ISRCTN35998024 https://doi.org/10.1186/ISRCTN35998024

Assessing the improvement in performing cricothyroidotomy (a surgical difficult airway management method) following self video feedback (trainees review their performance by themselves) and expert-assisted video feedback (trainees review their performance while an emergency physician provides additional feedback)

Submission date
11/05/2022

Recruitment status
No longer recruiting

Registration date
16/05/2022

Overall study status
Completed

Last Edited
13/06/2023

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Cricothyrodiotomy is a life-saving, invasive, rarely required, time-sensitive procedure. In patients who cannot be ventilated adequately, it may be required as a last-choice life-saving procedure. It involves an incision being made through the skin and cricothyroid membrane to establish a patent airway during certain life-threatening situations. Most cricothyroidotomy training is simulation-oriented and traditionally done on models. One of the critical components of the training is the feedback section. An expert gives this feedback, which is usually accompanied by video playback. In recent years, video-assisted learning materials have been included in clinical skills training. Self-evaluating and blended learning methods are also frequently investigated. The self-video feedback method may have the potential to provide a low-cost alternative to physician-driven simulation-based training. This study compares the performance of two groups in which the instructor provides feedback and the student self-assesses without the instructor in teaching internship students about the cricothyroidotomy procedure.

Who can participate?
Final-year medical students at the Acıbadem Mehmet Ali Aydınlar University who had no previous training in performing cricothyroidotomy

What does the study involve?
The trainees are randomly allocated into two groups after seeing the educational presentation

and the best practice video. One of these groups performs the cricothyroidotomy twice and reviews their own performance with a video recording for 15 minutes between two attempts. This group is the ‘self video feedback group’ (SVFG). The second group, after the first attempt, reviews their performance together with an emergency medicine specialist who provides additional feedback about the mistakes made, the causes for the mistakes, and the ways to prevent them the next time they perform the procedure. This second group of trainees makes up the ‘expert-assisted video feedback group’ (EVFG). The best practice video is not used during the feedback sessions for any of the two groups. In order to assess the impact of review and feedback sessions which take place between two attempts on the trainees’ performance, each attempt is scored by two emergency medicine specialists, one who watches the procedure live and the other from the video recording. As mentioned above, following the review/feedback sessions (SVFG or EVFG), trainees perform the procedure for a second time and it is recorded and scored by the two scorers. One of the scorers watches the procedures live being in the same room with the trainees, however, the other scorer watches the procedures from the video recordings. This second scorer is not able to see the faces of the trainees and can watch the recordings as many times as they want. The second scorer, who makes the assessment via the video recording, is able to make a more blinded/objective assessment due to the fact that they cannot see the face of the participant.

What are the possible benefits and risks of participating?
Participants will have theoretical and practical knowledge about cricothyroidotomy and will contribute to the development of the education model. Participation in the study does not involve any risk.

Where is the study run from?
Acibadem Mehmet Ali Aydınlar University Simulation Center (Turkey)

When is the study starting and how long is it expected to run for?
July 2019 to November 2019

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
Hasan Aldinc
hasan.aldinc@acibadem.edu.tr

Contact information

Type(s)
Scientific

Contact name
Dr Hasan Aldinc

ORCID ID
https://orcid.org/0000-0002-4734-5319

Contact details
Halkali merkez mah. Turgut ozal bulv. no:16 Kucukcekmece
Istanbul

Türkiye
34290
+90 (0)5063976727
hasan.aldinc@acibadem.edu.tr

Additional identifiers

Protocol serial number
ATADEK-2019/14

Study information

Scientific Title
Assessing the utility of two video feedback methods by comparing the improvement in performing cricothyroidotomy following self-video feedback and expert-assisted video feedback

Study objectives
This study aimed to assess the utility of two video feedback methods by comparing the improvement in performing cricothyroidotomy procedure following self video feedback (trainees review their performance by themselves) and expert-assissted video feedback (trainees review their performance while an emergency physician provides additional feedback).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 12/09/2019, the Acıbadem Mehmet Ali Aydinlar University Medical Research Ethical Committee Istanbul/Turkey (Department Kayışdağı Cad. No:32 Ataşehir/Istanbul; +90 (0)216 500 44 44; atadek@acibadem.edu.tr), ref: ATADEK-2019/14

Primary study design
Interventional

Study design
Single-center randomized educational intervention study

Study type(s)
Other

Health condition(s) or problem(s) studied
Emergency cricothyroidotomy

Interventions
The trainees are randomized by simple randomisation into two groups after seeing the educational presentation and the best practice video. One of these groups performs the cricothyroidotomy twice and reviews their own performance via a video recording for 15 minutes between two attempts. This group is the ‘self video feedback group’ (SVFG). The second group, after the first attempt, reviews their performance together with an emergency medicine specialist who provides additional feedback about the mistakes made, the causes for the mistakes, and the ways to prevent them the next time they perform the procedure. This second

group of trainees makes up the ‘expert-assisted video feedback group’ (EVFG). The best practice video is not used during the feedback sessions for any of the two groups. In order to assess the impact of review and feedback sessions which take place between two attempts on the trainees’ performance, each attempt is scored by two emergency medicine specialists, one who watches the procedure live and the other from the video recording. As mentioned above, following the review/feedback sessions (SVFG or EVFG), trainees perform the procedure for a second time and it is recorded and scored by the two scorers. One of the scorers watches the procedures live being in the same room with the trainees, however, the other scorer watches the procedures from the video recordings. This second scorer is not able to see the faces of the trainees and can watch the recordings as many times as they want. The second scorer, who makes the assessment via the video recording, is able to make a more blinded/objective assessment due to the fact that they cannot see the face of the participant.

Intervention Type
Procedure/Surgery

Primary outcome(s)
Improvement of scores measured with a checklist between the pre-feedback and post feedback attempts

Key secondary outcome(s)
Mean scores given for the two critical steps (Steps 1 and 4) of the procedure compared between the two groups, measured with a checklist at the pre-feedback and post feedback attempts

Completion date
28/11/2019

Eligibility

Key inclusion criteria
1. Final-year medical students at the Acıbadem Mehmet Ali Aydınlar University were invited to participate in the study as trainees
2. The trainees had no previous training in performing cricothyroidotomy
3. The written informed consent was obtained from the participants before the practice

Participant type(s)
Learner/student

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
80

Key exclusion criteria
1. Students who had cricothroidotomy practice before
2. Students who didn't sign the informed consent form

Date of first enrolment
14/09/2019

Date of final enrolment
28/11/2019

Locations

Countries of recruitment
Türkiye

Study participating centre
Acibadem University Center of Advanced Simulation and Education (CASE)
Kayışdağı Cad. No:32 Ataşehir
Istanbul
Türkiye
34750

Sponsor information

Organisation
Acıbadem University

ROR
https://ror.org/01rp2a061

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated and/or analysed during the current study will be published as a supplement to the results publication.

IPD sharing plan summary

Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		14/06/2022	13/06/2023	Yes	No