

OP4

Teaching Surgery Using High Definition CCTV System – Beyond the Class Size Limit

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Introduction: Small group teaching with ample clinical exposure is the core mode of education in many top-notch medical schools. However, with increasing number of medical undergraduate intake, the conventional way of surgical knowledge transfer in the operating theatre becomes inefficient due to a loss of teacher-student interaction.

Method: Senior medical students attended a weekly 3-hour seminar observing elective surgical operations transmitted through a HD-CCTV system. Students presented the history, examination findings, investigations and perioperative management of the patient during the seminar. Interactive discussion and illustration of operative details were conducted by designated modulators without disturbance to operating surgeons.

Findings: Most students agreed that the teaching program had benefited them in acquisition of surgical knowledge with better understanding of disease pathology, surgical anatomy and relevant perioperative care. The overall satisfaction score exceeds 92%. Pre- and post-course MCQ tests also confirmed significant effectiveness in conveying critical surgical concepts to the students.

We have observed several advantages in this new format of surgical teaching:

- 1) Minimized risk of contamination to the operating environment.
- 2) Reduced distraction to the operating surgeons.
- 3) Clearer operative picture to be observed by medical students.
- 4) Active participation and engagement of students in the process.

Conclusion: In conclusion, the use of latest audiovisual technology combining with enhanced teacher-student interaction improved the learning experience in surgery of medical students in the senior class. The CCTV transmission with HD quality image display overcomes the problem of ever-increasing class size, and homogenizes the clinical exposure of medical students. Such teaching format should also be applicable to other procedure-based medical disciplines, such as therapeutic endoscopy and interventional radiology. They are of high educational value to medical students but also require intense concentration of the operating physicians. The modulated CCTV transmission allows teaching of these procedures being performed safely.