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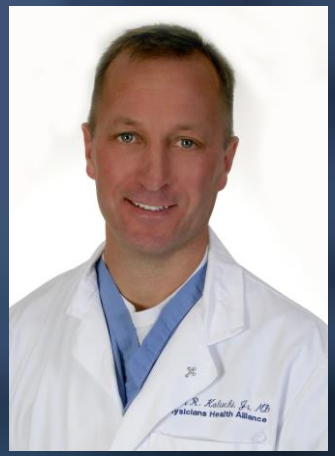
November 29, 2018



Addressing the Tragedy of Maternal Mortality & Morbidity in America

A presentation for HealthTrust Members by

Frank R. Kolucki, Jr., M.D., FACOG

Chairman of the Department of Obstetrics/Gynecology, Moses Taylor Hospital

Disclosures

- The presenter has no financial relationships with any commercial interests pertinent to this presentation.
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Addressing the Tragedy of Maternal Mortality & Morbidity in America:

Part 1, High Reliability & Safety in Obstetrics: A Life-saving Approach

Learning Objectives

- Discuss the concept of high reliability that could be replicated at any healthcare organization.
- Explain the foundations of team culture as exhibited by institutions that prioritize patient safety.
- Define the pillars upon which highly reliable clinical systems of care are built.

High Reliability & Safety in Obstetrics: A Life-saving Approach

Maternal Mortality

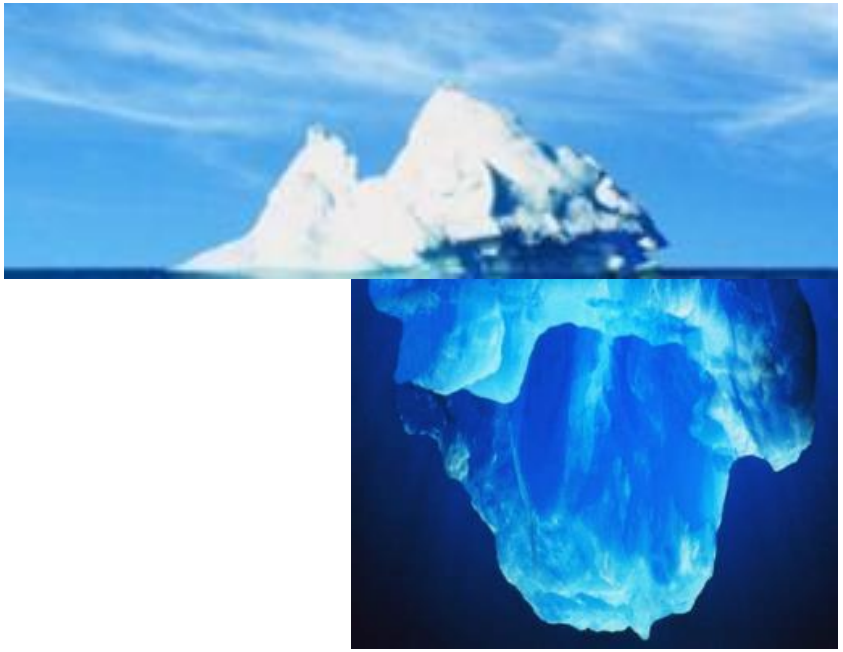
An American Failure

- America is the most dangerous country in the developed world to give birth
- U.S. ranks 60th in the world regarding maternal death rate*
- Increased from 14 to 26.4 / 100,000 Births from 1990–2015

Source: *Berg Cl et all Obstet Gynecol 2012*
ACOG Patient Safety and Quality Improvement

Maternal Morbidity is Extreme

- Shock
- Acute Kidney Injury
- Pulmonary Embolism
- Respiratory Distress Syndrome
- Myocardial Infarction
- Sepsis
- Increased by 45% from 2006 - 2015
- Affects 80,000 mothers per year



Sources: Callaghan, Wm et al. Obstet, Gynecol, 2012.
K Fingar et al Trands and Disparities in Delivery Hospitalizations Involving Severe Maternal Morbidity, 2006-2015

Maternal Mortality

An American Tragedy

- 40% of maternal deaths are **Preventable**
- Most maternal deaths from hemorrhage are **Preventable**

Source: Mary D'Alton, MD 51st Annual Update in OBGyn HMS 2014


Healthcare is a Team Sport

Healthcare is a Team Sport

HealthTrust Team Members

- Nursing
- Pharmacy
- Laboratory Medicine
- Physicians
- Administrators

Healthcare is a Team Sport

Maternal mortality and morbidity crisis cannot be fixed by obstetricians alone.

Need your help in your sphere of influence.

Pathway 1

- Full-term pregnancy
- C/S for breech presentation (twin A)
- Two hours after delivery, increased bleeding in recovery room
- Physician called
- Medications ordered

Pathway 1

- Continued bleeding
- Physician called again
- More medication ordered
- Continued bleeding
- Physician requested to come to hospital

Pathway 1

- Doctor at bedside 5 hours later
- Patient in shock
- Emergency hysterectomy
- Patient coded and died on OR table

Pathway 2

- Full-term pregnancy
- C/S for breech presentation
- Bleeding in recovery room

Pathway 2

- Team assessed patient
- Nurse, obstetrician, CRNA and OR staff at bedside
- Medication given
- Continued bleeding

Pathway 2

- Patient taken to OR
- Uterine Tamponade Balloon placed
- Two units of blood given
- Patient and twins home on post-op day three

Choice to Be Made

- Maternal death is the greatest tragedy in medicine today
- Pathway to success
- Pathway to failure

Choice to Be Made

PATIENT SAFETY SUPERSEDES ALL

- Physician Convenance
- Nurse Convenance
- Patient Convenance

Choice to Be Made

Five Pillars Which Support High Reliability in Obstetrics

MTH Family Birthing Suites

Date	OB Physicians	Births
7/2000	6	650
2004	6	1200
2005	13	2400
2007	16	2700+

MTH Family Birthing Suites

- Level 3A Neonatal Intensive Care Unit (NICU)
- Patient catchment area extends to southern New York/Western New Jersey
- Maternal and Neonatal High Risk transfers
- 40% of patients classified as high risk

A 38-Year-Old Woman With Fetal Loss and Hysterectomy

Benjamin P. Sachs, MB, BS, Discussant

DR DELBANCO: Mrs W is a married, self-employed, healthy woman living in a community several hours from Boston. She has private health insurance. At age 38, she was admitted to the hospital for elective delivery of her first child, but the admission ended tragically with fetal loss, hysterectomy, and a prolonged hospitalization.

The pregnancy, her first, was wanted and uneventful. When seen initially by her obstetrician, Mrs W's blood pressure was 112/80 mm Hg. She showed no sign of labor at term. At 40 weeks of pregnancy, her blood pressure was 126/78 mm Hg, rising shortly thereafter to 144/85 mm Hg. She had trace proteinuria. Her creatinine level was 0.8 mg/dL (70.7 µmol/L), and her uric acid level was 6.3 mg/dL. At 41 weeks of gestation, her obstetrician, Dr F, decided to admit her for misoprostol induction. Dr F was not on call that night.

On admission, the cervix was closed and 50% effaced, and her blood pressure was 124/90 mm Hg. She was given misoprostol (25 µg, vaginally) and sent home that evening at 10 PM. On the way home she noted more contractions, turned around, and was admitted to the hospital at midnight in active labor. She was breathing uncomfortably with contractions, vomiting, and was hypertensive with a blood pressure of 174/104 mm Hg. The cervix was still soft and closed; the fetal heart rate was in the 130s, and no decelerations accompanied the contractions. At 1:30 AM, her membranes ruptured, and contractions were noted every 1 to 2 minutes. At 3:30 AM, her cervix was dilated to 2 cm and 90% effaced. The fetal heart rate was 120/min, with contractions every 1 to 2 minutes. She was given a test dose for epidural anesthesia (3 mL of 1%-5% lidocaine). At that point, her blood pressure dropped to 53/33 mm Hg, but it returned to 107/50 mm Hg with ephedrine. Accompanying the test dose, the fetal heart rate dropped to 80/min for 3.5 minutes, but then returned to the 130s. The epidural anesthesia was then initiated.

At 4:30 AM, the fetal heart rate was noted to have a saltatory (sawtooth pattern) with occasional late decelerations, and her cervix was dilated 4 to 5 cm. At 5:20 AM, she was fully dilated. She was having contractions every 1 to 2 minutes, and her medical record reveals that she was asked to start pushing. Thirty minutes later the fetal heart rate was 115/min, with late decelerations. It quickly dropped to 90/min for 3 minutes, followed by further slowing for about 11 minutes. A low-forceps delivery (+2 station, right occiput anterior with caput and molding) was attempted at 6:20 AM and failed. She was rapidly transferred to the operating room; the fetal heart rate was in the 130s. An emergency cesarean delivery was performed. When the abdominal cavity was entered, the uterus was found to have ruptured in the lower segment and the placenta was in the abdomen. A stillborn male fetus, weighing 10 lb, was delivered at 6:45 AM; the fetal weight was determined after extensive efforts at resuscitation. The uterus was repaired, and Mrs W was transferred to the recovery room.

At 7:30 AM, the patient received 4 units of blood, along with misoprostol again for uterine atony. By 10 AM, a hysterectomy was performed for uterine atony unresponsive to uterine massage and intravenous pitocin, rectal misoprostol, and intramuscular 15-methyl prostaglandin $F2_{\alpha}$ (Hemabate). This was followed by numerous complications, including bleeding with disseminated intravascular coagulation requiring the transfusion of 38 units of packed red blood cells, 42 units of fresh frozen plasma, 60 units of cryoprecipitate, and 111 bags of platelets. She required 3 weeks of hospital care thereafter, including 18 days in the intensive care unit. She encountered and overcame complex medical issues including prolonged disseminated intravascular coagulopathy, acute respiratory distress syndrome, sepsis, and a wound infection. She recovered steadily, was transferred to a rehabilitation hospital for further care for a few days, and then returned home where she received intensive physical therapy, occupational therapy, and other supportive care.

CME available online at www.jama.com

This conference took place at the Department of Obstetrics and Gynecology Grand Rounds at the Beth Israel Deaconess Medical Center, Boston, Mass, on May 12, 2004.

Author Affiliation: Dr Sachs is Chief, Obstetrics and Gynecology, Beth Israel Deaconess Medical Center; Harold H. Rosenfield Professor of Obstetrics, Gynecology and Reproductive Biology, Harvard Medical School; and Professor in the Department of Society, Human Development and Health in the Faculty of Public Health, Harvard School of Public Health, Boston, Mass.
Corresponding Author: Benjamin P. Sachs, MB, BS, Department of Obstetrics and Gynecology, Beth Israel Deaconess Medical Center, 330 Brookline Ave, Boston, MA 02215 (bsachs@bidmc.harvard.edu).

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Beth Israel Deaconess Medical Center

- 38-year-old primigravida full-term
- Induction of labor
- Preeclampsia undiagnosed
- Fetal distress undetected
- Forceps delivery failed
- Emergency Cesarean Section
- Ruptured uterus
- Dead baby
- Hysterectomy, near maternal death

Source: JAMA August 17, 2005 Vol. 294 No. 7

Obstetrical Catastrophe

- Reality check
- This could happen here


High Reliability

High Reliability

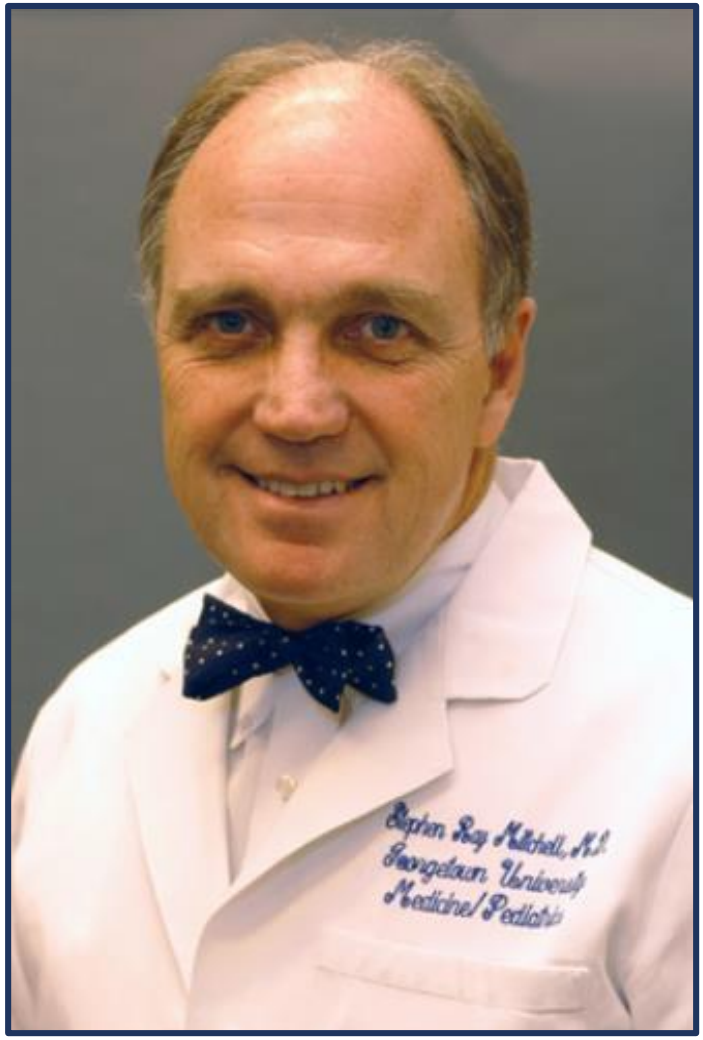
- The Right Thing
- The Right Way
- Every Time

Concept originated in the military, aviation industry and nuclear industry

Source: *ACOG Patient Safety and Quality Improvement*


Training
Audacity

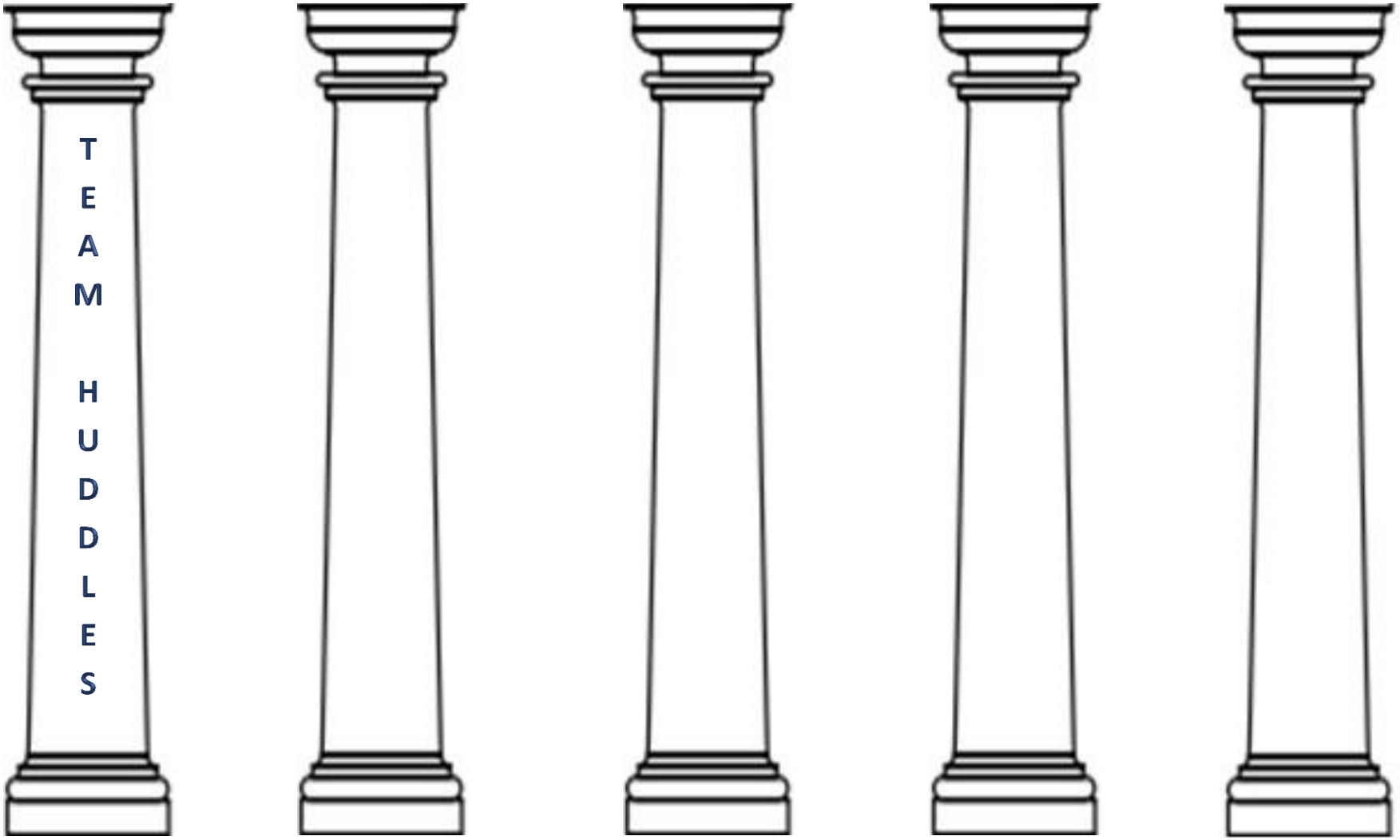
Culture of Safety Conference, September 2006



Stephen Ray Mitchell, M.D.

Stephen Pratt, M.D.

High Reliability / Safety in Obstetrics



Team Huddles 9AM, 8PM, PRN

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Team Members

- Labor Nurses
- Post-partum Staff
- NICU Staff
- Neonatologist
- Anesthesiologist
- CRNA
- Nursing Supervisor
- Secretaries
- Custodial Staff
- Labor & Birth Manager
- Director Women's/Children’s Services
- OB Attending
- Chief Medical Officer
- Chief Nursing Officer
- Director of Quality & Safety
- Pharmacy Staff
- Social Work
- **Chief Executive Officer**

What Happens?

We Communicate!

- Review all patients
- Gain situational awareness
- Discuss Utilization / Allocation of Resources
- Resolve Conflicts
- Look for Potential Pitfalls

We Attempt to Outthink FATE

Source: *White AA, Pichert JW, Bledsoe SH, Irwin C, Entman SS. Obstet Gynecol. 2005;105:1031-1038.*

Silo Mentality

My Patient

- One doctor
- One nurse
- One patient

- Tunnel vision
- Increased risk of injury

Team Culture

- Our patient
- Everyone’s responsibility

- Power of collective intellect
- Injury risk mitigated

Source: *Mann Contemporary OB/Gyn January 2006*

Change is a Loss for Someone

- Loss of hierarchical status
- Loss of power
- Loss of autonomy

"I am tired of people telling **ME** what to do with **MY** patient"

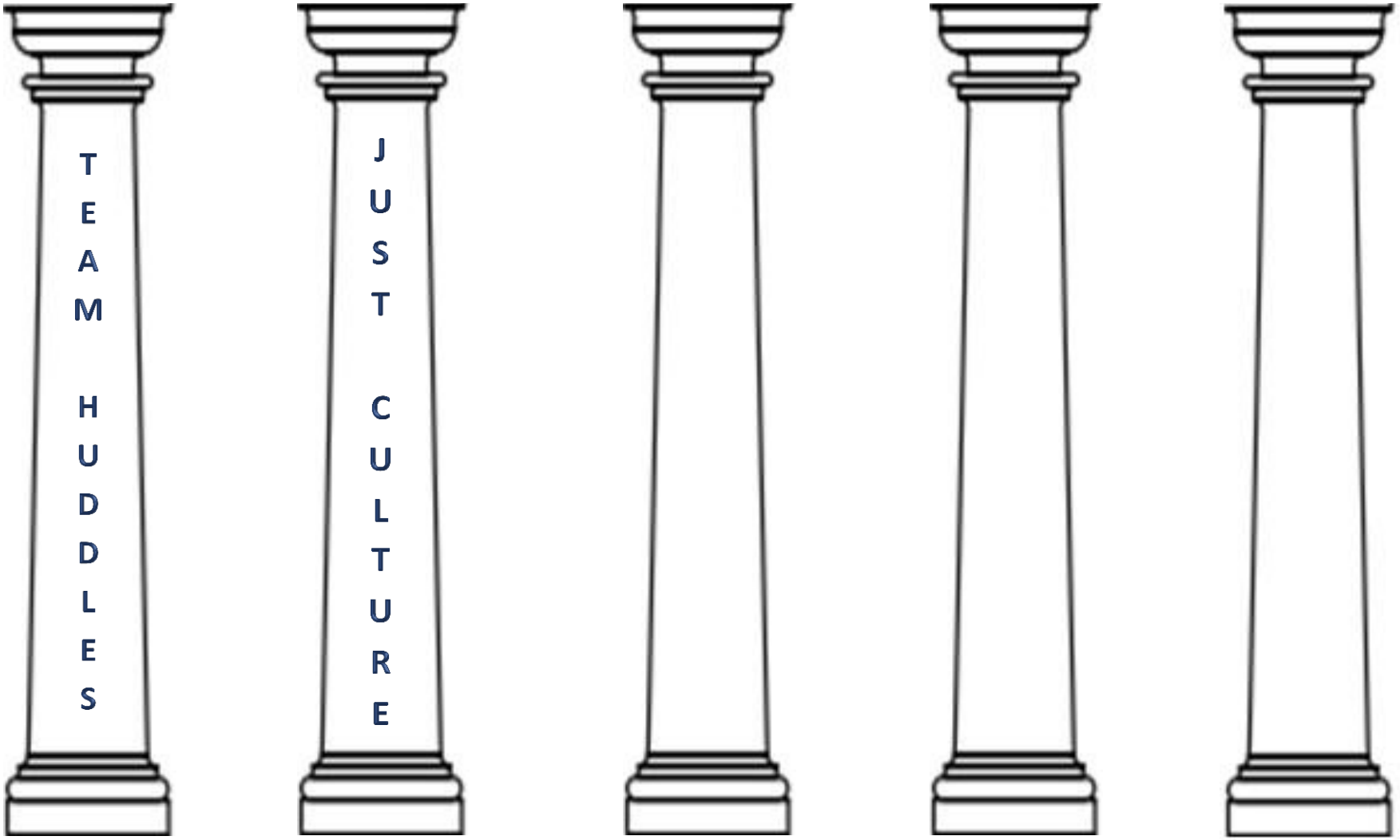
Team Culture

Change is difficult!

Change requires endurance.

Full implementation requires 12 to 24 months.

High Reliability / Safety in Obstetrics



Just Culture

Non-negotiable Mutual Respect

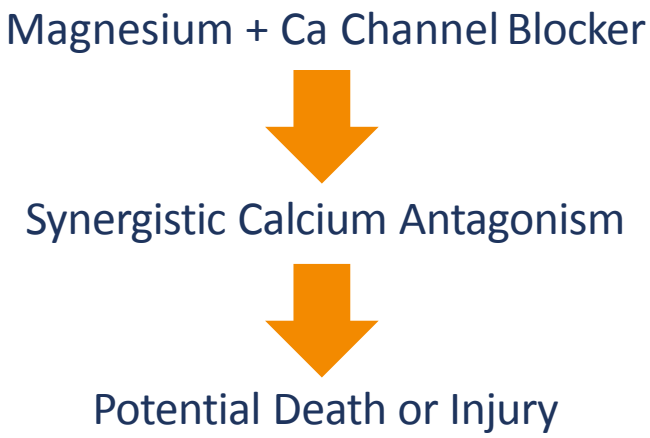
Critical Components

- Lack of hierarchy
- Freedom to speak up
- Willingness to speak up
- Audacity and courage

Source: *Gardner ACOG Patient Safety & Quality Improvement 2009*

Near Miss

- Preterm labor patient on Procardia
- Super imposed preeclampsia
- Magnesium Sulfate ordered



Individuals Fail

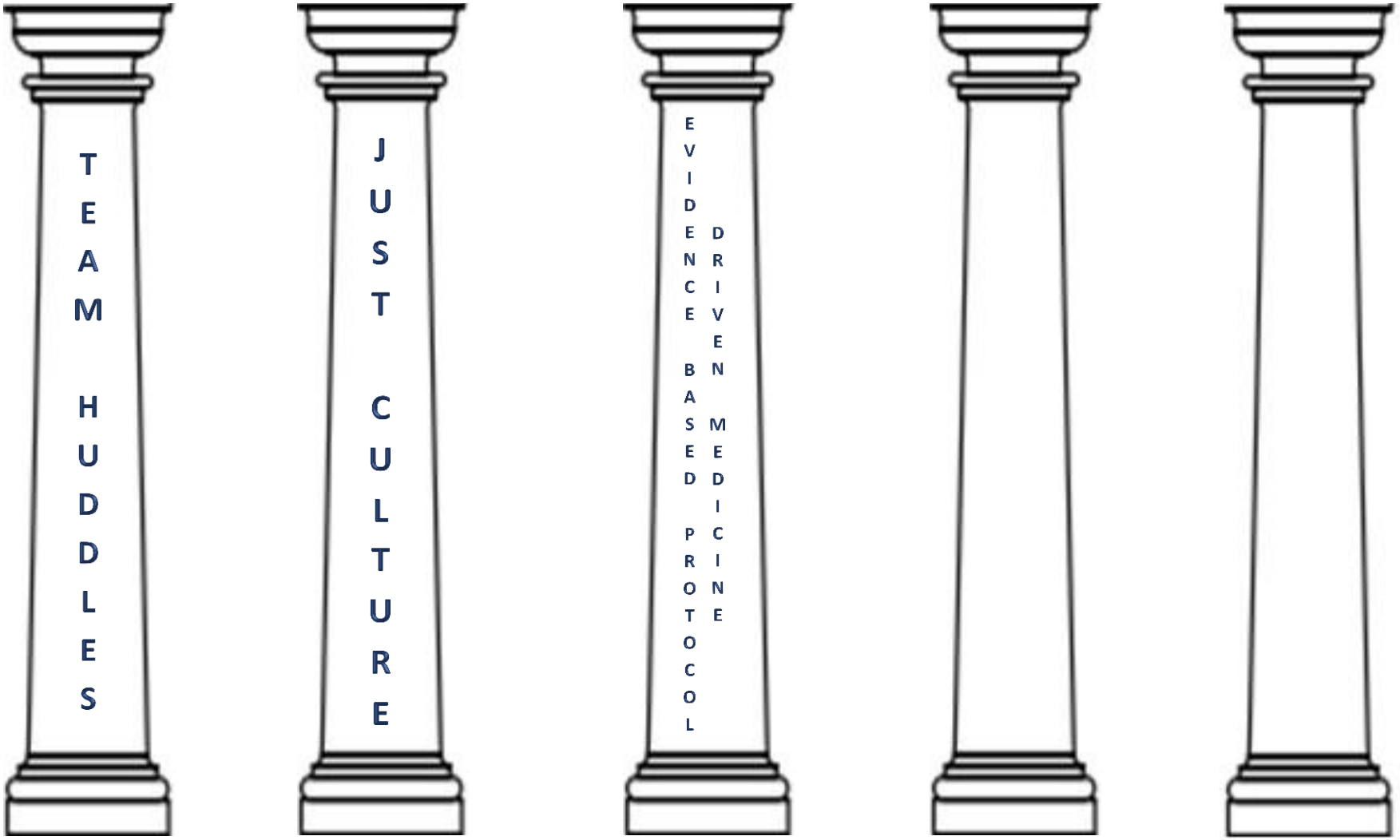
Teams Win

“Dr. Kolucki, are you sure you want to start magnesium now?

She was just dosed with Procardia.”

Every member of the OB team is required to step forward when a process is deemed unsafe.

High Reliability / Safety in Obstetrics



The Enemy of Quality: Unsubstantiated Variation

Evidence-based Protocols / Bundles

- Preterm Labor
- Preterm Premature Rupture of Membranes
- Hypertensive Emergencies
- Ecclamptic Seizure
- Amniotic Fluid Embolism / Anaphylactoid Syndrome of Pregnancy
- Maternal Cardiac Arrest
- Oxytocin Utilization Bundles
- Placenta Previa Algorithm
- Prothrombin Complex Concentrate (Kcentra) Protocol
- Factor VII Protocol
- RiaSTAP (Lyophilized Fibrinogen) protocol

Evidence-based Protocols / Bundles

- Chorioamnionitis
- Fulminant DIC Protocol
- Delayed Cord Clamping
- Fetal Death in Utero Protocol
- Emergency Uterine Relaxation
- Imminent Delivery
- Neonatal Resuscitation
- EMR – Best practice care plans

MTH Code Crimson v19

Code Crimson – Level 1

For patients with potential / actual hemorrhage

FBS Staff- Notify Switchboard of Code Crimson (x5555) for overhead page
Switchboard will alert Laboratory, Anesthesia, Ultrasound, Interventional Radiology, Nursing Supervisor, and Pharmacy to await further instructions
Draw the following STAT Labs and tube specimens to Laboratory for:
Code Crimson- CBC; PT / PTT; Fibrinogen; CMBP;
Type and Screen; and Type and Cross **Three (3) Units Packed Red Blood Cells, Three (3)Units Fresh Frozen Plasma, and One (1) Unit Aphoresed Platelets**
Notify Lab (x6300) of inbound STAT Blood Work
Repeat Labwork every 60 minutes or after every completed MTP.
Ensure IV access & Patency
Confirm treatment with Tranexamic Acid 1 gm IV repeat in 30 minutes if bleeding continues
Obtain Uterine Tamponade Balloon
Prepare OR Hysterectomy pan
Notify CRNA to prepare Rapid Infuser/ Blood Warmer

Code Crimson – Level 2

For patients with a **life threatening** potential/actual hemorrhage

Notify Switchboard of Code Crimson (X5555) for overhead page and alerts
Confirm treatment with Tranexamic Acid 1 gm IV repeat in 30 minutes if bleeding continues
FBS Staff – Draw the following **STAT** Labs and tube specimens to Laboratory for:
CBC; PT / PTT; Fibrinogen; Type and Screen; CMBP, and Type and Cross
Six (6) Units Packed Red Blood Cells, Six (6) Units Fresh Frozen Plasma, One (1) Unit Aphoresed Platelets, and Ten (10) Unit Cryoprecipitate (only 1 unit plts in hospital; additional units will be procured by lab)
Notify Lab (x6300) and Blood Bank (x6361) of inbound STAT Blood Work
T/L will designate one person to be in contact with lab for blood products and to obtain when ready (blood runner).
Repeat Labwork work every 60 minutes or after every completed MTP.
- **Ensure two (2) large bore (#18) IV access**
- **Prepare OR Hyster pan/Prepare Uterine Tamponade Balloon**
  Ready Second MTP2 PACKAGE
  - **6 Units RBCs**
  - **6 Units FFP**
  - **1 Unit Aphoresed Platelets**
  - **10 Units Cryoprecipitate**
  - **Administer 10 mg Vitamin K IV for 1 dose**
  - **Calcium Gluconate 2 gm (4.65meq/ 1gm) IV**
  (lab will procure any additional blood products as needed)

Laboratory may contact the **FBS-Charge Nurse/ TL @ x6908**

Nursing Supervisor (x6867/6768)
Anesthesiologist
Anesthesia CRNA (x6925)
* **Prepare Rapid Infuser/ Blood Warmer**
If necessary, Anesthesia will notify Cell Saver perfusionist - James Yi (H) 570-587-2510 (C) 570-815-6577

If AB plasma for AB patient is not available A plasma may be used

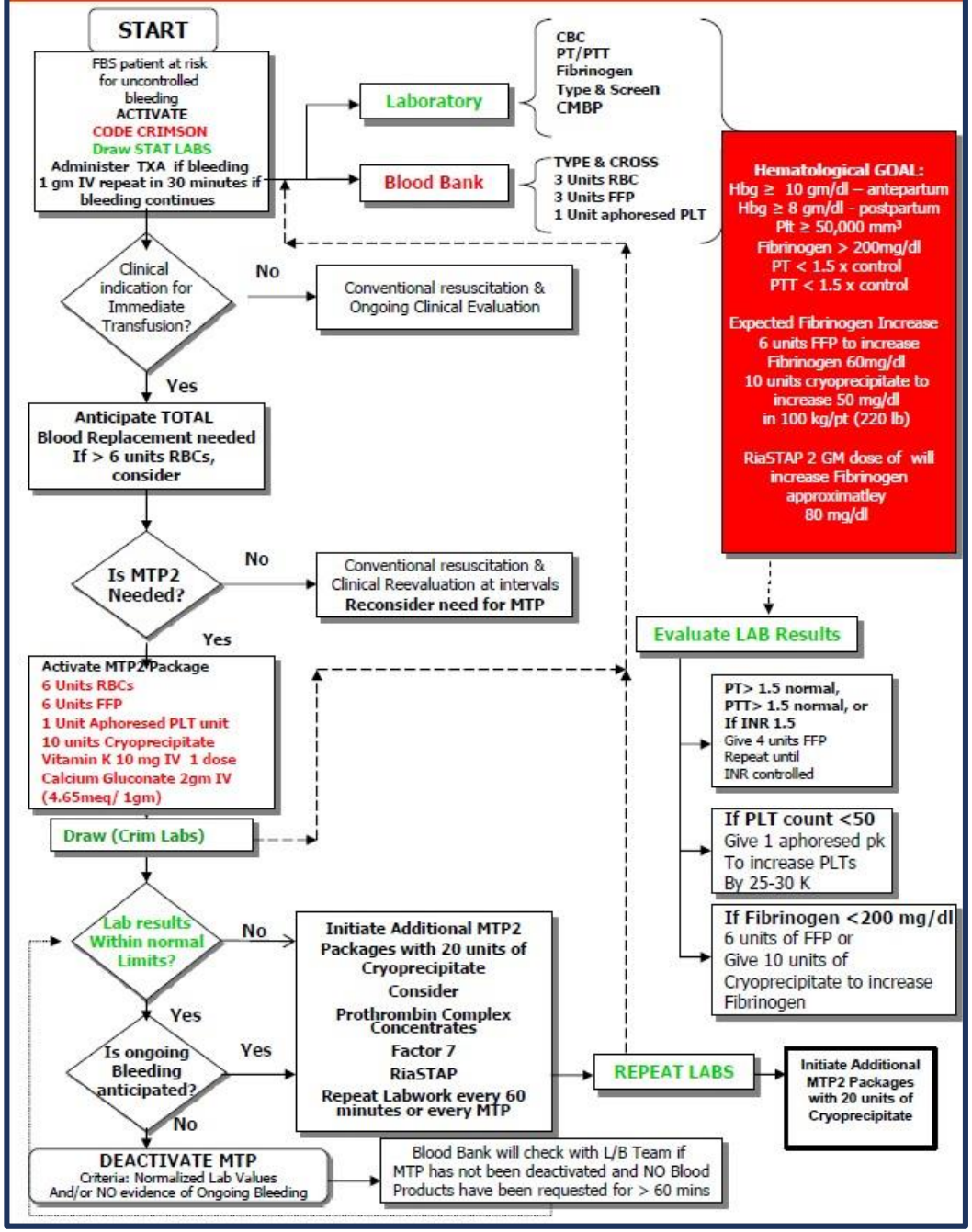
Operating Room (x6400)
Interventional Radiology (x7306) (OB/GYN Physician or designee must speak directly with Radiologist)
If necessary, **Notify Rapid Response Team (RRT)**
Dial #5555, provide Switchboard Operator with Room Number / location for RRT response
Notify ICU of possible transfer (x5480)
Notify second in-house OB physician of situation
IF ANTICIPATING ONGOING BLEEDING:
- **Repeat STAT LABS- CBC; PT / PTT; Fibrinogen;**
- **CMBP**
- **INITIATE ADDITIONAL MTP2 PACKAGES with 20 Units of Cryoprecipitate**
- **Consider For Continued Life Threating Hemorrhage**
  Prothrombin Complex Concentrate (Kcentra)
  Factor 7 (NovoSeven)
  RiaSTAP ***for consumptive coagulopathy/DIC; severe hypofibrinogenemia or volume overload***

Calculating Corrected Calcium Equation
4- [(0.8 X Albumin] + serum Ca = corrected Ca

Developed 2/06 FBS_ rev10_09072010ds, 1/10/2011me, 2/14/11ej, 5/9/11me, 4/9/2014dg, 6/24/2014dg, 12/18/2017 dg, 01/04/2018 dg

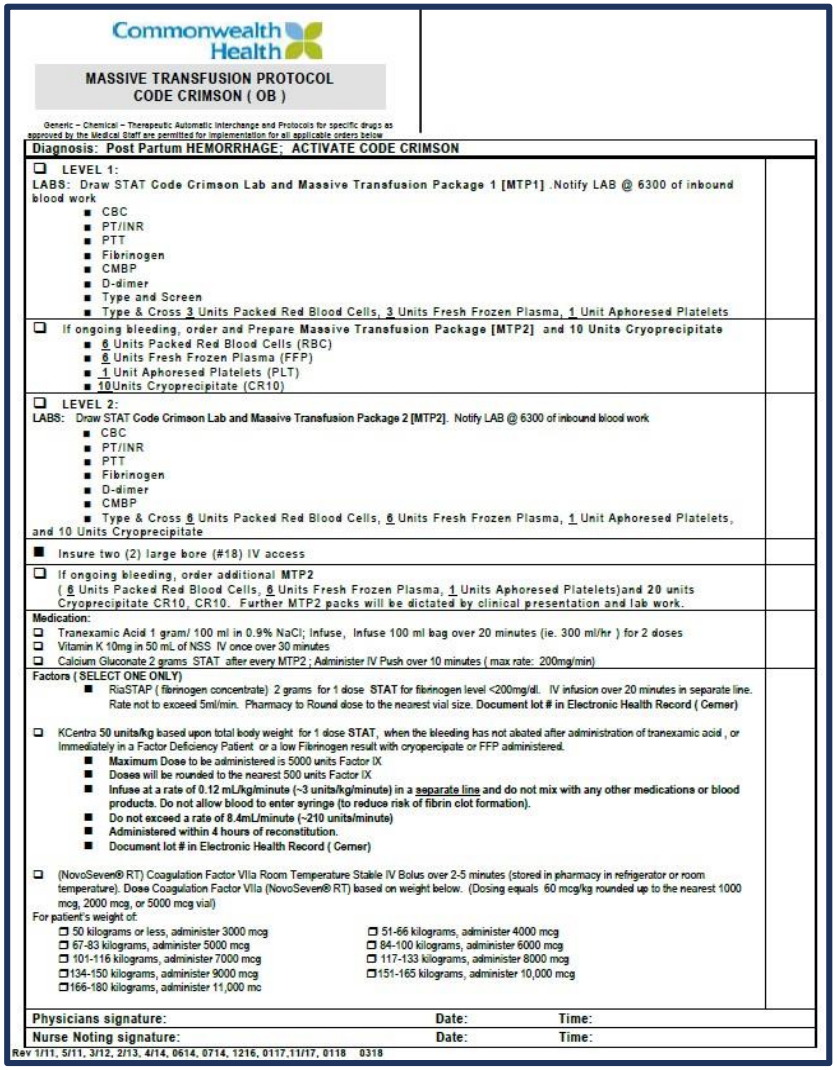
MASSIVE TRANSFUSION PROTOCOL [MTP]

Updated 01./2018



Massive Transfusion Protocol: Code Crimson

Electrolytes including potassium and calcium can fluctuate wildly.



Commonwealth Health

MASSIVE TRANSFUSION PROTOCOL
CODE CRIMSON (OB)

Generic – Chemical – Therapeutic Automatic Interchange and Protocols for specific drugs as approved by the Medical Staff are permitted for implementation for all applicable orders below.

Diagnosis: Post Partum HEMORRHAGE; ACTIVATE CODE CRIMSON

☐ **LEVEL 1:**
LABS: Draw STAT Code Crimson Lab and Massive Transfusion Package 1 [MTP1] .Notify LAB @ 6300 of inbound blood work
- CBC
- PT/INR
- PTT
- Fibrinogen
- CMBP
- D-dimer
- Type and Screen
- Type & Cross 3 Units Packed Red Blood Cells, 3 Units Fresh Frozen Plasma, 1 Unit Aphoresed Platelets

☐ **If ongoing bleeding, order and Prepare Massive Transfusion Package [MTP2] and 10 Units Cryoprecipitate**
- 6 Units Packed Red Blood Cells (RBC)
- 6 Units Fresh Frozen Plasma (FFP)
- 1 Unit Aphoresed Platelets (PLT)
- 10Units Cryoprecipitate (CR10)

☐ **LEVEL 2:**
LABS: Draw STAT Code Crimson Lab and Massive Transfusion Package 2 [MTP2]. Notify LAB @ 6300 of inbound blood work
- CBC
- PT/INR
- PTT
- Fibrinogen
- D-dimer
- CMBP
- Type & Cross 6 Units Packed Red Blood Cells, 6 Units Fresh Frozen Plasma, 1 Unit Aphoresed Platelets, and 10 Units Cryoprecipitate

■ **Insure two (2) large bore (#18) IV access**

☐ **If ongoing bleeding, order additional MTP2**
(6 Units Packed Red Blood Cells, 6 Units Fresh Frozen Plasma, 1 Units Aphoresed Platelets)and 20 units Cryoprecipitate CR10, CR10. Further MTP2 packs will be dictated by clinical presentation and lab work.

Medication:
☐ Tranexamic Acid 1 gram/ 100 ml in 0.9% NaCl; Infuse, Infuse 100 ml bag over 20 minutes (ie. 300 ml/hr) for 2 doses
☐ Vitamin K 10mg in 50 mL of NSS IV once over 30 minutes
☐ Calcium Gluconate 2 grams STAT after every MTP2 ; Administer IV Push over 10 minutes (max rate: 200mg/min)

Factors (SELECT ONE ONLY)
- RiaSTAP (fibrinogen concentrate) 2 grams for 1 dose STAT for fibrinogen level <200mg/dl. IV infusion over 20 minutes in separate line. Rate not to exceed 5ml/min. Pharmacy to Round dose to the nearest vial size. **Document lot # in Electronic Health Record (Cerner)**

☐ KCentra 50 units/kg based upon total body weight for 1 dose STAT, when the bleeding has not abated after administration of tranexamic acid , or Immediately in a Factor Deficiency Patient or a low Fibrinogen result with cryopercipate or FFP administered.
- **Maximum Dose to be administered is 5000 units Factor IX**
- **Doses will be rounded to the nearest 500 units Factor IX**
- **Infuse at a rate of 0.12 mL/kg/minute (~3 units/kg/minute) in a separate line and do not mix with any other medications or blood products. Do not allow blood to enter syringe (to reduce risk of fibrin clot formation).**
- **Do not exceed a rate of 8.4mL/minute (~210 units/minute)**
- **Administered within 4 hours of reconstitution.**
- **Document lot # in Electronic Health Record (Cerner)**

☐ (NovoSeven® RT) Coagulation Factor VIIa Room Temperature Stable IV Bolus over 2-5 minutes (stored in pharmacy in refrigerator or room temperature). Dose Coagulation Factor VIIa (NovoSeven® RT) based on weight below. (Dosing equals 60 mcg/kg rounded up to the nearest 1000 mcg, 2000 mcg, or 5000 mcg vial)

For patient's weight of:
- ☐ 50 kilograms or less, administer 3000 mcg
- ☐ 51-66 kilograms, administer 4000 mcg
- ☐ 67-83 kilograms, administer 5000 mcg
- ☐ 84-100 kilograms, administer 6000 mcg
- ☐ 101-116 kilograms, administer 7000 mcg
- ☐ 117-133 kilograms, administer 8000 mcg
- ☐ 134-150 kilograms, administer 9000 mcg
- ☐ 151-165 kilograms, administer 10,000 mcg
- ☐ 166-180 kilograms, administer 11,000 mc

Physicians signature: **Date:** **Time:**
Nurse Noting signature: **Date:** **Time:**

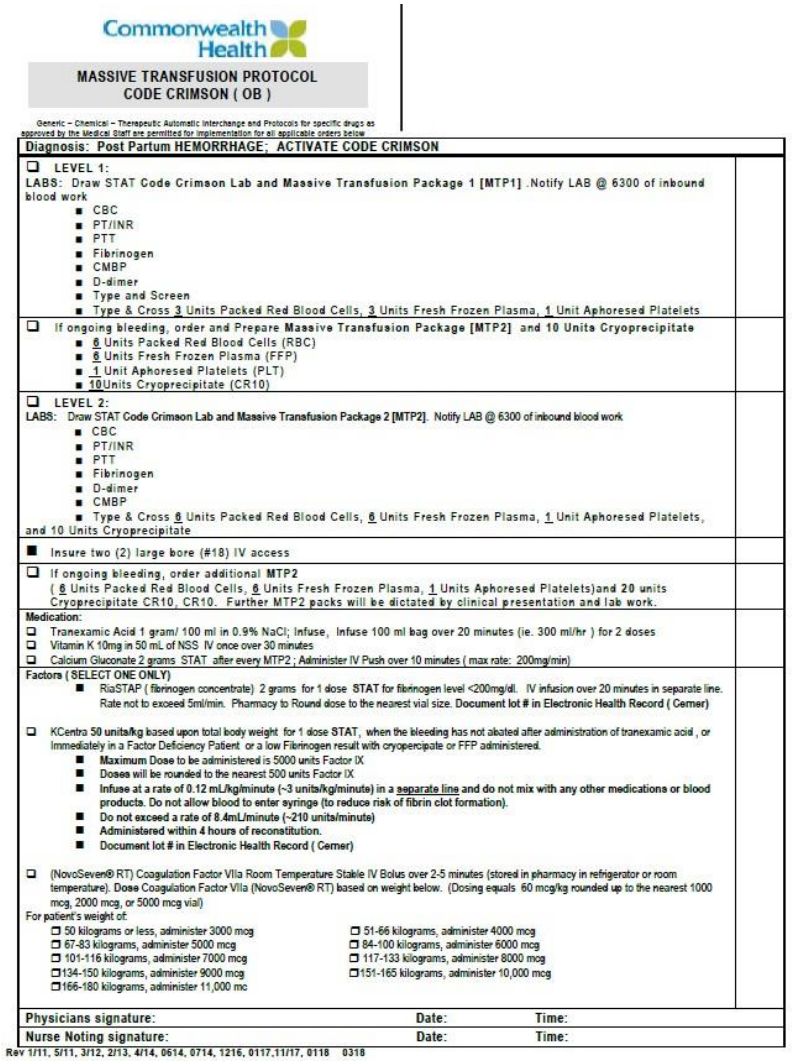
Rev 1/11, 5/11, 3/12, 2/13, 4/14, 0614, 0714, 1216, 0117,11/17, 0118 0318

Source: Luis D. Pacheco M.D., George R. Saade, M.D., Maged M. Costantine, M.D., Steven L. Clark, M.D., & Gary D.V. Hankins, M.D. An update on the use of massive transfusion protocols in obstetrics. *American Journal of Obstetrics and Gynecology*, 2016-03-01, Volume 214, Issue 3.

Massive Transfusion Protocol: Code Crimson

- Kcentra
- Prothrombin complex concentrate should be used as a last resort in refractory cases of hemorrhage
- More favorable safety profile than Factor 7

Source: Luis D. Pacheco M.D., George R. Saade, M.D., Maged M. Costantine, M.D., Steven L. Clark, M.D., & Gary D.V. Hankins, M.D. An update on the use of massive transfusion protocols in obstetrics. *American Journal of Obstetrics and Gynecology*, 2016-03-01, Volume 214, Issue 3.



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- 1 Unit Aphoresed Platelets (PLT)
- 10Units Cryoprecipitate (CR10)

❑ **LEVEL 2:**
LABS: Draw STAT Code Crimson Lab and Massive Transfusion Package 2 [MTP2]. Notify LAB @ 6300 of inbound blood work
- CBC
- PT/INR
- PTT
- Fibrinogen
- D-dimer
- CMBP
- Type & Cross 6 Units Packed Red Blood Cells, 6 Units Fresh Frozen Plasma, 1 Unit Aphoresed Platelets, and 10 Units Cryoprecipitate

■ **Insure two (2) large bore (#18) IV access**

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Medication:
❑ **Tranexamic Acid 1 gram/ 100 ml in 0.9% NaCl; Infuse, Infuse 100 ml bag over 20 minutes (ie. 300 ml/hr) for 2 doses**
❑ **Vitamin K 10mg in 50 mL of NSS IV once over 30 minutes**
❑ **Calcium Gluconate 2 grams STAT after every MTP2 ; Administer IV Push over 10 minutes (max rate: 200mg/min)**

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■ **RiaSTAP (fibrinogen concentrate) 2 grams for 1 dose STAT for fibrinogen level <200mg/dl. IV infusion over 20 minutes in separate line. Rate not to exceed 5ml/min. Pharmacy to Round dose to the nearest vial size. Document lot # in Electronic Health Record (Cerner)**

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- **Do not exceed a rate of 8.4mL/minute (~210 units/minute)**
- **Administered within 4 hours of reconstitution.**
- **Document lot # in Electronic Health Record (Cerner)**

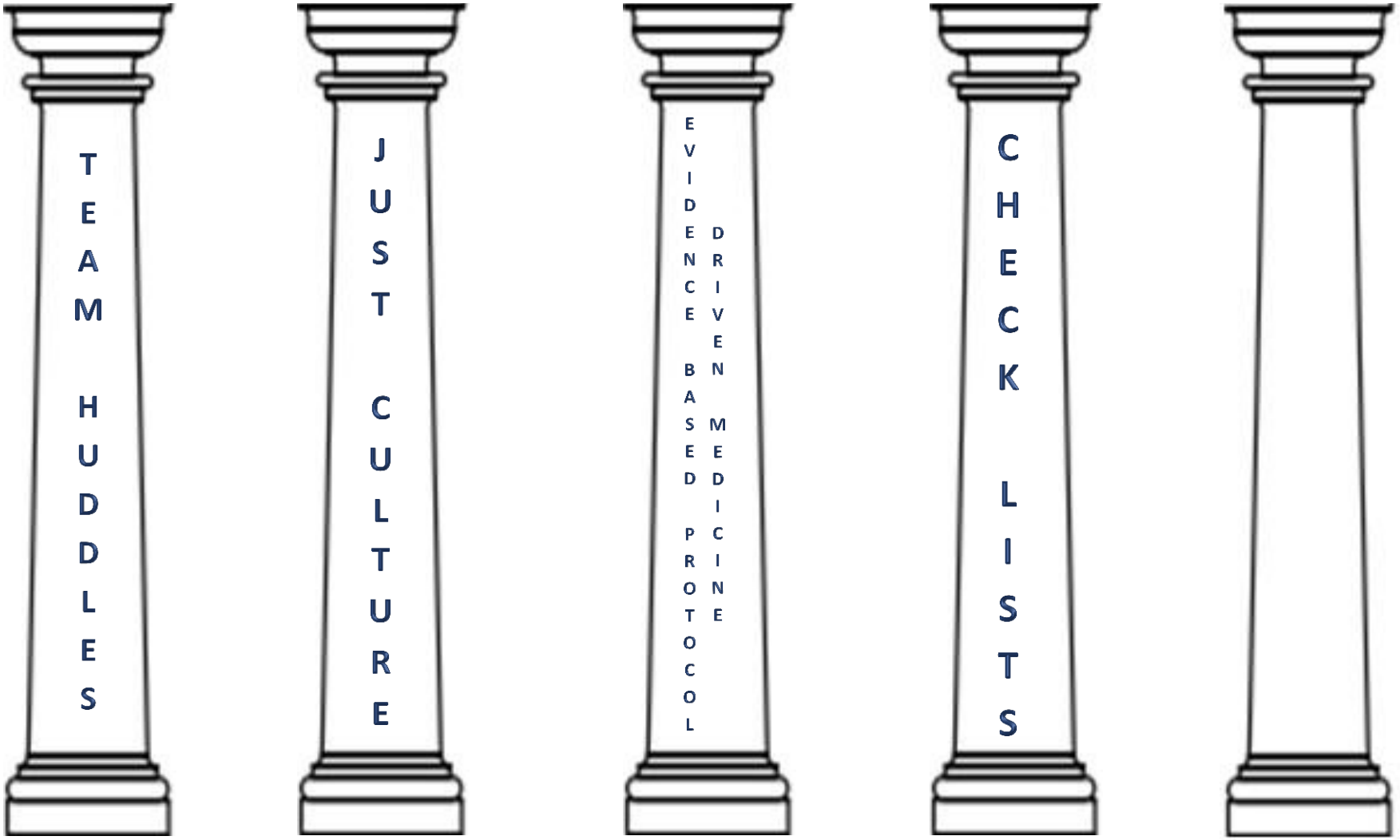
❑ **(NovoSeven® RT) Coagulation Factor VIIa Room Temperature Stable IV Bolus over 2-5 minutes (stored in pharmacy in refrigerator or room temperature). Dose Coagulation Factor VIIa (NovoSeven® RT) based on weight below. (Dosing equals 60 mcg/kg rounded up to the nearest 1000 mcg, 2000 mcg, or 5000 mcg vial)**

For patient's weight of:
- ❑ 50 kilograms or less, administer 3000 mcg
- ❑ 51-66 kilograms, administer 4000 mcg
- ❑ 67-83 kilograms, administer 5000 mcg
- ❑ 84-100 kilograms, administer 6000 mcg
- ❑ 101-116 kilograms, administer 7000 mcg
- ❑ 117-133 kilograms, administer 8000 mcg
- ❑ 134-150 kilograms, administer 9000 mcg
- ❑ 151-165 kilograms, administer 10,000 mcg
- ❑ 166-180 kilograms, administer 11,000 mc

Physicians signature: **Date:** **Time:**
Nurse Noting signature: **Date:** **Time:**

Rev 1/11, 5/11, 3/12, 2/13, 4/14, 0614, 0714, 1216, 0117,11/17, 0118 0318

High Reliability / Safety in Obstetrics



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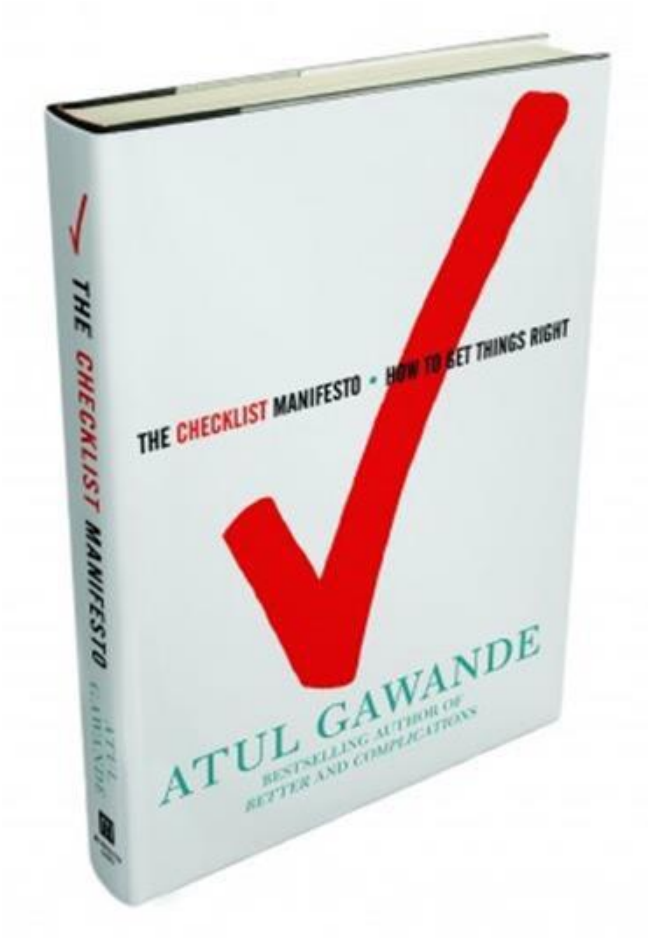
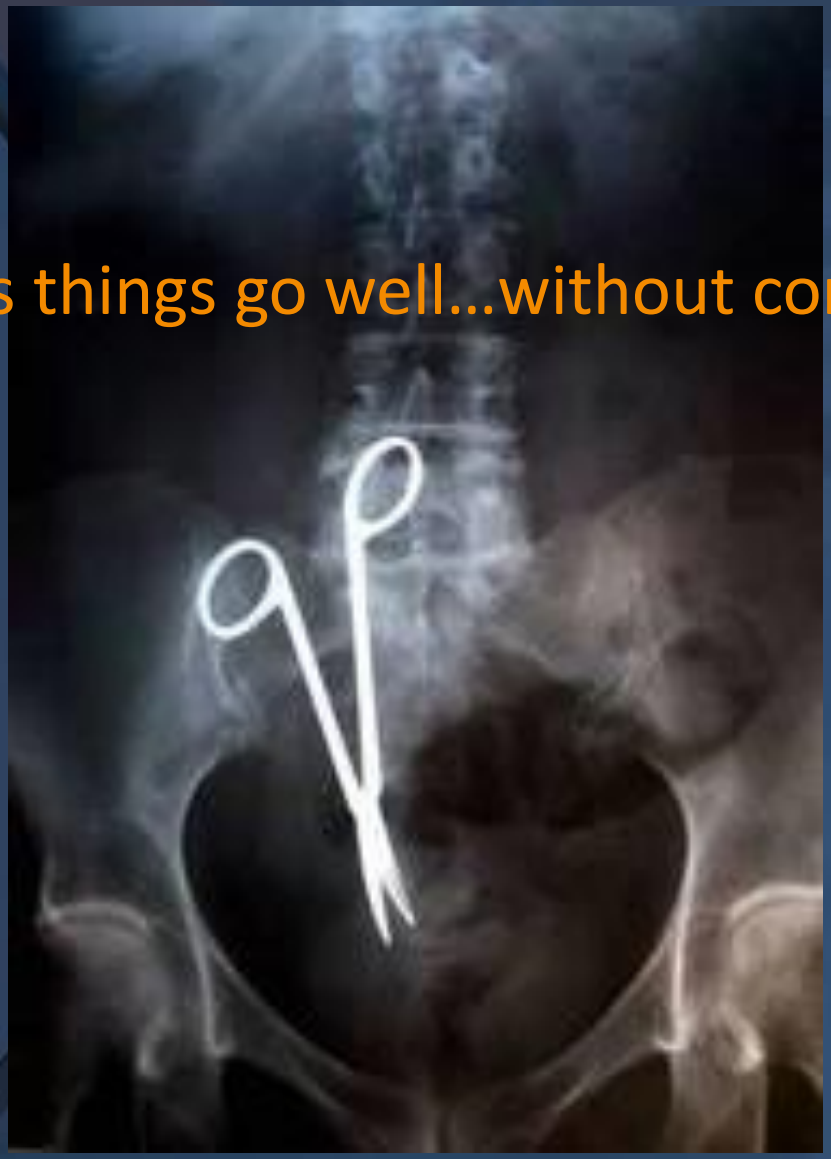
Checklists help in multistep processes where omission of any step can lead to injury



Checklists Prevent Normalization of Deviance

Most times things go well…without complication



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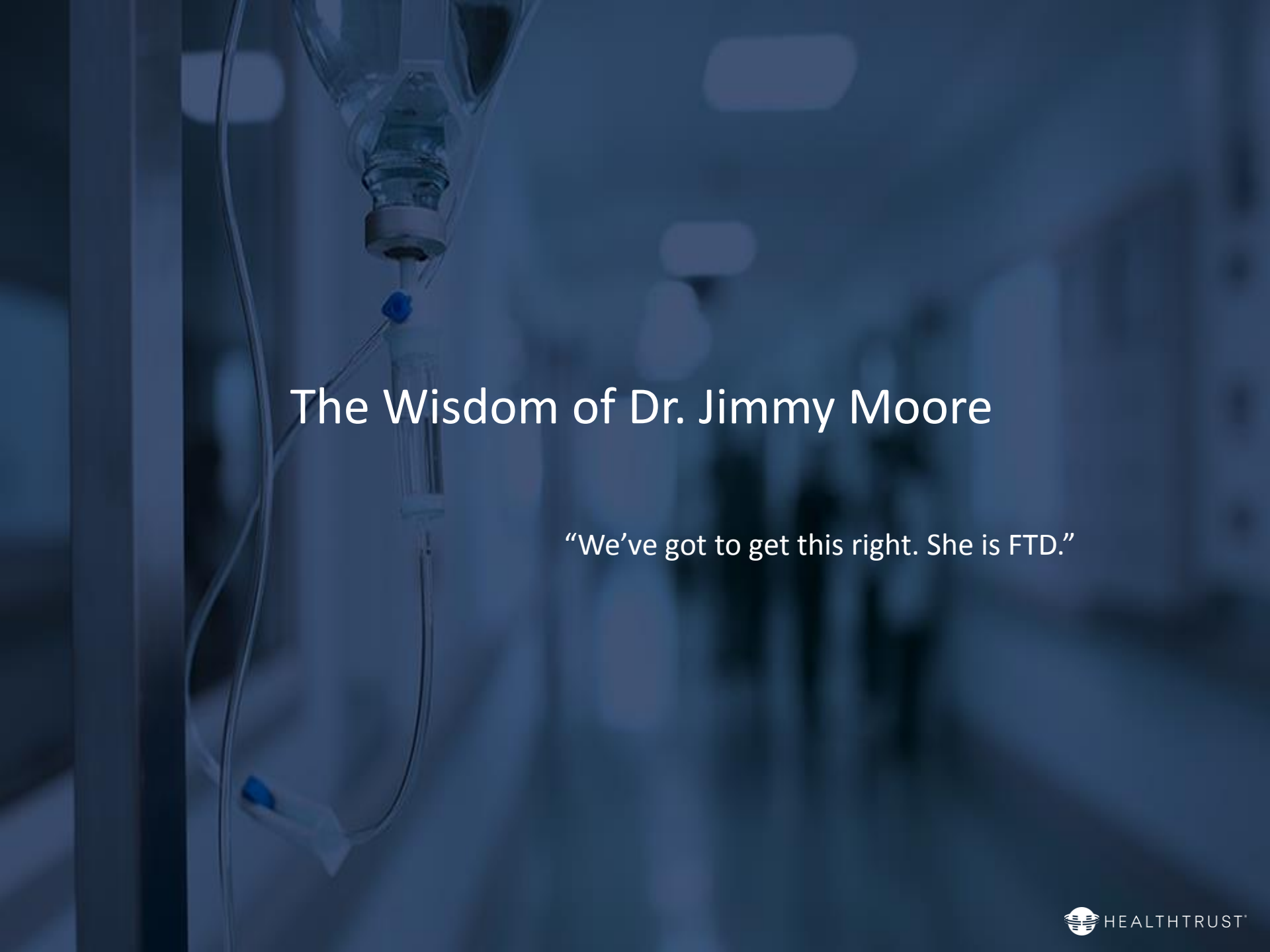
Checklists We Now Utilize

- Surgical Timeout
- IOL Core Measure Compliance
- Pre-oxytocin checklist
- Operative Vaginal Delivery Documentation
- Shoulder Dystocia Documentation
- Magnesium Sulfate for Neonatal Neuroprotection
- Prevention of Elective IOL to decrease C/S rate. 34% to 18%
- Peripartum Venous Thromboembolism Prophylaxis



The Wisdom of Dr. Jimmy Moore

"We've got to get this right. She is FTD."

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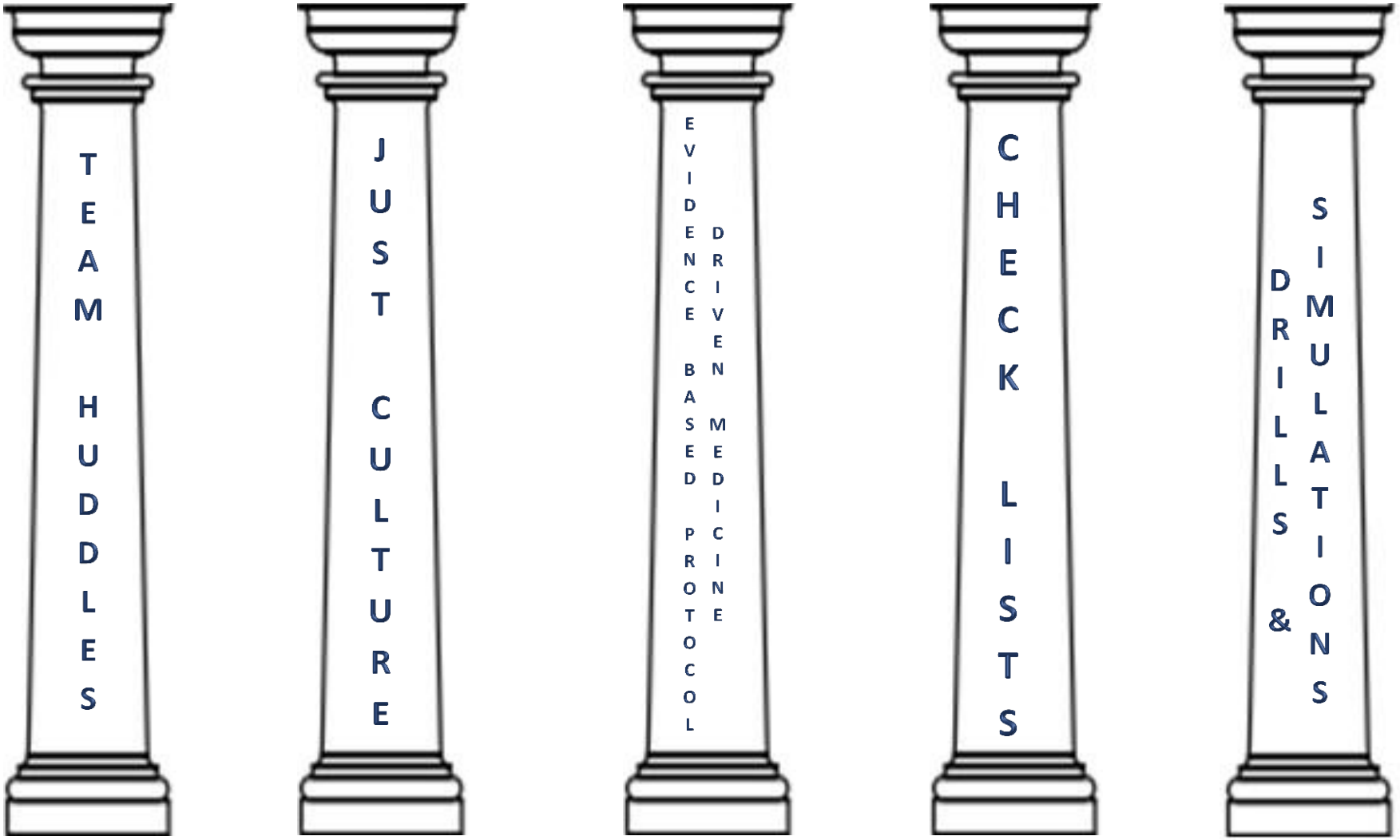
“Hours of boredom punctuated with moments of sheer terror!”

High Reliability / Safety in Obstetrics



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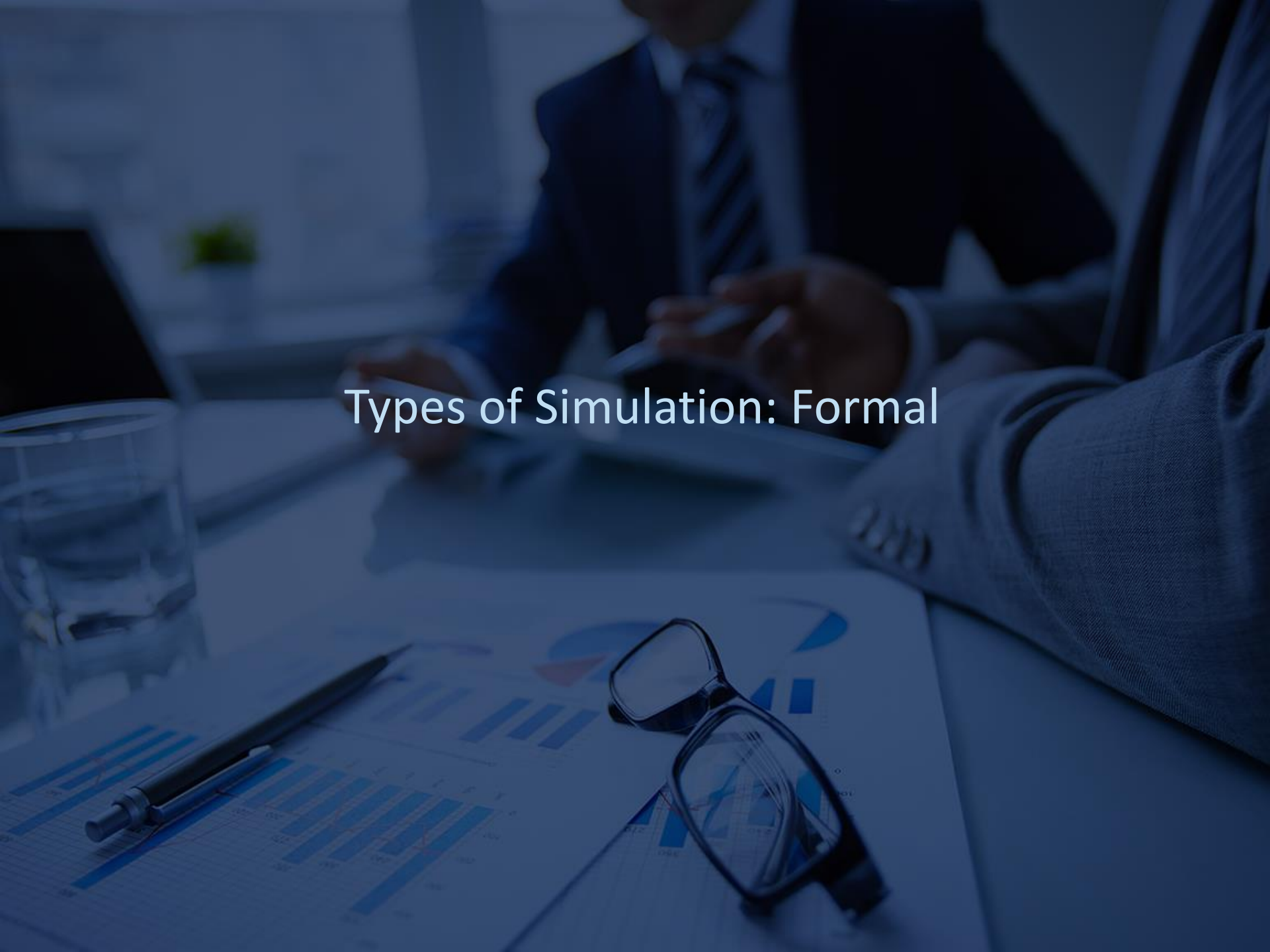
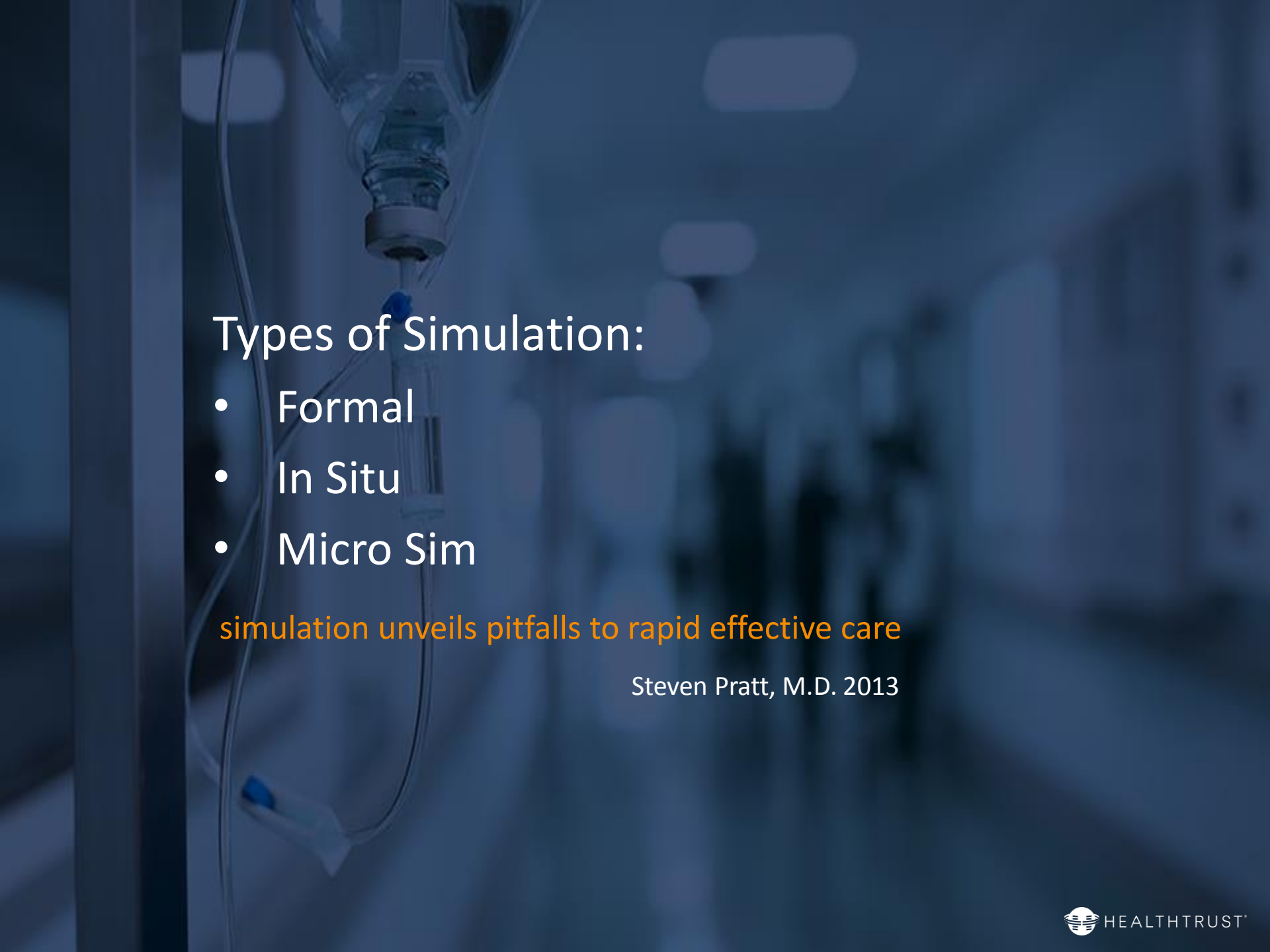
OB Drills / Simulation

- Shoulder Dystocia
- Postpartum Hemorrhage
- Ecclamptic Seizure
- Cesarean Hysterectomy
- Maternal Cardiac Arrest
- Code Stork
- Infant Abduction



Types of Simulation: Formal


EXIT



Types of Simulation:

- Formal
- In Situ
- Micro Sim

simulation unveils pitfalls to rapid effective care

Steven Pratt, M.D. 2013

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Peer Review / Debriefing

- The mortar that supports and repairs the pillars
- Not about blame or shame
- Focus is improving systems of care to help teams win the day
- The practice of quality medicine is not static
- It is decidedly dynamic
- Change is a constant in medicine
- Make a change for the good

Peer Review / Debriefing

- Immediately debrief all near misses or serious adverse events
- Peer review all cases with four units PRBC or ICU admit and serious adverse events
- Lessons learned, both successes and failures are applied to quality improvement


Do These Pillars Work?
Don’t know unless you measure it.

Adverse Outcome Index

- Developed by a panel of experts and the ACOG committee on patient safety and quality improvement to asses quality in L&D units
- Cumulative outcome of 10 major indicators with clinical significance
- Each is weighted for severity adjustment

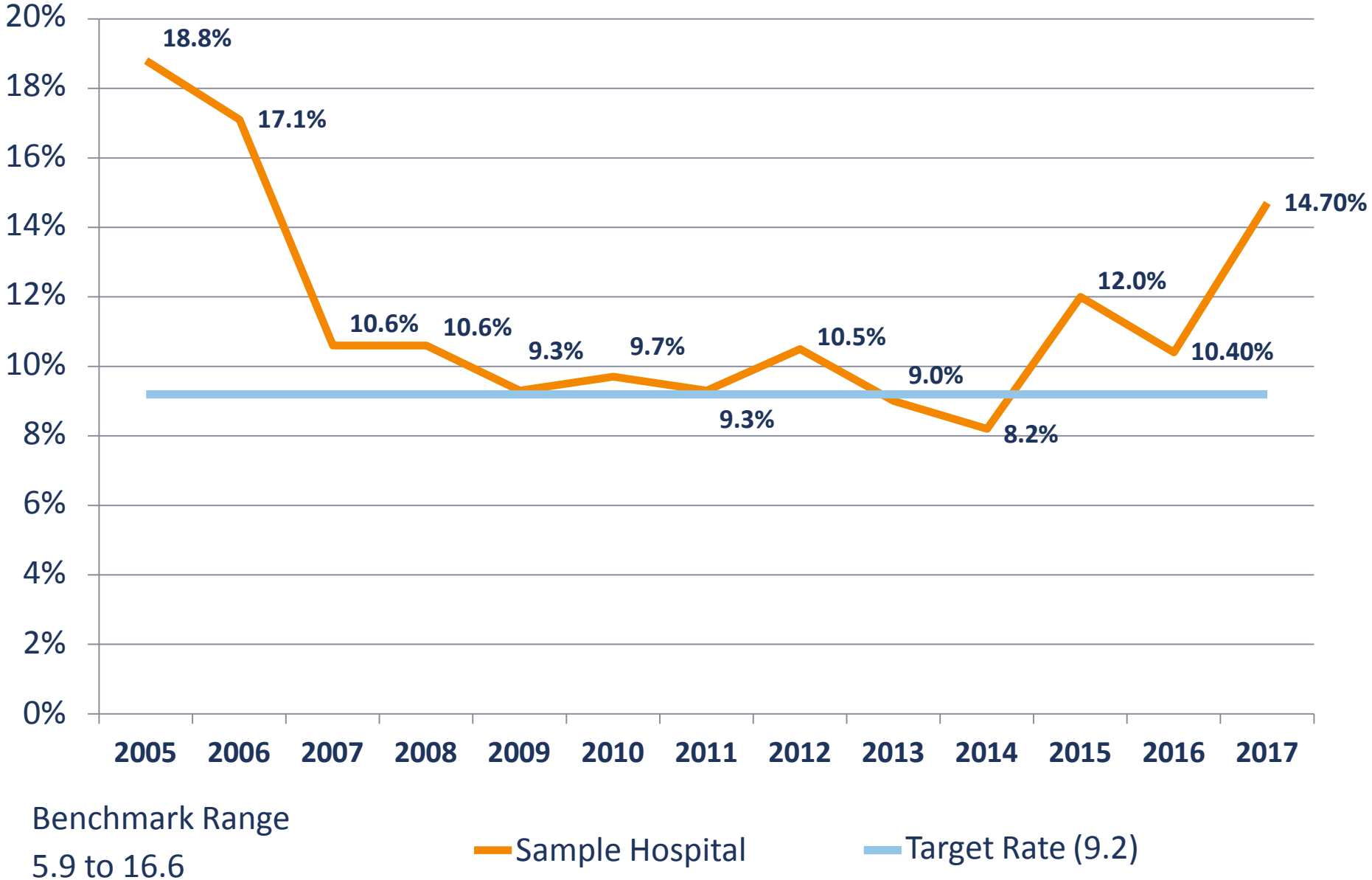
Adverse Outcome	Weight
Maternal Death	750
Intrapartum or neonatal death (greater than 2500g)	400
Uterine Rupture	100
Maternal admission to ICU	65
Birth trauma	60
Return to OR/ Labor and delivery	40
Admission to NICU (greater than 2500 g for over 24 hours)	35
APGAR score <7 at 5 minutes	25
Blood transfusion	20
Third or fourth degree perineal tear	5

AOI

Two subsets

- Weighted adverse outcome score
  - Cumulative weighted points per patient
- Severity index
  - Cumulative weighted points per patient with adverse outcome
- Utilized by many highly reliable units as their main metric

OB AOI



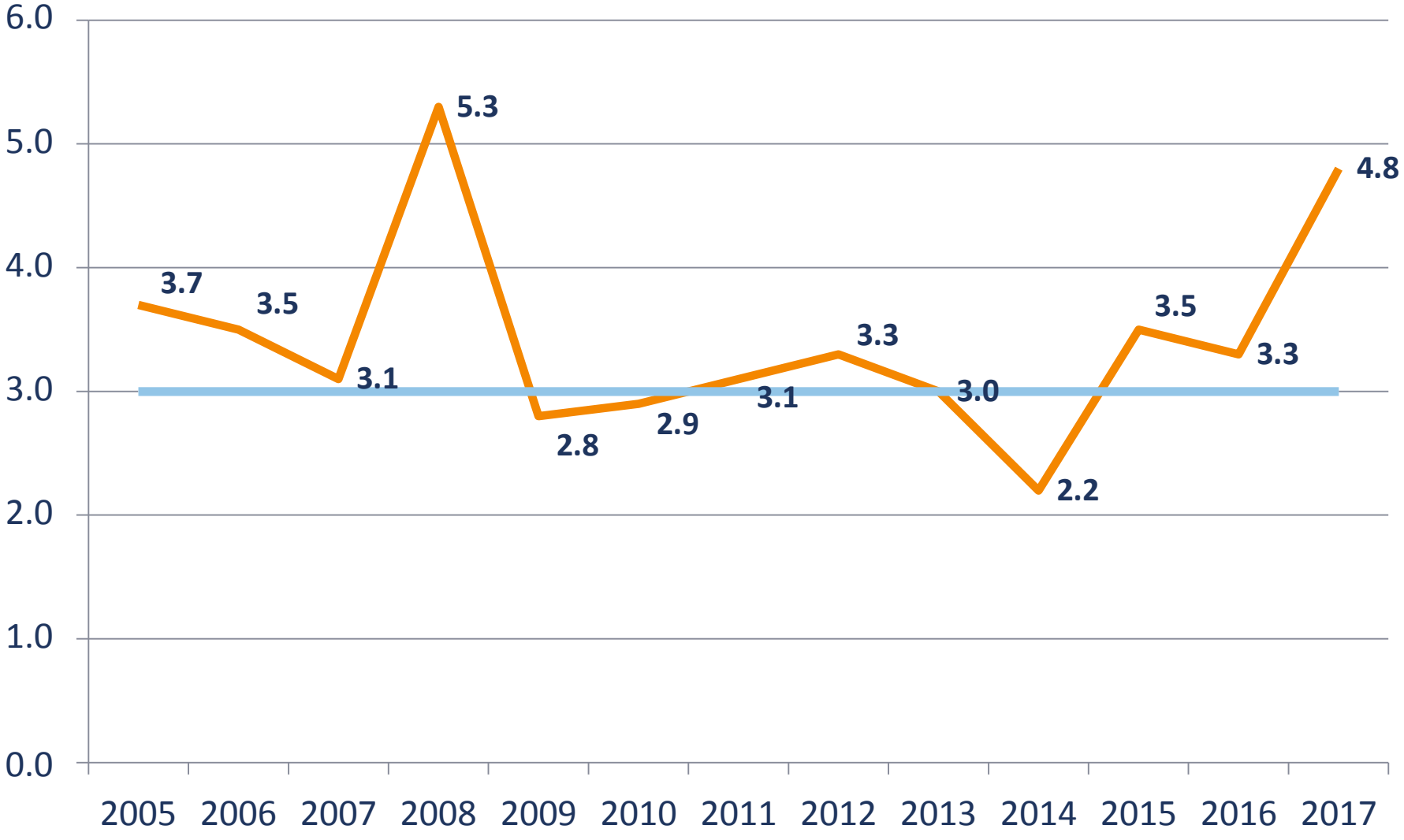
Benchmark Range
5.9 to 16.6

Sample Hospital

Target Rate (9.2)

Weighted Adverse Outcome Score

sum of weighted points per patient



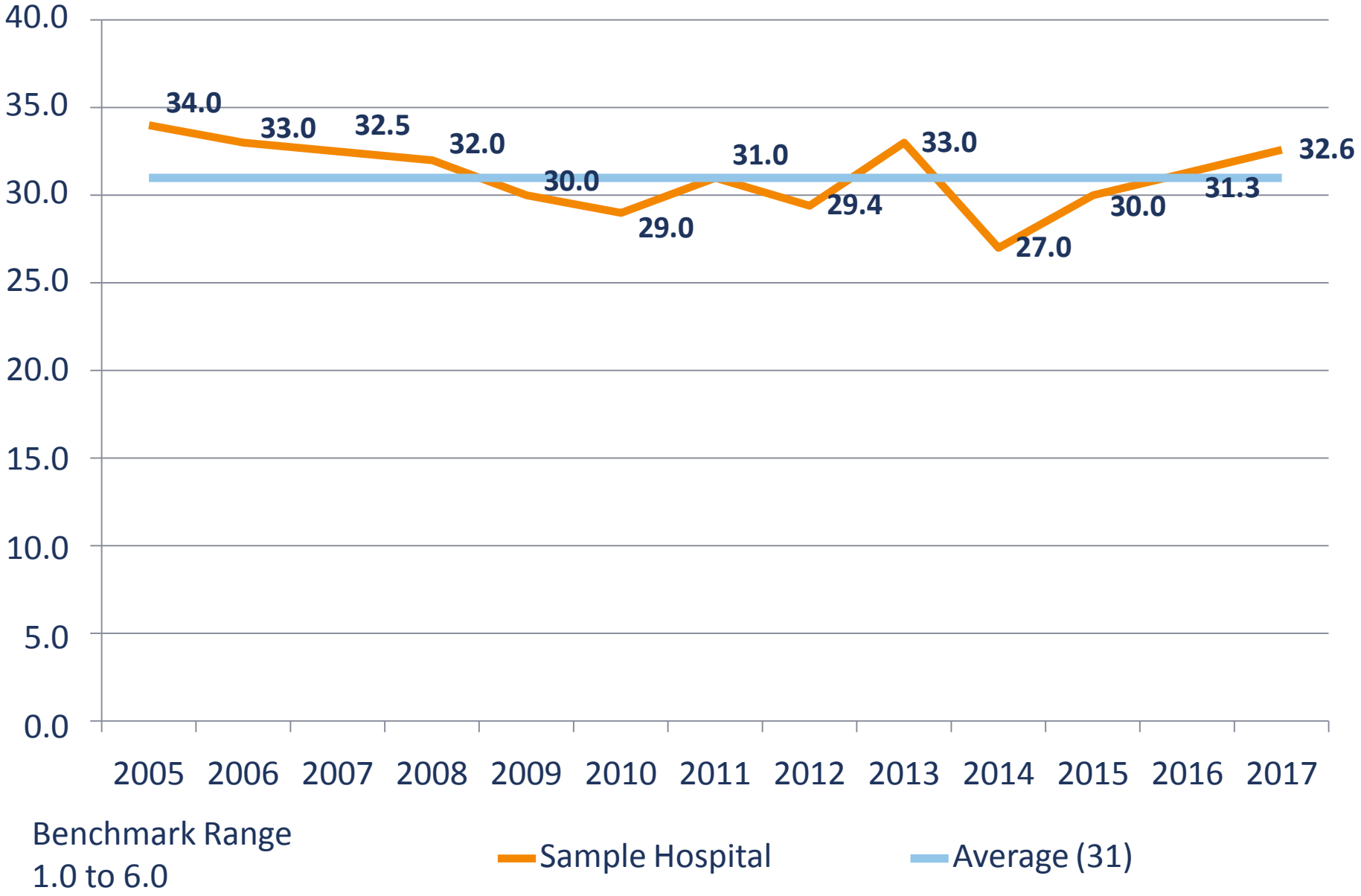
Benchmark Range
1.0 to 6.0

Sample Hospital

Target Rate (3)

Severity Index

sum of weighted points per patient with an adverse outcome



Malpractice Data

- Review of hospitals who have implemented a culture of safety has shown a significant decrease in malpractice lawsuits
- Clear Indicator of Patient Safety
- Strong Argument for Fiscal Responsibility/Stewardship


MATERNITY
CARE
FIVE-STAR
RECIPIENT
2017
healthgrades

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Case Report, February 2008

- 25 yo G2 P1 25 Weeks Severe abdominal pain – Emergency Laparotomy
- Placenta Percreta / Ruptured Uterus Massive Hemorrhage
- Baby 650 gr / 1.1 lbs. to NICU
- Code Crimson / Massive Transfusion Protocol Ranger Rapid Transfuser
- Factor VII Hysterectomy Pelvic Packing / ICU
- Reoperation status post 48 hrs.

Highly Reliable Collaborative Care

- 2 Patients in Extremis – 12 Liter Blood Loss
- 5 Hours of Cumulative Surgery – 54 Blood Units of Blood Component Therapy
- 41 hospital staff
- 7 specialties and sub-specialties
- **1 Mother and 1 Baby Saved**

Thank you

Frank R. Kolucki, Jr. M.D., FACOG
FKolucki@mth.org

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