

# Enabling scale-up implementation of Patients Safety Checklist (PASC) in Surgery:

-Investigating implementation mechanisms from patients' and healthcare workers' perspectives

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# Patient safety in surgery

Surgery as leading cause of in-hospital related patient injuries and adverse events<sup>1,2</sup>

The complexity in surgery is acknowledged<sup>3</sup>:

- Variety of surgical disciplines and range of surgical procedures and –pathways
- Involvement of multiple uni- and disciplinary teams
- Requirement of professional skills; technical – and non-technical
- Patient specific factors
- Systemic and organisational factors
- .....

1. Anderson O, Davis R, Hanna GB, et al. Surgical adverse events: a systematic review. Am J Surg 2013;206(2):253-62. doi: 10.1016/j.amjsurg.2012.11.009 [published Online First: 2013/05/07]

2. [Pasientskader i Norge 2022 – Målt med Global Trigger Tool – Helsedirektoratet](#)

3. The WHO. WHO Guidelines for Safe Surgery: Safe surgery saves lives; 2009. ISBN 978 92 4 159855 2.

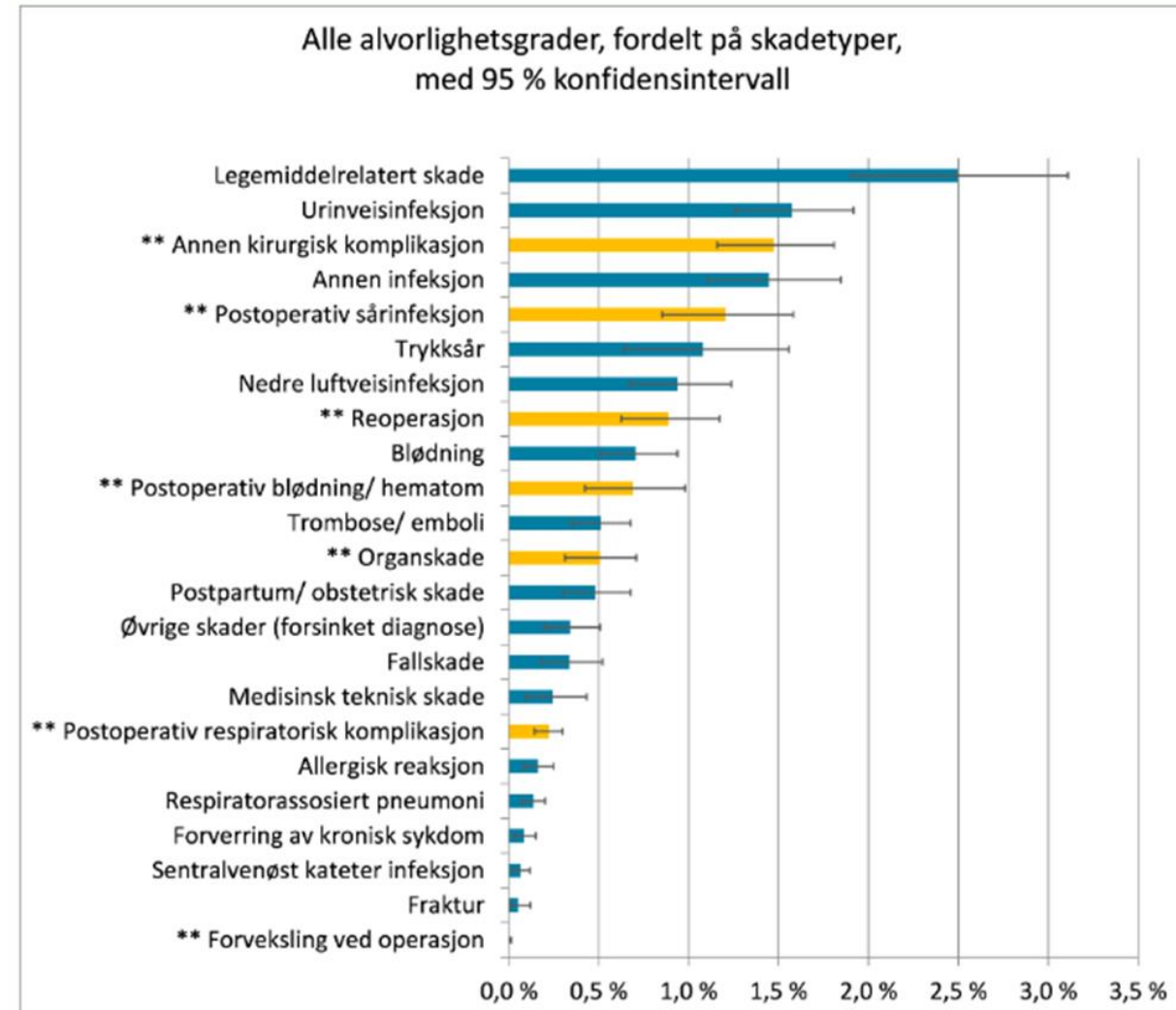


Figure 1: Proportion of Norwegian hospital stays in 2022, with  $\geq 1$  patient injury, across all Injury Types and Categories of Harm Severity .



Referral/  
assessment



Preparation/  
Hospitalisation



Surgery



Post surgical  
care

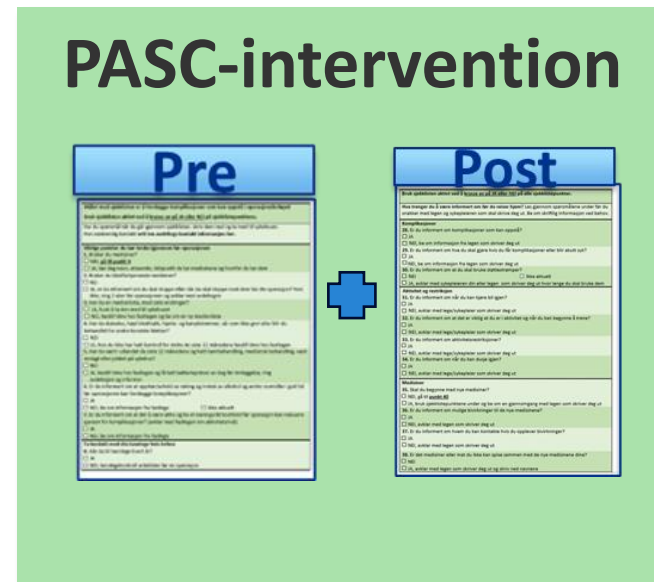


Discharge

Patient's surgical pathway

Surgical Safety Checklist		
Kamuzu Central Hospital Orthopaedics		World Health Organization
Patient Safety		
<p><b>Before induction of anaesthesia</b> (with at least nurse and anaesthetist)</p> <p>Has the patient confirmed his/her identity, site, procedure, and consent? <input type="checkbox"/> No <input type="checkbox"/> Yes</p> <p>Is the site marked? <input type="checkbox"/> Not applicable <input type="checkbox"/> Yes</p> <p>Is the anaesthesia machine and modification check completed? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is the pulse oximeter on the patient and functioning? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Does the patient have known allergy? <input type="checkbox"/> No <input type="checkbox"/> Yes</p> <p>Difficult airway or aspiration risk? <input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment/substance available</p> <p>Risk of a fallen blood line (falling in children)? <input type="checkbox"/> No <input type="checkbox"/> Yes, and two (two) central access and fully secured</p> <p>Is the C-arm (Image Intensifier) needed? <input type="checkbox"/> Yes, and in operating theatre <input type="checkbox"/> No</p> <p>Is the transport needed? <input type="checkbox"/> Yes, and in operating theatre <input type="checkbox"/> No</p>	<p><b>Before skin incision</b> (with nurse, anaesthetist and surgeon)</p> <p>Confirm all team members have introduced themselves by name and role.</p> <p>Confirm the patient's name, procedure, and where the incision will be made.</p> <p>Has antibiotic prophylaxis been given within the last 60 minutes? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable</p> <p><b>To Surgeon:</b> <input type="checkbox"/> What is the critical item route sheet? How long will the case last? What is the anticipated blood loss? What equipment is needed?</p> <p><b>To Anaesthetist:</b> <input type="checkbox"/> Are there any patient-specific concerns?</p> <p><b>To Nursing Team:</b> Has identity (including indicator results) been confirmed? Are there problems with equipment or any concerns?</p> <p>Are a map displayed? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable</p> <p>Is the drape/eye plate on the patient? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><b>Before patient leaves operating room</b> (with nurse, anaesthetist and surgeon)</p> <p><b>Name Verbalty Confirm:</b> <input type="checkbox"/> The name of the procedure. <input type="checkbox"/> Completion of instrument, sponge and needle counts. <input type="checkbox"/> Specimen-labelling (most specimens should include patient name). <input type="checkbox"/> Whether there are any equipment problems to be addressed. <input type="checkbox"/> What supplies need to be replaced in the suite.</p> <p><b>To Surgeon and Anaesthetist:</b> <input type="checkbox"/> Detail any other concerns for recovery and postop. management of this patient?</p>

# Development of intervention: Patient`s surgical safety checklist-PASC





# Patient's surgical pathway

Referral/  
assessment

Preparation/  
Hospitalisation

Surgery

Post surgical  
care

Discharge

**Pre**

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

**Surgical Safety Checklist** Kamuzu Central Hospital Orthopaedics

**Before induction of anaesthesia** (with at least name and anaesthetist)

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the anaesthetist confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the anaesthetist confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the anaesthetist confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the anaesthetist confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

**Post**

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No

Has the patient confirmed his/her identity, date of birth, sex, and consent?  
 Yes  
 No



# Multicentre stepped wedge, cluster RCT

Clinical Trial.gov ID: NCT03105713

Funded by The Research Council of Norway ID: 320475).

## Aim:

To identify PASC's implementation drivers and barriers from patients' and healthcare workers' perspectives.

## Data collection:

### *Pre-intervention activities:*

- Transforming PASC (paper) into a digital version: ePASC => reports in patients EHR
- Information meetings with leaders and key- healthcare workers from the seven surgical specialities
- Mapping of roles and responsibilities along the different surgical pathways

### *Per-intervention activities:*

- Nine focus-group interviews with healthcare workers (N= 25)
- 44 Individual in-depth interviews with patients across all seven specialities

### *Post-intervention analyses:*

- Performance data (adherence) on ePASC utilization
- Interviews (patients and HCWs)

## Førde and Lærdal Hospital

- 2 surgical specialities



## Haukeland University Hospital

- 5 surgical specialities

# Preliminary results:

## *Identified mechanisms at:*

### **Patient level:**

- Clear justification of ePASC utilisation; a possibility, NOT a requirement
- Timing of receiving ePASC: in due time of surgery!
- Expectations of ePASC reports being assessed and read
- HCW must be a driving force;
  - promote use of ePASC,
  - initiate communication on ePASC items at specific times before hospital admission and -discharge

### **HCW level:**

- Adaptability of ePASC-items to local workflow
- Multidisciplinary approach and collaboration
- Capacity building at organisational level
- Monitoring use of ePASC in combination with indicators of performance and quality of care.



# Patient safety in surgery

## Individual level:

- Empowered patients who proactively engage in their own surgical care.

## Collaborative level:

- Interactive information exchange between patient and care-provider.

## System level:

- Double-loop learning in relation to patient safety information, health literacy and risk assessment.





# PASC-Research Group



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- Norwegian Institute of Public Health,
- General Practitioner at Helsetorget DA, Bergen
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