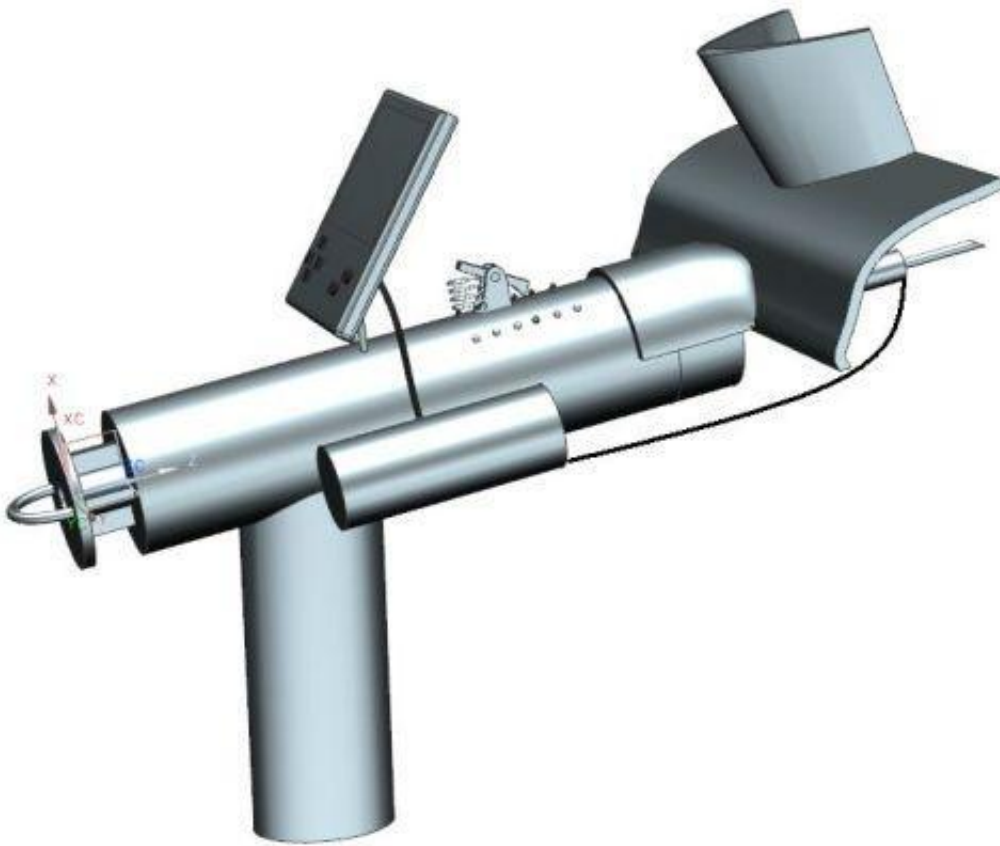


# Faster, safer tracheotomies

January 27 2014

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**Conceptual design of a device for assisted tracheotomy.**

Conceptual design of a device for assisted tracheotomy.

Researchers at the UPM have participated in the design of a device that allows us to perform tracheotomies faster and safe being beneficial for both patients and healthcare staff.

The new [device](#), which was patented by researchers of the School of Industrial Engineering of the Universidad Politécnica de Madrid (UPM) in collaboration with the Universidad Autónoma de Madrid (UAM), has achieved minimizing the risks associated to emergency tracheotomies and the time needed to perform planned tracheotomies. This is possible thanks to the combination of mechanical and drilling devices with medical imaging elements and information management that it would allow the adaptation of the surgery to the physical conditions of the patient.

This system can be applied to both adults and children and it allows us to localize the patient's trachea quickly and effectively. In addition, the incision is automatically performed to create a fixed airway that can facilitate future surgeries.

The main functionalities of the new device are: establishing neck position, identification of the tracheal air column, an adequate patients data diagnosis, preload adjustment according to the shot aim, cut and incision to open an alternative airway, incision dilatation and maintenance of the airway with the support of electrical and air power.

The design is currently in the development phase and it is being assessed through the Medtronic Eureka platform. In the future, apart from being used in surgery, the new tracheotomy device could become an element of public health security present in public places, the same as currently are present the defibrillators devices.

Provided by Universidad Politécnica de Madrid

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