



## Learning objectives



### **Station 6a: Indirect (Video-) Laryngoscopy, adult**

#### **After completing this station the participant:**

- 1. .. can name general features of VL**
- 2. .. can identify the different blade shapes of VL**
- 3. .. knows advantages and limitations of VL compared to DL**
- 4. .. is aware of the learning curve for VL**
- 5. .. can use several techniques for tube placement with hyperangulated blades**

# Video Laryngoscopes

Airtraq



C-MAC



King VISION



McGrath MAC



GlideScope



# VL with channeled blade

(Airtraq)



- **single use blade / instrument**
- **channel for endotracheal tube**
- **no direct line of vision**

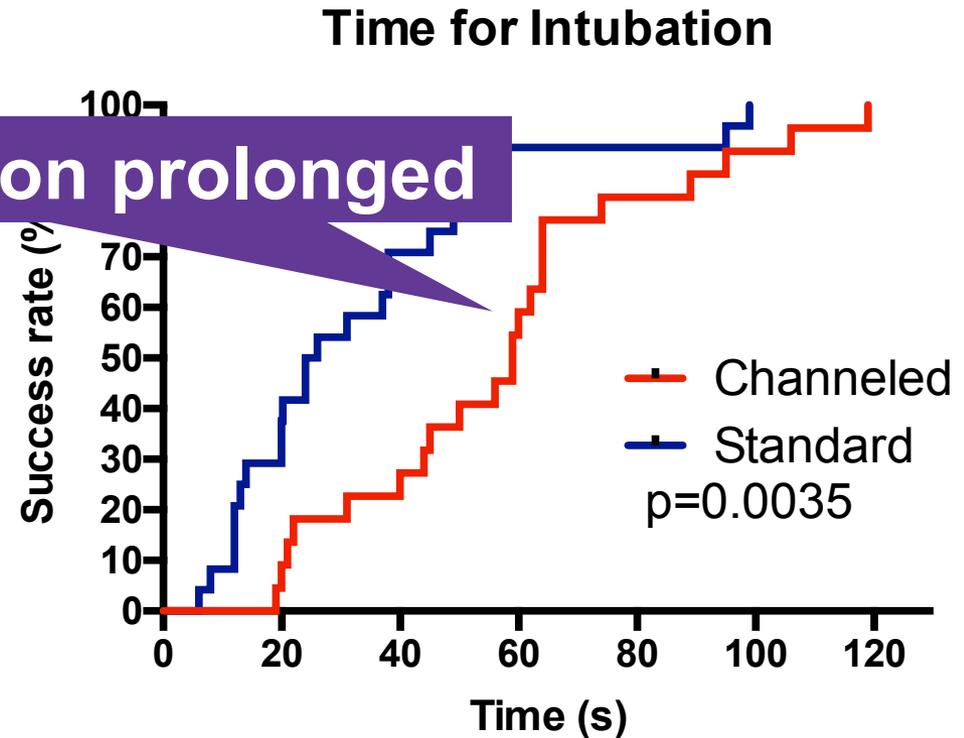
King VISION



# Is tube guiding channel beneficial?



Time to intubation prolonged



- 46 patients, general anesthesia, „normal“ airway
- Visualization: no differences
- Success rate: no differences

# VL with Macintosh blade

McGrath MAC



Glidescope



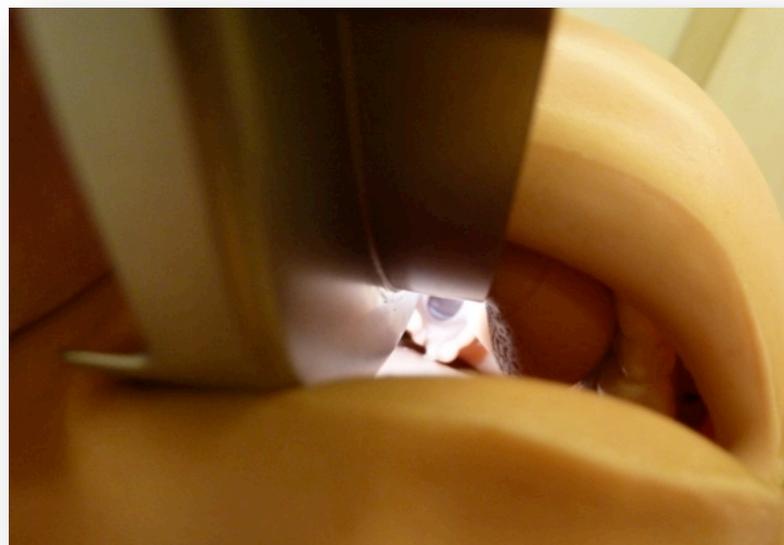
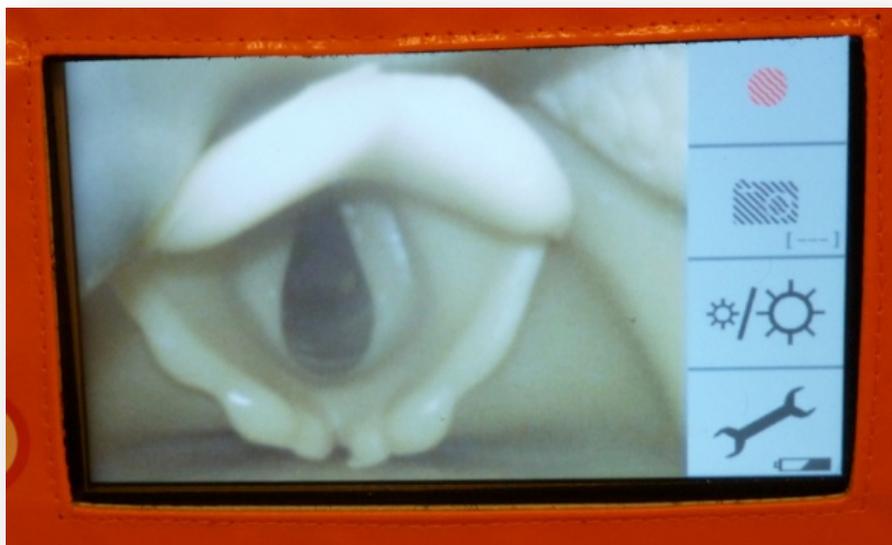
- **direct and indirect vision possible**
- **different shapes of Macintosh blades**

C-MAC



# Use of Macintosh blade allows direct / indirect visualization

## C-MAC + Macintosh



# Video-Macintosh: out-of-hospital performance

EJA

Eur J Anaesthesiol 2015; 32:425–431



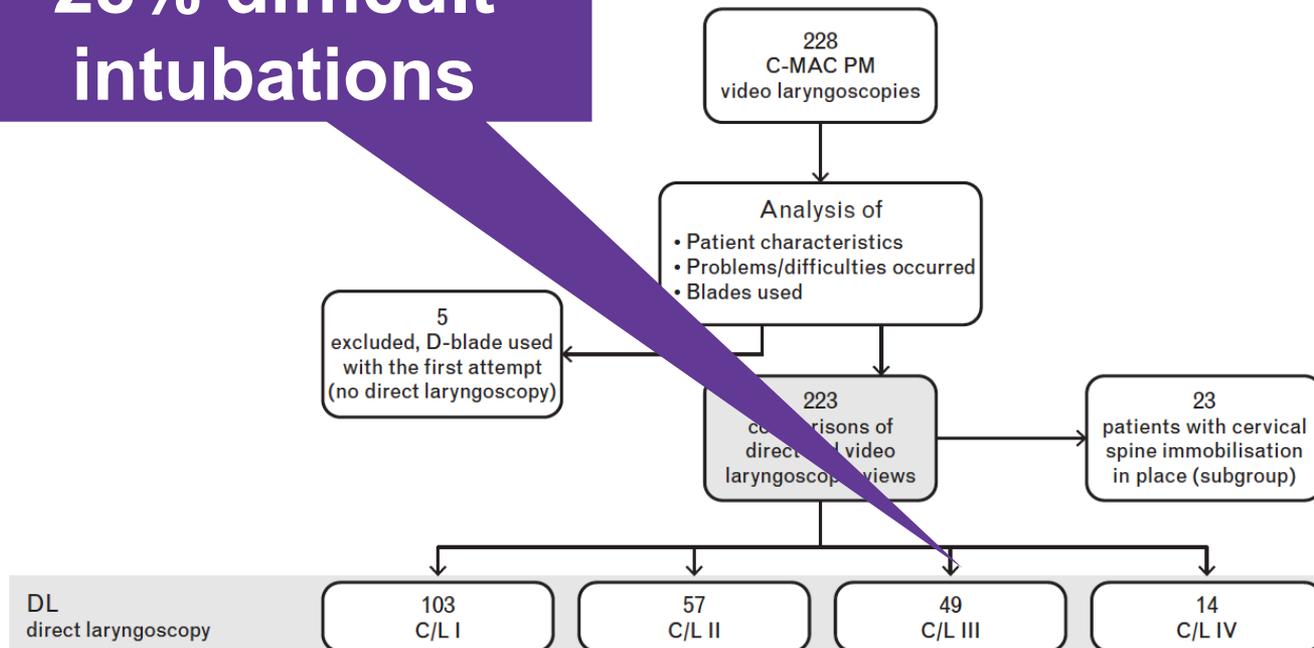
## ORIGINAL ARTICLE

### Improvement in glottic visualisation by using the C-MAC PM video laryngoscope as a first-line device for out-of-hospital emergency tracheal intubation

*An observational study*

28% difficult intubations

Werner, Lorenz Lampl and Matthias Helm



# Video-Macintosh: out-of-hospital performance



	103 C/L I	57 C/L II	49 C/L III	14 C/L IV
DL direct laryngoscopy				
Changes to:	C/L I 99 C/L II 2 C/L III 1 C/L IV 1	C/L I 43 C/L II 14 C/L III 0 C/L IV 0	C/L I 34 C/L II 12 C/L III 3 C/L IV 0	C/L I 6 C/L II 5 C/L III 2 C/L IV 1
VL video laryngoscopy	↑ none (0%) = 99 (97%) ↓ 4 (3%)	↑ *43 (75%) = 14 (25%) ↓ none (0%)	↑ *46 (94%) = 3 (6%) ↓ none (0%)	↑ *13 (93%) = 1 (7%) ↓ none (0%)
		↑ Improved	= Unchanged	↓ Degraded
				*P < 0.001

**Use of Video-Macintosh improved glottic view in 94% of patients**

# VL with hyperangulated tip

C-MAC



Glidescope



- Indirect visualization only
- Blades have different shapes

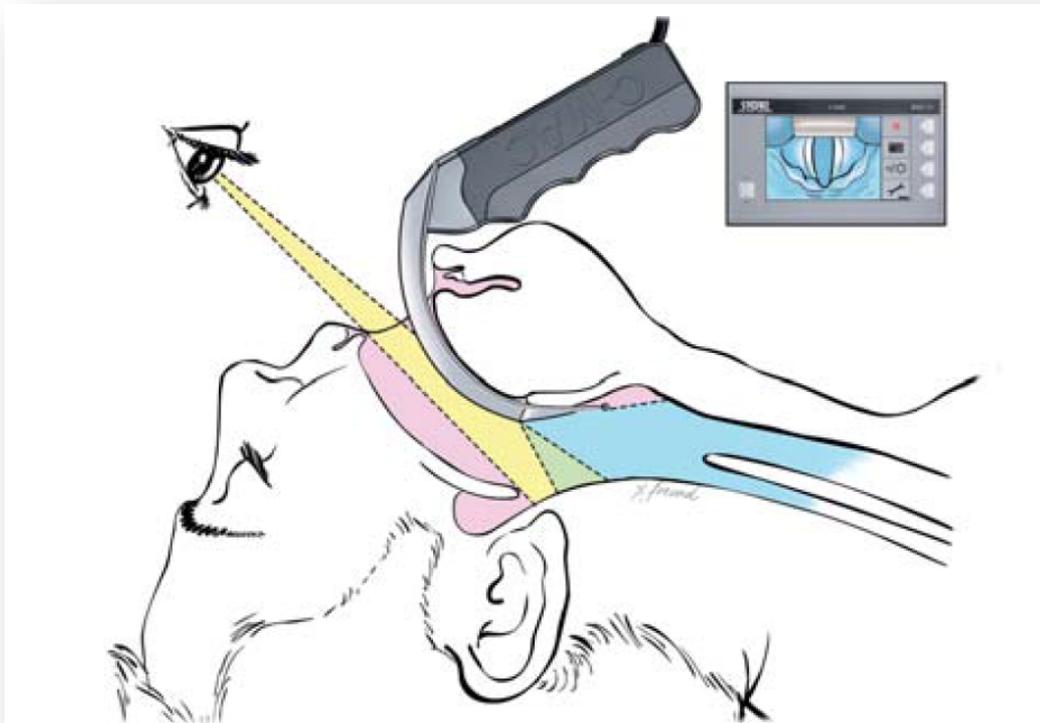
King VISION



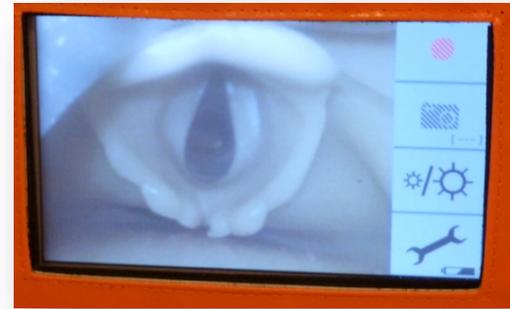
McGrath MAC



# VL with hyperangulated tip: monitor visualization only



## C-MAC + dBlade

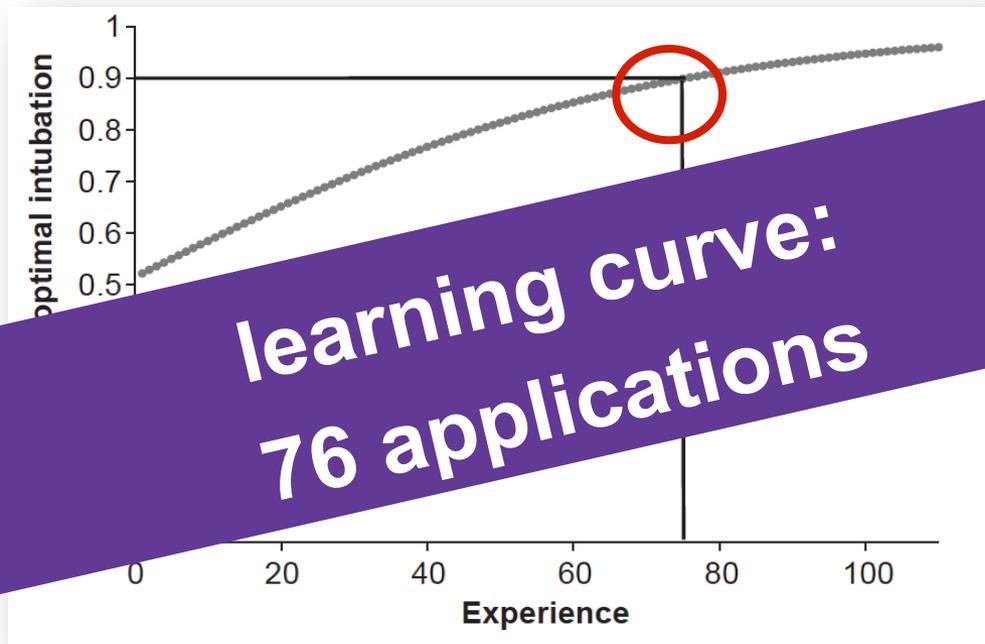


# Learning curve: GlideScope

## Original Article



Defining and developing expertise in tracheal intubation using a GlideScope<sup>®</sup> for anaesthetists with expertise in Macintosh direct laryngoscopy: an in-vivo longitudinal study



**learning curve:  
76 applications**

Cortellazzi P et al. Anaesthesia (2015) 70:290-5

# Video laryngoscopy in the “real world“

Research

JAMA | **Original Investigation** | CARING FOR THE CRITICALLY ILL PATIENT

## Video Laryngoscopy vs Direct Laryngoscopy on Successful First-Pass Orotracheal Intubation Among ICU Patients A Randomized Clinical Trial

JAMA. 2017;317(5):483-493. doi:10.1001/jama.2016.20603

Jean Baptiste Lascarrou, MD; Julie Boisrame-Helms, MD, PhD; Arthur Bailly, MD; Aurelie Le Thuaut, MSc; Toufik Kamel, MD; Emmanuelle Mercier, MD; Jean-Damien Ricard, MD, PhD; Virginie Lemiale, MD; Gwenhael Colin, MD; Jean Paul Mira, MD, PhD; Ferhat Meziani, MD, PhD; Jonathan Messika, MD; Pierre Francois Dequin, MD, PhD; Thierry Boulain, MD; Elie Azoulay, MD, PhD; Benoit Champigneulle, MD; Jean Reignier, MD, PhD; for the Clinical Research in Intensive Care and Sepsis (CRICS) Group

- 8 months, 7 ICUs
- 371 patients
- Direct laryngoscopy vs. McGrath MAC



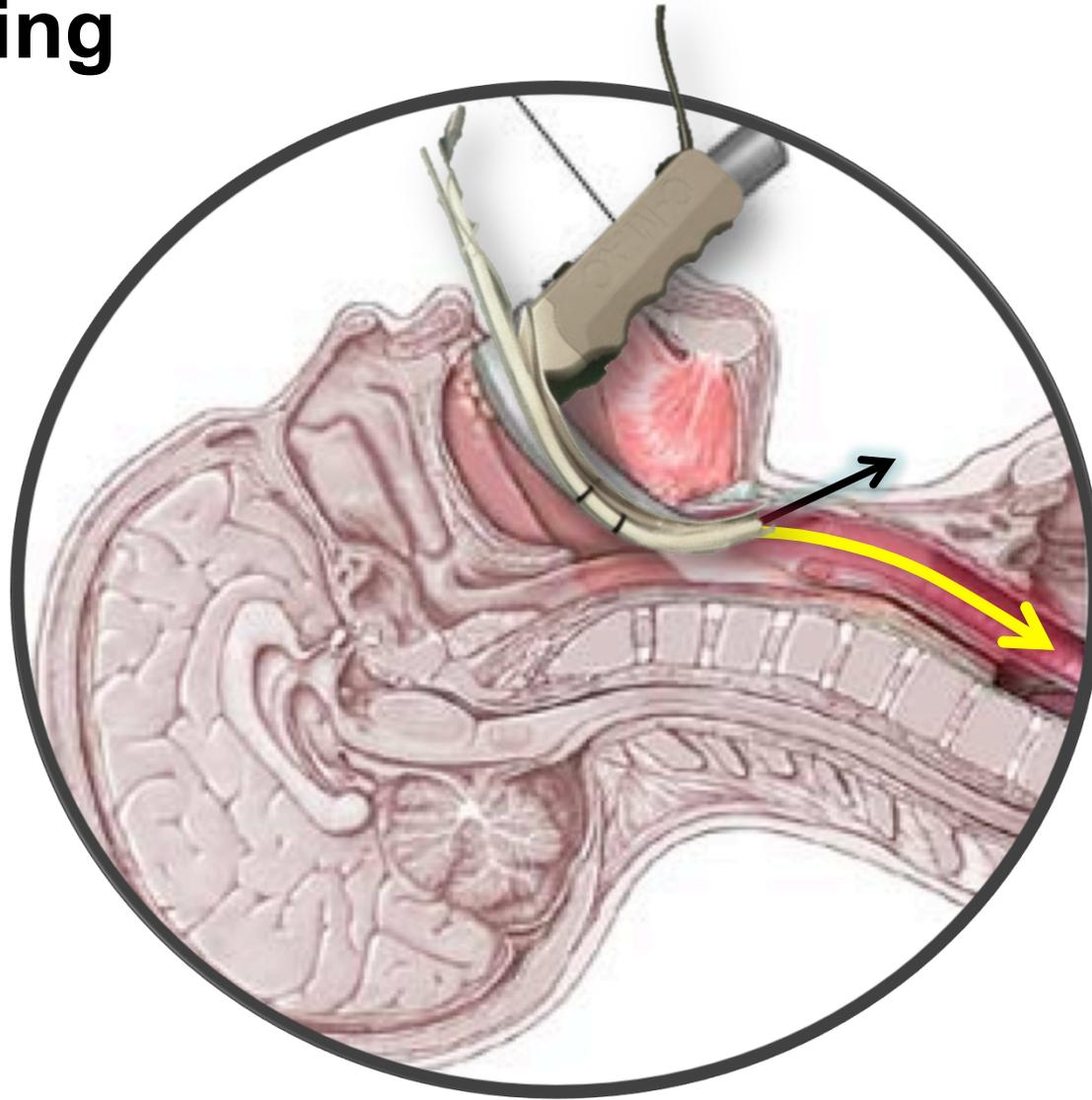


# The devil is in the details:

	No./Total (%)	
	Video Laryngoscopy	Direct Laryngoscopy
Skill level of physician making first intubation attempt		
Nonexpert	157/186 (84.4)	154/185 (83.2)
Expert	29/186 (15.6)	31/185 (16.8)

with other video laryngoscopes. As recommended by French guidelines,<sup>18</sup> no stylet was used for the first-pass intubation attempt.

# Endotracheal tube placement can be challenging



European  
Society of  
Anaesthesiology

**ESA**



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## **Station 6a: Indirect (Video-) Laryngoscopy, adult**

**Special interests:**

**Video Laryngoscopy, Supraglottic Airways,  
Prehospital and Clinical Airway Management**



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## **Station 6a: Indirect (Video-) Laryngoscopy, adult**

### **Special interests:**

**Video laryngoscopy, techniques for awake intubation,  
novel airway techniques, experimental cerebral ischemia,  
neuroprotection**