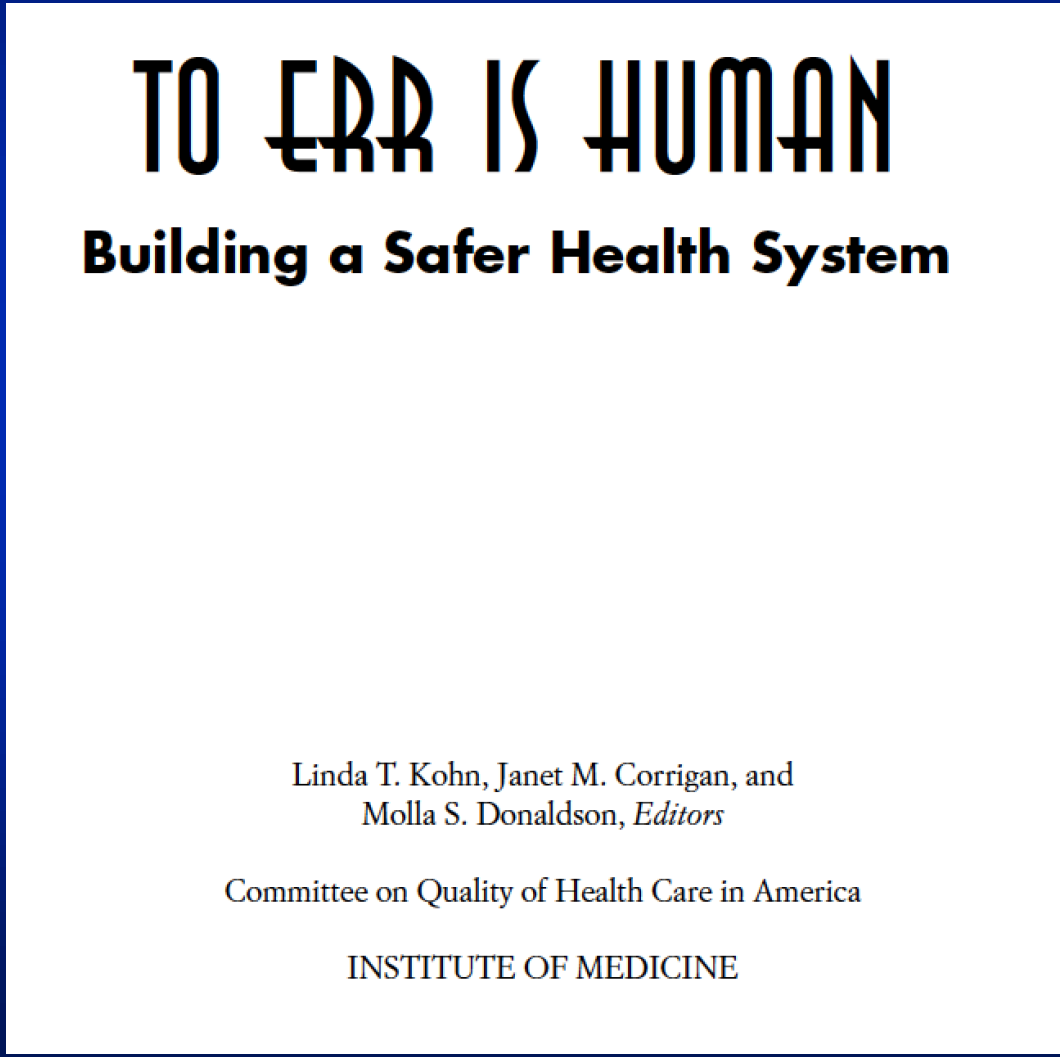
Is There Any Rationale to the Time Out?

Gregory R. Trost, MD
Professor
Neurological Surgery
Orthopedics and Rehabilitation Medicine
UWSMPH
Madison, WI

Introduction

- Adopted 10-15 years ago to prevent wrong patient, wrong site, and wrong surgery
- The goal is zero error- not nearly achieved
- ASC vs hospital based
- There is a significant variation between institutions
- Surgical safety checklist, SURPASS, WHO checklist

When and How This Became Important



TO ERR IS HUMAN

Building a Safer Health System

Linda T. Kohn, Janet M. Corrigan, and
Molla S. Donaldson, *Editors*

Committee on Quality of Health Care in America

INSTITUTE OF MEDICINE

To Err is Human

- Published 1999
- Preventable medical errors resulted in 44,000 to 98,000 deaths per year in USA
- Highest error rate noted in OR, ICU, and ER environments
- ½ events related to OR
- High stress dynamic areas
- Monetary losses in hospitals $17 to $29 billion
- All stakeholders suffer additional non-economic issues- patients, society, hospitals, and healthcare professionals

Queries

- Is the time out worthwhile?
- What are the JCAHO rules for time outs?
- Do attendings participate in the time out?
- 1, 2, or 3 part time out?
- Wrong pt?
- Wrong site?
- Wrong procedure?

Contributing Factors

- Decentralized and fragmented healthcare delivery system- pts seen in multiple disconnected sites
- Licensing and accreditation does not focus on error prevention
- Medical liability system
- Third party purchasers of health care had little financial incentive to improve safety and quality

Types of Errors

Diagnostic

- Error or delay in diagnosis
- Failure to employ indicated tests
- Use of outmoded tests or therapy
- Failure to act on results of monitoring or testing

Treatment

- Error in the performance of an operation, procedure, or test
- Error in administering the treatment
- Error in the dose or method of using a drug
- Avoidable delay in treatment or in responding to an abnormal test
- Inappropriate (not indicated) care

Preventive

- Failure to provide prophylactic treatment
- Inadequate monitoring or follow-up of treatment

Other

- Failure of communication
- Equipment failure
- Other system failure

SOURCE: Leape, Lucian; Lawthers, Ann G.; Brennan, Troyen A., et al. Preventing Medical Injury. Qual Rev Bull. 19(5):144–149, 1993.

Source of Errors

- “More commonly errors are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them.”
- “Mistakes best prevented by designing a system at all levels to make it safer-to make it harder for people to do something wrong and make it easier to do it right.”

Can’t Be Careless Though

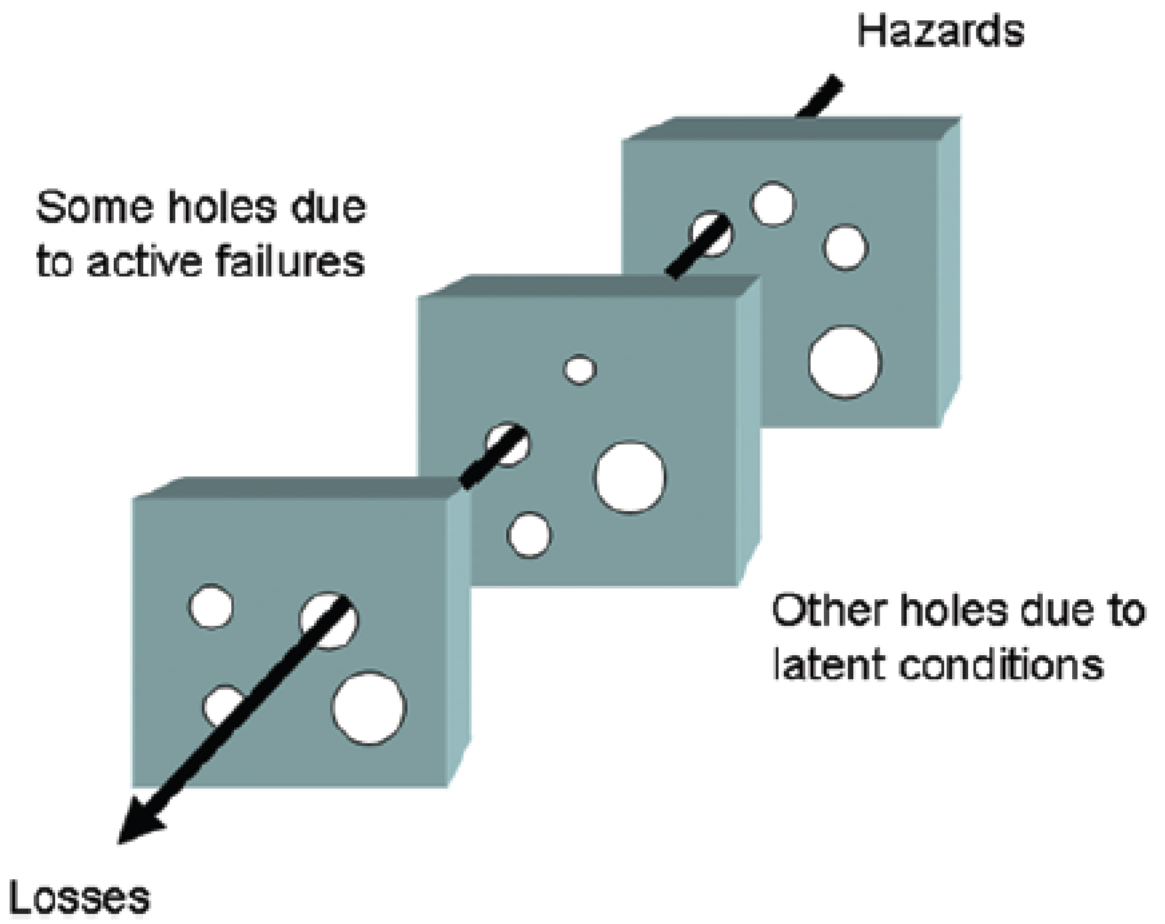


FIG. 3. Swiss-Cheese model of accident causation. Despite the presence of multiple layers of defenses, barriers, and safeguards, an error can still occur if the “holes” are all aligned.

4 Tiered Strategy

- Establishing a national focus to create leadership, research, tools, and protocols to enhance the knowledge base about safety.
- Identifying and learning from errors by developing a nationwide public mandatory reporting system and by encouraging health care organizations and practitioners to develop and participate in voluntary reporting systems.
- Raising performance standards and expectations for improvements in safety through the actions of oversight organizations, professional groups, and group purchasers of health care.
- Implementing safety systems in health care organizations to ensure safe practices at the delivery level.

Communication

- Medicine is inherently interdisciplinary and team based
- Estimated failure in 30% of communications in OR
- 36% of errors resulted in observable consequences
- Teams in OR change constantly
- Handoffs
- Steep gradients in authority

Communication/Authority Gradients

- Different groups of healthcare workers perceive the quality of teamwork differently
- Senior physicians>trainees>nurses
- Different groups rated responsibility for tension resolution differently, with their group as being least responsible
- Different groups rated quality of communication differently-Senior physicians>trainees>nurses
- Quality of collaboration rated differently amongst groups-physician to physician greatest, nurses and surgeons lowest

Teamwork and Safety

- Staff perception of teamwork related to the quality and safety of patient care
- Improved quality related to better relational coordination- improved safety, reduced postop pain, improved postop functioning, and decreased length of hospital stay
- Leadership adaptation essential for effectiveness

Checklists

- Initially perceived as an assault on physician integrity
- Perception has markedly changed
- Function as mental notes and standard protocols
- Assist when fatigue and stress lead to diminished performance
- Poorly implemented in Neurosurgery
- Sign in-Timeout-Signout
- Need to avoid overly complicated and time intensive checklists

The acronym R.E.S.P.E.C.T. has been used at the Cleveland Clinic among caregiver teams to develop open communication and mutual respect for everyone taking care of the patient.

Retaining patient focus.

Establishing who each individual is.

Supporting the role of others.

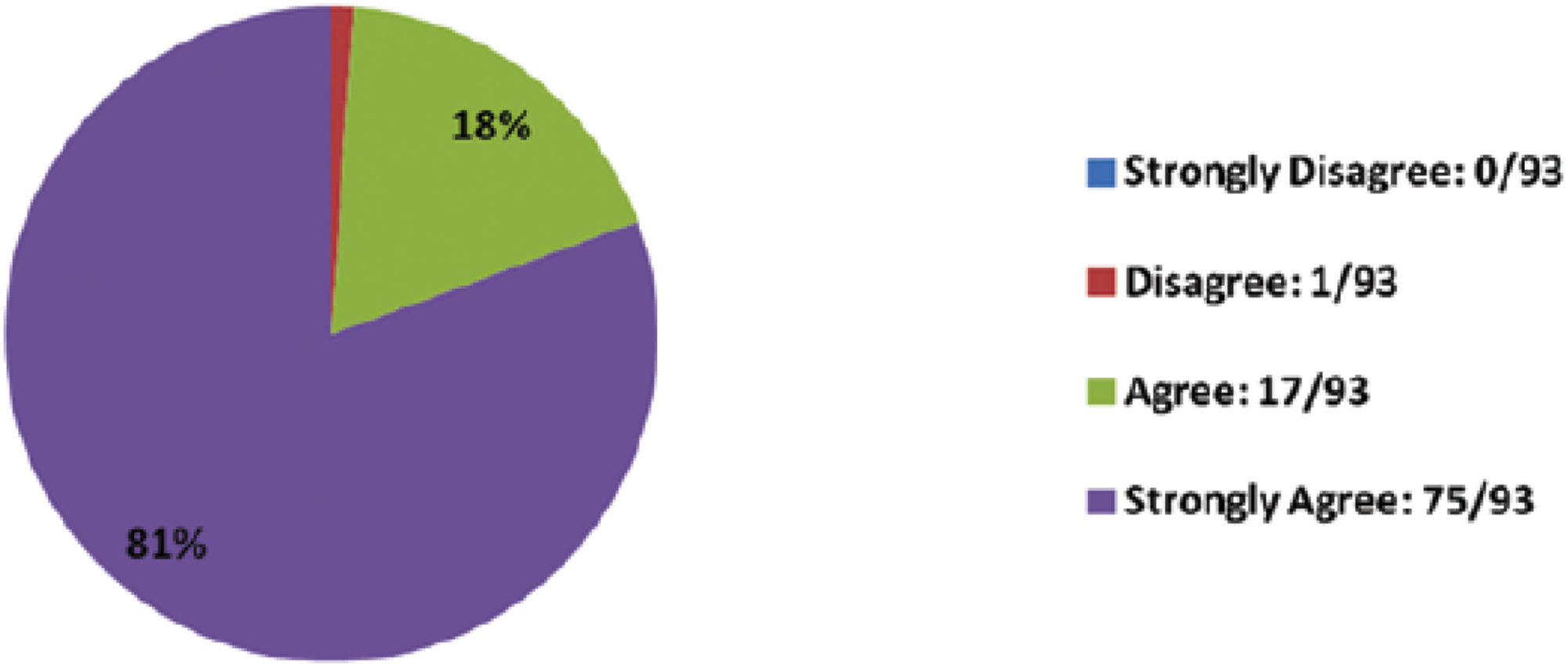
Please and thank you.

Embracing and engaging others (ideas and knowledge).

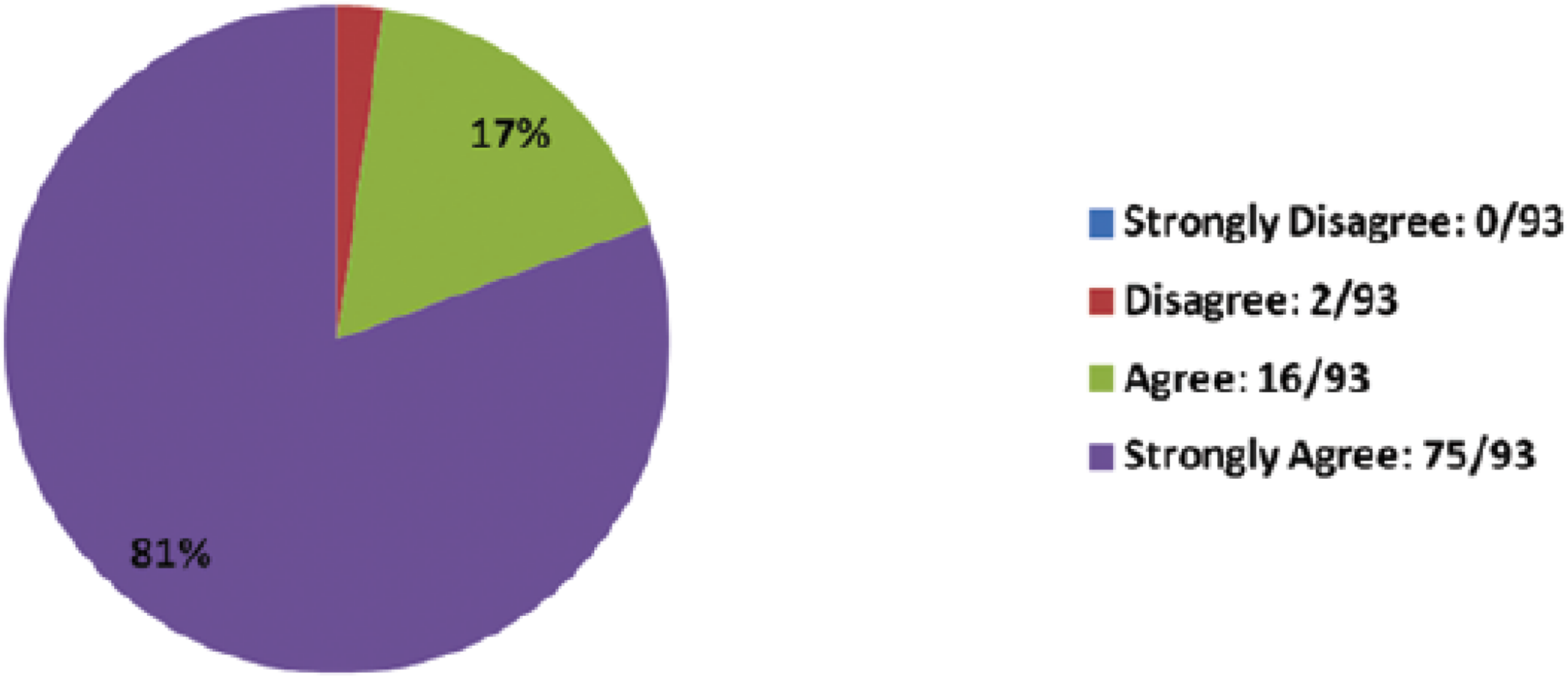
Coaching and educating all team members.

Talk! Talk and more talk (inform each other before, during, and after the case).

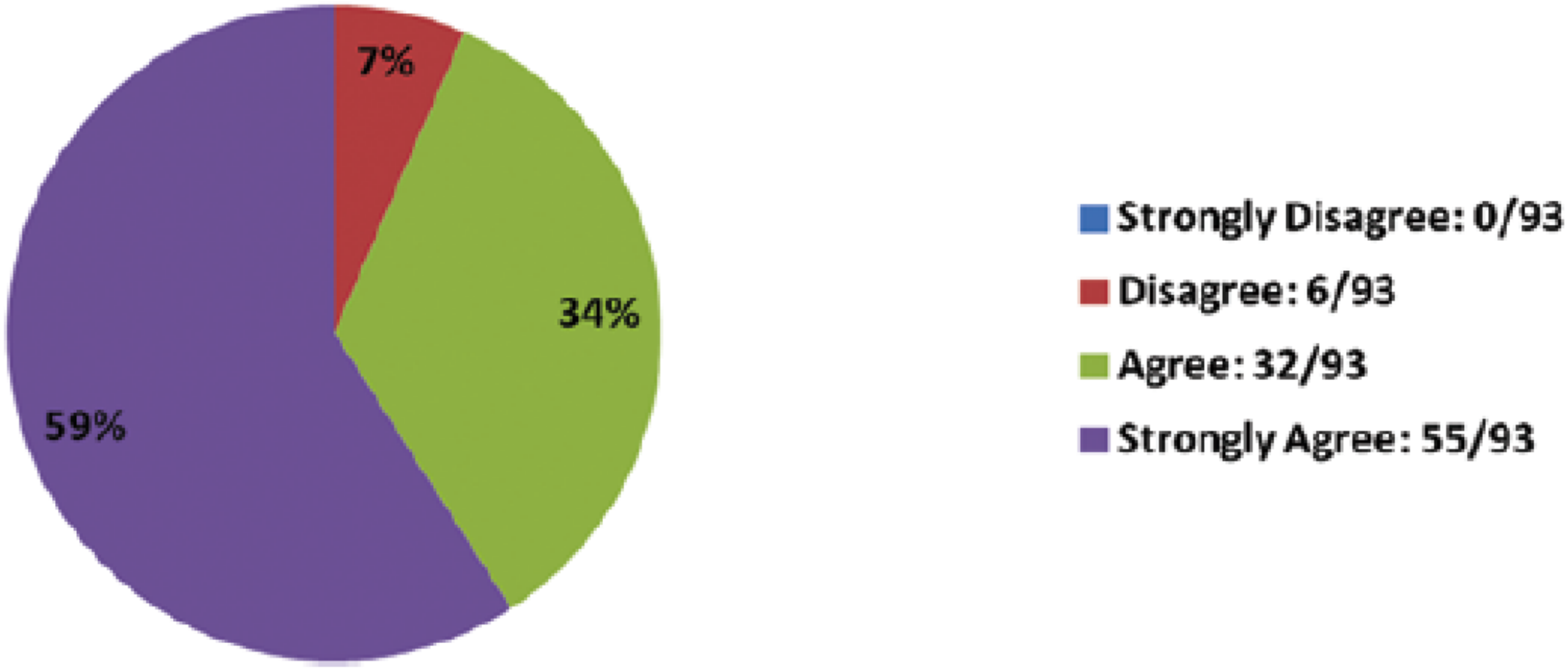
A Generally speaking, do you feel that performing a timeout prior to procedure start (incision) improves patient safety?



Do you feel that the team member introductions (each person announcing their name and role) helps to promote a team mentality during the case?



Do you feel that performing a timeout and team member introductions helps to ensure ALL team members are comfortable to voice safety concerns throughout the case?



WHO Safety Checklist

- Improved outcomes with regards to perioperative morbidity and mortality
- Enhanced perception of team work
- Enhanced safety culture amongst multidisciplinary surgical team members
- Improved communication

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population

Alex B. Haynes, M.D., M.P.H., Thomas G. Weiser, M.D., M.P.H., William R. Berry, M.D., M.P.H., Stuart R. Lipsitz, Sc.D., Abdel-Hadi S. Breizat, M.D., Ph.D., E. Patchen Dellinger, M.D., Teodoro Herbosa, M.D., Sudhir Joseph, M.S., Pascience L. Kibatala, M.D., Marie Carmela M. Lapitan, M.D., Alan F. Merry, M.B., Ch.B., F.A.N.Z.C.A., F.R.C.A., Krishna Moorthy, M.D., F.R.C.S., Richard K. Reznick, M.D., M.Ed., Bryce Taylor, M.D., and Atul A. Gawande, M.D., M.P.H., for the Safe Surgery Saves Lives Study Group*

WHO Study

- October 2007-September 2008 8 hospitalsrepresenting different populations and economic circumstances
- 19 item checklist
- 3733 consecutive patients having noncardiac surgeries
- Death rate decreased from 1.5% to 0.8% ($p=0.003$)
- Inpatient comlications-11.0% to7.0% ($p<0.001$)

Anecdote

- Cisternotomies for head trauma-pt was thought to be an aneurysm rupture and not a trauma pt

World Health Organization

SURGICAL SAFETY CHECKLIST (FIRST EDITION)

Before induction of anaesthesia

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

Before skin incision

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

Before patient leaves operating room

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.

JCAHO Rules

- Difficult (expensive) to find
- Part of the Universal Protocol-multifaceted
- Greatest risk for errors in those receiving general anesthesia or deep sedation
- Works best in organizations that promote a culture of teamwork and safety
- Communication is key

Universal Protocol

- Use of multiple complementary strategies
- Active involvement and communication among all team members
- Patient, and/or family to be involved with the process
- Consistent implementation of a standardized protocol
- Hospitals have some input into the process

Universal Protocol
Preprocedure Verification

- Hospital should identify the location and timing of the preprocedure verification
- Type and complexity of procedure determine frequency and scope
- Verification process and site marking should be consistent throughout the hospital
- Site marking is not required when the individual doing the procedure is continuously with the patient from the time of the decision to do the procedure to the performance of the procedure

Preprocedure Verification

- Goal-prevent wrong person, site, procedure
- Ongoing process of information gathering and confirmation
- Purpose-ensure all relevant documents, related information, and equipment are 1) available prior to the procedure 2) correctly identified, labeled, and matched to pt identifiers 3) reviewed and are consistent with the pts expectation and the team's understanding of the intended patient, procedure, and site
- Occurs some time before going to procedure room

Elements Required

- Verify correct pt, procedure, and site
- Identify items that must be available for the procedure

  Documents-H&P, consent, preanesthesia assessment

  Labeled diagnostic and radiology test results

  Any required blood products, implants, devices, special eq.

Site Marking

- Done to prevent errors when there is more than one possible location for a procedure
- Not required when bilateral structures are removed
- Who should mark the site-debated topic-no evidence that patient safety is is affected by the job function of the individual who marks the site
- JCAHO position-should be the person who knows the most about the pt

Site Marking

- Delegation of site marking is acceptable in limited situations
- The person should know the pt, procedure, and participate in the procedure-residents, PA's, and NP's
- For spinal surgery only the general spinal area needs marking
- Patient should be involved
- Should be consistent throughout hospital
- Sufficiently permanent

Time Out

- May be multiple-hospital choice-preansthesia, preincision
- All other activities suspended
- Designated team member initiates
- Consistently performed throughout hospital
- Involves all immediate members of procedural team
- Two or more procedures requires a separate time out prior to initiation of the subsequent operation

Time Out
Minimum Requirement

- Correct patient identity
- Correct Site
- The procedure to be done

- Document completion of the time out
- The hospital determines the amount and type of documentaion

Successful Implementation

- Good training and staff understanding
- Local champion
- Support from upper management
- Ability to modify checklist
- Distribution of responsibility
- Feeling of ownership by team members
- Stepwise implementation with real time feedback
- Enhanced communication and teamwork

Open Access Research

BMJ open

A qualitative study comparing experiences of the surgical safety checklist in hospitals in high-income and low-income countries

Emma-Louise Aveling,[1] Peter McCulloch,[2] Mary Dixon-Woods[1]

Low vs High Income Countries
Impediments in High Income Countries

- Organizational safety culture
- Hierarchical structures
- Dismissive attitudes
- Absence of key team members
- Hurrying through checklist

Low Income Countries

- Some resentment to the process, not entirely unique
- Compliance lower in less developed countries-both completeness and fidelity
- Local cultural, social, and economic contexts
- Hierarchical structure more of an impediment
- Prior lack of accountability and transparency could make staff feel jeopardized legally, professionally, and personally-made misleading records