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# Undergraduate medical students' usage and perceptions of small group and online anatomical case-based learning

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# Background

## ➤ Anatomical case studies

- ❖ Clinical patient scenario (simplified)

- ❖ Reinforce content:

  - ❖ Knowledge

  - ❖ Understanding

  - ❖ Application

  - ❖ Contextualise content

  - ❖ Communication skills

should pay attention to  
Case histories more ...

Anatomy case histories were  
not always discussed.



... if we solve them alone at home,  
how are we supposed to make sure  
that everything is correct?

# Methods – online cases

## Anatomy Clinical Case Study 4 (GI-HEP 8)

Preview Edit Reports Grade essays

A 22 year old male is brought in to the Emergency Department with lower abdominal pain. He states that the pain was mild when it began yesterday, and was just mild cramps around his umbilicus. Since then, the pain has become worse, and shifted to his right iliac fossa. He has no appetite, and had 2 episodes of diarrhoea this morning.

On examination, you note that he has a high temperature (38.5°C). When he lies down for examination, he finds that he is more comfortable when he flexes his right hip a little. On palpation, he has tenderness and guarding in the right iliac fossa, maximal over McBurney's point.

1. What is your diagnosis?

- Strangulated inguinal hernia
- Peptic ulcer disease
- Appendicitis

Submit

Option chosen	Feedback provided
Appendicitis	Correct! On the next page we will discuss which aspects of the history and examination make you suspect this diagnosis.
Peptic ulcer disease	No - that will usually give upper abdominal, or epigastric pains. Try again!
Strangulated inguinal hernia	No - the pain from this will usually start at the localised, hernia site, and then become generalised, not the other way around! Try again :)

# Methods – REC 1085

## ➤ SurveyMonkey®

- ❖ Anatomy room & online
- ❖ Self-reported usage
- ❖ How enjoyable did you find the experience ...?
- ❖ How useful are these ... in promoting your learning and understanding ...?
- ❖ How useful did you find the feedback ...?
- ❖ How would you rate the clinical complexity ... in relation to your level of knowledge?
- ❖ Native language
- ❖ CAL tutorials

## ➤

- ❖ Online cases only
- ❖ Quantifiable usage
- ❖ “Reports and Logs”
  
- ❖ *Number of views*
- ❖ *Timing of views*

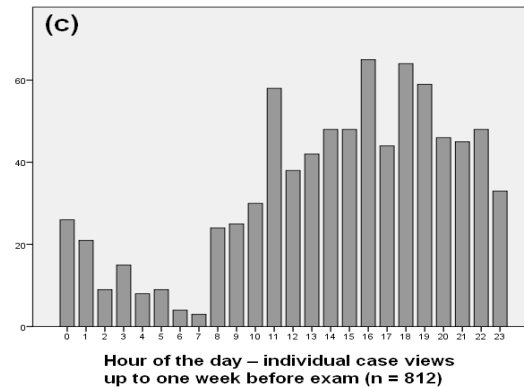
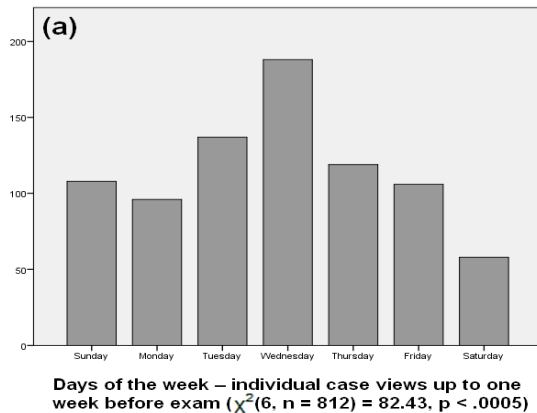
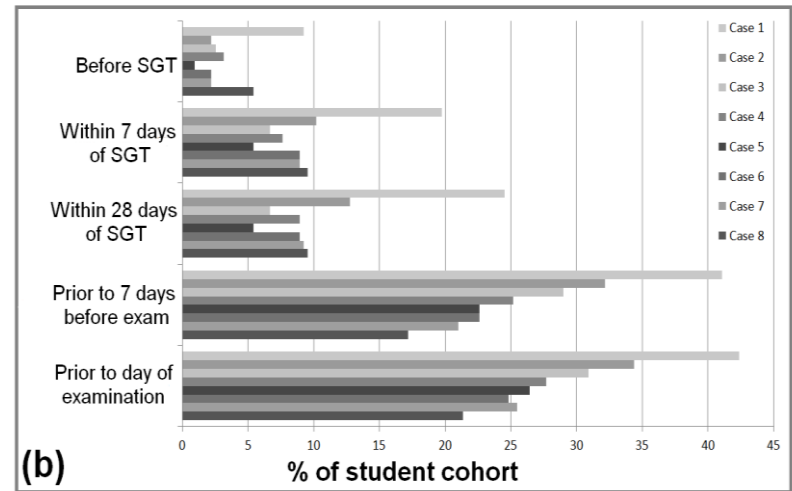
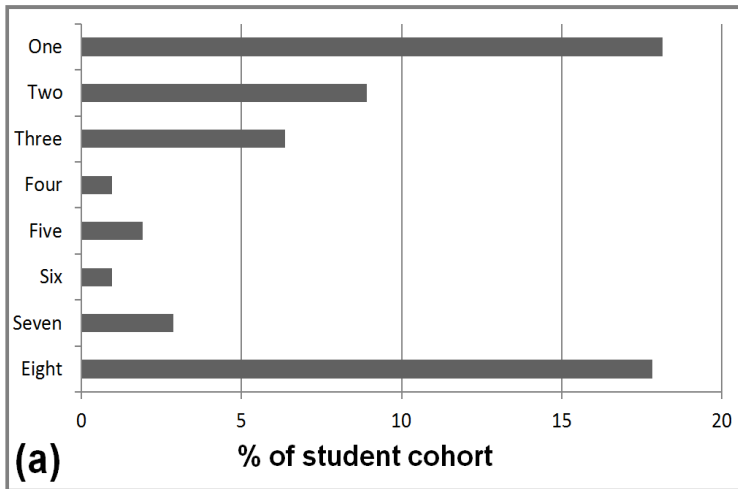
## ➤ Analysis



# Results



❖ 314 students - 180 students (53%) accessed at least one online case

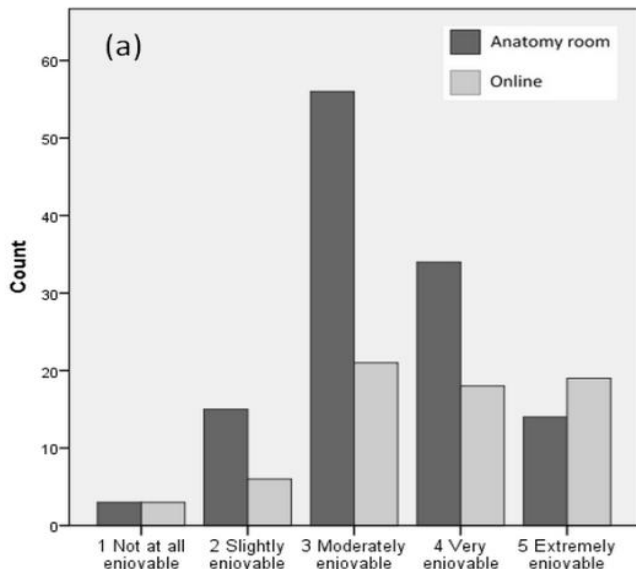


# Results

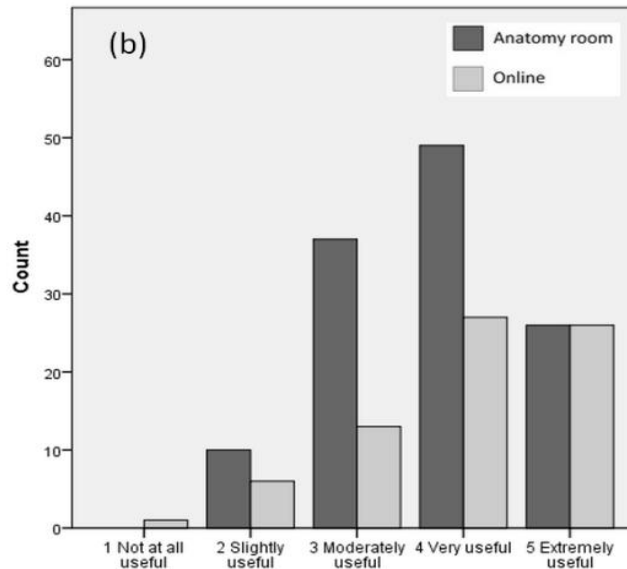


- ❖ 164 responded and completed the survey (53%)
- ❖ However, 38 students gave inconsistent responses to survey questions, indicating an inattentive response rate of 23%

	Q26. How enjoyable did you find the experience of completing these Case-studies?	Q27. How useful are these Case-Studies in promoting your learning and understanding of anatomical concepts?	Q28. How useful did you find the feedback you received when completing these Case studies?	Q29. How would you rate the clinical complexity of the case-studies in relation to your level of knowledge?
N - anatomy	122	122	104	121
N - online	67	73	69	69



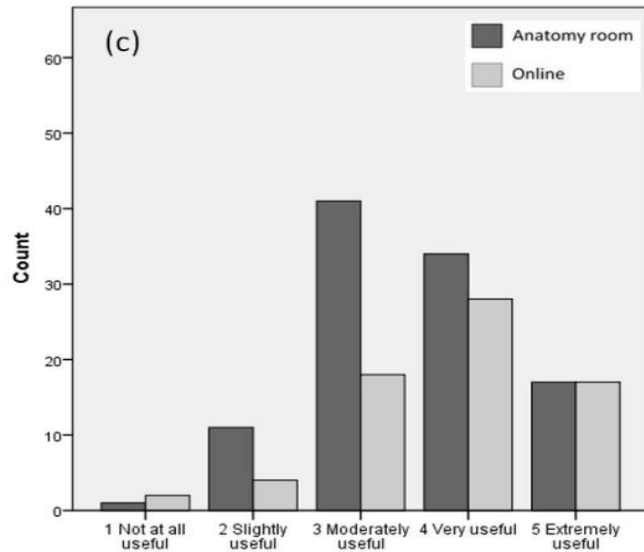
Q26. How enjoyable did you find the experience of completing these case-studies?



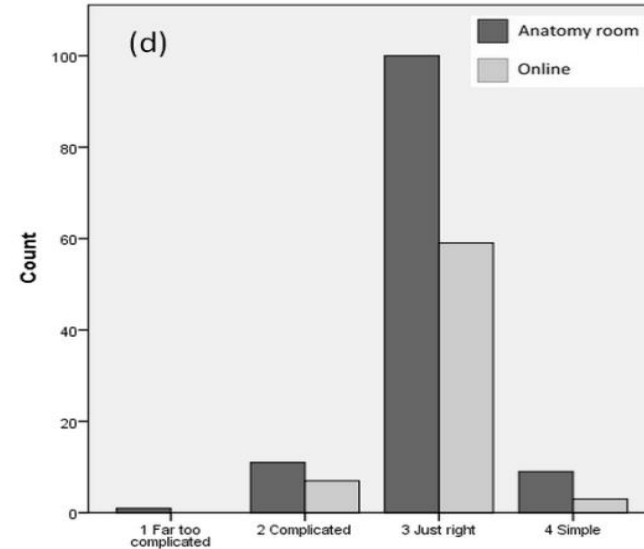
Q27. How useful are these case-studies in promoting your learning and understanding of anatomical concepts?

122	<b>N - anatomy</b>	122
3 (122)	<b>Median - anatomy</b>	4 (122)
88.69	<b>Mean rank</b>	92.16
3.34	<b>Mean Anatomy</b>	3.75
67	<b>N - online</b>	73
4 (67)	<b>Median - online</b>	4 (73)
106.49	<b>Mean rank</b>	107.75
3.66	<b>Mean online</b>	3.97
4,856.5	<b>MW U</b>	5,165
.025	<b>P (2-sided)</b>	.05





Q28. How useful did you find the feedback you received when completing these case-studies?



Q29. How would you rate the clinical complexity of the case-studies in relation to your level of knowledge?

104	<b>N - anatomy</b>	121
3 (104)	<b>Median - anatomy</b>	3 (121)
81.16	<b>Mean rank</b>	96.5
3.53	<b>Mean Anatomy</b>	2.97
69	<b>N - online</b>	69
4 (69)	<b>Median - online</b>	3
95.8	<b>Mean rank</b>	93.74
3.78	<b>Mean online</b>	2.94
4,195.5	<b>MW U</b>	4,053
.048	<b>P (2-sided)</b>	.604



## Student survey responses; free text comments (qualitative)

Twenty-nine students submitted a total of 48 free-text comments, which were generally positive for both case formats. However, two students either did not feel that they were useful, or else overlooked them entirely.

### Additional cases

Students communicated that more of these cases should be emphasised more in tutorials, or available online:

- *“Case studies should be discussed more during anatomy practicals”*
- *“Wish to have more online case studies, it is really useful”*
- *“Very helpful, must be applied to other modules [sic] with anatomy lectures”*

### Anatomy room or online??

Where students compared the two activities, they indicated a preference for discussion in anatomy SGTs as opposed to completing them alone; in contrast to the quantitative Likert ratings :

- *“Gave the prosectors an opportunity to give a clinical insight and share some of their experiences which are positive and encouraging to hear.”*
- *“The cases studies are more understandable when discussed in the anatomy room with prosectors rather than do it on our own”*

One student confided that they were more likely to complete these cases if encouraged to do so with staff, as opposed to independently:

- *“the case studies are better if they are implemented within the lecture there would be more chance that we are gonna have look at it as if it was on the online only course”*

### Promoting deeper knowledge and understanding

Most comments indicated that students found these resources useful in promoting deeper knowledge and understanding of the course material:

- *“Concise summaries of content, very useful for developing core info.”*
- *“Cases were very useful. The summary provided by the end of the case [online format] is well organized and understandable. If possible to recommend books for cases”*



# Conclusions

- Anatomical case studies
  - ❖ Useful adjunct to traditional curriculum – student responses are positive for both eLearning and SGT (anatomy room) formats
  - ❖ While students rated the eLearning resource higher than the SGT discussions, more students participated in these discussions that completed the online versions of the cases
  - ❖ Students who do complete these cases online tend to do so towards the end of the semester as a revision aide, instead of concurrently, when learning the corresponding content via lectures or anatomy room tutorials
  
- ❖ Considerations
  - ❖ Optional or mandatory?
  - ❖ Core or complementary content?

# Acknowledgements

- ❖ *The authors are grateful to the staff of RCSI's Quality Enhancement Office, particularly Ms Joanna Zawadzka & Professor Richard Arnett, for their expertise and assistance with regard to data collection, anonymization and analysis from the Student Feedback Survey.*

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