

PŘEDOPERAČNÍ PLÁNOVÁNÍ

ROLE KOMUNIKACE MEZI CHIRURGEM A ANESTEZIOLOGEM

Jiří Moláček

Chirurgická klinika FN Plzeň
Lékařská fakulta v Plzni, Karlova Univerzita

molacek@fnplzen.cz

@JiriMolacek



motivace přednášky

- pokusit se otevřít téma komunikace anesteziolog/chirurg před operačním výkonem (z pohledu chirurga)



status quo

- zvyklost pracoviště
- typ a rozsah výkonu
- urgence výkonu
- vztah chirurg/anesteziolog
(juniorní/seniorní)
- kolegiální, přátelský vztah



status quo

- zvyklost pracoviště
- typ a rozsah výkonu
- urgence výkonu
- vztah chirurg/anesteziolog (juniorní/seniorní)
- kolegiální, přátelský vztah
- profesionální komunikace



- chirurg indikuje výkon – očekává servis od anesteziologa



- anesteziolog plánuje optimální anestézii - (někdy) bez precizní znalosti strategie chirurgického výkonu



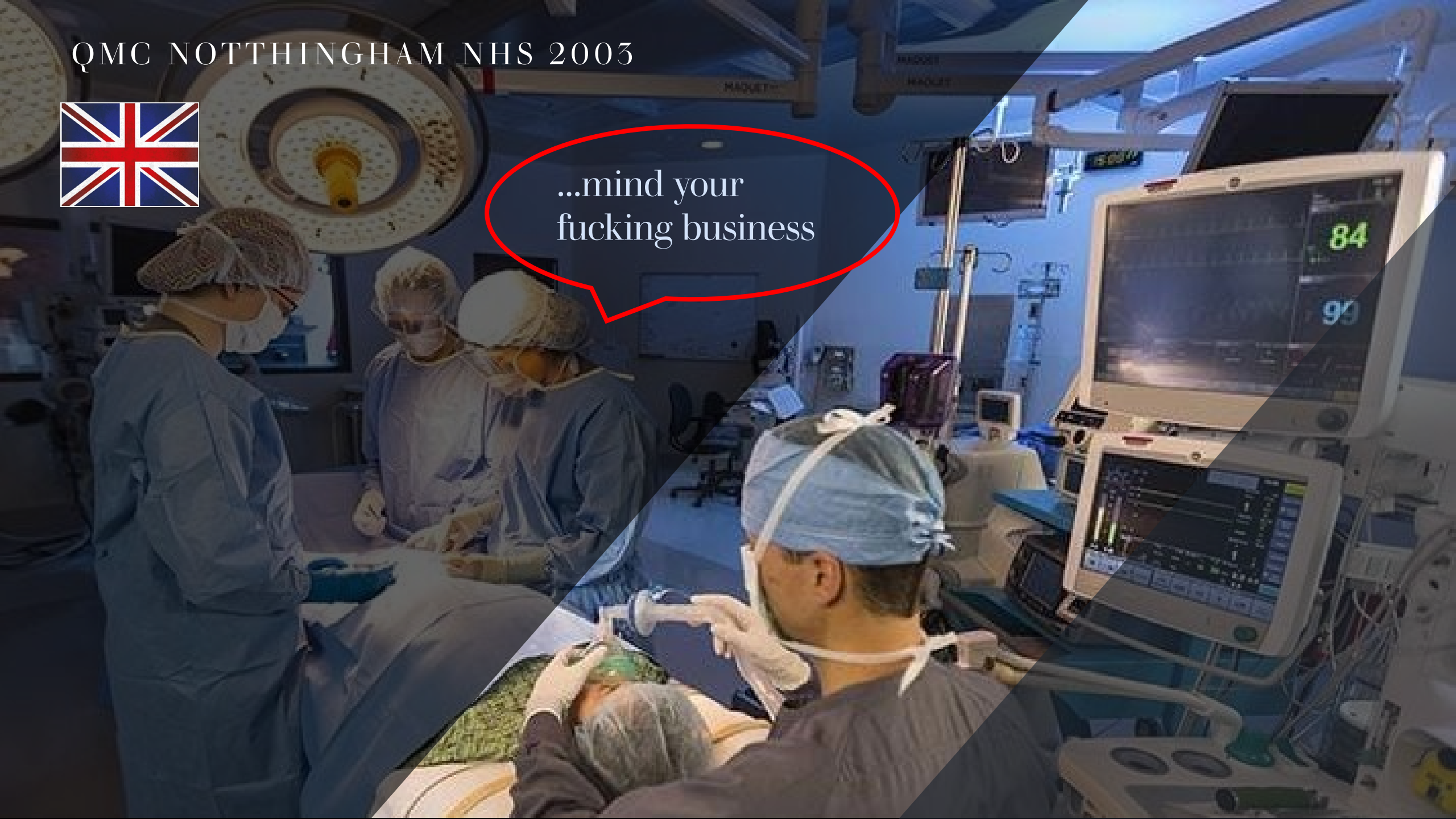
vlastní zkušenosti...



QMC NOTTINGHAM NHS 2003



...mind your
fucking business

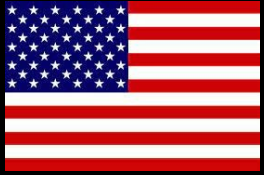


PADOVA 2013



UCLA LOS ANGELES 2010

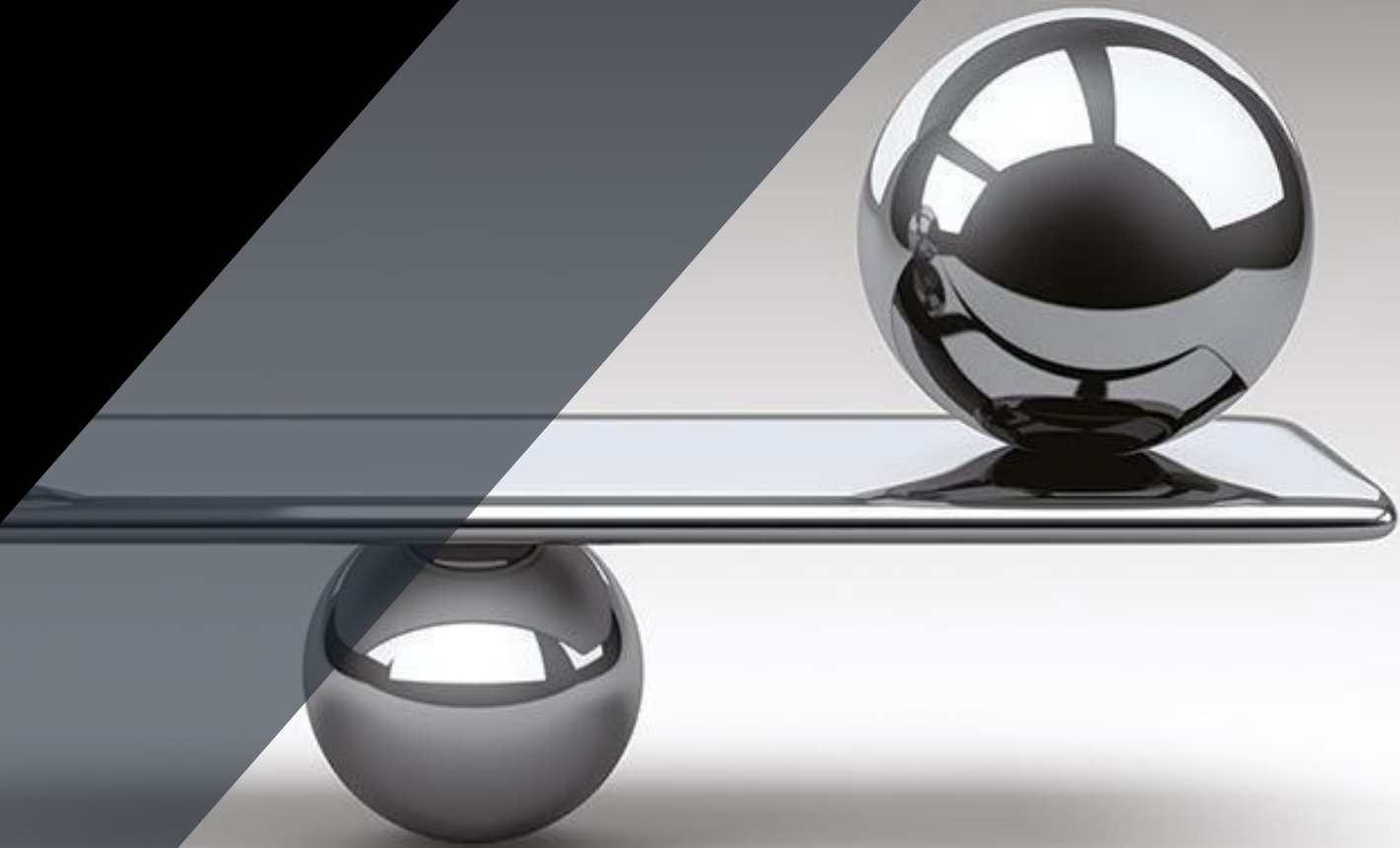
TEAM time out



jaký model vybrat ?

jak najít rovnováhu?

- jaká je optimální komunikace ?
- jak důležitou roli hraje komunikace ?
- lze tuto komunikaci nějak definovat ?



literární data

- jen 32 % nelékařského personálu pokládalo komunikaci chirurga jako efektivní
- 59 % pokládalo chování a osobnost chirurga jako negativní stran ovlivnění teamworku

- ElBardissi AW et al. Application of the human factors analysis and classification system

methodology to the cardiovascular surgery operating room. Ann Thorac Surg. 2007 Apr;83(4):1412-8; discussion 1418-9.

MAYO CLINIC Rochester, Division of Cardiovascular surgery

Application of the Human Factors Analysis and Classification System Methodology to the Cardiovascular Surgery Operating Room

Andrew W. ElBardissi, BS,* Douglas A. Wiegmann, PhD, Joseph A. Dearani, MD, Richard C. Daly, MD, and Thoralf M. Sundt III, MD

Division of Cardiovascular Surgery, Mayo Clinic, Rochester, Minnesota

Background. Improving patient safety by reducing human error is a priority in all surgical specialties. A model for assessing the myriad of factors affecting performance in the operating room (OR) has yet to be developed. We hypothesized that human factors identified in other domains would similarly be viewed as contributors to error in cardiac surgery.

Methods. As a first step, we utilized a model previously employed in aviation to develop structured interviews of individuals in multiple roles (surgeons and allied health staff). To enhance relevance to the OR, Likert scale questions were formulated based on published sentinel event analyses and focus group studies in which specific factors found to be causally related to error in health care were described. Additional items from other high-risk-consequence industries were generated to address theoretically important factors not highlighted previously.

Results. Application of the modified model to the interview responses allowed the identification of factors impacting performance in the OR, and estimation of their relative importance. Analysis of correlations among responses were consistent with predictions of the model that the origin of errors can be traced to organizational influences that impact supervisory processes, which in turn establish preconditions predisposing to errors.

Conclusions. These data demonstrate a model of error causation derived from aviation can be modified and applied to the cardiac surgery OR. This tool may prove useful in identifying systemic factors impacting human performance and patient safety.

(Ann Thorac Surg 2007;83:1412-9)

© 2007 by The Society of Thoracic Surgeons

The Institute of Medicine report, *To Err is Human: Building a Safer Health System* [1], heightened awareness of deficiencies in the present health system that directly impact patient safety. These findings have stimulated the rapid institution of interventions to reduce the frequency of medical errors without a full understanding of their causation. Experience in other high consequence industries, such as aviation and nuclear power, however, indicate that factors leading to error are multiple and complex. Despite this, many have forgone a systematic empiric analysis of the multiplicity of factors that contribute to error in medicine, specifically in favor of off-the-shelf solutions created in other industries (ie, teamwork training developed in aviation or improvements in information technology). These solutions have been applied in isolation without validation within the more complex domain of medical care. Single interventions are not likely to have the desired result, which is demonstrated by the little impact there has been in reducing errors thus far [2, 3].

Accepted for publication Nov 1, 2006.

*Recipient of the 2006 Southern Thoracic Surgical Association President's Award.

Presented at the Fifty-third Annual Meeting of the Southern Thoracic Surgical Association, Tucson, AZ, Nov 8-11, 2006.

Address correspondence to Dr Wiegmann, Mayo Clinic, 200 First Street SW, Rochester, MN 55905; e-mail: wiegmann.douglas@mayo.edu.

Advances in technology will no doubt favorably impact the occurrence of errors to an extent. As demonstrated in commercial and military aviation, however, significant further reduction in accidents and error has been accomplished by an appreciation of the important role that human factors play in safety [3]. The same can be expected to be true in medicine.

We have instituted a program of human factors science within the Division of Cardiovascular Surgery at Mayo Clinic to systematically study the complex human factor issues that play a role in error causation and error management in the operating room (OR). As a first step, we utilized a model previously employed in aviation to develop structured interviews of individuals in multiple roles (surgeons and allied health staff). The purpose of this study was to determine the transferability of a human factors model developed in the aviation industry to the OR, and to receive feedback from OR staff about the relative importance of those human factors that have been highlighted previously in other domains. Results will serve to focus future empiric investigations into critical factors that impact patient safety in the OR, so that evidence-based interventions can be developed. This is the first step in a larger program whose goal is to systematically address those factors that impact patient safety in the OR, thereby providing a scientific founda-

© 2007 by The Society of Thoracic Surgeons
Published by Elsevier Inc

0003-4975/07/\$32.00
doi:10.1016/j.athoracsurg.2006.11.002

literární data

- 65 % chirurgického personálu by rádo implementovalo preop. briefing, 22 % nikoliv
- 5-10 min.
- Henrickson SE et al. Development and pilot evaluation of a preoperative briefing protocol for cardiovascular surgery. *J Am Coll Surg.* 2009 Jun;208(6):1115-23. doi: 10.1016/j.jamcollsurg.2009.01.037. Epub 2009 Apr 17.

MAYO CLINIC Rochester, Division of Cardiovascular surgery, University of Cambridge, Brigham and Woman's Hospital Boston



NIH Public Access

Author Manuscript

J Am Coll Surg. Author manuscript; available in PMC: 2013 January 02.

Published in final edited form as:

J Am Coll Surg. 2009 June ; 208(6): 1115-1123. doi:10.1016/j.jamcollsurg.2009.01.037.

Development and Pilot Evaluation of a Preoperative Briefing Protocol for Cardiovascular Surgery

Sarah E. Henrickson, MA¹, Rishi K. Wadhwa, BS^{2,3}, Andrew W. ElBardissi, MD, MPH⁴, Douglas A. Wiegmann, PhD⁵, and Thoralf M. Sundt III, MD¹

¹Division of Cardiovascular Surgery, Mayo Clinic, Rochester, MN ²College of Medicine, Mayo Clinic, Rochester, MN ³Institute of Public Health, University of Cambridge, Cambridge, England ⁴Department of Surgery, Brigham and Women's Hospital, Boston, MA ⁵Department of Industrial and Systems Engineering, University of Wisconsin-Madison, Madison, WI

Abstract

Background—Pre-procedural briefings have been adopted in many high consequence environments, but have not been widely accepted in medicine. We sought to develop, implement and evaluate a preoperative briefing for cardiovascular surgery.

Study Design—The preoperative briefing was developed by employing a combined questionnaire and semi-structured focus group approach involving five subspecialties of surgical staff (n = 55). The results from these focus groups were used to design and implement a preoperative briefing protocol. The impact of the preoperative briefing was evaluated by monitoring surgical flow disruptions, circulating nurse trips to the core, time spent in the core, and cost-waste reports before and after implementation of the briefing across 16 cardiac surgery cases.

Results—Focus group data indicated consensus among surgical staff concerning briefing benefits, duration (5-10 min), location (in the OR), content (procedure, patient, and equipment issues) and potential barriers (e.g.: staff availability). Disagreement arose concerning timing of the brief (before vs. after patient enters) and the role of key participants. Following implementation of the briefing, there was a reduction in total surgical flow disruptions per case (5.4 pre-implementation vs. 2.8 post-implementation, p=.004). Specifically, there was a reduction in per case average of procedural knowledge disruptions (4.1 vs. 2.17, p=.004) and miscommunication events (2.5 vs. 1.17, p=.03), but there was no reduction in disruptions due to equipment preparation (1.19 vs. 1.17, p=.12) nor disruptions due to patient related issues (1.0 vs. 0.5, p=.10). On average, teams that conducted the briefing experienced fewer trips to the core (10 vs. 4.7, p=.004) and spent less time in the core (397.4 seconds vs. 172.3 seconds, p=.006). There was a trend towards decreased waste in teams that were briefed (30% vs. 17%, p=0.15).

Conclusion—Assessment of the preoperative briefings impact on cardiac surgical cases revealed that briefed groups experienced a significant decrease in surgical flow disruptions, a substantial decrease in circulating nurse trips to the core, and diminished time spent in the core. These

Address correspondence and reprint requests to: Sarah E. Henrickson, Mayo Clinic, 200 First St. SW, Rochester, MN 55005, Phone: 507-255-1077, Fax: 507-255-7378, henrickson.sarah@mayo.edu.

příklad...

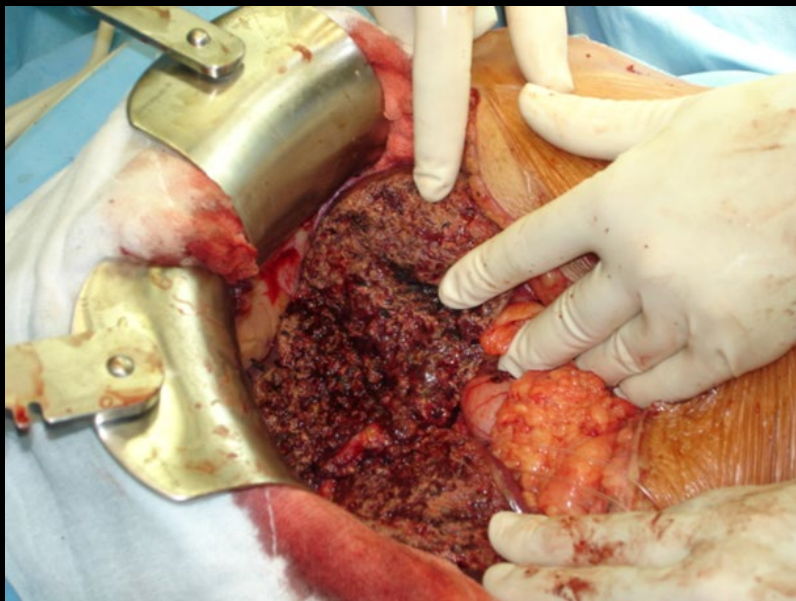
- v ideálním světě dokonalá komunikace chirurg/anesteziolog
 - nežijeme v ideálním světě

 - spinální anestézie u operace varixů DK
 - chirurg chce ošetřit safeno-popliteální junkci
-

mnohem závažnější situace...

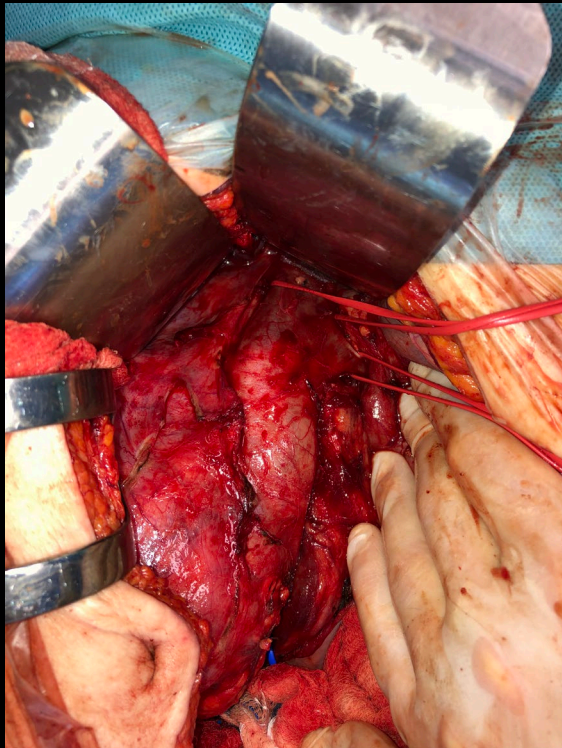
- resekce AAA
 - supraviscerální svorka?
(nad odstupem renálních tepen/nad TC)
 - management deklampáže zcela odlišný
-

mnohem závažnější situace...

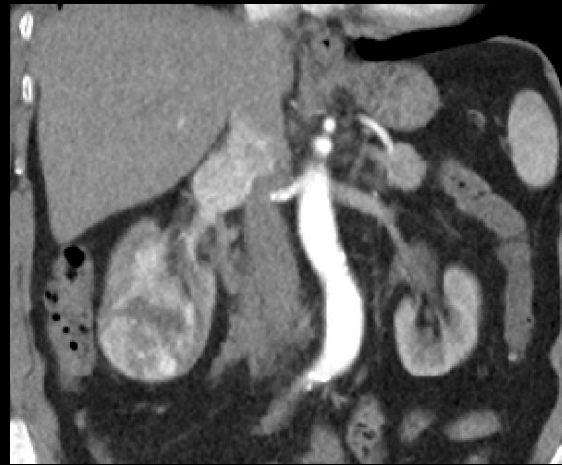


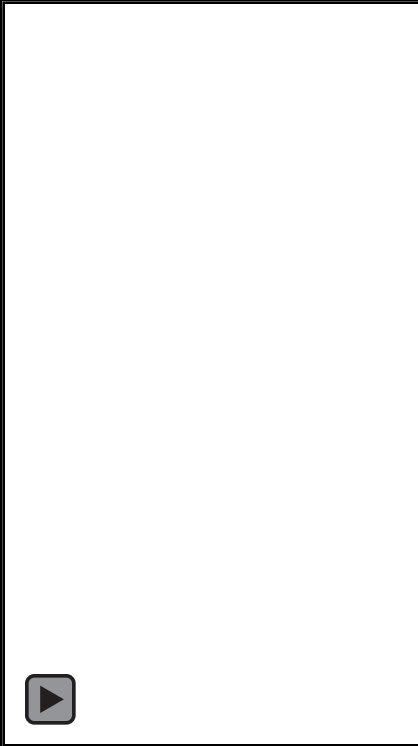
- jaterní resekce
- Pringleho manévr?
- klamp VCI ?
- totální vaskulární exkluze

mnohem závažnější situace...



- tumor ledviny s intrakaválním trombem
- extrakce trombu/resekce a náhrada VCI ?
- délka klampu VCI





mnohem závažnější situace...

- toto jsou příklady, kdy se nelze domluvit na strategii výkonu v umývárně...



co je cílem optimální komunikace anesteziolog-chirurg?

- hladký průběh výkonu
 - bezpečnost pacienta
 - bezpečnost celého týmu
-

Surgery Safety Checklist

- Briefing
- Time out
- Debriefing

World Health Organization

SURGICAL SAFETY CHECKLIST

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

SIGN IN (READ ALOUD)
Before induction of anaesthesia

Yes No

•Has the patient confirmed his/her identity, procedure, side and consent

•Confirm identity verbally against operating list, wrist band, consent and patient records

•Is the surgical site marked

•Block site confirmed (if applicable)

•Full AAGBI monitoring available

•Is the anaesthetic machine and medication check complete

•Does the patient have a known allergy

Signature

Registered Practitioner.....

SURGICAL SAFETY CHECKLIST (AUSTRALIA AND NEW ZEALAND)

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

SIGN IN	TIME OUT	SIGN OUT
<input type="checkbox"/> PATIENT HAS CONFIRMED <ul style="list-style-type: none"> • IDENTITY • SITE • PROCEDURE • CONSENT 	<input type="checkbox"/> CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE <input type="checkbox"/> SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM <ul style="list-style-type: none"> • PATIENT • SITE • PROCEDURE 	NURSE VERBALLY CONFIRMS WITH THE TEAM: <ul style="list-style-type: none"> <input type="checkbox"/> THE NAME OF THE PROCEDURE RECORDED <input type="checkbox"/> THAT INSTRUMENT, SPONGE, NEEDLE AND OTHER COUNTS ARE CORRECT <input type="checkbox"/> HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME) <input type="checkbox"/> WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED <input type="checkbox"/> SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT
<input type="checkbox"/> SITE MARKED/NOT APPLICABLE <input type="checkbox"/> ANAESTHESIA SAFETY CHECK COMPLETED <input type="checkbox"/> PULSE OXIMETER ON PATIENT AND FUNCTIONING	ANTICIPATED CRITICAL EVENTS <ul style="list-style-type: none"> <input type="checkbox"/> SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS? <input type="checkbox"/> ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS? <input type="checkbox"/> NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULT(S)) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS? 	
DOES PATIENT HAVE A: <ul style="list-style-type: none"> <input type="checkbox"/> KNOWN ALLERGY? NO YES <input type="checkbox"/> DIFFICULT AIRWAY/ASPIRATION RISK? NO YES, AND EQUIPMENT/ASSISTANCE AVAILABLE <input type="checkbox"/> RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)? NO YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED 	HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES? <input type="checkbox"/> YES <input type="checkbox"/> NOT APPLICABLE HAS THROMBOPROPHYLAXIS BEEN ORDERED? <input type="checkbox"/> YES <input type="checkbox"/> NOT REQUIRED IS ESSENTIAL IMAGING DISPLAYED? <input type="checkbox"/> YES <input type="checkbox"/> NOT APPLICABLE	
PROSTHESIS/SPECIAL EQUIPMENT: IF PROSTHESIS (OR SPECIAL EQUIPMENT) IS TO BE USED IN THEATRE, HAS IT BEEN CHECKED AND CONFIRMED? <input type="checkbox"/> YES <input type="checkbox"/> NOT APPLICABLE		

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. This checklist has been adapted from the World Health Organization Surgical Safety Checklist by the Royal Australasian College of Surgeons in consultation with the Australian and New Zealand Anaesthetists, the Royal Australasian and New Zealand College of Ophthalmologists, the Royal Australasian and New Zealand College of Obstetricians and Gynaecologists, the Australian College of Operating Room Nurses and the Participative Nurses College of the New Zealand Nurses Organisation. It is not intended to be comprehensive; additions and modifications to fit local practice are encouraged.

úkol SSC

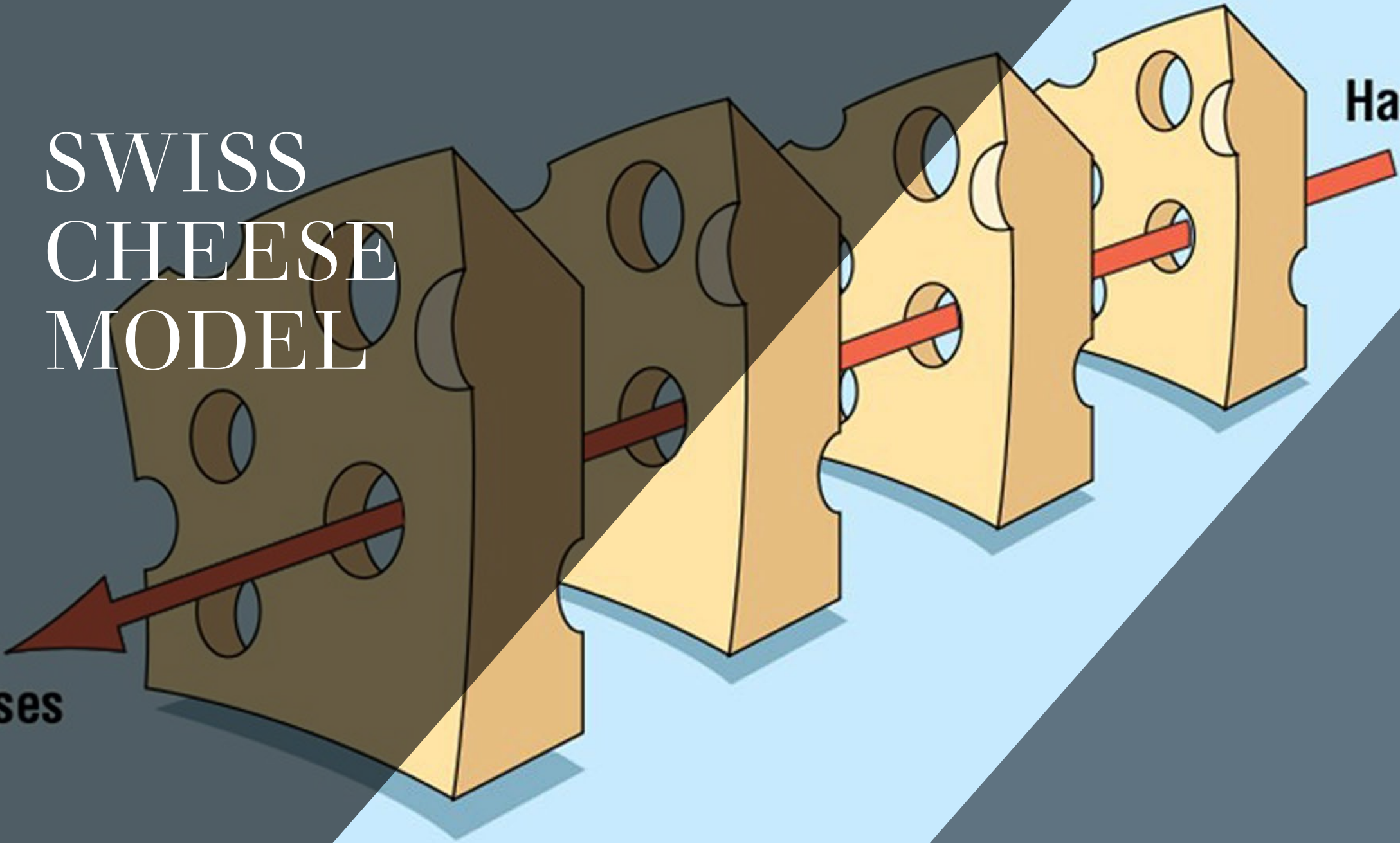
- zabránit nebo omezit „nonroutine events“
- zabránit nebo omezit „adverse events“
- zajistit bezpečnost pacienta

nemá příliš společného se strategií výkonu

SWISS CHEESE MODEL

Losses

Hazards



jak správně postupovat ?

pohled chirurga...

- chtěli bychom - aby byl anesteziolog připraven na vše
 - aby se moc nevyptával

Expect the
Unexpected!

chceme, abyste chápali, jak je pro nás důležité ...

- nízký CVP u resekce jater
 - vyšší TK u endarterektomie ACI
 - nižší TK u endarterektomované aorty
 - vyšší CVP i TK u transplantace ledviny
 - .
 - .
 - .
-

návrhy

- nějaká forma **SSC** (formalistický, redundantní x smysluplný)
- sebelepší papír nenahradí odpovídající komunikaci
- „preprocedural briefing“ je běžná věc v mnoha oborech !!!
- je s podivem, že to není běžné v medicíně



návrhy

- nějaká forma **SSC** (formalistický, redundantní x smysluplný)
 - sebelepší papír nenahradí odpovídající komunikaci
 - „preprocedural briefing“ je běžná věc v mnoha oborech !!!
 - je s podivem, že to není běžné v medicíně
-

návrhy

předoperační briefing

- u jakých výkonů ?
 - kdy ?
 - kdo ?
 - jak dlouhý ?
 - jaké informace jsou klíčové ?
 - ...
-

stabilní tým

SWISS CHEESE MODEL



toto byl pohled chirurga....

váš názor ?

děkuji za pozornost
