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Safe Surgery – The Checklist Experience

Modificirana prezentacija uz suglasnost

Gerald Dziekan, WHO Patient Safety

The „Surgical burden"

Estimated 234 million major operations performed worldwide each year
vs.136 million births

- 1 in 25 people

Estimated 25% of inpatient surgery followed by complications

- app. 7 million disabling complications/year

0.5 – 5% death after surgery

- app. 1 million death/year

Weiser et al. An estimation of the global volume of surgery: a modeling strategy based on available data. Lancet 2008; 372:139-44

Complications rate 3%-17%
Death rate 0.4%-0.8%

Kable AK, Gibberd RW, Spigelman AD. Int J Qual Health Care 2002;14:269-276.

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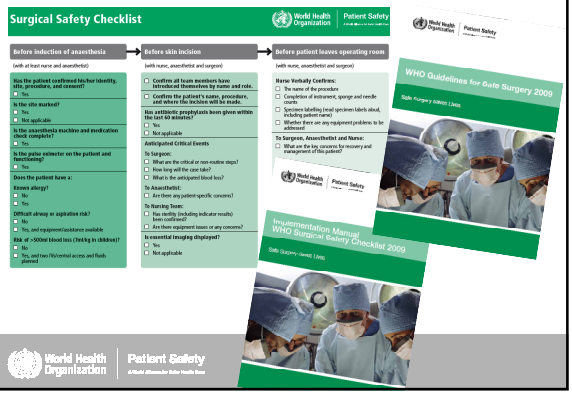
The WHO Care Checklist experience starts here



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Learning from high reliability industries

The Airline Industry

Military test pilots created the first aviation checklist

Today airlines routinely create and test checklists for every aircraft and nearly every conceivable procedure

BEFORE TAKEOFF

• Parking Brakes	SET
• Flight Controls	FREE & CORRECT
• Flight Instruments	SET
• Fuel Selector	BOTH
• Elevator & Rudder Trim	SET
• Mixture	RICH FOR RUNUP
• Autopilot	CHECK DISCONNECT
• Throttle	1800 RPM
• Ammeter	CHECK
• Engine Instruments.	CHECK
• Suction	CHECK
• Magnetos	CHECK (125/50)
• Throttle	IDLE CHECK
SMOOTH & 600 RPM ± 25 THEN1000 RPM	
• Radios	SET
• Brakes	RELEASE
Final Items	
• Doors/Windows	CLOSED
• Flaps	AS REQUIRED
• Mixture	RICH (BELOW 3000 FT)

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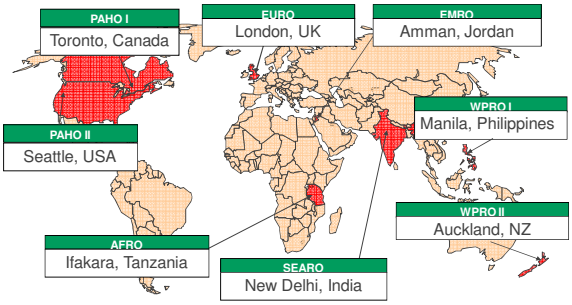
Safe Surgery Timeline

www.safesurgerysaveslives.ca launched

The Checklist was piloted in 8 hospitals…



…and was found to reduce the rate of postoperative complications and death by more than one-third!

Haynes et al. A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population. New England Journal of Medicine 360:491-9. (2009)

Validation of the WHO Surgical Safety Checklist

SURPASS Checklist, The Netherlands

- 100 item checklist implemented in 6 hospitals vs. control group
- > one-third reduction in complications and almost 50% reduction in deaths (from 1.5% to 0.8%) compared to controls

de Vries EN, et al. Effect of a Comprehensive Surgical Safety System on Patient Outcomes. N Engl J Med 2010; 363:1928-1937

Validation of the WHO Surgical Safety Checklist
Veterans Health Affairs, United States

- Surgical team training programme including a modified surgical safety checklist in operating rooms of 74 facilities
- 18% reduction in mortality

Neily J, et al. Association Between Implementation of a Medical Team Training Program. JAMA. 2010 Oct 20;304(15):1693-700

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Validation of the WHO Surgical Safety Checklist
Stanford University Hospital, USA

- Implemented a modified Surgical Safety Checklist
- Mortality declined from 0.88 (Q1) to 0.80 (Q2)
- PS "Never Events" decreased from 35.2% to 24.3%
- Mean OR start to incision time was shorter in Q2
- Improved patient safety attitude

Tsai T, et al. Does a surgical safety checklist improve patient safety culture and outcomes? [Abstract] American College of Surgeons Annual Clinical Congress 2010

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Safety Attitude Questionnaire
Safe Surgery pilot sites

The Checklist was well perceived

- 80% thought it easy to use
- 84% thought it improved communication
- 79% thought it prevented errors
- 93% would want the checklist used if they were having surgery

Haynes A, et al. "Changes in Safety Attitude and Relationship to Decreased Postoperative Morbidity and Mortality Following Implementation of a Checklist-based Surgical Safety Intervention"; submitted for publication

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3,865 hospitals representing **122 countries** have registered as Safe Surgery Saves Lives Participating Hospitals. http://www.who.int/patientsafety/safesurgery/hospital_form/en/index.html

25 countries have dedicated resources to implement the WHO Surgical Safety Checklist at a national level.

http://www.who.int/patientsafety/safesurgery/countries/en/index.html

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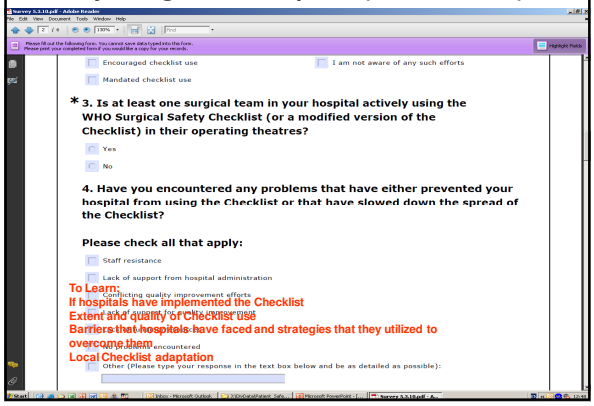
Survey at registered hospitals (Summer 2010)



To Learn:
If hospitals have implemented the Checklist
Extent and quality of Checklist use
Barriers that hospitals have faced and strategies that they utilized to overcome them
Local Checklist adaptation

Survey in participating hospitals

Preliminary Results, Summary

- 1,141 surveys distributed
- 294 surveys received so far (25% response rate)

Respondent overwhelmingly feel:

- that the use of the Checklist has improved operating room safety
- that they would want it used if they were undergoing a surgical procedure

Examples of errors prevented by use of checklist (selection)

- Wrong site / wrong patient
- Inappropriate timing of antibiotics
- Insufficient preparation for blood loss
- Equipment issues / missing equipment

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What a checklist is and what it is NOT

It is

- A Quality Improvement tool to ensure consistency (to reduce provider variation)
- A standardization of care processes to ensure evidence based best practice
- An aid to memory to ensure completeness
- A tool to improve communication and team work

It is NOT

- A piece of paper
- A panacea to all problems of care processes
- Set in stone
- A regulatory tool

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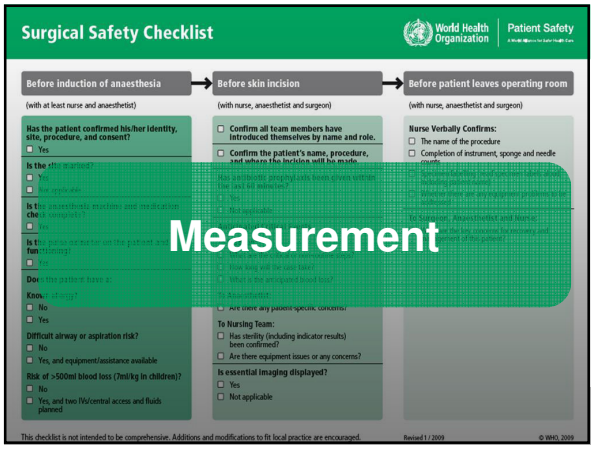
Implementation Best Practice



Measurement

Know where you are

- Collect data – processes and outcomes
  - Before - after
  - Continuous vs. episodic, e.g. fixed collection period (1 month)

Example of measures to observe

- Process indicators
  - # of times antibiotic prophylaxis wasn't given within 60 minutes
  - # of times blood wasn't available
  - # of times circulating nurse goes for supplies
  - Case length
  - Length of operating day
- Outcomes indicators from charts
  - Wound infections
  - Surgical deaths
  - Unplanned return to the operating theatre

Anecdotal Evidence

- Collect stories of when the Checklist makes a difference in your operating theatres

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PATH

INDIKATORI

Stopa carskog reza
Stopa smrtnosti AIM
Stopa smrtnosti CVI

Post-operacijski tromboembolijski incident
Dnevna kirurgija
Duljina boravka
Profilaktička primjena antibiotika
Klinička primjena krvnih pripravaka
Iskoristivost operacijske sale

Status dojenja kod otpusta
Iskoristivost operacijske sale
Ubodni incident
Samoprocjena bolnice bez duhanskog dima

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USPOSTAVLJANJE LISTE U RH

OKRUGLI STOL

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Implementation

Build a team (anesthesia, nursing, and surgery)

- Find a "champion" in each discipline

Buy-in from clinical and administrative leadership

- Complex interventions involving structural, process, and behavioral changes
- Checklists cannot compensate for systems that will not change to improve safety

Modify the Checklist and trial it

- Local relevance
- Brevity
- Start small – start where it is easy
- Lead by example

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Implementation

Policies must change

- Checklists are complex interventions involving structural, process, and behavioral changes
- Checks by operative teams cannot compensate for systems that will not change to improve safety
- Support from hospital and OR administration will help

Lead by example

- Use the checklist in your operations
- Demonstrate utility among your peers
- Combine formal educational sessions and materials with mentoring
- Be willing to be self-reflective

Modification

One size doesn't fit all

Local adaptation

Keep it short (each section < 1min)

Don't remove teamwork items

- Introduction of team members by name and role
- Review of specific patient concerns
- Discussion of key concerns before patient leaves the OR