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# New study: ballpoint pen cricothyroidotomy 'virtually impossible'

Despite what movies show, common pens are not viable tools for tracheostomy

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MUNICH, Germany — A new study says, don't believe Hollywood: a cricothyroidotomy is "virtually impossible" to perform with just a ballpoint pen.

Earlier this year, researchers from the University of Munich [published a study](#) which challenged a popular urban myth of EMS. Three different pens were tested to see if they were suitable as cannulas during a tracheostomy. The pens were also graded on their ability to penetrate the skin, trachea and cricothyroid ligaments.

While two of the three pens had openings large enough to act as a cannula, their high airflow resistance was not suitable for adequate ventilation.

Next, 10 medical laypersons were given a pen and asked to puncture the trachea of a fresh cadaver. All of the participants were able to penetrate the skin, but only a single researcher was able to get through the cricothyroid tissue and into the trachea.

The authors of the study note that the task took three attempts over five minutes, and required "a lot of patience and force." Ultimately, they concluded that a common, commercially-available ballpoint pen was an inappropriate tool for a cricothyrotomy.

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