

Teaching Spinal Examination to Medical Students: Feedback From The Video-Modified Peyton's 4-Step Technique



Disclosures

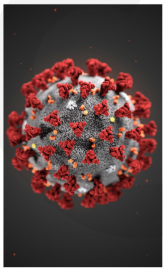
- Mr McCarthy – Educational contract Globus
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WHY DID WE CARRY OUT THIS STUDY?



- COVID-19: medical schools switched to online learning
- Significant impact on clinical skills / face to face hands on practical teaching
- Shorter periods of contact to reduce COVID risk
- Peyton's 4-stage technique is an effective technique for skill acquisition
- Video-modified technique was developed to optimise spinal examination skills teaching



Demonstration

Deconstruction

Comprehension

Performance

Teacher demonstrates the full examination to students. No explanation is provided to what is being tested and why

This step is vital for ensuring that students understand how the procedure flows and the technique required in different stages of the examination

★ In our study, a video of this step was distributed to students which they were advised to watch prior to the session

Demonstration

Deconstruction

Comprehension

Performance

Teacher demonstrates the full examination to students. Explanation is provided to students

This step breaks down each individual step in examination procedure. This provides context to students on what is being tested and why

★ In our study, a video of this step was distributed to students which they were advised to watch prior to the session

Demonstration

Deconstruction

Comprehension

Performance

Students attend the teaching session. They provide a full explanation of the examination procedure while the facilitator performs it

This step encourages mental repetition of the examination and allows students to verbalise the steps. It also enhances students' technique. This has been found to be the most important step

Demonstration

Deconstruction

Comprehension

Performance

Students then perform the examination on their peers. They then receive feedback from facilitator.

This step allows students to practise the examination on their peers and then receive feedback from facilitators for future improvements. This also facilitates a comfortable learning environment



METHODS AND SESSION STRUCTURE



- Cross-sectional study - 2 week case based learning - focusing on the spine
- Students asked to watch pre-session videos before attending (demonstration and deconstruction)
- 30 minute video covering an overview of spinal history and examination
- 12 minute video covering spine examination
- 2 x 8 minute videos covering upper and lower neurological examination
- 1st half of each video had no audio - 2nd half repeated with audio
- Students explicitly informed that they had to watch the whole video from start to finish and that there were no errors



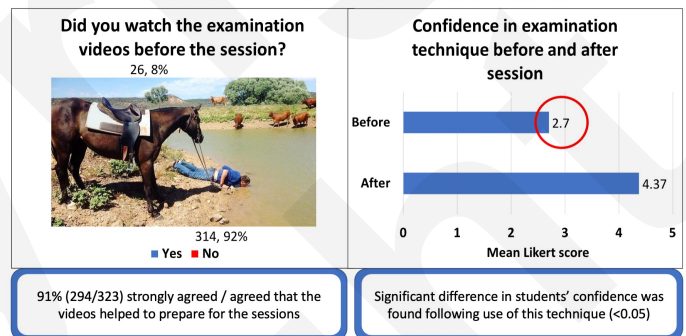
METHODS AND SESSION STRUCTURE



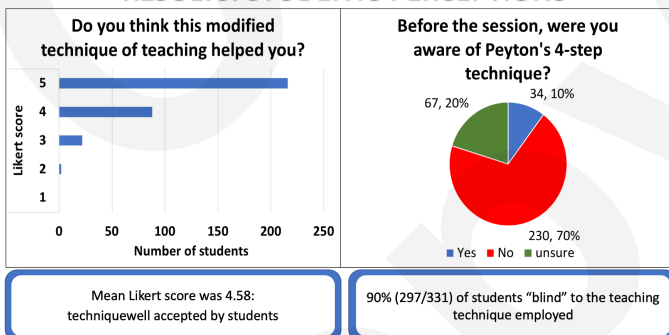
- 606 2nd year undergraduate medical students (2022 and 2023)
- No prior experience performing neurological and spinal examination
- Divided into groups of 6-8 supervised by a facilitator
- Duration 1 ½ hours
- Students' perceptions of the session recorded using a 5-point Likert scale
- Open-ended questions to gather insights regarding improvements



RESULTS: STUDENTS PERCEPTIONS



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CONCLUSION



- This method of teaching clinical examination skills, using a mixture of online and in-person methods, over a short time period appears to be well-accepted by students
- The method improves medical students' confidence in examination technique
 - Need to assess its effectiveness in student outcomes (exams)



