

# „9. Nürnberger Adventssymposium“

Notfall- und Intensivmedizin | Nürnberg | 13./14.12.2019



## Human Factor | Kommunikation

### “Mythen & Fakten“


zur Fehlervermeidung und Kommunikation  
in der Notfall- und Akutmedizin

Für Sie ausprobiert von  
Christian K. Lackner, München

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Conflict of interest



CONFLICT  
OF INTEREST

- Berater im Themenfeld
- Managementberatung von Kliniken

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Human Factor & Kommunikation



### SPECIAL COMMUNICATION

## Five Years After To Err Is Human What Have We Learned?

Lorian L. Leape, MD  
Donald M. Berwick, MD

**F**IVE YEARS AFTER THE INSTITUTE of Medicine (IOM) reported that as many as 98,000 people die annually as the result of medical errors and called for a national effort to make health care safe, it is time to assess our progress. Is health care safer now? And, if not, why not?

The IOM's report, *To Err Is Human: Building a Safer Health System*<sup>1</sup> galvanized a dramatically expanded level of conversation and concern about patient injuries in health care both in the United States and abroad. Patient safety, a topic that had been little understood and even less discussed in care systems, became a frequent focus for journalists, health care leaders, and concerned citizens.

Small but consequential changes have gradually spread through hospitals, due largely to concerted activities by hospital associations, professional societies, and accrediting bodies. All hospitals have implemented some new practices to improve safety. Fewer patients die from accidental injection of concentrated potassium chloride, now that it has been removed from nursing unit shelves<sup>2</sup>; fewer patients have complications from warfarin, now that many taking anticoagulants are being treated by dedicated clinics<sup>3</sup>; and serious infections have been reduced in hospitals that have tightened infection control procedures (J. Whittington, written communication, March 2010; K. McKinley, Geisinger Clinic, written communication, April 2010; and P. Pronovost, Johns Hopkins Hospital, written communication, January 2010).<sup>4</sup>

2384 JGIM, Vol. 26, 2011—© 2011 American Medical Association. All rights reserved.

Five years ago, the Institute of Medicine (IOM) called for a national effort to make health care safe. Although progress since then has been slow, the IOM report truly “changed the conversation” to a focus on changing systems, stimulated a broad array of stakeholders to engage in patient safety, and motivated hospitals to adopt new safe practices. The pace of change is likely to accelerate, particularly in implementation of electronic health records, diffusion of safe practices, team training, and full disclosure to patients following injury. If directed toward hospitals that actually achieve high levels of safety, pay for performance could provide additional incentives. But improvement of the magnitude envisioned by the IOM requires a national commitment to strict, ambitious, quantitative, and well-linked national goals. The Agency for Healthcare Research and Quality should bring together all stakeholders, including payers, to agree on a set of explicit and ambitious goals for patient safety to be reached by 2010.

DOI: 10.1177/0898010110382384

www.jgim.com

Although these efforts are affecting safety at the margin, their overall impact is hard to see in national statistics. No comprehensive nationwide monitoring system exists for patient safety, and a mandate by the Agency for Healthcare Research and Quality (AHRQ) to get a national estimate by using existing measures showed little improvement.<sup>5</sup> Although that estimate was largely based on insurance claims data, measures known to have low sensitivity for detecting quality improvement, little evidence exists from any source that systematic improvements in safety are widely available.

Perhaps inevitably, critics have pushed back against viewing safety as a problem of science—of system design. Public support for improving patient safety often turns instead on fixing blame. Despite the widely disseminated message from the IOM that systems failures cause most injuries, most individuals still believe that the

major cause of bad care is bad physicians, and that if miscreant clinicians were removed everything would be all right.<sup>6</sup> Some have claimed that the emphasis on systems, and particularly not blaming individuals for errors, will weaken accountability for physician performance.<sup>7</sup> Related concerns have led to legislation imposing stricter reporting requirements on hospitals and physicians.<sup>8</sup> The latest surge in malpractice pressure exists less in the interest of lawmakers from error prevention to an effort to put caps on malpractice settlements.

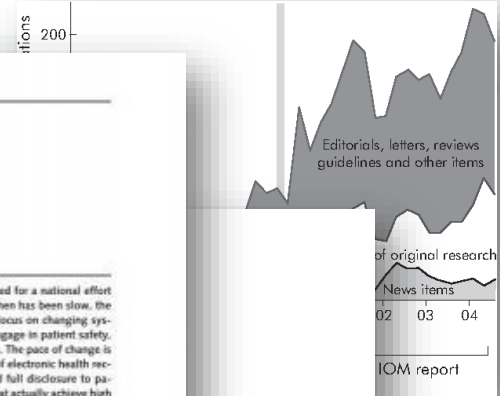
Although the proven measures listed in the IOM report so far are few,

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Downloaded from www.jgim.com at Stanford Univ Medical Center on May 24, 2010



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To Err Is Human: Building a Safer Health System 6

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Human Factor | Dirty dozen



Lynn *Patient Safety in Surgery* (2019) 13:6  
<https://doi.org/10.1186/s13037-019-0188-2>

Patient Safety in Surgery

REVIEW

Open Access

Artificial intelligence systems for complex decision-making in acute care medicine: a review

Lawrence A. Lynn



# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ▶ Das Maß der HF-Erkenntnisse verdreifacht sich etwa pro Jahr

Quelle PubMed Stand Dez 2019

## ▶ Auch (vermeintl.) Ungewöhnliches & Tabu-Behaftetes wird evaluiert

Quelle PubMed

The American Journal of Surgery (2015) 209: 65-70

Nurok et al. Patient Safety in Surgery (2015) 9:34



PATIENT SAFETY IN SURGERY



Journal of Advances in Medical Education & Professionalism

qualitative study. J Adv Med Educ Prof. 2019;7(1):35-41.  
DOI: 10.30476/JAMP.2019.41043.  
Received: 14 May 2018  
Accepted: 28 October 2018

### The influence of role-modeling on clinical empathy of medical interns: A qualitative study

NAHID AHMADIAN YAZDI<sup>1,2</sup>, SHOALEH BIGDELI<sup>1,2</sup>, SEYED KAMRAN SOLTANI ARABSHAHI<sup>1,2\*</sup>, SAEIDEH GHAFARIFAR<sup>3</sup>

<sup>1</sup>Center For Educational Research in Medical Sciences (CERMS), Iran University of Medical Sciences, Tehran, Iran; <sup>2</sup>Department of Medical Education, Faculty of Medicine, Iran University of Medical Sciences, Tehran, Iran; <sup>3</sup>Medical Education Research Center, Health Management and Safety Promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Aktuelle Brennpunktthemen in 2018/2019

Kim et al. *Patient Safety in Surgery*  
DOI 10.1186/s13037-015-0067-4



REVIEW

Open Access

### Current issues in patient safety in surgery: a review

Fernando J. Kim<sup>1\*</sup>, Rodrigo Donalisio da Silva<sup>1</sup>, Diedra Gustafson<sup>1</sup>, Leticia Nogueira<sup>1</sup>, Timothy Harlin<sup>2</sup>  
and David L. Paul<sup>3</sup>

- Lack of continuous training and education
- Past **tolerance of unsafe practice**
- Lack of regulations/rules
- Gaps in **communication** among different healthcare providers
- Gaps in communication between healthcare providers and patients
- **Unstable/unreliable systems**
- Fear of admission of guilt/wrongdoing
- **Human factors**



## ► Fakten: „Human factor ist nicht trainierbar, oder doch?“.

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Human Factor Training ?



► **Fakten: „Human factor ist nicht trainierbar, Kompetenz schon“.**

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “wir haben eine identische Wahrnehmung“

British Journal of Anaesthesia 105 (1): 52-9  
doi:10.1093/bja/aeq135

BJA

### Patient safety: latent risk factors

Table 1 Latent risk factors

Latent risk factors	Issues
Equipment, design, and maintenance	Availability, functioning, standardization design, and maintenance of machines
Staffing	Adequate staffing, skills
Communication	Work-directed communication, openness, interrelation, atmosphere
Training	Training for machines, procedures, team training
Teamwork and team training	Team performance
Procedures	Presence of protocols, adherence to protocols
Situational awareness	Awareness of present situation, own tasks, and future developments
Incompatible goals	Balance between goals and safety
Planning and organization	Process of care
Housekeeping	Hygiene

### Situational awareness

Situational awareness (SA) can be defined by three questions ‘Where have we come from? Where are we now? Where are we going?’<sup>57</sup> At best, in the OT, SA requires active involvement in the progress of the operation by the anaesthesiologist, nursing, and surgical crews that make up the operating team. **Shared situation** awareness refers to the degree to which the team members have the same interpretation of ongoing events.<sup>57</sup> Surgical teams with the best outcomes

Erestam et al. Patient Safety in Surgery 2014, 8:30  
<http://www.pssjournal.com/content/8/1/30>



PATIENT SAFETY IN SURGERY

RESEARCH

Open Access

### A survey of surgeons' perception and awareness of intraoperative time utilization

Sofia Erestam<sup>1,2\*</sup>, Annette Erichsen<sup>1,2</sup>, Kristoffer Derwinger<sup>3,4</sup> and Karl Kodeda<sup>3,4</sup>



# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “wir haben eine identische Wahrnehmung“

European Journal of Pediatrics (2019) 178:837–850  
<https://doi.org/10.1007/s00431-019-03358-z>

ORIGINAL ARTICLE



### Measuring situation awareness and team effectiveness in pediatric

Original article



OPEN ACCESS

### Exploring the human factors of prescribing errors in paediatric intensive care units

Adam Sutherland,<sup>1,2,3</sup> Darren M Ashcroft,<sup>1,3</sup> Denham L Phipps<sup>1,3</sup>

To cite: Sutherland A, Ashcroft DM, Phipps DL. *Arch Dis Child* 2019;**104**:588–595.

ing; C, circulation; D, disability; E, exposure/environment;  
Sec, secondary survey.

## Situative Aufmerksamkeit

## ► Fakten: “Wahrnehmung ist individuell und wenig geteilt“

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Monitoring schafft Sicherheit auf ICU oder ZNA“

Curry and Jungquist *Patient Safety in Surgery* 2014, 8:29  
<http://www.pssjournal.com/content/8/1/29>



PATIENT SAFETY IN SURGERY

REVIEW

Open Access

A critical assessment of monitoring practices, patient deterioration, and alarm fatigue on inpatient wards: a review

J Paul Curry<sup>1\*</sup> and Carla R Jungquist<sup>2</sup>

## ► Fakten: “Qualität des Monitoring sind Alarm und Alarmgrenzen“

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Erfahrung vermeidet Fehler | Erfahrung schützt“

Kim et al. *Patient Safety in Surgery* (2015) 9:26  
DOI 10.1186/s13037-015-0067-4



PATIENT SAFETY IN SURGERY

REVIEW

Open Access

Current issues in patient safety in surgery:  
a review

Fernando J. Kim<sup>1\*</sup>, Rodrigo Donalisio da Silva<sup>1</sup>, Diedra Gustafson<sup>1</sup>, Leticia Nogueira<sup>1</sup>, Timothy Harlin<sup>2</sup>  
and David L. Paul<sup>3</sup>



Figure 1 Paradigm of the learning curve in surgery and other high-risk domains.

## ► Fakten: “Erfahrung vermindert Fehler | Erfahrene -> never events“

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► eGENA

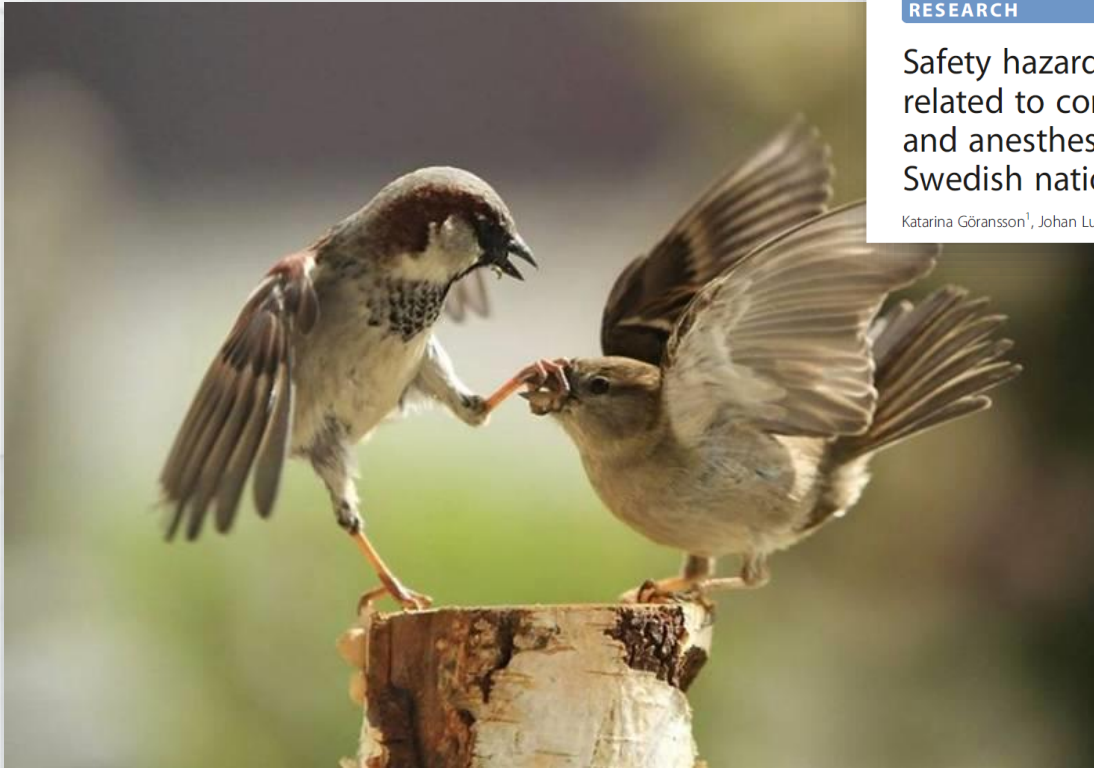


Digitale kognitive Hilfe im Notfall

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Human Factor | Kommunikation



Göransson et al. *Patient Safety in Surgery* (2016) 10:2  
DOI 10.1186/s13037-015-0089-y

Patient Safety in Surgery

RESEARCH

Open Access



Safety hazards in abdominal surgery related to communication between surgical and anesthesia unit personnel found in a Swedish nationwide survey

Katarina Göransson<sup>1</sup>, Johan Lundberg<sup>1</sup>, Olle Ljungqvist<sup>2</sup>, Elisabet Ohlsson<sup>3</sup> and Gabriel Sandblom<sup>4\*</sup>

## ► Mythos: „Kommunizieren kann doch jeder“.

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Gesagt - Getan“

**Abstract:** We are all “hard wired” to have limited ability to quickly and accurately communicate and work with each other. These limitations are especially acute in our urgent, stressful, and interruption-filled world. New views on these limitations include phenomena-like situational awareness and inattentional blindness. Development and testing of communica-

*British Journal of Anaesthesia* 105 (1): 83–90 (2010)  
doi:10.1093/bja/aeq137

## Beyond monitoring: distributed situation awareness in anaesthesia

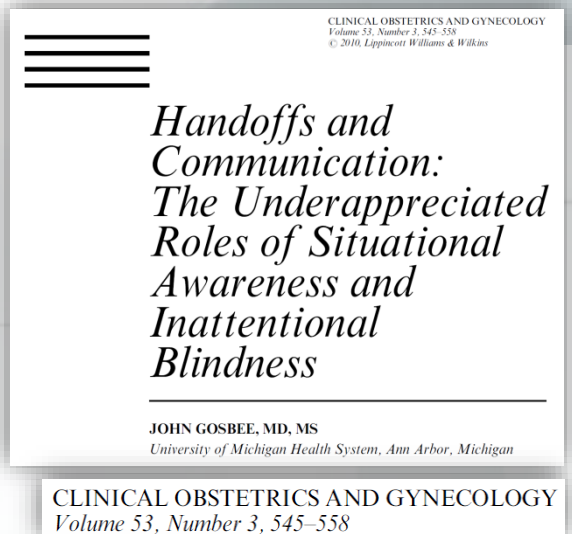
E. Fioratou<sup>1\*</sup>, R. Flin<sup>1</sup>, R. Glavin<sup>2</sup> and R. Patey<sup>3</sup>

<sup>1</sup> Industrial Psychology Research Centre, School of Psychology, University of Aberdeen, King's College, Old Aberdeen AB242UB, UK

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BJA

## ► Mythos: „Kommunizieren kann doch jeder“.

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Gesagt - Getan“

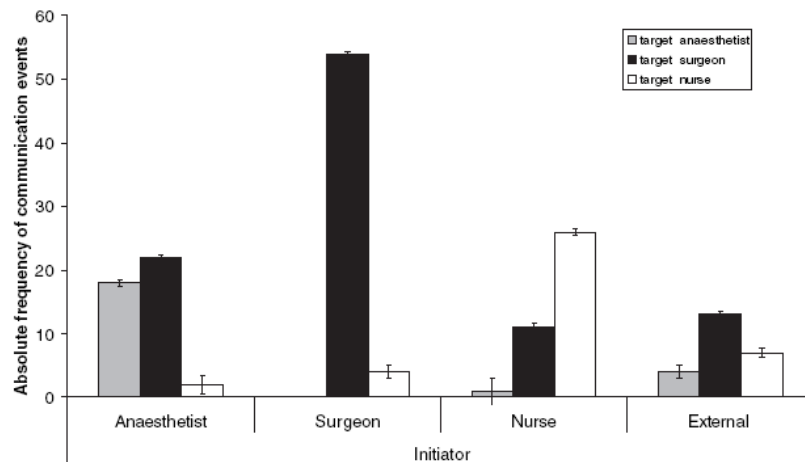
Journal of Evaluation in Clinical Practice ISSN 1356-1294

### Distracting communications in the operating theatre

Nick Sevdalis BSc MSc PhD,<sup>1</sup> Andrew N. Healey BSc (Hons) PhD Cpsychol<sup>2</sup> and Charles A. Vincent BA MPhil PhD<sup>3</sup>

<sup>1</sup>Lecturer in Patient Safety, <sup>2</sup>Research Associate, <sup>3</sup>Professor of Clinical Safety Research, Department of Bio-Surgery & Surgical Technology, Imperial College London, London, UK

**Methods** Two psychologist observers sampled 48 general surgery procedures and they recorded the initiator and the recipient of CIC events, their content and the level of observation.



**Table 2** Core themes of case-irrelevant communications

Theme	Absolute frequency	Relative frequency (%)
Irrelevant comment/query by team staff	45	26.95
Irrelevant comment/query by external staff	29	17.37
Next patient	22	13.17
Other patient/list	15	8.98
Teaching	15	8.98
Equipment/provisions	14	8.38
Irrelevant comment/query by attending staff	9	5.39
Phone calls/bleeps	8	4.79
Previous patient	4	2.40
Unclear	6	3.59
Total	167	100.00

**Figure 1** Absolute frequencies of case-irrelevant communications across initiators and recipients ('targets'). Error bars represent standard errors.

## ► Fakten: “Kommunizieren muss gelernt werden“

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Gesagt - Getan“

### Education and training

Improving safety culture on adult medical units through multidisciplinary teamwork and communication interventions: the TOPS Project

M A Blegen,<sup>1</sup> N L Sehgal,<sup>2</sup> B K Alldredge,<sup>3</sup> S Gearhart,<sup>1</sup> A A Auerbach,<sup>2</sup>  
R M Wachter<sup>2</sup>

### Measuring Communication in the Surgical ICU: Better Communication Equals Better Care

Mallory Williams, MD, MPH, Nathanael Hevelone, MPH, Rodrigo F Alban, MD,  
James P Hardy, MBBS, MD, David A Oxman, MD, Ed Garcia, MD, Cristina Thorsen, MD, MPH,  
Gyorgy Frendl, MD, PhD, Selwyn O Rogers Jr, MD, MPH, FACS

**CONCLUSIONS:** Communication errors occurred more frequently during the late shift. These communication errors were associated with worsened short-term outcomes. Improved communication in the surgical ICU is a fruitful target to improve clinical outcomes.

## ► Fakten: “Kommunizieren muss gelernt werden“

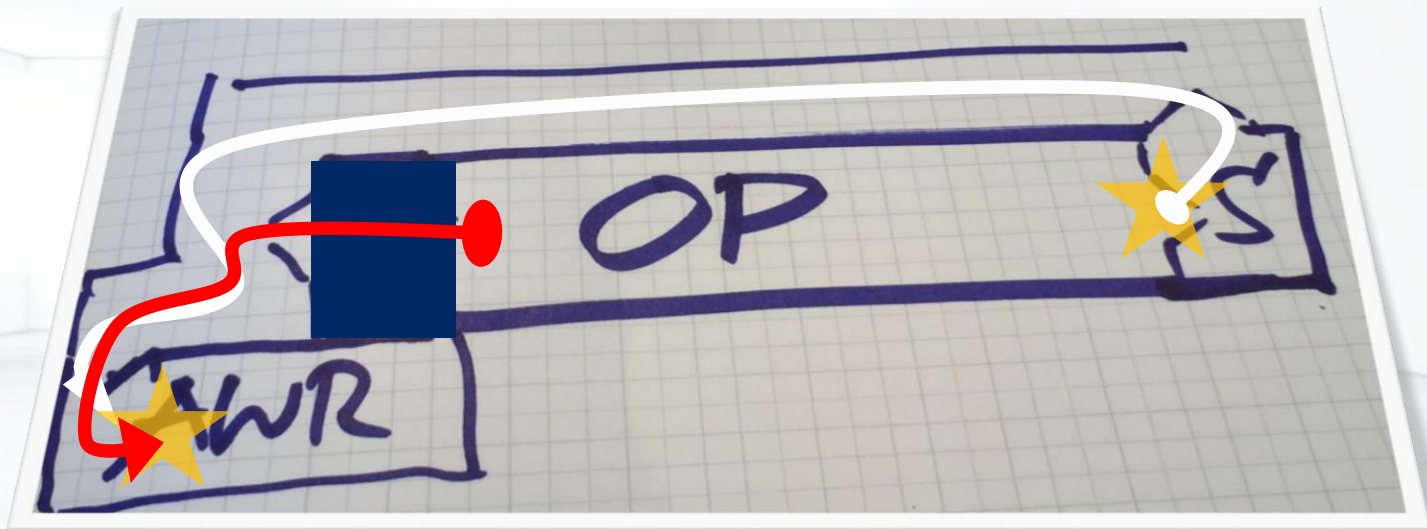


# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Potentielle Risiken werden erkannt“

- optimierender Verstoß eines Individuums oder Kollektives (n > 50)



- Boiled-Frog-Syndrom (kollektive Akzeptanz von inkrementellen Risikozuwachs)

► **Fakt: „Risikowahrnehmung bleibt individuell sehr different“**

► **Fakt: “Es bleiben viele Risiken unbekannt oder unmanaged“**

► **Kliniken haben dauerhaft Hochrisikobereiche**

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Potentielle Risiken werden erkannt“

- optimierender Verstoß eines Individuums oder Kollektives (n> 50)

Stahel et al. *Patient Safety in Surgery* 2014, 8:9  
<http://www.pssjournal.com/content/8/1/9>



PATIENT SAFETY IN SURGERY

EDITORIAL

Open Access

Current challenges and future perspectives for patient safety in surgery

Philip F Stahel\*, Cyril M

...staff training programs and reveal that hand hygiene compliance rates drop from more than 90% when officially observed and monitored, to less than 40% when we feel unobserved. This phenomenon likely relates to the Hawthorne effect.

100% hand hygiene compliance remains adopted

- Boiled-
- **Fakt: „ohne eine Kultur der persönlichen Verantwortungsübernahme werden sich viele RM-Maßnahmen erschöpfen“**

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Potentielle Risiken werden erkannt“



# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Potentielle Risiken werden erkannt“



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Human Factor und Kommunikation | Notfall- und Intensivmedizin

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# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Potentielle Risiken werden erkannt“



# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► When sh.. happens – whom to blame



### Originalien

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Online publiziert: 14. Juni 2017  
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P. Anheuser<sup>1</sup> · J. Kranz<sup>2</sup> · K. P. Dieckmann<sup>1</sup> · J. Steffens<sup>2</sup> · V. Oubaid<sup>1</sup>

<sup>1</sup> Klinik für Urologie, Albertinen-Krankenhaus, Hamburg, Deutschland

<sup>2</sup> Klinik für Urologie und Kinderurologie, St.-Antonius-Hospital, Eschweiler, Deutschland

<sup>1</sup> Institut für Luft- und Raumfahrtmedizin, Abteilung Luft- und Raumfahrtpsychologie, Deutsches Zentrum für Luft- und Raumfahrt DLR e. V., Hamburg, Deutschland

### Assessment für Mediziner?

Ergebnisse einer Stichprobenanalyse zur Personalauswahl für Ärzte

V. Oubaid<sup>1</sup> · P. Anheuser<sup>2</sup>

<sup>1</sup> Institut für Luft- und Raumfahrtmedizin, Abteilung Luft- und Raumfahrtpsychologie, Deutsches Zentrum für Luft- und Raumfahrt DLR e.V., Hamburg

<sup>2</sup> Klinik für Urologie, Albertinen-Krankenhaus, Hamburg

## Der Mensch in Hochzuverlässigkeitsorganisationen

Systematische Personalauswahl als entscheidendes Kriterium

orientierung

■ Gesamt

e... bis 6 = hohe

<https://doi.org/10.1007/s00120-019-01023-9>

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V. Oubaid · P. Anheuser

„Human factor“ – der Mensch als Risikofaktor und Chance

» Die Forschung zum Einfluss sog. Humanfaktoren hat eine jahrzehntelange Tradition

» Sozial-interaktive Kompetenzen haben eine große Bedeutung für die ärztliche Tätigkeit

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► When sh.. happens – whom to blame

### Stufe 1: Kognitive Fähigkeiten und relevante Wissensbereiche

Raumorientierung, Merkfähigkeit, Wahrnehmungsgeschwindigkeit, Konzentration, Psychomotorik, Wissen in Technik, Mathematik & Englisch



### Stufe 2: Persönlichkeit & sozial-interaktive Fertigkeiten unter realitätsnahen Bedingungen

Führung, Zusammenarbeit, Regelerorientierung, Kommunikation, Belastbarkeit, Mehrfacharbeit

DOI 10.1007/s00120-014-3481-9  
© Springer-Verlag Berlin Heidelberg 2014

V. Oubaid · P. Anheuser  
**Der Mensch in Hochzuverlässigkeitsorganisationen. Systematische Personalauswahl als entscheidendes Kriterium**

**Abb. 1** ◀ Ablauf des Lufthansa-Auswahlverfahrens für die Pilotenausbildung



» Die Forschung zum Einfluss sog. Humanfaktoren hat eine jahrzehntelange Tradition

» Sozial-interaktive Kompetenzen haben eine große Bedeutung für die ärztliche Tätigkeit



GRENZSCHUTZGRUPPE 9

## ► Fakten: „Risikopersönlichkeiten mitten im System“.



# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► When sh.. happens – whom to blame



» Die Forschung zum Einfluss sog. Humanfaktoren hat eine jahrzehntelange Tradition

» Sozial-interaktive Kompetenzen haben eine große Bedeutung für die ärztliche Tätigkeit

## ► Fakten: „Risikopersönlichkeiten mitten im System“.

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► Mythos: “Das sehen doch alle so...” (nicht SitAwareness sondern Sozialisierung)



- Behütet
- in Wohlstand gebettet
- von Geburt an im Mittelpunkt
- in allen Belangen gefragt  
– Fußball, Tennis oder Geige?
- international ausgebildet
- an Taxiservice Mama / Papa adaptiert

- Begehren ständiges (positives) Feedback
- Wollen an abwechslungsreichen, „sinnvollen“ Projekten arbeiten
- Selbstbestimmt
- In möglichst kleinen Teams
- Keine Hierarchien

## ► Fakten: „Generation Y tickt anders – sehr anders.“

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin



☰ aerzteblatt.de

News > Ärzteschaft > Junge Notfallmediziner richten Kollegen-Hotline zur Beratun...

Ärzteschaft

### Junge Notfallmediziner richten Kollegen-Hotline zur Beratung bei belastenden Situationen ein

Donnerstag, 21. November 2019

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/bst2012, stockadobecom

► **Fakten: „Haltung macht den entscheidenden Unterschied“.**

# “Mythen & Fakten“

Human Factor und Kommunikation | Notfall- und Intensivmedizin

## ► “Sonntag, 12.August 2018...” (der ultimative Perspektivenwechsel)

