

Measurability of Patient Safety

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External requirements in Germany lead to a higher need for safety and risk management, among others arising from the:

- German Patients' Rights Act
- Decision of the Joint Federal Committee
- Patient safety as a national public health objective
- Patients / patient relatives
- Cost bearers
- Insurance industry

German Health Initiative “Coalition for Patient Safety“: Requirements for clinical RM systems in hospitals



Graphic: „Coalition for Patient Safety: Recommended action, requirements on clinical risk management systems in hospitals“. April 2016

Principles of risk management:

The management of hospitals and rehabilitation facilities developed a measurement system for assessing the effectiveness of clinical risk management systems



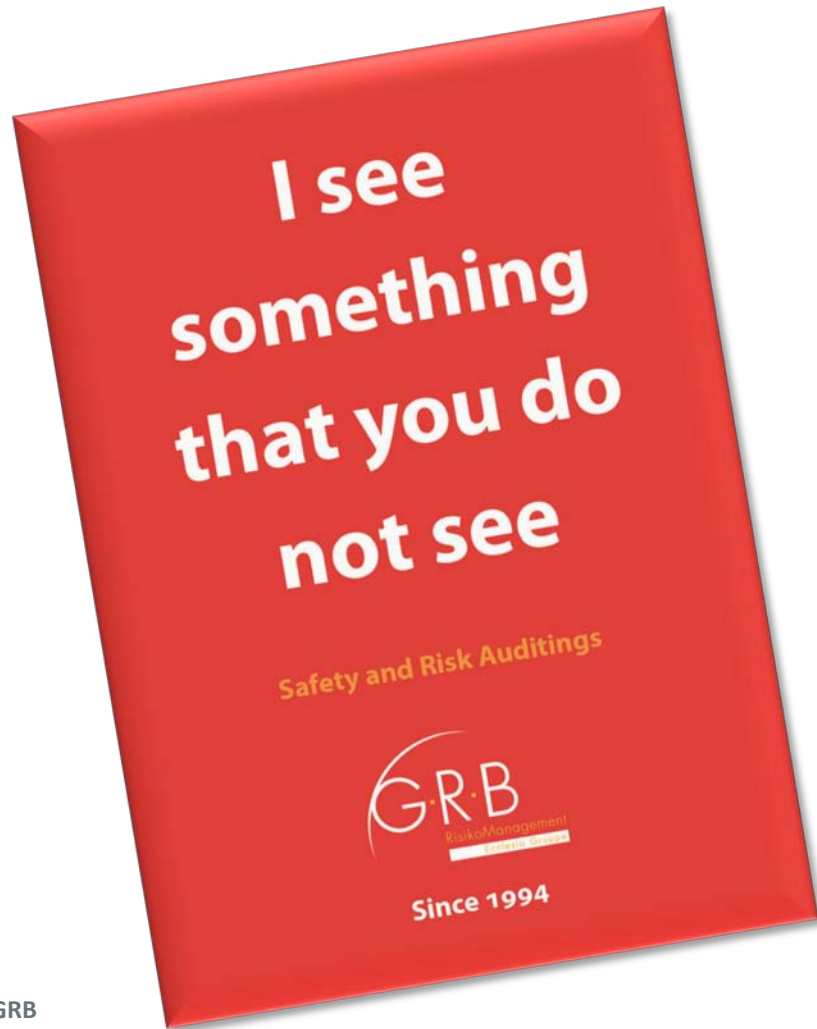
**Possibilities of
measuring**

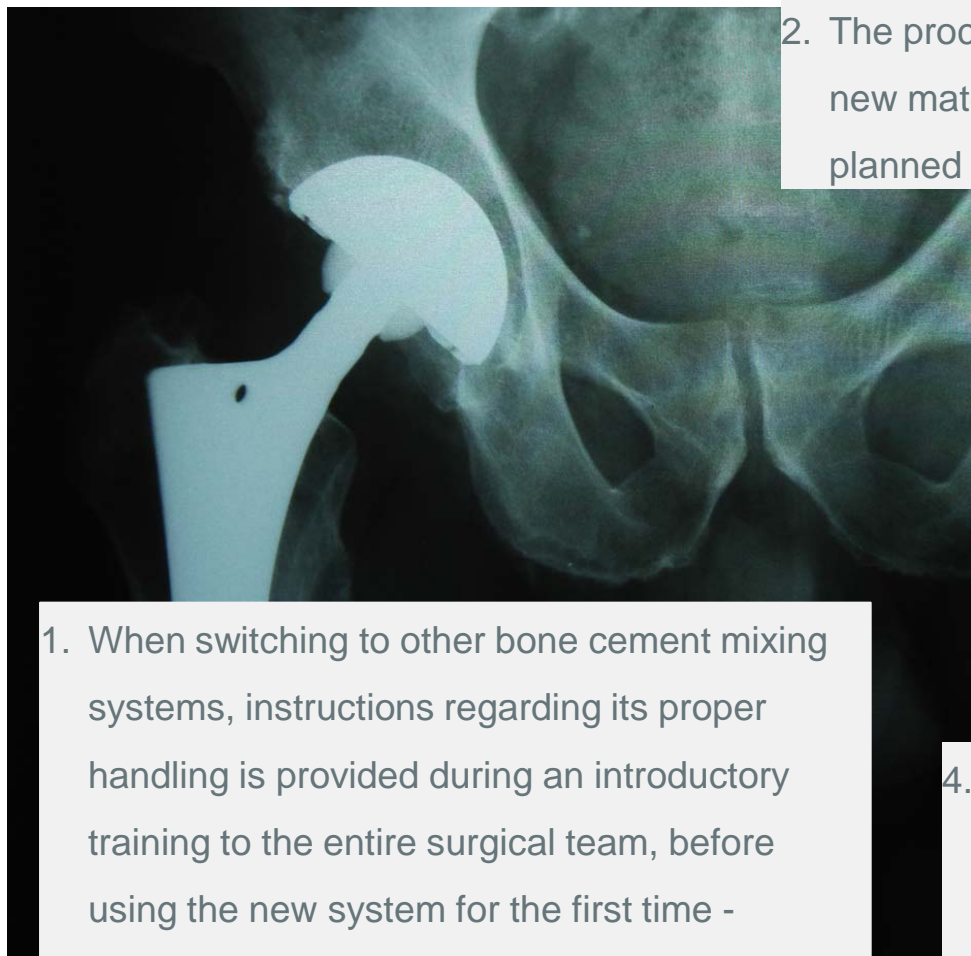


Database

- Database of medical malpractice claims
- Preventive measures based on historical loss experience
- Safety and risk analyzes

Safety and Risk analyzes





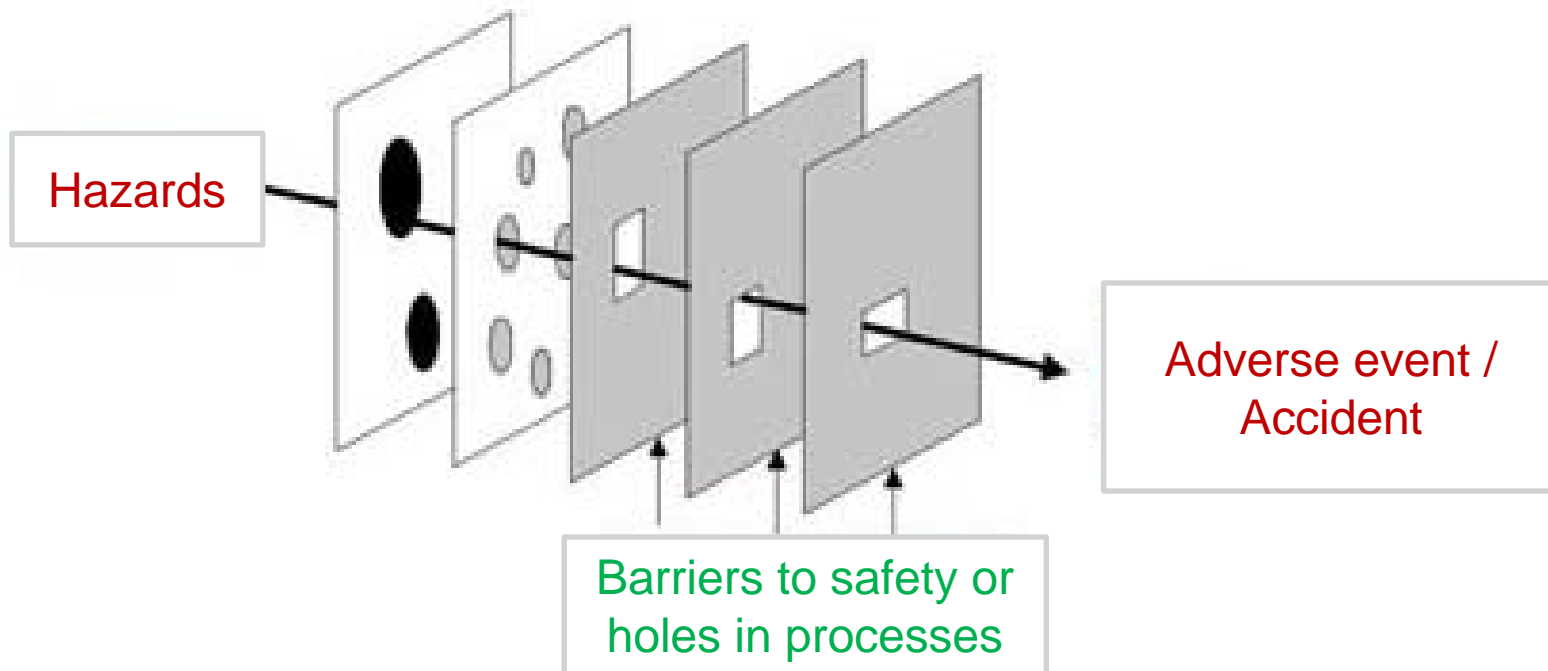
1. When switching to other bone cement mixing systems, instructions regarding its proper handling is provided during an introductory training to the entire surgical team, before using the new system for the first time - (information is provided on characteristics and proportions of the components to be mixed).

2. The procedure for the first application of new materials / products is discussed and planned preoperatively in team-time-outs.

3. During a surgery, it is strictly avoided to combine any materials / products that serve the same purpose but are of different manufacturers (here: bone cement mixing systems).

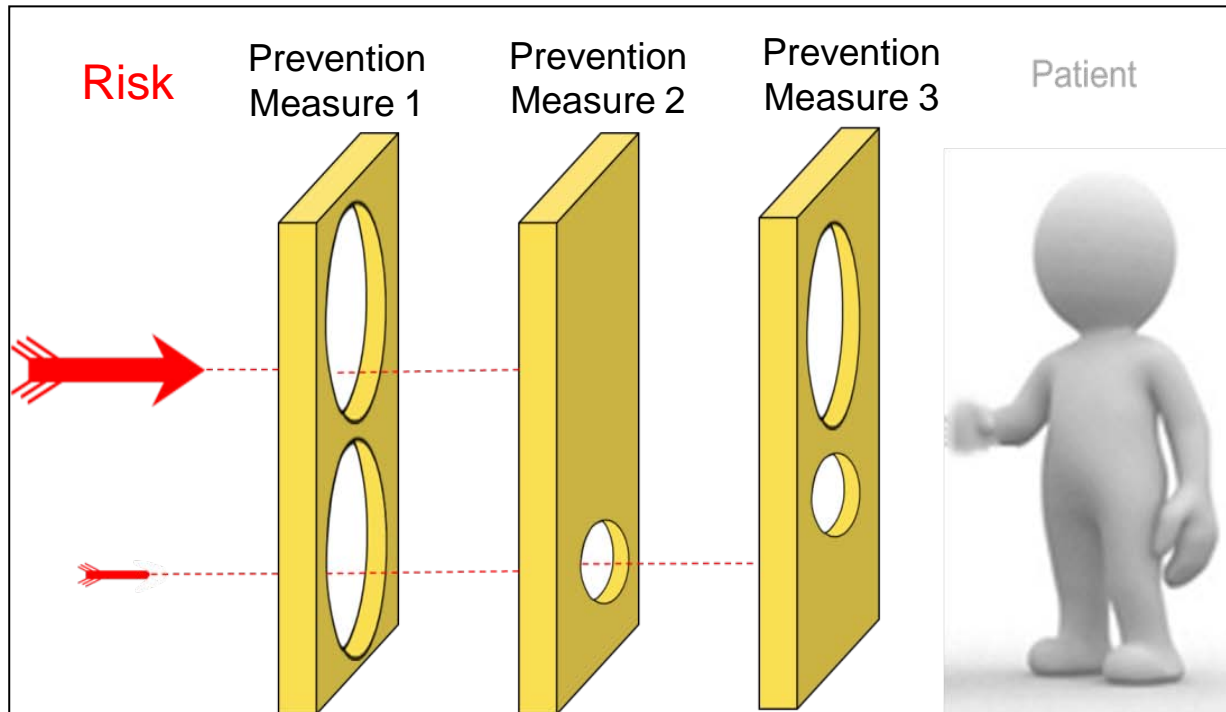
4. The responsible surgeons are involved in the decision-making process relating to the change of materials (procuring, selection).

Model of Safety Management



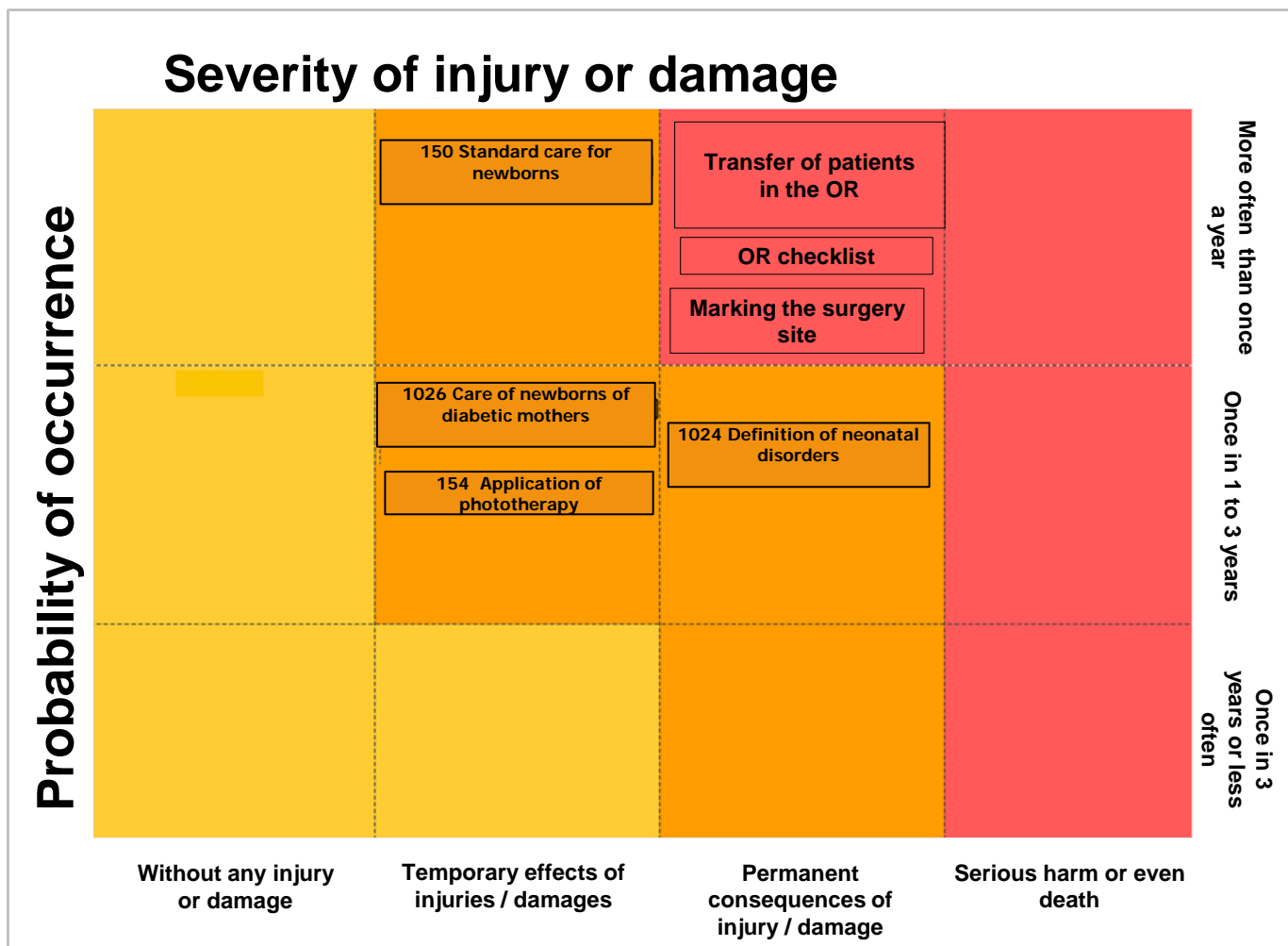
*Illustration: Swiss Cheese Model of System Accidents (adapted from Reason),
<http://www.aeqz.de/patientensicherheit/fehlertheorie>*

Effect of Prevention Measures



© Prof. Dr. Winfried Zinn 2015
Modified Swiss Cheese Model adopted from Reason, J. (2000). "Human error: models and management."
British Medical Journal 320: 768-770

Classification of the Potential Risk



Categories of Safety - example "Organization in the Recovery Room"

Prevention measure	Severity of injury or damage	Probability of occurrence
The recovery room is located near to the operating room area.	Temporary effects of injuries / damages	Once in 1 to 3 years
A reasonable personnel deployment planning of medical and nursing staff ensures a continuous monitoring of a patient in the postoperative phase.	Permanent consequences of injury / damage	More than once a year
It is stipulated that in the event of any complications the respective competent physician is immediately consulted.	Permanent consequences of injury / damage	More than once a year
The service time of the recovery room ends reasonably later after the end of the service time of the OR.	Temporary effects of injuries / damages	Once in 1 to 3 years
Patients who still need to be monitored after the service time of the recovery room ends, are taken care of adequately.	Permanent consequences of injury / damage	Once in 3 years or less often
The recovery room staff transfers the patient to the staff of the ward providing the further treatment in a structured way.	Permanent consequences of injury / damage	More than once a year

Elements of the calculation / formula

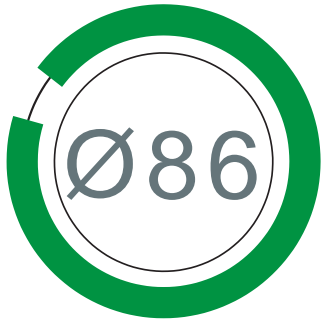
- Calculating the potential risk
- Mathematical connection of the potential risk to the fulfillment of any preventive measure which is used in an analysis for the index calculation (0, 25, 50, 75 or 100%)
- Scaling of 0 to 100

A comparison between the first safety and risk analysis in a surgical ward of a hospital and status at the time of evaluation



Categories of safety	A		
	Safety and risk analysis of October 2013	Change	Evaluation December 2014
Patient information in general	91	↑	100
Treatment ICU/anesthesiology	89	↗	92
Ulcer management	91	↑	98
Documentation anesthesia	87	↘	82
General documentation	78	↑	85
Specialist physician standard	97	→	98
Identity assurance / avoiding patient misidentification	65	↑	88
Medication management	78	↑	91
Emergency management	88	↗	92
Organization anesthesia, ICU	95	↗	98
Organization recovery room	94	↑	100
Organization OR	68	↑	80
Organization wards	90	↓	82
Pain management	89	↗	94
Falls management	71	↑	79
Procedures/regulations OR	80	↑	94
Total index	84	↑	91

A comparison of safety and risk analyses that were conducted in several surgical wards of a hospital group incl. benchmark data



Categories of security	Bench- mark riskala®	Average carrier	A	B	C
Patient information in general	92 →	90	91	88	92
Treatment ICU/anesthesiology	90 →	93	89	95	95
Ulcer management	92 →	92	91	94	90
Documentation anesthesia	89 →	85	87	97	71
General documentation	82 →	83	78	80	90
Specialist physician standard	97 →	98	97	96	100
Identity assurance / avoiding patient misidentification	72 →	67	65	50	85
Medication management	82 →	81	78	79	86
Emergency management	87 →	83	88	68	92
Organization anesthesia, ICU	94 →	92	95	95	86
Organization recovery room	99 →	93	94	98	88
Organization OR	90 ↓	77	68	74	89
Organization wards	83 →	84	90	86	76
Pain management	90 →	91	89	90	95
Falls management	89 →	84	71	85	96
Procedures/regulations OR	92 ↓	85	80	88	86
Total index	89 →	86	84	85	89

A comparison of 21 assessments in surgical departments (data of riskala®)


Total index



First analysis: 65 points
Evaluation: 91 points



**Possibilities of
measuring**

The image features a dark background with two spotlights at the top corners. Each spotlight is depicted with a silver, cylindrical body and a lens, emitting a wide, conical beam of light. The beams from both spotlights converge towards the center of the frame, overlapping to create a larger, lighter gray area. At the bottom center of this overlapping area is a white, horizontally-oriented oval. Inside this oval, the text "Chance for achieving more internal and external transparency" is written in a dark gray, sans-serif font, centered both horizontally and vertically.

**Chance for achieving more
internal and external
transparency**

Thank you for your attention!

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