

Videolaryngoscopy results in less forces exerted on the upper teeth during intubation compared to direct laryngoscopy

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Registration date 29/10/2010	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 29/10/2010	Condition category Surgery	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Videolaryngoscopy results in less forces exerted on the upper teeth during intubation compared to direct laryngoscopy: a single centre randomised controlled cross-over study

Study objectives

Three videolaryngoscopes (McGrath, C-Mac and Glidescope Cobalt) exert reduced forces on both upper and lower teeth, compared to a classic Macintosh laryngoscope blade.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Catharina Hospital Eindhoven (Netherlands)

Study design

Single centre randomised controlled cross-over study

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Intubation technique

Interventions

After three minutes of oxygen administration via facemask, intravenous (iv) induction of general anesthesia (1 µg/kg fentanyl, 3 mg/kg propofol and 0.7 mg/kg rocuronium) the following interventions will be performed:

Direct laryngoscopy:

1. Macintosh classic laryngoscope (blade III)

Indirect laryngoscopy with one of three indirect videolaryngoscopes:

1. McGrath (Aircraft Medical, Edinburgh, UK)

2. C-MAC (Karl Storz, Tuttlingen, Germany)

3. Glidescope Cobalt (Verathon, Bothell, WA, USA)

Intubation: endotracheal tube 7.5 mm (female) or 8.0 mm (male). After two unsuccessful attempts a stylet will be inserted into the endotracheal tube.

Intervention Type

Procedure/Surgery

Phase

Not Applicable

Primary outcome(s)

Differences between direct and indirect laryngoscopies with respect to the frequency with which forces are applied on the upper and lower teeth. The measurement of forces will be performed with Flexiforce (r) sensors (A201-25, Tekscan, MA) fixed to the blade of the laryngoscope at the possible area of contact with the teeth.

Key secondary outcome(s)

For the cases in which forces are being applied, differs the magnitude of forces between the laryngoscopes?

Completion date

01/01/2011

Eligibility

Key inclusion criteria

1. American Society of Anaesthesiologists (ASA) grade I - II
2. Normal airway
3. Undergoing a surgical intervention for which endotracheal intubation is indicated
4. Aged 18 years or above, either sex

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Younger than 18 years
2. Patients requiring more than blade size III of laryngoscope
3. Patients with pre-operative predictors of a difficult airway (Mallampati score IV, thyromental distance less than 65 mm, interincisor/interdental distance less than 35 mm)
4. Patients with inadequate neck movement
5. ASA III - IV
6. Patients requiring surgery of the face and throat

Date of first enrolment

01/11/2010

Date of final enrolment

01/01/2011

Locations

Countries of recruitment

Netherlands

Study participating centre
P. Debyelaan 25
Maastricht
Netherlands
6229 HX

Sponsor information

Organisation
Catharina Hospital Eindhoven (Netherlands)

ROR
<https://ror.org/01qavk531>

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Catharina Hospital Eindhoven (Netherlands) - Department of Anesthesiology, ICU and Pain Therapy

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration