

# Pre-induction checklist and human factors in airway management

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<b>Registration date</b> 11/08/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 21/03/2022	<b>Condition category</b> Surgery	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Failure during airway management can result in a patient's life-long impairment or death. Human factors contribute to errors. Cognitive aids influence human factors. Checklists are a well-known cognitive aid. In May 2016, the Department of Anaesthesiology and Pain Medicine, University of Bern developed an electronically pre-induction checklist consisting of four items with the aim to improve human factors and raise patient safety during airway management. This audit aims to investigate the compliance with the pre-induction checklist over a retrospective 5- year period.

### Who can participate?

Data is analysed from all patients of all ages undergoing procedures with airway management in general and combined (general and regional) anaesthesia performed by the Department of Anaesthesiology and Pain Medicine from June 2016 to May 2021.

### What does the study involve?

Patients data is compared from before and after the introduction of a departmental pre-induction checklist in May 2016 and a strong recommendation to use it before the start of every general anaesthesia.

### What are the possible benefits and risks of participating?

This audit aims to bridge the gap of knowledge with the compliance of cognitive aids and can potentially identify weaknesses with the aim of further improvement.

### Where is the study run from?

Bern University Hospital, Inselspital Bern (Switzerland)

### When is the study starting and how long is it expected to run for?

May 2016 to August 2021

### Who is funding the study?

Bern University Hospital, Inselspital Bern (Switzerland)

Who is the main contact?  
Dr Alexander Fuchs  
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## Contact information

**Type(s)**  
Scientific

**Contact name**  
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## Additional identifiers

**Protocol serial number**  
PILOT-1

## Study information

**Scientific Title**  
Implementation of an anaesthesia pre-induction checklist to improve patients' safety during airway management – a retrospective single-centre 5-year cohort analysis (Pre-Induction checkList cOmpliance audiT [PILOT])

**Acronym**  
PILOT

**Study objectives**  
Retrospective observational study 5 years after the implementation of a departmental electronically pre-induction checklist as a cognitive aid to improve patient's safety during airway management. This audit aims to analyse the compliance with the departmental pre-induction checklist over five years.

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**

Approved 26/04/2021, Gesundheits- und Fürsorgedirektion des Kantons Bern, Kantonale Ethikkommission für die Forschung Bern (Ethics Committee of the Canton of Bern, Murtenstrasse 31, 3010 Bern, Switzerland; +41 (0)31 633 7070; info.kek.kapa@gef.be.ch), ref: Req-2021-00428

## **Study design**

Retrospective single-centre observational cohort study

## **Primary study design**

Observational

## **Study type(s)**

Prevention

## **Health condition(s) or problem(s) studied**

All patients with procedures in general or combined general/regional anaesthesia provided by the Department of Anaesthesiology and Pain Medicine, University Hospital Bern

## **Interventions**

Introduction of a departmental electronically pre-induction checklist in May 2016, and a strong recommendation to use it before the start of every general anaesthesia

Categorical variables will be reported as absolute (n) and relative frequencies (%), continuous variables using mean (SD) or median (IQR).

The researchers will perform a t-test for continuous variables or one-way ANOVA for parametric data, Mann–Whitney or Kruskal–Wallis tests for nonparametric data, and Chi-squared tests or Fisher's exact tests for categorical variables. Univariate and multivariate logistic regression will be performed (type of surgery, time of the day and emergency category on completely performed checklist). The significance level of probability will be defined as  $\leq 0.05$ .

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Frequency of completely performed pre-induction checklist, sourced out of the departmental electronically anaesthesia information system at baseline

## **Key secondary outcome(s)**

Sourced out of the departmental electronically anaesthesia information system at baseline:

1. Urgency of the procedure: emergency procedure (immediate or within 12 h) vs non-emergency procedure (within 24 h or elective)
2. Area of anaesthesia induction: operating room vs non-operating room
3. Surgical type of procedure
4. Time of anaesthesia induction, standard working hours (7:00 h-16:59 h) vs. on-call hours (reduced personal, 17:00 h-6:59 h)
5. Patients' basic demography (age, weight, height and ASA physical status)

## **Completion date**

31/08/2021

## **Eligibility**

**Key inclusion criteria**

All procedures in general anaesthesia or combined general with regional anaesthesia

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

All

**Sex**

All

**Total final enrolment**

120000

**Key exclusion criteria**

Procedures solely performed in regional anaesthesia or in sedation

**Date of first enrolment**

01/06/2016

**Date of final enrolment**

31/05/2021

**Locations****Countries of recruitment**

Switzerland

**Study participating centre**

**University Hospital Bern, Inselspital**

Department of Anaesthesiology and Pain Medicine

Freiburgstrasse

Bern

Switzerland

3010

**Sponsor information****Organisation**

University Hospital of Bern

ROR

<https://ror.org/01q9sj412>

## Funder(s)

### Funder type

Hospital/treatment centre

### Funder Name

Inselspital, Universitätsspital Bern

### Alternative Name(s)

Inselspital, Bern University Hospital, Inselspital, Bern University Hospital, University Hospital of Bern, Universitätsspital Bern, Inselspital, Hôpital universitaire de Berne

### Funding Body Type

Government organisation

### Funding Body Subtype

Universities (academic only)

### Location

Switzerland

## Results and Publications

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request from Dr Alexander Fuchs ([alexander.fuchs@insel.ch](mailto:alexander.fuchs@insel.ch)) for other researchers or non-profit organizations after approval and agreement of the responsible cantonal ethics committee. Quantitative data is expected to be available from January 2022, for a period of 10 years. All researchers will comply with the Data Protection Act and the Swiss Law for Human Research. All data will be destroyed 10 years after the end of the project.

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		18/03/2022	21/03/2022	Yes	No