple problems and landed the airplane without normal jetliner controls.
- Attempts were made to re-enact in a flight simulator
  - none of the simulator pilots were able to complete a survivable landing.

Captain Al Haynes, pilot of United Airlines Flight 232

- “ …the preparation that paid off for the crew was something … called cockpit resource management… Up until 1980, we kind of worked on the concept that the captain was THE authority on the aircraft. What he said, goes. And we lost a few airplanes because of that. Sometimes the captain isn't as smart as we thought he was. And we would listen to him, and do what he said, and we wouldn't know what he's talking about. And we had 103 years of flying experience there in the cockpit, trying to get that airplane on the ground, not one minute of which we had actually practiced, any one of us. So why would I know more about getting that airplane on the ground under those conditions than the other three. So, if I hadn't used CRM, if we had not let everybody put their input in, it's a cinch we wouldn't have made it.”

Corollaries in Medicine

Crisis Management in Anesthesia
Medical Team Training-MTT
MedTeams in ER
Anesthesia Crisis Resource Management(ACRM)
Team-oriented Medical Simulation (TOMS)

Simulator-based programs

- Two examples
  - Anesthesia Crisis Resource Management (ACRM)
  - Team-oriented Medical Simulation (TOMS).

- Rely heavily on patient simulators to train specific teamwork skills
- “Skills Practice and Feedback” portion of CRM training.

Anesthesia Crisis Resource Management (ACRM)

- designed to help manage an emergency or crises by working in multidisciplinary teams in simulations
- Teams include physicians, nurses, and other OR personnel

Team-oriented Medical Simulation TOMS

- Based on commercial aviation CRM training

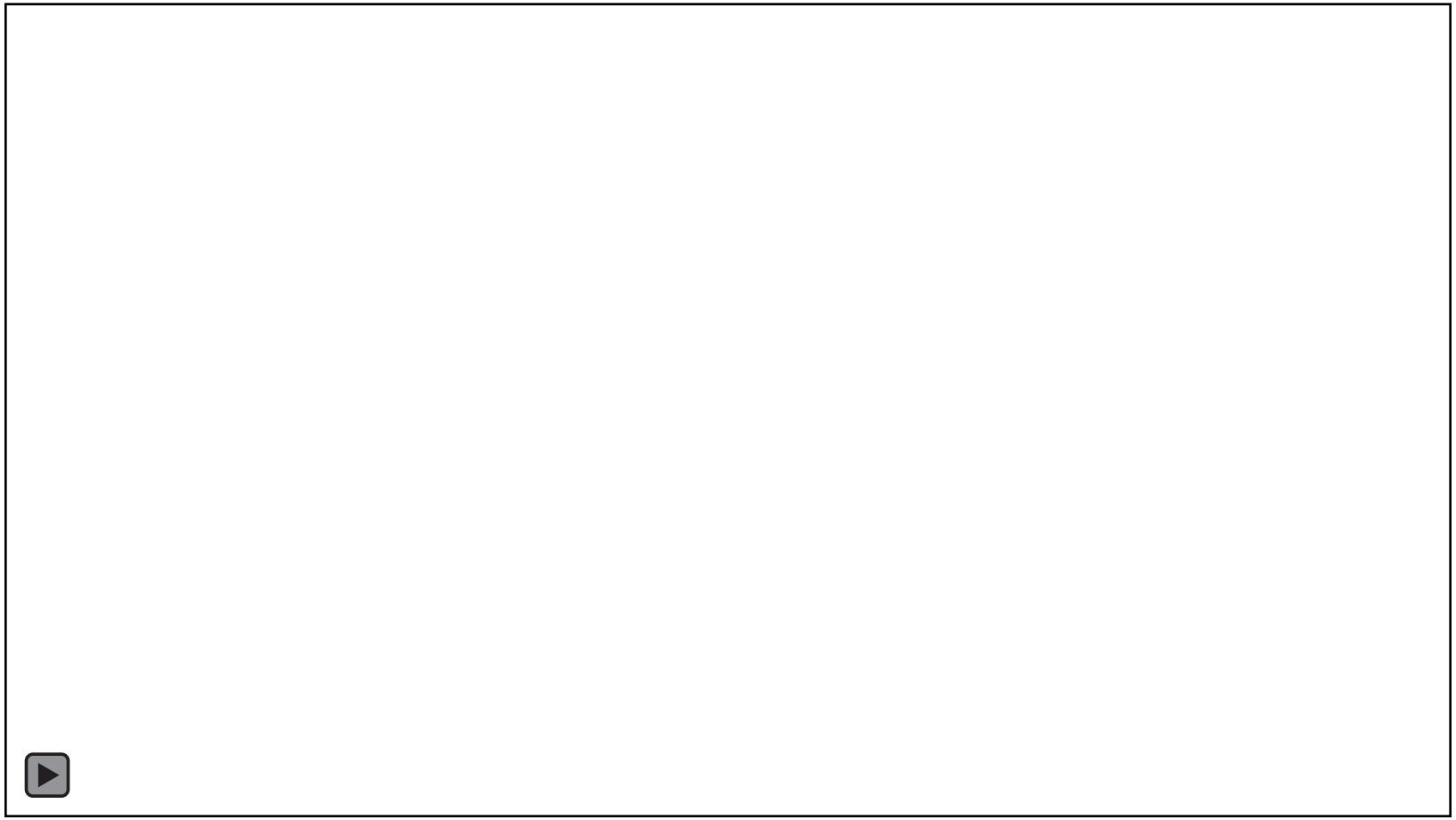
- TOMS is interdisciplinary team training-not just anesthesia
  - Involves anesthesia team, surgical team, nursing staff and other supporting staff.

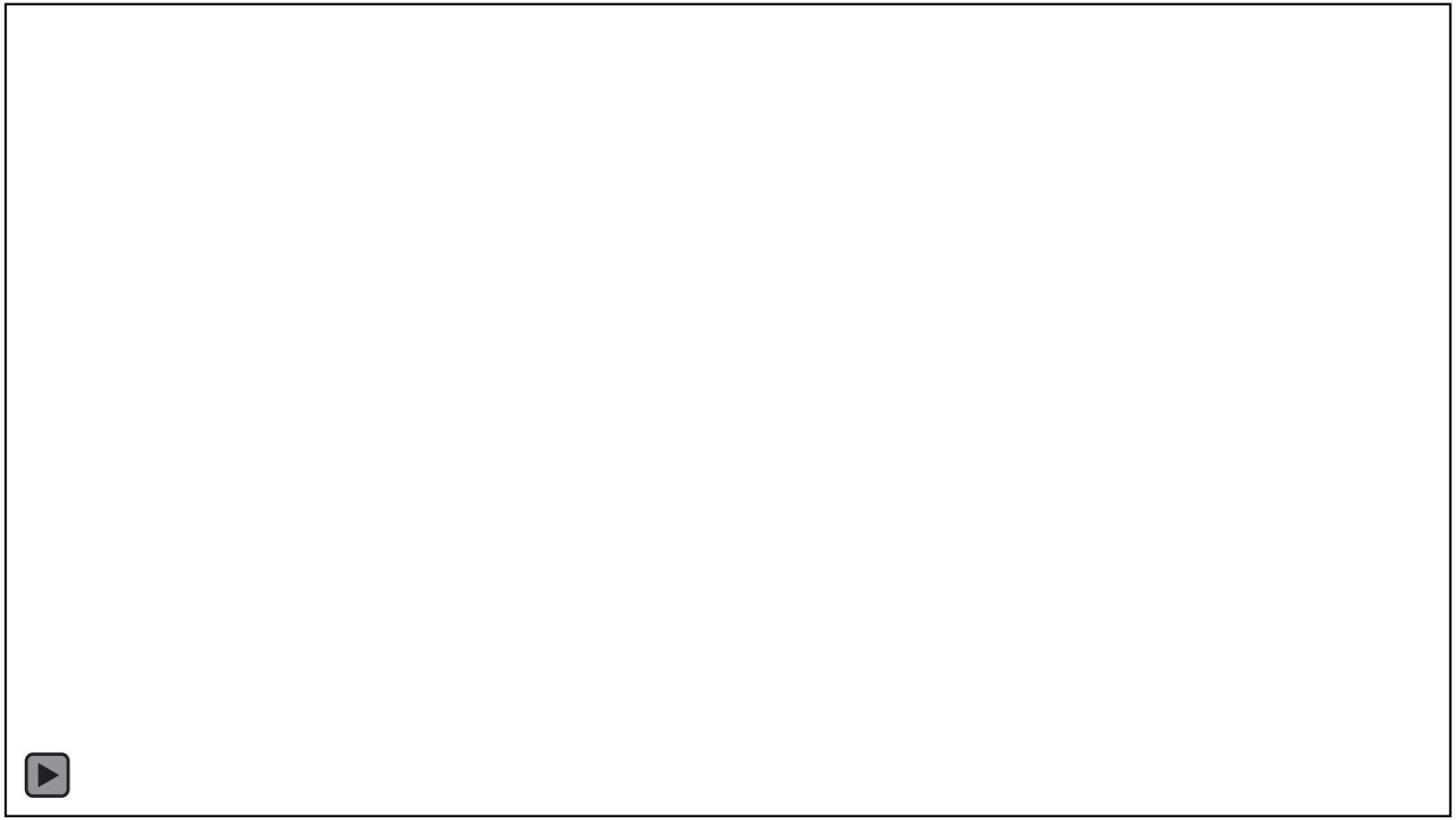
Teamwork and OR performance Improve after deliberate training

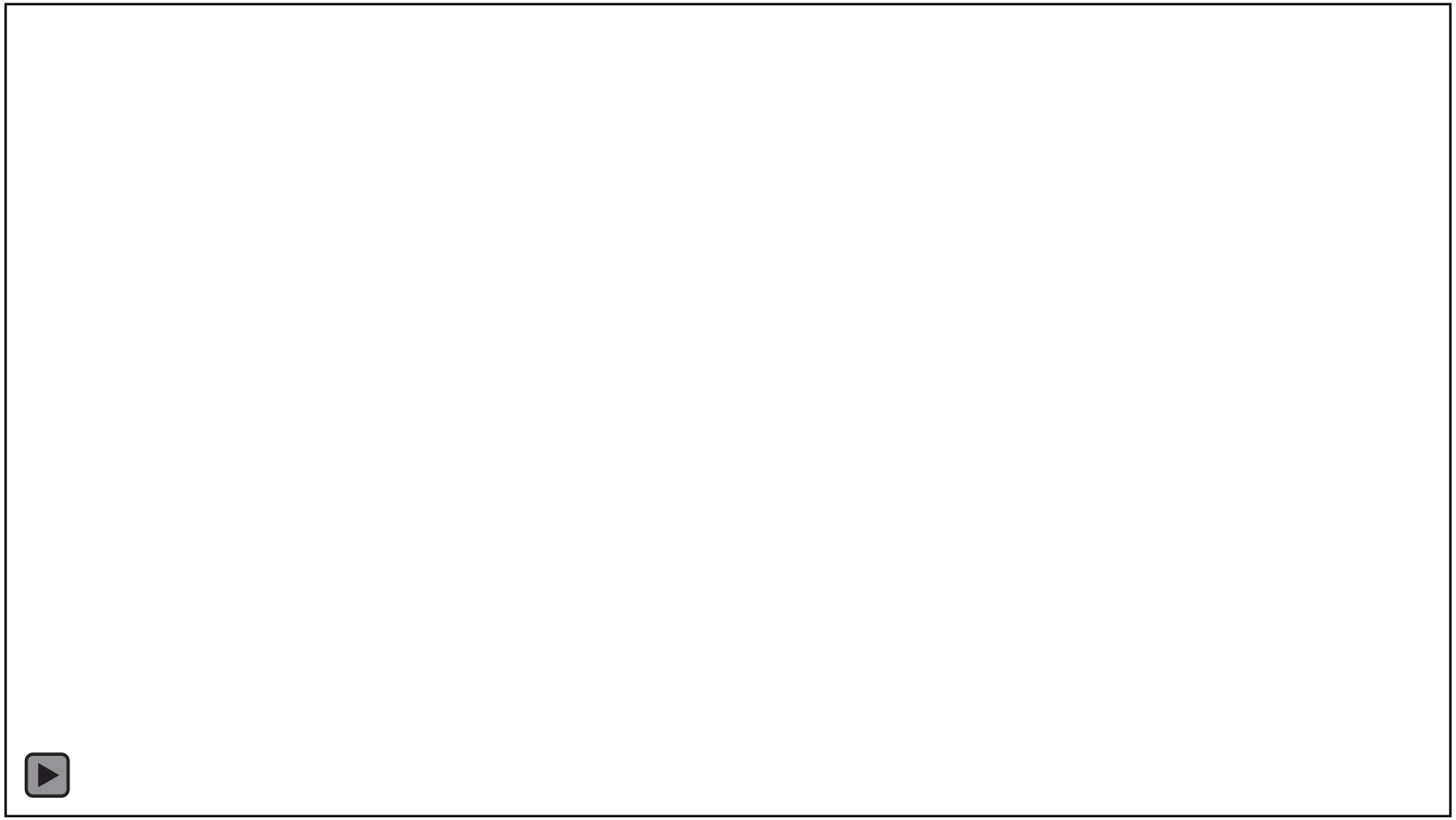
- **Conclusions:** MTT produced sustained improvement in OR team function, including decreased delays and improved case scores. When combined with a high-level debriefing/problem-solving process, MTT can be a foundation for improving OR performance. This is the largest case analysis of MTT and one of the few to document an impact of MTT on objective measures of operating room function and patient safety.
- **Conclusion:** Over the last decade, the number of studies on team interventions has increased exponentially. At the same time, research tends to focus on certain interventions, settings, and/or outcomes. Principle-based training (i.e. CRM and TeamSTEPPS) and simulation-based training seem to provide the greatest opportunities for reaching the improvement goals in team functioning.
- **Conclusion:** Our data indicate an association between CRM implementation and reduction in serious complications and lower mortality in critically ill patients.
- **Conclusions:** Crew Resource Management in the trauma resuscitation area enhances team dynamics, communication, and, ostensibly, patient safety. Philosophy and culture of CRM should be compulsory components of trauma programs and in resuscitation of injured patients.

Team Briefing….at least abbreviated

- Use a team briefing well:
  - Make sure everyone knows each other and their roles.
  - Take time to explain to the team if you're expecting the case to be particularly challenging (this goes for surgeon and anesthesia)
  - Take time to give a heads up if you have a concern about a patient
    - Any background that might help things go smoother-extremely anxious, chronic pain, chronic benzos for anxiety, bad prior experience







Chris Rock

- “Relationships are hard.”
- “No they aren’t!”
- “They’re only hard when one person’s working on it!”

Ophthalmic Anesthesia Society

Thank You

References

- “It’s not about the nail” video used with permission from Jason Headly-writer, director, costar.
- Cartoon videos used with permission from Jeffrey B. Cooper, PhD
- Institute of Medicine (US) Committee on Quality of Health Care in America. To Err is Human: Building a Safer Health System. Kohn LT, Corrigan JM, Donaldson MS, editors. Washington (DC): National Academies Press (US); 2000.
- Martina Buljac-Samardzic, Kirti D Doekhie, Jeroen D H van Wijngaarden, Interventions to improve team effectiveness within health care: a systematic review of the past decade. Hum Resour Health, 2020 Jan 8;18(1):2.
- Samir S Awad, Shawn P Fagan, Charles Bellows, Daniel Albo, Beverly Green-Rashad, Marlen De la Garza, David H Berger. Bridging the communication gap in the operating room with medical team training. Am J Surg. 2005 Nov;190(5):770-4.
- John C Morey, et.al. Error Reduction and Performance Improvement in the Emergency Department through Formal Teamwork Training: Evaluation Results of the MedTeams Project. Health Serv Res. 2002 Dec; 37(6): 1552-1581.
- M H T M Haerkens , M Kox , J Lemson , S Houterman , J G van der Hoeven , P Pickkers. Crew Resource Management in the Intensive Care Unit: a prospective 3-year cohort study. Acta Anaesthesiol Scand. 2015 Nov;59(10):1319-29.
- K. Michael HughesDO, FACOS, FACS et.al. A Crew Resource Management Program Tailored to Trauma Resuscitation Improves Team Behavior and Communication. Journal of the American College of Surgeons. Volume 219, Issue 3, September 2014, Pages 545-551
- Francis A Wolf, Lawrence W Way, Lygia Stewart. The efficacy of medical team training: improved team performance and decreased operating room delays: a detailed analysis of 4863 cases. 2010 Sep;252(3):477-83; discussion 483-5