

Dynamically Adjustable Videolaryngoscope for Endotracheal Intubation (DAVE)

Background & Innovation

Endotracheal intubation is a routine yet safety-critical procedure in anaesthesia, intensive care and emergency medicine. Restricted glottic visualisation can lead to repeated intubation attempts, tissue trauma, hypoxaemia and other airway-related complications.

Although videolaryngoscopy has improved airway management, established systems rely on fixed blade geometries that cannot be adapted to patient-specific anatomy during use. As performance strongly depends on blade geometry, flexible adjustment may overcome limitations of conventional fixed designs.

DAVE introduces a **dynamically adjustable videolaryngoscope** that enables **real-time adaptation of blade curvature and camera orientation during laryngoscopy**.

How it works

DAVE uses an articulated blade with two coupled movable segments. A one-handed mechanism integrated into the handle dynamically adjusts distal blade angulation, while movement of the intermediate segment simultaneously adapts blade curvature and camera orientation.

This enables **real-time adaptation** to the individual anatomical situation **without exchanging the laryngoscope blade**.

IP & Commercial Potential

The European patent application covers multiple implementation variants, including one or more adjustment joints, mechanical or electromechanical actuation and different camera configurations.

This **broad technological scope provides flexibility** to develop different product configurations and to integrate the concept into existing videolaryngoscopy platforms.

Together with the demonstrated functional prototype, the patent application provides an attractive basis for industrial development, licensing and commercialisation.

Competitive advantage

- Addresses limitations of fixed blade geometries
- Patient-specific adaptation of blade geometry during intubation
- Potential to optimise glottic visualization through combined adjustment of blade geometry and camera orientation
- One-handed adjustment during use
- Flexible product development based on broad patent scope

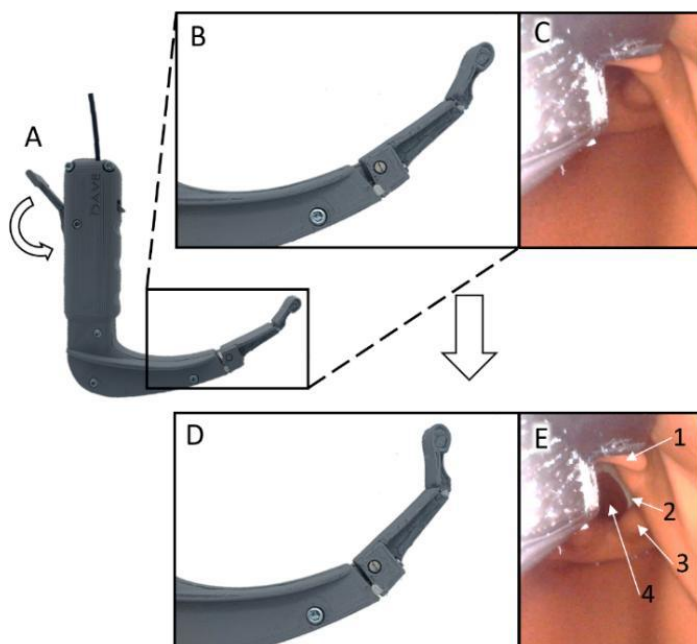


Fig. 1: DAVE second generation videolaryngoscope (A) and corresponding laryngoscopic views before (B, C) and after (D, E) actuation of the adjustment mechanism; (1) epiglottis, (2) right vocal cord, (3) right arytenoid, (4) rima glottidis.

FOCUS SECTORS

- Medtech
- Anaesthesia
- Emergency and intensive care medicine
- Medical devices

PROJECT KEY WORDS

- Videolaryngoscopy
- Difficult Airway Management
- Adjustable Blade
- Patient-Specific Airway Management

DEVELOPMENT STATUS

- TRL 4–5 – Technical feasibility demonstrated with a functional prototype in a relevant manikin environment

PATENT PROCEDURE STATUS

- EP patent application filed

[EP4649881A1](#)

POTENTIAL FOR COOPERATION

- R&D Cooperation
- Licensing
- Transfer of rights

PUBLICATION

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