**Clinical Librarian Service Search Results**

**Request:** What literature is there on changes to undergraduate medical education following COVID-19? What literature is there on the impact on medical educators?

**Summary**

There is a vast literature on the impact of COVID-19 on teaching undergraduate medical students.

[Literature reviews and overviews](#_Literature_reviews_and): A systematic review discusses the literature on COVID-19 and medical education (1a). Another article discusses the incresed use of telehealth (e.g. video consultations) and ways of effectively train medical students in telehealth (1b). Two comment / opinion articles may also be of interest (1d, 1e).

[Different teaching techniques](#_Different_teaching_techniques): As the literature is so vast, additional articles are listed below. Very short articles and articles with very little information have been excluded. The references below have not been cross-checked against the systematic review (1a). Most of the literature retrieved describes how individual courses or modules were transferred online (2c, 2e, 2i, 2j, 2k, 2l, 2m, 2r, 2u, 2v, 2w, 2y, 2ae, 2af, 2ag, 2aj, 2ak, 2al, 2am, 2an, 2ao, 2at, 2au, 2av, 2aw, 2ay, 2az, 2ba, 2bb, 2bc, 2bd, 2be, 2bf, 2bi, 2bj, 2bl, 2bm). Others discuss multiple techniques (2b, 2d, 2o, 2ai). Some focus on individual techniques:

* Online workshops and videoconferencing (2s, 2ah, 2a, 2aq, 2bh)
* Students providing or observing telehealth consultations (2ac, 2ar, 2bd, 2bk)
* Videos (YouTube, livestreaming) and Instagram (2q, 2z, 2ad)
* Peer tips for students (2aa, 2ai) and peer teaching (2ax)
* Artificial intelligence (2a)
* Flipped classroom (2f)
* Online spirometry (2g)
* Medical students reviewing research for doctors (2h)
* Social media (2n)
* Virtual reality (2p)
* Image-guided training (2t)
* Interactive tools (2x)
* Whatsapp (2ab)
* Website with collections of resources (2bg)

[Teachers](#_Teachers): There is a much smaller body on the impact of COVID-19 on medical teachers. Two describe support groups for educators to share experiences and for mutual support (3a, 3d). Some describe moving courses online with a stronger focus on the teachers’ experiences of having to make these changes quickly (3b, 3e, 3g). One article looks at the role of relationships between students and educators (3c).

There is a wide range of approaches to adapting medical undergraduate teaching to COVID-19. There is also a small amount of literature assessing the impact on teachers.

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**Current at:** 5th October 2020

**Time taken for search:** 6 hours.

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Please let me know if you would like me to search further.

**Accessing Articles:** Links are provided where online access to the full-text is available. An OpenAthens username and password may be required for online access to articles. You can register for one here: <https://openathens.nice.org.uk/>

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**Please acknowledge this work in any resulting paper or presentation as:**

Evidence Search: Medical education COVID-19 (LS167). Lindsay Snell (2020). Derby, UK: University Hospitals of Derby & Burton NHS Foundation Trust Library and Knowledge Service.

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<https://www.smartsurvey.co.uk/s/LiteratureSearchFeedback20202021/>

This relates to this specific search and will help us to monitor and improve our service. Many Thanks.

Kind regards,

Lindsay Snell

Clinical Librarian

Email: [Lindsay.snell@nhs.net](mailto:Lindsay.snell@nhs.net)

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**Results**

# Literature reviews and overviews

## 1a. Medical and Surgical Education Challenges and Innovations in the COVID-19 Era: A Systematic Review

**Source:** Dedeilia, A.; Sotiropoulos, M. G.; Hanrahan, J. G.; Janga, D.; Dedeilias, P.; Sideris, M. (2020) *In Vivo* 34(3 Suppl1603-1611

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32503818&id=doi:10.21873%2Finvivo.11950&issn=0258-851X&isbn=&volume=34&issue=3&spage=1603&pages=1603-1611&date=2020&title=In+Vivo&atitle=Medical+and+Surgical+Education+Challenges+and+Innovations+in+the+COVID-19+Era%3A+A+Systematic+Review.&aulast=Dedeilia&pid=%3Cauthor%3EDedeilia+A%3BSotiropoulos+MG%3BHanrahan+JG%3BJanga+D%3BDedeilias+P%3BSideris+M%3C%2Fauthor%3E%3CAN%3E32503818%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The aim of this systematic review was to identify the challenges imposed on medical and surgical education by the COVID-19 pandemic, and the proposed innovations enabling the continuation of medical student and resident training. A systematic review on the MEDLINE and EMBASE databases was performed on April 18th, 2020, and yielded 1288 articles. Sixty-one of the included manuscripts were synthesized in a qualitative description focused on two major axes, "challenges" and "innovative solutions", and two minor axes, "mental health" and "medical students in the frontlines". Shortage of personal protective equipment, suspension of clinical clerkships and observerships and reduction in elective surgical cases unavoidably affect medical and surgical education. Interesting solutions involving the use of virtual learning, videoconferencing, social media and telemedicine could effectively tackle the sudden cease in medical education. Furthermore, trainee's mental health should be safeguarded, and medical students can be involved in the COVID-19 clinical treatment if needed.

**Database:** MEDLINE, Ovid Technologies

## 1b. Medical Student Training in eHealth: Scoping Review

**Source:** Echelard, J. F.; Methot, F.; Nguyen, H. A.; Pomey, M. P. (2020) *JMIR medical education* 6(2e20027

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32915154&id=doi:10.2196%2F20027&issn=2369-3762&isbn=&volume=6&issue=2&spage=e20027&pages=e20027&date=2020&title=JMIR+medical+education&atitle=Medical+Student+Training+in+eHealth%3A+Scoping+Review.&aulast=Echelard&pid=%3Cauthor%3EEchelard+JF%3BMethot+F%3BNguyen+HA%3BPomey+MP%3C%2Fauthor%3E%3CAN%3E32915154%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

BACKGROUND: eHealth is the use of information and communication technologies to enable and improve health and health care services. It is crucial that medical students receive adequate training in eHealth as they will work in clinical environments that are increasingly being enabled by technology. This trend is especially accelerated by the COVID-19 pandemic as it complicates traditional face-to-face medical consultations and highlights the need for innovative approaches in health care. OBJECTIVE: This review aims to evaluate the extent and nature of the existing literature on medical student training in eHealth. In detail, it aims to examine what this education consists of, the barriers, enhancing factors, and propositions for improving the medical curriculum. This review focuses primarily on some key technologies such as mobile health (mHealth), the internet of things (IoT), telehealth, and artificial intelligence (AI). METHODS: Searches were performed on 4 databases, and articles were selected based on the eligibility criteria. Studies had to be related to the training of medical students in eHealth. The eligibility criteria were studies published since 2014, from a peer-reviewed journal, and written in either English or French. A grid was used to extract and chart data. RESULTS: The search resulted in 25 articles. The most studied aspect was mHealth. eHealth as a broad concept, the IoT, AI, and programming were least covered. A total of 52% (13/25) of all studies contained an intervention, mostly regarding mHealth, electronic health records, web-based medical resources, and programming. The findings included various barriers, enhancing factors, and propositions for improving the medical curriculum. CONCLUSIONS: Trends have emerged regarding the suboptimal present state of eHealth training and barriers, enhancing factors, and propositions for optimal training. We recommend that additional studies be conducted on the following themes: barriers, enhancing factors, propositions for optimal training, competencies that medical students should acquire, learning outcomes from eHealth training, and patient care outcomes from this training. Additional studies should be conducted on eHealth and each of its aspects, especially on the IoT, AI, programming, and eHealth as a broad concept. Training in eHealth is critical to medical practice in clinical environments that are increasingly being enabled by technology. The need for innovative approaches in health care during the COVID-19 pandemic further highlights the relevance of this training.

**Database:** MEDLINE, Ovid Technologies

## 1d. Medical students and COVID-19: lessons learnt from the 2020 pandemic

**Source:** de Andres Crespo, M. Claireaux, H. Handa, A. I. (2020) *Postgraduate Medical Journal* 11(11

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32788316&id=doi:10.1136%2Fpostgradmedj-2020-138559&issn=0032-5473&isbn=&volume=&issue=&spage=ostgradmed&pages=&date=2020&title=Postgraduate+Medical+Journal&atitle=Medical+students+and+COVID-19%3A+lessons+learnt+from+the+2020+pandemic.&aulast=de+Andres+Crespo&pid=%3Cauthor%3Ede+Andres+Crespo+M%3BClaireaux+H%3BHanda+AI%3C%2Fauthor%3E%3CAN%3E32788316%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 1e. The Impact of the Covid-19 Pandemic on Current Anatomy Education and Future Careers: A Student's Perspective

**Source:** Franchi, T. (2020) *Anatomical Sciences Education* 13(3312-315

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32301588&id=doi:10.1002%2Fase.1966&issn=1935-9772&isbn=&volume=13&issue=3&spage=312&pages=312-315&date=2020&title=Anatomical+Sciences+Education&atitle=The+Impact+of+the+Covid-19+Pandemic+on+Current+Anatomy+Education+and+Future+Careers%3A+A+Student%27s+Perspective.&aulast=Franchi&pid=%3Cauthor%3EFranchi+T%3C%2Fauthor%3E%3CAN%3E32301588%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

# Different teaching techniques

## 2a. How artificial intelligence (AI) could have helped our medical education during the COVID-19 pandemic - A student's perspective

**Source:** Abhee, S. S.; Phillips, R. (2020) *Medical teacher* 1

<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32755431&id=doi:10.1080%2F0142159X.2020.1798371&issn=1466-187X&isbn=&volume=&issue=&spage=1&pages=1&date=2020&title=Medical+teacher&atitle=How+artificial+intelligence+%28AI%29+could+have+helped+our+medical+education+during+the+COVID-19+pandemic+-+A+student%27s+perspective&aulast=Abhee&pid=%3Cauthor%3EAbhee+S.S.%3BPhillips+R.%3C%2Fauthor%3E%3CAN%3E632544735%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:**

## 2b. Emerging role of online virtual teaching resources for medical student education in plastic surgery: COVID-19 pandemic and beyond

**Source:** Abi-Rafeh, J.; Azzi, A. J. (2020) *Journal of Plastic, Reconstructive & Aesthetic Surgery: JPRAS* 73(81575-1592

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32553546&id=doi:10.1016%2Fj.bjps.2020.05.085&issn=1748-6815&isbn=&volume=73&issue=8&spage=1575&pages=1575-1592&date=2020&title=Journal+of+Plastic%2C+Reconstructive+%26+Aesthetic+Surgery%3A+JPRAS&atitle=Emerging+role+of+online+virtual+teaching+resources+for+medical+student+education+in+plastic+surgery%3A+COVID-19+pandemic+and+beyond.&aulast=Abi-Rafeh&pid=%3Cauthor%3EAbi-Rafeh+J%3BAzzi+AJ%3C%2Fauthor%3E%3CAN%3E32553546%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2c. Engaging Third-Year Medical Students on Their Internal Medicine Clerkship in Telehealth During COVID-19

**Source:** Abraham, H. N.; Opara, I. N.; Dwaihy, R. L.; Acuff, C.; Brauer, B.; Nabaty, R.; Levine, D. L. (2020) *Cureus* 12(6e8791

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32724740&id=doi:10.7759%2Fcureus.8791&issn=2168-8184&isbn=&volume=12&issue=6&spage=e8791&pages=e8791&date=2020&title=Cureus&atitle=Engaging+Third-Year+Medical+Students+on+Their+Internal+Medicine+Clerkship+in+Telehealth+During+COVID-19.&aulast=Abraham&pid=%3Cauthor%3EAbraham+HN%3BOpara+IN%3BDwaihy+RL%3BAcuff+C%3BBrauer+B%3BNabaty+R%3BLevine+DL%3C%2Fauthor%3E%3CAN%3E32724740%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

PURPOSE: Due to the coronavirus disease-19 (COVID-19) global pandemic, the Association of American Medical Colleges (AAMC) recommended that medical students be removed from contact with patients testing positive or patients under suspicion (PUIs) for COVID-19. As a result of Detroit being a highly affected area, the Wayne State University (WSU) medical students assigned to hospital clerkships during this time were essentially prevented from performing any direct patient care activities. A model for the Internal Medicine (IM) clerkship was developed incorporating a clinical telehealth component, in order to create a safe environment for students to continue to perform meaningful patient care. OBJECTIVES: To model a curriculum whereby students have a diverse patient care experience while increasing their skill and confidence in the performance of telehealth, as measured by self-report in a required pre- and post-clerkship assessment. Participant population: Twenty, third-year medical students at the end of their academic year, assigned to the IM clerkship at the Detroit Medical Center. METHODS: Students were instructed to complete the American College of Physicians (ACP) module on telehealth, given an orientation via the Zoom online platform by clinical faculty, and placed on a weekly telehealth clinic schedule, precepted by residents and attendings in IM. Survey data was collected covering students' knowledge, skills, and attitudes surrounding telehealth at the beginning of the rotation. A mid-clerkship feedback session was held with the clerkship director, and the resultant qualitative data was assessed for themes to be compared against the baseline assessment. Determination of incremental change between pre- and post-assessment reports will be evaluated at the completion of the clerkship, with that data forthcoming. RESULTS: Baseline survey revealed that 90% of students believed the telemedicine experience would be a valuable addition to their IM clerkship. Most were confident that, with training, they could effectively complete a telemedicine visit and 80% felt that telehealth would play an important role in their future careers. Students were pleased with the telemedicine visit logistics and with their role in actively assisting patients with the Zoom online platform. Despite initial anxiety over effectively communicating with patients prior to beginning the telemedicine experience, students demonstrated a common trend towards comfort with that aspect of the visit. Students were impressed with the amount of guidance given by resident and attending physicians in expressing empathy via a virtual platform. Overall, students were pleased with the variety of cases seen and the prompt feedback they received from resident and attending physicians after the telemedicine encounters. At the midpoint assessment, students expressed satisfaction with the overall experience and appreciated the opportunity to continue interacting with patients despite the limitations the pandemic imposed. CONCLUSIONS: Little is formally taught about telehealth in either medical school or medical residency, and integration into a formal curriculum is rare. The AAMC is underway with the development of competencies for telehealth, and, once released, the teaching of this format will become an expectation. We successfully developed a robust model in which medical students not only actively participated in, but also actively delivered, telehealth care to our patients.

**Database:** MEDLINE, Ovid Technologies

## 2d. Strategies for Effective Medical Student Education in Dermatology During the COVID-19 Pandemic

**Source:** Ashrafzadeh, S.; Imadojemu, S. E.; Vleugels, R. A.; Buzney, E. A. (2020) *Journal of the American Academy of Dermatology* 20(20

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32828857&id=doi:10.1016%2Fj.jaad.2020.08.068&issn=0190-9622&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+the+American+Academy+of+Dermatology&atitle=Strategies+for+Effective+Medical+Student+Education+in+Dermatology+During+the+COVID-19+Pandemic.&aulast=Ashrafzadeh&pid=%3Cauthor%3EAshrafzadeh+S%3BImadojemu+SE%3BVleugels+RA%3BBuzney+EA%3C%2Fauthor%3E%3CAN%3E32828857%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2e. Development of an interprofessional rotation for pharmacy and medical students to perform telehealth outreach to vulnerable patients in the COVID-19 pandemic

**Source:** Bautista, C. A.; Huang, I.; Stebbins, M.; Floren, L. C.; Wamsley, M.; Youmans, S. L.; Hsia, S. L. (2020) *Journal of Interprofessional Care* 1-4

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32917114&id=doi:10.1080%2F13561820.2020.1807920&issn=1356-1820&isbn=&volume=&issue=&spage=1&pages=1-4&date=2020&title=Journal+of+Interprofessional+Care&atitle=Development+of+an+interprofessional+rotation+for+pharmacy+and+medical+students+to+perform+telehealth+outreach+to+vulnerable+patients+in+the+COVID-19+pandemic.&aulast=Bautista&pid=%3Cauthor%3EBautista+CA%3BHuang+I%3BStebbins+M%3BFloren+LC%3BWamsley+M%3BYoumans+SL%3BHsia+SL%3C%2Fauthor%3E%3CAN%3E32917114%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

This report describes an interprofessional rotation for pharmacy and medical students focused on telehealth outreach to patients at high risk for delays in care due to the COVID-19 pandemic. The curriculum was designed around core competencies of interprofessional education. Student activities included participating in interprofessional huddles, collaborating on patient interviews, and practicing interprofessional communication. Three pharmacy students and two medical students completed the rotation. Evaluation was conducted via survey and exit interview. All students successfully increased their knowledge of their own and others' professional roles and demonstrated interprofessional communication and collaboration through telehealth.

**Database:** MEDLINE, Ovid Technologies

## 2f. "Megaflip," a Novel Approach to National Collaboration for Flipped Classroom Education

**Source:** Beer, Lindsey; Gray, Megan; Carbajal, Melissa M.; French, Heather; Vasquez, Margarita; Bauserman, Melissa; Bonachea, Elizabeth M. (2020) *Academic Pediatrics* 20(6758-759

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=144689807&site=ehost-live&custid=ns010363>

The article offers information on Megaflip, which refers to a novel form of open-access national didactics used by medical schools across the U.S. during the COVID-19 pandemic. Topics covered include the impact of COVID-19 on fellow education, the result of a survey regarding the utility of Megaflips, and the use of the Zoom platform to deliver interactive sessions.

**Database:** CINAHL, EBSCOhost

## 2g. Zooming past the coronavirus lockdown: online spirometry practical demonstration with student involvement in analysis by remote control

**Source:** Bhaskar, A.; Ng, A. K. M.; Patil, N. G.; Fok, M. (2020) *Advances in physiology education* 44(4516-519

<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32880483&id=doi:10.1152%2Fadvan.00097.2020&issn=1522-1229&isbn=&volume=44&issue=4&spage=516&pages=516-519&date=2020&title=Advances+in+physiology+education&atitle=Zooming+past+the+coronavirus+lockdown%3A+online+spirometry+practical+demonstration+with+student+involvement+in+analysis+by+remote+control&aulast=Bhaskar&pid=%3Cauthor%3EBhaskar+A.%3BNg+A.K.M.%3BPatil+N.G.%3BFok+M.%3C%2Fauthor%3E%3CAN%3E632772585%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

This paper describes the process involved in conducting an online spirometry practical through Zoom. The teacher demonstrated the practical from the medical school, and the students observed the procedure from the comfort of their own homes. Students were able to analyze the graphs captured in the teacher's laptop by remotely controlling the teacher's laptop. This method may be useful for places where face-to-face classes are suspended due to the COVID-19 pandemic.

**Database:**

## 2h. Idle medical students review emerging COVID-19 research

**Source:** Boodman, C.; Lee, S.; Bullard, J. (2020) *Medical Education Online* 25(11770562

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32441229&id=doi:10.1080%2F10872981.2020.1770562&issn=1087-2981&isbn=&volume=25&issue=1&spage=1770562&pages=1770562&date=2020&title=Medical+Education+Online&atitle=Idle+medical+students+review+emerging+COVID-19+research.&aulast=Boodman&pid=%3Cauthor%3EBoodman+C%3BLee+S%3BBullard+J%3C%2Fauthor%3E%3CAN%3E32441229%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The coronavirus disease (COVID-19) pandemic is causing wide-spread interruptions in medical education. With little warning, clinical rotations were cancelled and medical students were sent home. While pre-clinical students transitioned to online curricula, clinical students were left without discreet educational goals. Simultaneously, medical doctors were scrambling to maintain competence in the face of rapidly evolving COVID-19 information. Here, we describe an education program that integrates medical students into interdisciplinary teams to review emerging COVID-19 research that directly answers questions sent in by medical doctors.

**Database:** MEDLINE, Ovid Technologies

## 2i. COVID-19 and anatomy: Stimulus and initial response

**Source:** Brassett, C.; Cosker, T.; Davies, D. C.; Dockery, P.; Gillingwater, T. H.; Lee, T. C.; Milz, S.; Parson, S. H.; Quondamatteo, F.; Wilkinson, T. (2020) *Journal of Anatomy* 237(3393-403

<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32628795&id=doi:10.1111%2Fjoa.13274&issn=0021-8782&isbn=&volume=237&issue=3&spage=393&pages=393-403&date=2020&title=Journal+of+Anatomy&atitle=COVID-19+and+anatomy%3A+Stimulus+and+initial+response&aulast=Brassett&pid=%3Cauthor%3EBrassett+C.%3BCosker+T.%3BDavies+D.C.%3BDockery+P.%3BGillingwater+T.H.%3BLee+T.C.%3BMilz+S.%3BParson+S.H.%3BQuondamatteo+F.%3BWilkinson+T.%3C%2Fauthor%3E%3CAN%3E2005484179%3C%2FAN%3E%3CDT%3EReview%3C%2FDT%3E>

**Database:** Embase, Ovid Technologies

## 2j. A remotely conducted paediatric bootcamp for fourth‐year medical students

**Source:** Burns, Rebekah; Wenger, Jesse (2020) *Medical Education* 54(7668-669

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=143823390&site=ehost-live&custid=ns010363>

The article discusses a two-week interactive paediatric boot camp for graduating medical students adapted for remote learning via the Zoom platform due to COVID-19 social distancing requirements. Topics mentioned include assessment of online videos and interactive training modules prior to scenario discussions, improvement of performance in targeted skills with an in-person course, and how to address technical challenges related to the Zoom platform.

**Database:** CINAHL, EBSCOhost

## 2k. The impact of COVID-19 on medical student surgical education: Implementing extreme pandemic response measures in a widely distributed surgical clerkship experience

**Source:** Calhoun, K. E.; Yale, L. A.; Whipple, M. E.; Allen, S. M.; Wood, D. E.; Tatum, R. P. (2020) *American Journal of Surgery* 220(144-47

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32389331&id=doi:10.1016%2Fj.amjsurg.2020.04.024&issn=0002-9610&isbn=&volume=220&issue=1&spage=44&pages=44-47&date=2020&title=American+Journal+of+Surgery&atitle=The+impact+of+COVID-19+on+medical+student+surgical+education%3A+Implementing+extreme+pandemic+response+measures+in+a+widely+distributed+surgical+clerkship+experience.&aulast=Calhoun&pid=%3Cauthor%3ECalhoun+KE%3BYale+LA%3BWhipple+ME%3BAllen+SM%3BWood+DE%3BTatum+RP%3C%2Fauthor%3E%3CAN%3E32389331%3C%2FAN%3E%3CDT%3EEditorial%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2l. Creating an anatomy webinar series to cover missed teaching sessions

**Source:** Chiuta, S. L.; Argyriou, A.; Ahari, D.; Sara, X.; Clayton, B.; Cabaleiro, C. (2020) *BMJ* 370(m2892

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32816798&id=doi:10.1136%2Fbmj.m2892&issn=0959-8138&isbn=&volume=370&issue=&spage=m2892&pages=m2892&date=2020&title=BMJ&atitle=Creating+an+anatomy+webinar+series+to+cover+missed+teaching+sessions.&aulast=Chiuta&pid=%3Cauthor%3EChiuta+SL%3BArgyriou+A%3BAhari+D%3BSara+X%3BClayton+B%3BCabaleiro+C%3C%2Fauthor%3E%3CAN%3E32816798%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2m. Creation of an Interactive Virtual Surgical Rotation for Undergraduate Medical Education During the COVID-19 Pandemic

**Source:** Chao, T. N.; Frost, A. S.; Brody, R. M.; Byrnes, Y. M.; Cannady, S. B.; Luu, N. N.; Rajasekaran, K.; Shanti, R. M.; Silberthau, K. R.; Triantafillou, V.; Newman, J. G. (2020) *Journal of Surgical Education* 01(01

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32654999&id=doi:10.1016%2Fj.jsurg.2020.06.039&issn=1878-7452&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+Surgical+Education&atitle=Creation+of+an+Interactive+Virtual+Surgical+Rotation+for+Undergraduate+Medical+Education+During+the+COVID-19+Pandemic.&aulast=Chao&pid=%3Cauthor%3EChao+TN%3BFrost+AS%3BBrody+RM%3BByrnes+YM%3BCannady+SB%3BLuu+NN%3BRajasekaran+K%3BShanti+RM%3BSilberthau+KR%3BTriantafillou+V%3BNewman+JG%3C%2Fauthor%3E%3CAN%3E32654999%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

OBJECTIVE: During the coronavirus 2019 pandemic, medical student involvement in direct patient care has been severely limited. Rotations mandatory not only for core curricula but also for informing decisions regarding specialty choice have been postponed during a critical window in the application cycle. Existing virtual rotations are largely observational or lack patient-facing components. SETTING: A virtual Otolaryngology - Head and Neck Surgery rotation at the University of Pennsylvania (Philadelphia, Pennsylvania) was implemented for medical students, comprising interactive live-streamed surgeries, outpatient telehealth visits, and virtual small group didactics. RESULTS: Medical students enrolled in the virtual surgical rotation were able to engage with attending surgeons and operating room staff while remotely viewing surgical procedures captured with first-person audiovisual technology. Students participated in several different aspects of care delivery in both the inpatient and outpatient setting, similar to their typical responsibilities of an in-person rotation. CONCLUSIONS: The authors will continue to develop the virtual surgical education methodology to further disseminate an interactive video-based medical student elective to other procedural specialties and institutions.

**Database:** MEDLINE, Ovid Technologies

## 2n. #EducationInTheTimeOfCOVID: Leveraging social media to teach during the COVID‐19 pandemic pandemonium

**Source:** Coleman, Caroline G.; Law, Karen L.; Spicer, Jennifer O. (2020) *Medical Education* 54(9852-853

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=145115109&site=ehost-live&custid=ns010363>

The article discusses the use of social media to teach medical students during the COVID-19 pandemic. Topics include the issuance of a statement by the American Association of Medical Colleges (AAMC) in March 2020 about medical students, the use of infographics as the primary educational medium to ensure information was visually engaging and easily absorbed by clinicians, and advantages of information dissemination via social media.

**Database:** CINAHL, EBSCOhost

## 2o. Undergraduate Radiology Education During the COVID-19 Pandemic: A Review of Teaching and Learning Strategies

**Source:** Darras, K. E.; Spouge, R. J.; de Bruin, A. B. H.; Sedlic, A.; Hague, C.; Forster, B. B. (2020) *Canadian Association of Radiologists Journal.* <https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32749165&id=doi:10.1177%2F0846537120944821&issn=0846-5371&isbn=&volume=&issue=&spage=0846537120&pages=&date=2020&title=Canadian+Association+of+Radiologists+Journal&atitle=Undergraduate+Radiology+Education+During+the+COVID-19+Pandemic%3A+A+Review+of+Teaching+and+Learning+Strategies&aulast=Darras&pid=%3Cauthor%3EDarras+K.E.%3BSpouge+R.J.%3Bde+Bruin+A.B.H.%3BSedlic+A.%3BHague+C.%3BForster+B.B.%3C%2Fauthor%3E%3CAN%3E2005770007%3C%2FAN%3E%3CDT%3EReview%3C%2FDT%3E>

The Coronavirus disease 2019 (COVID-19) pandemic has altered how medical education is delivered, worldwide. Didactic sessions have transitioned to electronic/online platforms and clinical teaching opportunities are limited. These changes will affect how radiology is taught to medical students at both the pre-clerkship (ie, year 1 and 2) and clinical (ie, year 3 and 4) levels. In the pre-clerkship learning environment, medical students are typically exposed to radiology through didactic lectures, integrated anatomy laboratories, case-based learning, and ultrasound clinical skills sessions. In the clinical learning environment, medical students primarily shadow radiologists and radiology residents and attend radiology resident teaching sessions. These formats of radiology education, which have been the tenets of the specialty, pose significant challenges during the pandemic. This article reviews how undergraduate radiology education is affected by COVID-19 and explores solutions for teaching and learning based on e-learning and blended learning theory. Copyright © The Author(s) 2020.

## 2p. Pre-graduation medical training including virtual reality during COVID-19 pandemic: a report on students' perception

**Source:** De Ponti, R.; Marazzato, J.; Maresca, A. M.; Rovera, F.; Carcano, G.; Ferrario, M. M. (2020) *BMC Medical Education* 20(1332

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32977781&id=doi:10.1186%2Fs12909-020-02245-8&issn=1472-6920&isbn=&volume=20&issue=1&spage=332&pages=332&date=2020&title=BMC+Medical+Education&atitle=Pre-graduation+medical+training+including+virtual+reality+during+COVID-19+pandemic%3A+a+report+on+students%27+perception.&aulast=De+Ponti&pid=%3Cauthor%3EDe+Ponti+R%3BMarazzato+J%3BMaresca+AM%3BRovera+F%3BCarcano+G%3BFerrario+MM%3C%2Fauthor%3E%3CAN%3E32977781%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

BACKGROUND: The Coronavirus Disease 19 (COVID-19) pandemic brought significant disruption to in-hospital medical training. Virtual reality simulating the clinical environment has the potential to overcome this issue and can be particularly useful to supplement the traditional in-hospital medical training during the COVID-19 pandemic, when hospital access is banned for medical students. The aim of this study was to assess medical students' perception on fully online training including simulated clinical scenarios during COVID-19 pandemic. METHODS: From May to July 2020 when in-hospital training was not possible, 122 students attending the sixth year of the course of Medicine and Surgery underwent online training sessions including an online platform with simulated clinical scenarios (Body Interact TM) of 21 patient-based cases. Each session focused on one case, lasted 2 h and was divided into three different parts: introduction, virtual patient-based training, and debriefing. In the same period, adjunctive online training with formal presentation and discussion of clinical cases was also given. At the completion of training, a survey was performed, and students filled in a 12-item anonymous questionnaire on a voluntary basis to rate the training quality. Results were reported as percentages or with numeric ratings from 1 to 4. Due to the study design, no sample size was calculated. RESULTS: One hundred and fifteen students (94%) completed the questionnaire: 104 (90%) gave positive evaluation to virtual reality training and 107 (93%) appreciated the format in which online training was structured. The majority of participants considered the platform of virtual reality training realistic for the initial clinical assessment (77%), diagnostic activity (94%), and treatment options (81%). Furthermore, 97 (84%) considered the future use of this virtual reality training useful in addition to the apprenticeship at patient's bedside. Finally, 32 (28%) participants found the online access difficult due to technical issues. CONCLUSIONS: During the COVID-19 pandemic, online medical training including simulated clinical scenarios avoided training interruption and the majority of participant students gave a positive response on the perceived quality of this training modality. During this time frame, a non-negligible proportion of students experienced difficulties in online access to this virtual reality platform.

**Database:** MEDLINE, Ovid Technologies

## 2q. 'GP Live'- recorded General Practice consultations as a learning tool for junior medical students faced with the COVID-19 pandemic restrictions

**Source:** Dow, N.; Wass, V.; Macleod, D.; Muirhead, L.; McKeown, J. (2020) *Education for Primary Care* 1-5

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32842902&id=doi:10.1080%2F14739879.2020.1812440&issn=1473-9879&isbn=&volume=&issue=&spage=1&pages=1-5&date=2020&title=Education+for+Primary+Care&atitle=%27GP+Live%27-+recorded+General+Practice+consultations+as+a+learning+tool+for+junior+medical+students+faced+with+the+COVID-19+pandemic+restrictions.&aulast=Dow&pid=%3Cauthor%3EDow+N%3BWass+V%3BMacleod+D%3BMuirhead+L%3BMcKeown+J%3C%2Fauthor%3E%3CAN%3E32842902%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

BACKGROUND: First year medical students value doctor and patient contact. However, it can be challenging to achieve positive exposure to primary care on a large scale. The COVID-19 pandemic has placed even greater pressure on placing students in General Practice (GP). AIM: To assess the feasibility and acceptability of showing Year 1 medical students authentic recorded consultations between GPs and patients, and then explore what they gained from this. METHOD: Using Panopto R Video Platform, we pre-recorded real Primary Care consultations, with patient and GP consent, which were then processed securely using the University of Aberdeen server. These were shown to all Year 1 medical students who immediately debriefed these consultations in small groups with a GP tutor. Subsequently two focus groups were held with 11 students to evaluate what they had learnt. LEARNING OUTCOMES: The consultations were easy to record and play during the teaching session, although there were some issues with sound quality. All students in the focus groups enjoyed the experience. They gained new knowledge about the skills of GPs, and recognised GPs as positive role models. Students were able to identify a variety of communication and consultation skills used by the GP, which reinforced their teaching on these delivered elsewhere in the course. CONCLUSION: Using pre-recorded consultations as a teaching tool is reproducible, time-efficient and beneficial to students. We propose that this model of using authentic 'live' interactions between GPs and patients represents a valuable undergraduate educational opportunity and could be utilised by medical schools internationally.

**Database:** MEDLINE, Ovid Technologies

## 2r. Medical Student Education Roadblock Due to COVID-19: Virtual Radiology Core Clerkship to the Rescue

**Source:** Durfee, Sara M.; Goldenson, Robin P.; Gill, Ritu R.; Rincon, Sandra P.; Flower, Elisa; Avery, Laura L. (2020) *Academic Radiology* 27(101461-1466

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=146171574&site=ehost-live&custid=ns010363>

Rationale and Objectives: Medical schools were upended by the COVID-19 pandemic, resulting in suspension of all in-person educational activities, and leaving clinical clerkships on hold indefinitely. A virtual curriculum and novel teaching methods were needed to fulfill curricular requirements. We developed a comprehensive virtual radiology clerkship and evaluated the efficacy of this novel method of teaching.Materials and Methods: A 4-week virtual radiology clerkship was designed to accommodate medical students who had not yet completed the required clerkship. The design included online flipped classroom modules, large group didactic lectures, and small group homeroom activities. Student performance was assessed via a standardized online final exam. Feedback from students was collected using online surveys. Student performance was compared to the in-person radiology clerkship.Results: One hundred and eleven medical students were enrolled in the virtual radiology clerkship. Final exam scores were similar to the in-person clerkship. Students indicated that small group homeroom activities had the highest overall satisfaction. Students recognized enthusiastic teachers regardless of class format. Exceptional course content and organization were also noted. Course weaknesses included didactic lecture content which was repetitive or too advanced, the limited opportunity to build personal connections with faculty, and scheduling conflicts with other competing school activities.Conclusion: A completely virtual radiology core clerkship can be a successful educational experience for medical students during a time when remote learning is required. A small group learning environment is most successful for student engagement. Personal connections between faculty and students can be challenging in a virtual course.

**Database:** CINAHL, EBSCOhost

## 2s. Online team‐based learning sessions as interactive methodologies during the pandemic

**Source:** Gaber, Dalia A.; Shehata, Mohamed Hany; Amin, Hebat Allah A. (2020) *Medical Education* 54(7666-667

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=143823395&site=ehost-live&custid=ns010363>

The article discusses some of the problems addressed on online team-based learning (TBL) sessions used as interactive methodologies during the COVID-19 pandemic. Topics discussed include the impact of the pandemic on the medical education system, immediate feedback as one of the cornerstones of TBL, and sudden shift of medical educators to digitalisation.

**Database:** CINAHL, EBSCOhost

## 2t. Image-Guided Surgical e-Learning in the Post-COVID-19 Pandemic Era: What Is Next?

**Source:** García Vazquez, Alain; Verde, Juan M.; Dal Mas, Francesca; Palermo, Mariano; Cobianchi, Lorenzo; Marescaux, Jacques; Gallix, Benoit; Dallemagne, Bernard; Perretta, Silvana; Gimenez, Mariano E. (2020) *Journal of Laparoendoscopic & Advanced Surgical Techniques* 30(9993-997

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=145758318&site=ehost-live&custid=ns010363>

The current unprecedented coronavirus 2019 (COVID-19) crisis has accelerated and enhanced e-learning solutions. During the so-called transition phase, efforts were made to reorganize surgical services, reschedule elective surgical procedures, surgical research, academic education, and careers to optimize results. The intention to switch to e-learning medical education is not a new concern. However, the current crisis triggered an alarm to accelerate the transition. Efforts to consider e-learning as a teaching and training method for medical education have proven to be efficient. For image-guided therapies, the challenge requires more effort since surgical skills training is combined with image interpretation training, thus the challenge is to cover quality educational content with a balanced combination of blended courses (online/onsite). Several e-resources are currently available in the surgical scenario; however, further efforts to enhance the current system are required by accelerating the creation of new learning solutions to optimize complex surgical education needs in the current disrupted environment.

**Database:** CINAHL, EBSCOhost

## 2u. Rapid transition of a preclinical health systems science and social justice course to remote learning in the time of coronavirus

**Source:** Garg, M.; Eniasivam, A.; Satterfield, J.; Norton, B.; Austin, E.; Dohan, D. (2020) *Medical Education Online* 25(11812225

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32822280&id=doi:10.1080%2F10872981.2020.1812225&issn=1087-2981&isbn=&volume=25&issue=1&spage=1812225&pages=1812225&date=2020&title=Medical+Education+Online&atitle=Rapid+transition+of+a+preclinical+health+systems+science+and+social+justice+course+to+remote+learning+in+the+time+of+coronavirus.&aulast=Garg&pid=%3Cauthor%3EGarg+M%3BEniasivam+A%3BSatterfield+J%3BNorton+B%3BAustin+E%3BDohan+D%3C%2Fauthor%3E%3CAN%3E32822280%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

As the coronavirus pandemic started, we rapidly transitioned a preclinical social justice and health systems sciences course at our medical school to asynchronous, remote learning. We describe processes, curricular innovations, and lessons learned. Small groups were converted into independent learning modules and lectures were given live via videoconferencing technology. We started with a simplified approach and then built technological capabilities over time. Current events were incorporated into curriculum and assessment. Our course ran from 16 March-3 April 2020 for the 155-person first-year class. Student attendance for optional, synchronous remote sessions was higher than in-person attendance in previous years. Completion rates for assignments were high but with minimal student collaboration. Faculty office hours were underutilized. Focus group and formal evaluations were largely positive, with numerical ratings for quality of the course and faculty teaching higher than the 2 years prior. Student engagement with social justice topics in aremote format was successful through modifications to small groups and lecture structure. Students, faculty, and administrative staff appreciated the consistency of session format throughout the course. Students exam performance was similar to prior years. Attention should be paid to what can be learned via self-study as opposed to small group learning. Better methods of soliciting real-time student feedback, and encouraging engagement with each other and with faculty in aremote environment are needed.

**Database:** MEDLINE, Ovid Technologies

## 2v. Pilot virtual clerkship curriculum during the COVID‐19 pandemic: Podcasts, peers and problem‐solving

**Source:** Geha, Rabih; Dhaliwal, Gurpreet (2020) *Medical Education* 54(9855-856

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=145115108&site=ehost-live&custid=ns010363>

The article discusses the transition of six students who completed 14 days of an internal medicine inpatient clerkship (IC) to a virtual clerkship curriculum (VCC) during the coronavirus 2019 (COVID-19) pandemic. Topics include objective of the VCC, conceptual frameworks for the VCC, and conclusion on the transformative power of a clerkship.

**Database:** CINAHL, EBSCOhost

## 2w. Innovation Born in Isolation: Rapid Transformation of an In-Person Medical Student Radiology Elective to a Remote Learning Experience During the COVID-19 Pandemic

**Source:** Gomez, E.; Azadi, J.; Magid, D. (2020) *Academic Radiology* 27(91285-1290

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32565164&id=doi:10.1016%2Fj.acra.2020.06.001&issn=1076-6332&isbn=&volume=27&issue=9&spage=1285&pages=1285-1290&date=2020&title=Academic+Radiology&atitle=Innovation+Born+in+Isolation%3A+Rapid+Transformation+of+an+In-Person+Medical+Student+Radiology+Elective+to+a+Remote+Learning+Experience+During+the+COVID-19+Pandemic.&aulast=Gomez&pid=%3Cauthor%3EGomez+E%3BAzadi+J%3BMagid+D%3C%2Fauthor%3E%3CAN%3E32565164%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

RATIONALE AND OBJECTIVES: With social distancing measures in place both nationally and globally, the current COVID-19 pandemic has forced the cancellation of in-person classes at universities and medical schools across the country. This has presented unique challenges for educators in all fields as they have embarked, many for the first time, on the journey into remote education in order to provide distance learning opportunities for students. MATERIALS AND METHODS: In this article we will review our approach to rapidly converting an in-person diagnostic radiology elective to an entirely remote learning experience for medical students at our institution, including modification of course structure, software tools and materials utilized, and strategies for learner engagement and collaboration. RESULTS: Development of an online elective led to a 10-fold increase in student enrollment compared to the traditional course offering, providing a unique opportunity to reach a broad number of students, many of whom were in the early clinical stages of their medical school career. Lastly, we will review faculty feedback after participating in the remote course as well as lessons learned from the transition to distance learning and its implications for future work CONCLUSION: The current state of technology makes radiology particularly well-suited for distance learning, and with the proper tools and approaches, effective remote radiology instruction can be achieved.

**Database:** MEDLINE, Ovid Technologies

## 2x. Interactive pedagogical tools could be helpful for medical education continuity during COVID-19 outbreak

**Source:** Grzych, G.; Schraen-Maschke, S. (2020) *Annales de Biologie Clinique* 78(4446-448

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32627731&id=doi:10.1684%2Fabc.2020.1576&issn=0003-3898&isbn=&volume=78&issue=4&spage=446&pages=446-448&date=2020&title=Annales+de+Biologie+Clinique&atitle=Interactive+pedagogical+tools+could+be+helpful+for+medical+education+continuity+during+COVID-19+outbreak.&aulast=Grzych&pid=%3Cauthor%3EGrzych+G%3BSchraen-Maschke+S%3C%2Fauthor%3E%3CAN%3E32627731%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Training and education are essential for medical students. During the COVID-19 outbreak, numerous schools and universities have had to close. Ensuring pedagogical continuity requires alternatives to the traditional classroom, especially in medical education. Usual distance learning tools such as videos and downloadable handouts are not sufficient to promote efficient teaching. Distance learning requires self-motivation and does not give you direct access to your instructor. Some students fear the loss of human contact with an instructor - like asking questions during and after class - which promotes learning, understanding and communication. Moreover, classical distance learning methods do not offer immediate feedback that can help students in their understanding of the lecture. In this context, interactive pedagogic tools (IPT) could be useful for medical education continuity and for maintaining human contact necessary in pedagogy. We briefly evaluated interactive pedagogic tool compared to traditionnal distancial tools on medical students. This study showed the importance to have direct contact with a teacher and feedback during a lecture and to not exclusively perform distance learning without direct interaction and feedback. Hence, in the present context, we encourage teacher to use this type of tools to maintain direct interaction with students - which is essential in pedagogy - and ensure a qualitative pedagogical continuity.

**Database:** MEDLINE, Ovid Technologies

## 2y. An Approach to Teaching Psychiatry to Medical Students in the Time of Covid-19

**Source:** Guerandel, A.; McCarthy, N.; McCarthy, J.; Mulligan, D. (2020) *Irish Journal of Psychological Medicine* 1-19

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32611461&id=doi:10.1017%2Fipm.2020.87&issn=0790-9667&isbn=&volume=&issue=&spage=1&pages=1-19&date=2020&title=Irish+Journal+of+Psychological+Medicine&atitle=An+Approach+to+Teaching+Psychiatry+to+Medical+Students+in+the+Time+of+Covid-19.&aulast=Guerandel&pid=%3Cauthor%3EGuerandel+A%3BMcCarthy+N%3BMcCarthy+J%3BMulligan+D%3C%2Fauthor%3E%3CAN%3E32611461%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

In this time of Covid-19, life in healthcare has changed immeasurably. It has rapidly been injected with an 'all hands-on deck' approach, to facilitate the necessary adaptations required to reduce the spread of the virus and deliver frontline clinical care. Inevitably aspects of these changes have disrupted the delivery of medical education, notably clinical placements have been cancelled and social distancing guidelines prohibit face-to-face teaching. The training of future doctors is an essential part of this effort. Indeed, the emergence of a global health threat has underlined its continued importance. For medical educators and students alike, we have been presented with a challenge. Concurrently this presents us with an impetus and opportunity for innovation. For some time now, a transformation in medical education has been called for, with an increasing recognition of the need to prepare students for the changing landscape of healthcare systems. This has included a focus on the use of technology enhanced, and self-directed learning. As a team of educators and clinicians in psychiatry, working in the School of Medicine and Medical Sciences (SMMS) in University College Dublin (UCD), we will share how we have responded. We outline the adaptations made to our 'Psychiatry' module, and consider the influence this may have on its future delivery. These changes were informed by direct student input.

**Database:** MEDLINE, Ovid Technologies

## 2z. Online Neuroanatomy Education and Its Role During the Coronavirus Disease 2019 (COVID-19) Lockdown

**Source:** Hall, S.; Border, S. (2020) *World Neurosurgery* 139(628

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32426071&id=doi:10.1016%2Fj.wneu.2020.05.001&issn=1878-8750&isbn=&volume=139&issue=&spage=628&pages=628&date=2020&title=World+Neurosurgery&atitle=Online+Neuroanatomy+Education+and+Its+Role+During+the+Coronavirus+Disease+2019+%28COVID-19%29+Lockdown.&aulast=Hall&pid=%3Cauthor%3EHall+S%3BBorder+S%3C%2Fauthor%3E%3CAN%3E32426071%3C%2FAN%3E%3CDT%3ENews%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2aa. Covid-19: how to use your time when clinical placements are postponed

**Source:** Henry, J. A.; Black, S.; Gowell, M.; Morris, E.; general, practitioner (2020) *BMJ* 369(m1489

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32366500&id=doi:10.1136%2Fbmj.m1489&issn=0959-8138&isbn=&volume=369&issue=&spage=m1489&pages=m1489&date=2020&title=BMJ&atitle=Covid-19%3A+how+to+use+your+time+when+clinical+placements+are+postponed.&aulast=Henry&pid=%3Cauthor%3EHenry+JA%3BBlack+S%3BGowell+M%3BMorris+E%3Bgeneral+practitioner%3C%2Fauthor%3E%3CAN%3E32366500%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2ab. The use of Whatsapp as a way to deliver plastic surgery teaching during the COVID-19 pandemic

**Source:** Hughes, B. A.; Stallard, J.; West, C. C. (2020) *Journal of Plastic, Reconstructive and Aesthetic Surgery* 73(7e1-e2

<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32505627&id=doi:10.1016%2Fj.bjps.2020.05.034&issn=1748-6815&isbn=&volume=73&issue=7&spage=e1&pages=e1-e2&date=2020&title=Journal+of+Plastic%2C+Reconstructive+and+Aesthetic+Surgery&atitle=The+use+of+Whatsapp+as+a+way+to+deliver+plastic+surgery+teaching+during+the+COVID-19+pandemic&aulast=Hughes&pid=%3Cauthor%3EHughes+B.A.%3BStallard+J.%3BWest+C.C.%3C%2Fauthor%3E%3CAN%3E2006101303%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:**

## 2ac. Unmuting Medical Students' Education: Utilizing Telemedicine During the COVID-19 Pandemic and Beyond

**Source:** Iancu, A. M.; Kemp, M. T.; Alam, H. B. (2020) *Journal of Medical Internet Research* 22(7e19667

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32614776&id=doi:10.2196%2F19667&issn=1438-8871&isbn=&volume=22&issue=7&spage=e19667&pages=e19667&date=2020&title=Journal+of+Medical+Internet+Research&atitle=Unmuting+Medical+Students%27+Education%3A+Utilizing+Telemedicine+During+the+COVID-19+Pandemic+and+Beyond.&aulast=Iancu&pid=%3Cauthor%3EIancu+AM%3BKemp+MT%3BAlam+HB%3C%2Fauthor%3E%3CAN%3E32614776%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Due to the coronavirus disease (COVID-19) pandemic, medical schools have paused traditional clerkships, eliminating direct patient encounters from medical students' education for the immediate future. Telemedicine offers opportunities in a variety of specialties that can augment student education during this time. The projected growth of telemedicine necessitates that students learn new skills to be effective providers. In this viewpoint, we delineate specific telehealth opportunities that teach core competencies for patient care, while also teaching telemedicine-specific skills. Schools can further augment student education through a variety of telemedicine initiatives across multiple medical fields. The explosion of telemedicine programs due to the pandemic can be a catalyst for schools to integrate telemedicine into their current curricula. The depth and variety of telemedicine opportunities allow schools to continue providing high-quality medical education while maintaining social distancing policies.

**Database:** MEDLINE, Ovid Technologies

## 2ad. Live-Streaming Surgery for Medical Student Education - Educational Solutions in Neurosurgery During the COVID-19 Pandemic

**Source:** Jack, M. M.; Gattozzi, D. A.; Camarata, P. J.; Shah, K. J. (2020) *Journal of Surgical Education* 31(31

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32747320&id=doi:10.1016%2Fj.jsurg.2020.07.005&issn=1878-7452&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+Surgical+Education&atitle=Live-Streaming+Surgery+for+Medical+Student+Education+-+Educational+Solutions+in+Neurosurgery+During+the+COVID-19+Pandemic.&aulast=Jack&pid=%3Cauthor%3EJack+MM%3BGattozzi+DA%3BCamarata+PJ%3BShah+KJ%3C%2Fauthor%3E%3CAN%3E32747320%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

OBJECTIVE: The COVID-19 pandemic significantly altered medical student education. The ability for students to be a part of the operating room team was highly restricted. Technology can be used to ensure ongoing surgical education during this time of limited in-person educational opportunities. DESIGN: We have developed an innovative solution of securely live-streaming surgery with real-time communication between the surgeon and students to allow for ongoing education during the pandemic. RESULTS: We successfully live-streamed multiple different types of neurosurgical operations utilizing multiple video sources. This method uses inexpensive, universal equipment that can be implemented at any institution to enable virtual education of medical students and other learners. CONCLUSIONS: This technology has facilitated education during this challenging time. This technological set-up for live-streaming surgery has the potential of improving medical and graduate medical education in the future.

**Database:** MEDLINE, Ovid Technologies

## 2ae. COVID-19 Pandemic-Medical Education Adaptations: the Power of Students, Staff and Technology

**Source:** Joseph, J. P.; Joseph, A. O.; Conn, G.; Ahsan, E.; Jackson, R.; Kinnear, J. (2020) *Medical Science Educator* 1-2

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32837793&id=doi:10.1007%2Fs40670-020-01038-4&issn=2156-8650&isbn=&volume=&issue=&spage=1&pages=1-2&date=2020&title=Medical+Science+Educator&atitle=COVID-19+Pandemic-Medical+Education+Adaptations%3A+the+Power+of+Students%2C+Staff+and+Technology.&aulast=Joseph&pid=%3Cauthor%3EJoseph+JP%3BJoseph+AO%3BConn+G%3BAhsan+E%3BJackson+R%3BKinnear+J%3C%2Fauthor%3E%3CAN%3E32837793%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The coronavirus pandemic has profoundly changed the way medical education is delivered globally. Our group reports an insight into the adaptations and innovations made by the School of Medicine at Anglia Ruskin University.

**Database:** MEDLINE, Ovid Technologies

## 2af. Increasing Medical Student Engagement Through Virtual Rotations in Radiation Oncology

**Source:** Kahn, J. M.; Fields, E. C.; Pollom, E.; Wairiri, L.; Vapiwala, N.; Nabavizadeh, N.; Thomas, C. R.; Jimenez, R. B.; Chandra, R. A. (2020) *Advances in Radiation Oncology.* <https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:&id=doi:10.1016%2Fj.adro.2020.07.015&issn=2452-1094&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Advances+in+Radiation+Oncology&atitle=Increasing+Medical+Student+Engagement+Through+Virtual+Rotations+in+Radiation+Oncology&aulast=Kahn&pid=%3Cauthor%3EKahn+J.M.%3BFields+E.C.%3BPollom+E.%3BWairiri+L.%3BVapiwala+N.%3BNabavizadeh+N.%3BThomas+C.R.%3BJimenez+R.B.%3BChandra+R.A.%3C%2Fauthor%3E%3CAN%3E2007935171%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

Corona virus disease 2019 (COVID-19) affected medical student clerkships and education around the country. A virtual medical student clerkship was created to integrate didactic education with disease specific lectures for medical students, contouring, and hands on learning with telehealth. Twelve medical students in their 3rd and 4th year were enrolled in this 2 week elective from April 27, 2020 to June 5, 2020. There was significant improvement of overall knowledge about the field of radiation oncology from pre elective to post elective (P < .001). Feedback included enjoying direct exposure to contouring, telehealth, and time with residents. Overall this 2 week rotation was successful in integrating radiation oncology virtually for medical students. This is now being expanded to multiple institutions as an educational resource and future rotations for medical students. Copyright © 2020 The Author(s)

## 2ag. Addressing Challenges in Obtaining Emergency Medicine Away Rotations and Standardized Letters of Evaluation Due to COVID-19 Pandemic

**Source:** Katirji, Linda; Smith, Liza; Pelletier-Bui, Alexis; Hillman, Emily; Xiao Chi, Zhang; Pasirstein, Michael; Olaf, Mark; Shaw, Jazmyn; Franzen, Douglas; Ren, Ronnie (2020) *Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health* 21(3538-541

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=143165109&site=ehost-live&custid=ns010363>

**Database:** CINAHL, EBSCOhost

## 2ah. Virtual workshops to preserve interprofessional collaboration when physical distancing

**Source:** Kent, Fiona; George, Johnson; Lindley, Jennifer; Brock, Tina (2020) *Medical Education* 54(7661-662

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=143823388&site=ehost-live&custid=ns010363>

With this issue we begin print publishing the responses received in our call for Medical Education Adaptations: Lessons learned from educators' experiences rapidly transforming practice on account of COVID‐19 related disruption.

**Database:** CINAHL, EBSCOhost

## 2ai. Learning under lockdown: navigating the best way to study online

**Source:** Khurana, M. P. (2020) *BMJ* 369(m1283

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32273297&id=doi:10.1136%2Fbmj.m1283&issn=0959-8138&isbn=&volume=369&issue=&spage=m1283&pages=m1283&date=2020&title=BMJ&atitle=Learning+under+lockdown%3A+navigating+the+best+way+to+study+online.&aulast=Khurana&pid=%3Cauthor%3EKhurana+MP%3C%2Fauthor%3E%3CAN%3E32273297%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2aj. Stand Together and Deliver: Challenges and Opportunities for Rheumatology Education During the COVID-19 Pandemic

**Source:** Koumpouras, F.; Helfgott, S. (2020) *Arthritis & Rheumatology* 72(71064-1066

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32270923&id=doi:10.1002%2Fart.41278&issn=2326-5191&isbn=&volume=72&issue=7&spage=1064&pages=1064-1066&date=2020&title=Arthritis+%26+Rheumatology&atitle=Stand+Together+and+Deliver%3A+Challenges+and+Opportunities+for+Rheumatology+Education+During+the+COVID-19+Pandemic.&aulast=Koumpouras&pid=%3Cauthor%3EKoumpouras+F%3BHelfgott+S%3C%2Fauthor%3E%3CAN%3E32270923%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2ak. Innovative Family Medicine and Behavioral Health Co-Precepting via Telemedicine

**Source:** Kowalski, A.; Gupta, A.; Pellegrino, T.; Petrides, J.; Sepede, J.; Vermeulen, M. (2020) *Annals of Family Medicine* 18(5467

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32928770&id=doi:10.1370%2Fafm.2577&issn=1544-1709&isbn=&volume=18&issue=5&spage=467&pages=467&date=2020&title=Annals+of+Family+Medicine&atitle=Innovative+Family+Medicine+and+Behavioral+Health+Co-Precepting+via+Telemedicine.&aulast=Kowalski&pid=%3Cauthor%3EKowalski+A%3BGupta+A%3BPellegrino+T%3BPetrides+J%3BSepede+J%3BVermeulen+M%3C%2Fauthor%3E%3CAN%3E32928770%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2al. Efficacy of Vascular Virtual Medical Student Education During the COVID-19 Pandemic

**Source:** Kuo, M.; Poirier, M. V.; Pettitt-Schieber, B.; Pujari, A.; Pettitt, B.; Alabi, O.; Rajani, R. (2020) *Journal of Vascular Surgery* 04(04

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32896565&id=doi:10.1016%2Fj.jvs.2020.08.028&issn=0741-5214&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+Vascular+Surgery&atitle=Efficacy+of+Vascular+Virtual+Medical+Student+Education+During+the+COVID-19+Pandemic.&aulast=Kuo&pid=%3Cauthor%3EKuo+M%3BPoirier+MV%3BPettitt-Schieber+B%3BPujari+A%3BPettitt+B%3BAlabi+O%3BRajani+R%3C%2Fauthor%3E%3CAN%3E32896565%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2am. Coping With COVID-19

**Source:** Lieberman, J. A.; Nester, T.; Emrich, B.; Staley, E. M.; Bourassa, L. A.; Tsang, H. C. (2020) *American journal of clinical pathology.* 02(<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32876671&id=doi:10.1093%2Fajcp%2Faqaa152&issn=1943-7722&isbn=&volume=&issue=&spage=&pages=&date=2020&title=American+journal+of+clinical+pathology&atitle=Coping+With+COVID-19&aulast=Lieberman&pid=%3Cauthor%3ELieberman+J.A.%3BNester+T.%3BEmrich+B.%3BStaley+E.M.%3BBourassa+L.A.%3BTsang+H.C.%3C%2Fauthor%3E%3CAN%3E632761321%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

OBJECTIVES: The first coronavirus disease 2019 (COVID-19) case in the United States was reported in Washington State. The pandemic caused drastic disruptions to medical institutions, including medical education. The Department of Laboratory Medicine at the University of Washington responded by rapidly implementing substantial changes to medical student clerkships. METHOD(S): In real time, we converted one ongoing case- and didactic-based course, LabM 685, to remote learning. RESULT(S): Fifteen of 17 scheduled sessions proceeded as planned, including two sessions for student presentations. Two didactics were canceled as the functions of the teleconferencing platform were not sufficient to proceed. One grand rounds speaker canceled due to COVID-19 precautions. Elements of an immersive clinical laboratory clerkship, LabM 680, were repurposed to accommodate 40 medical students per class via remote learning, highlighting clinical laboratory activities that continue throughout the outbreak. A new remote clerkship, MedSci 585C, was developed incorporating distance learning and guided small-group sessions. This coincided with parallel efforts to make resident and fellow service work, conferences, and didactics available remotely to comply with social distancing. CONCLUSION(S): The changes in medical education described reflect the dynamic interplay of current events affecting the world of clinical pathology. Throughout this, technology-while with some limitations-has provided the platform for innovative learning. Copyright © American Society for Clinical Pathology, 2020. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com.

**Database:**

## 2an. Do you know how COVID-19 is changing general practice/family medicine education?

**Source:** Michels, Nele R. M.; Scherpbier, Nynke; Karppinen, Helena; Buchanan, Jo; Windak, Adam (2020) *Education for Primary Care* 31(3196-197

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=144316584&site=ehost-live&custid=ns010363>

The article offers information on the impacts of the Covid-19 pandemic on the General Practice/Family Medicine (GP/FM) education in the Europe. It discusses the challenges in implementing blended learning, using online training alongside traditional teaching activities. It explores the dynamics of education change in the different pandemic phases.

**Database:** CINAHL, EBSCOhost

## 2ao. 5M's and More: A New Geriatric Medical Student Virtual Curriculum during the COVID-19 Pandemic

**Source:** Michener, A.; Fessler, E.; Gonzalez, M.; Miller, R. K. (2020) *Journal of the American Geriatrics Society.* 21(<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32955724&id=doi:10.1111%2Fjgs.16855&issn=1532-5415&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+the+American+Geriatrics+Society&atitle=5M%27s+and+More%3A+A+New+Geriatric+Medical+Student+Virtual+Curriculum+during+the+COVID-19+Pandemic&aulast=Michener&pid=%3Cauthor%3EMichener+A.%3BFessler+E.%3BGonzalez+M.%3BMiller+R.K.%3C%2Fauthor%3E%3CAN%3E632921589%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

**Database:** Embase, Ovid Technologies

## 2ap. Daily medical education for confined students during coronavirus disease 2019 pandemic: A simple videoconference solution

**Source:** Moszkowicz, D.; Duboc, H.; Dubertret, C.; Roux, D.; Bretagnol, F. (2020) *Clinical Anatomy* 33(6927-928

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32253771&id=doi:10.1002%2Fca.23601&issn=0897-3806&isbn=&volume=33&issue=6&spage=927&pages=927-928&date=2020&title=Clinical+Anatomy&atitle=Daily+medical+education+for+confined+students+during+coronavirus+disease+2019+pandemic%3A+A+simple+videoconference+solution.&aulast=Moszkowicz&pid=%3Cauthor%3EMoszkowicz+D%3BDuboc+H%3BDubertret+C%3BRoux+D%3BBretagnol+F%3C%2Fauthor%3E%3CAN%3E32253771%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The outbreak of coronavirus disease 2019 caused by severe acute respiratory syndrome coronavirus 2 infection has recently spread globally and is now a pandemic. As a result, university hospitals have had to take unprecedented measures of containment, including asking nonessential staff to stay at home. Medical students practicing in the surgical departments find themselves idle, as nonurgent surgical activity has been canceled, until further notice. Likewise, universities are closed and medical training for students is likely to suffer if teachers do not implement urgent measures to provide continuing education. Thus, we sought to set up a daily medical education procedure for surgical students confined to their homes. We report a simple and free teaching method intended to compensate for the disappearance of daily lessons performed in the surgery department using the Google Hangouts application. This video conference method can be applied to clinical as well as anatomy lessons.

**Database:** MEDLINE, Ovid Technologies

## 2aq. Virtual Morning Report during COVID‐19: A novel model for case‐based teaching conferences

**Source:** Murdock, H. Moses; Penner, John C.; Le, Stephenie; Nematollahi, Saman (2020) *Medical Education* 54(9851-852

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=145115104&site=ehost-live&custid=ns010363>

The article describes the development and implementation of a multi-institution online model by the Clinical Problem Solvers for morning report called the "Virtual Morning Report" (VMR). Topics discussed include how the VMR was conducted, important quality of the VMR, and advantages of VMR as viable model for virtual case-based teaching conferences.

**Database:** CINAHL, EBSCOhost

## 2ar. Building Rapport and Earning the Surgical Patient's Trust in the Era of Social Distancing: Teaching Patient-Centered Communication During Video Conference Encounters to Medical Students

**Source:** Newcomb, A. B.; Duval, M.; Bachman, S. L.; Mohess, D.; Dort, J.; Kapadia, M. R. (2020) *Journal of Surgical Education* 21(21

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32709566&id=doi:10.1016%2Fj.jsurg.2020.06.018&issn=1878-7452&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+Surgical+Education&atitle=Building+Rapport+and+Earning+the+Surgical+Patient%27s+Trust+in+the+Era+of+Social+Distancing%3A+Teaching+Patient-Centered+Communication+During+Video+Conference+Encounters+to+Medical+Students.&aulast=Newcomb&pid=%3Cauthor%3ENewcomb+AB%3BDuval+M%3BBachman+SL%3BMohess+D%3BDort+J%3BKapadia+MR%3C%2Fauthor%3E%3CAN%3E32709566%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

BACKGROUND: Effective physician communication improves care, and many medical schools and residency programs have adopted communication focused curricula. The COVID-19 pandemic has shifted the doctor-patient communication paradigm with the rapid adoption of video-based medical appointments by the majority of the medical community. The pandemic has also necessitated a sweeping move to online learning, including teaching and facilitating the practice of communication skills remotely. We aimed to identify effective techniques for surgeons to build relationships during a video consult, and to design and pilot a class that increased student skill in communicating during a video consult. METHODS: Fourth-year medical students matched into a surgical internship attended a 2-hour class virtually. The class provided suggestions for building rapport and earning trust with patients and families by video, role play sessions with a simulated patient, and group debriefing and feedback. A group debriefing generated lessons learned and best practices for telemedicine communication in surgery. RESULTS: Students felt the class introduced new skills and reinforced current ones; most reported higher self-confidence in target communication skills following the module. Students were particularly appreciative of opportunity for direct observation of skills and immediate faculty feedback, noting that the intimate setting was unique and valuable. Several elements of virtual communications required increased focus to communicate empathy and concern. Proper lighting and positioning relative to the camera were particularly important and body movement required "narration" to minimize misinterpretation. A patient's distress was more difficult to interpret; asking direct questions was recommended to understand the patient's emotional state. CONCLUSIONS: There is a need to teach video-conference communication skills to enable surgical teams to build rapport in this distinct form of consultation. Our training plan appears effective at engaging learners and improving skills and confidence, and identifies areas of focus when teaching virtual communication skills.

**Database:** MEDLINE, Ovid Technologies

## 2as. Coalition for medical education-A call to action: A proposition to adapt clinical medical education to meet the needs of students and other healthcare learners during COVID-19

**Source:** Newman, N. A.; Lattouf, O. M. (2020) *Journal of Cardiac Surgery* 35(61174-1175

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32353907&id=doi:10.1111%2Fjocs.14590&issn=0886-0440&isbn=&volume=35&issue=6&spage=1174&pages=1174-1175&date=2020&title=Journal+of+Cardiac+Surgery&atitle=Coalition+for+medical+education-A+call+to+action%3A+A+proposition+to+adapt+clinical+medical+education+to+meet+the+needs+of+students+and+other+healthcare+learners+during+COVID-19.&aulast=Newman&pid=%3Cauthor%3ENewman+NA%3BLattouf+OM%3C%2Fauthor%3E%3CAN%3E32353907%3C%2FAN%3E%3CDT%3EEditorial%3C%2FDT%3E>

With the ongoing coronavirus, journals and the media have extensively covered the impacts on doctors, nurses, physician assistants, and other healthcare workers. However, one group that has rarely been mentioned despite being significantly impacted is medical students and medical education overall. This piece, prepared by both a medical student and a cardiothoracic surgeon with a long career in academic medicine, discusses the recent history of medical education and how it has led to issues now with distance-based learning due to COVID-19. It concludes with a call to action for the medical education system to adapt so it can meet the needs of healthcare learners during COVID-19 and even beyond.

**Database:** MEDLINE, Ovid Technologies

## 2at. Remote Anatomic Pathology Medical Student Education in Washington State

**Source:** Parker, E. U.; Chang, O.; Koch, L. (2020) *American Journal of Clinical Pathology* 20(20

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32815530&id=doi:10.1093%2Fajcp%2Faqaa154&issn=0002-9173&isbn=&volume=&issue=&spage=&pages=&date=2020&title=American+Journal+of+Clinical+Pathology&atitle=Remote+Anatomic+Pathology+Medical+Student+Education+in+Washington+State.&aulast=Parker&pid=%3Cauthor%3EParker+EU%3BChang+O%3BKoch+L%3C%2Fauthor%3E%3CAN%3E32815530%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

OBJECTIVES: The coronavirus disease 2019 pandemic has halted in-person medical student education in many large academic centers, including the University of Washington. We identified a unique opportunity to bring comprehensive and targeted anatomic pathology training to large numbers of medical students who would not receive it otherwise but also need credited coursework. METHODS: We developed a comprehensive 2-week remote-learning course encompassing lectures, virtual slides, discussion groups, and unique case-based activities. Activities are tailored to the nonpathologist future clinician, emphasizing basic microscopy and pathology terminology. We employ multiple strategies and technologies to increase engagement while distance learning, including screen annotation, "flipped classroom" slide presentations, and repetition of common themes. RESULTS: Given 13 virtual courses to choose between 13% of students enrolled in our course (70 of our 540 rising third- and fourth-year students), a nearly 10-fold increase in average pathology rotators. CONCLUSIONS: This is an unprecedented opportunity to provide tailored anatomic pathology instruction, both helping our medical students continue training during crisis and illuminating the field of pathology for our future colleagues. Preliminary results have been overwhelmingly positive regarding understanding of pathology concepts as well as attitudes toward pathology.

**Database:** MEDLINE, Ovid Technologies

## 2au. Remote Learning for Medical Student-Level Dermatology During the COVID-19 Pandemic

**Source:** Patel, P. M.; Tsui, C. L.; Varma, A.; Levitt, J. (2020) *Journal of the American Academy of Dermatology* 13(13

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32798574&id=doi:10.1016%2Fj.jaad.2020.08.033&issn=0190-9622&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Journal+of+the+American+Academy+of+Dermatology&atitle=Remote+Learning+for+Medical+Student-Level+Dermatology+During+the+COVID-19+Pandemic.&aulast=Patel&pid=%3Cauthor%3EPatel+PM%3BTsui+CL%3BVarma+A%3BLevitt+J%3C%2Fauthor%3E%3CAN%3E32798574%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2av. Continuing Medical Student Education During the Coronavirus Disease 2019 (COVID-19) Pandemic: Development of a Virtual Radiation Oncology Clerkship

**Source:** Pollom, E. L.; Sandhu, N.; Frank, J.; Miller, J. A.; Obeid, J. P.; Kastelowitz, N.; Panjwani, N.; Soltys, S. G.; Bagshaw, H. P.; Donaldson, S. S.; Horst, K.; Beadle, B. M.; Chang, D. T.; Gibbs, I. (2020) *Advances in radiation oncology* 5(4732-736

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32775783&id=doi:10.1016%2Fj.adro.2020.05.006&issn=2452-1094&isbn=&volume=5&issue=4&spage=732&pages=732-736&date=2020&title=Advances+in+radiation+oncology&atitle=Continuing+Medical+Student+Education+During+the+Coronavirus+Disease+2019+%28COVID-19%29+Pandemic%3A+Development+of+a+Virtual+Radiation+Oncology+Clerkship.&aulast=Pollom&pid=%3Cauthor%3EPollom+EL%3BSandhu+N%3BFrank+J%3BMiller+JA%3BObeid+JP%3BKastelowitz+N%3BPanjwani+N%3BSoltys+SG%3BBagshaw+HP%3BDonaldson+SS%3BHorst+K%3BBeadle+BM%3BChang+DT%3BGibbs+I%3C%2Fauthor%3E%3CAN%3E32775783%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Purpose: Our institution cancelled all in-person clerkships owing to the coronavirus disease 2019 pandemic. In response, we designed a virtual radiation oncology medical student clerkship. Methods and Materials: We convened an advisory panel to design a virtual clerkship curriculum. We implemented clerkship activities using a cloud-based learning management system, video web conferencing systems, and a telemedicine portal. Students completed assessments pre- and postclerkship to provide data to improve future versions of the clerkship. Results: The virtual clerkship spans 2 weeks and is graded pass or fail. Students attend interactive didactic sessions during the first week and participate in virtual clinic and give talks to the department during the second week. Didactic sessions include lectures, case-based discussions, treatment planning seminars, and material adapted from the Radiation Oncology Education Collaborative Study Group curriculum. Students also attend virtual departmental quality assurance rounds, cancer center seminars, and multidisciplinary tumor boards. The enrollment cap was met during the first virtual clerkship period (April 27 through May 8, 2020), with a total of 12 students enrolling. Conclusions: Our virtual clerkship can increase student exposure and engagement in radiation oncology. Data on clerkship outcomes are forthcoming.

**Database:** MEDLINE, Ovid Technologies

## 2aw. Medical genetics education in the midst of the COVID-19 pandemic: Shared resources

**Source:** Regier, D. S.; Smith, W. E.; Byers, H. M. (2020) *American Journal of Medical Genetics. Part A* 182(6)1302-1308

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32323908&id=doi:10.1002%2Fajmg.a.61595&issn=1552-4825&isbn=&volume=182&issue=6&spage=1302&pages=1302-1308&date=2020&title=American+Journal+of+Medical+Genetics.+Part+A&atitle=Medical+genetics+education+in+the+midst+of+the+COVID-19+pandemic%3A+Shared+resources.&aulast=Regier&pid=%3Cauthor%3ERegier+DS%3BSmith+WE%3BByers+HM%3C%2Fauthor%3E%3CAN%3E32323908%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

In the midst of the COVID-19 pandemic, it is appropriate that our focus is on patient care and preparation. However, the genetics community is well poised to fill in the educational gap created by medical students transitioning to limiting patient contact, creation of telemedicine patient care, and online learning modules. Our history of agility in learning and teaching is now only inhibited by the time constraints of current clinical demands on the genetics community. This publication is designed to offer ideas and resources for quickly transitioning our education to meet the current demands in the time of a pandemic. Not only will this allow us to continue our strong history of education, it will enhance our strong commitment to using modern educational techniques and tools to address the genetics workforce issues that have defined the recent past. We have the opportunity to aggressively educate for trainees that now have the capacity to learn, and to lead the way in showing how the genetics community rallies together no matter the challenge.

**Database:** MEDLINE, Ovid Technologies

## 2ax. Peer teaching medical students during a pandemic

**Source:** Roberts, V.; Malone, K.; Moore, P.; Russell-Webster, T.; Caulfield, R. (2020) *Medical Education Online* 25(11772014

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32493174&id=doi:10.1080%2F10872981.2020.1772014&issn=1087-2981&isbn=&volume=25&issue=1&spage=1772014&pages=1772014&date=2020&title=Medical+Education+Online&atitle=Peer+teaching+medical+students+during+a+pandemic.&aulast=Roberts&pid=%3Cauthor%3ERoberts+V%3BMalone+K%3BMoore+P%3BRussell-Webster+T%3BCaulfield+R%3C%2Fauthor%3E%3CAN%3E32493174%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

Our personal views about the challenges of continuing to deliver peer teaching during a pandemic. We are a group of 4th year medical students who are part of a student society which has delivered structured, highly formulaic peer-led teaching sessions for the past three years. During the COVID-19 pandemic, the reduced access to our normal clinical teaching highlighted the importance of peer-led teaching sessions. We wanted to continue with our peer-taught sessions but knew we would have to devise a new format to make our teaching accessible to our peers wherever they were. Here, we describe the challenges of online peer teaching during the COVID-19 pandemic and our reflections of the future implications to our group.

**Database:** MEDLINE, Ovid Technologies

## 2ay. Provision of e-learning programmes to replace undergraduate medical students' clinical general practice attachments during COVID-19 stand-down

**Source:** Roskvist, R.; Eggleton, K.; Goodyear-Smith, F. (2020) *Education for Primary Care* 31(4)247-254

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32469632&id=doi:10.1080%2F14739879.2020.1772123&issn=1473-9879&isbn=&volume=31&issue=4&spage=247&pages=247-254&date=2020&title=Education+for+Primary+Care&atitle=Provision+of+e-learning+programmes+to+replace+undergraduate+medical+students%27+clinical+general+practice+attachments+during+COVID-19+stand-down.&aulast=Roskvist&pid=%3Cauthor%3ERoskvist+R%3BEggleton+K%3BGoodyear-Smith+F%3C%2Fauthor%3E%3CAN%3E32469632%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Senior medical students at the University of Auckland, New Zealand spend most of their learning time in clinical attachments. Experiential apprentice-style training is traditionally recognised as an important aspect of obtaining competency. In March 2020 they were stood down from their general practice placements in the context of a national response to the COVID-19 pandemic. Acute conversion of their general practice education from experiential clinical exposure to online and offsite learning was required. This paper describes the steps taken and the underlying theoretical foundations for our expediently developed online course. Our online learning programme has three online components, reflecting the domains of educational environment theory: asynchronous discussion forums; a symposium facilitating social interactions and teacher presence, and a portfolio facilitating personal goal aspects. The latter is underpinned by a multi-theories model of adult learning, built upon the scaffolding framework that supports our entire medical curriculum. Within this theory, we propose a five-stage model of learning. Learning from this experience contributes to the body of knowledge around online education, particularly in meeting the needs of a clinical attachment traditionally grounded in experiential learning. It is hoped that the mechanisms described here might be useful to other educators facing similar challenges.

**Database:** MEDLINE, Ovid Technologies

## 2az. A Multimodal Multi-Institutional Solution to Remote Medical Student Education for Otolaryngology During COVID-19

**Source:** Ruthberg, J. S.; Quereshy, H. A.; Ahmadmehrabi, S.; Trudeau, S.; Chaudry, E.; Hair, B.; Kominsky, A.; Otteson, T. D.; Bryson, P. C.; Mowry, S. E. (2020) *Otolaryngology - Head & Neck Surgery* 194599820933599

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32515642&id=doi:10.1177%2F0194599820933599&issn=0194-5998&isbn=&volume=163&issue=4&spage=194599820933599&pages=194599820933599&date=2020&title=Otolaryngology+-+Head+%26+Neck+Surgery&atitle=A+Multimodal+Multi-Institutional+Solution+to+Remote+Medical+Student+Education+for+Otolaryngology+During+COVID-19.&aulast=Ruthberg&pid=%3Cauthor%3ERuthberg+JS%3BQuereshy+HA%3BAhmadmehrabi+S%3BTrudeau+S%3BChaudry+E%3BHair+B%3BKominsky+A%3BOtteson+TD%3BBryson+PC%3BMowry+SE%3C%2Fauthor%3E%3CAN%3E32515642%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

During the coronavirus 2019 pandemic, there has been a surge in production of remote learning materials for continued otolaryngology resident education. Medical students traditionally rely on elective and away subinternship experiences for exposure to the specialty. Delays and cancellation of clinical rotations have forced medical students to pursue opportunities outside of the traditional learning paradigm. In this commentary, we discuss the multi-institutional development of a robust syllabus for medical students using a multimodal collection of resources. Medical students collaborated with faculty and residents from 2 major academic centers to identify essential otolaryngology topics. High-quality, publicly available, and open-access content from multiple sources were incorporated into a curriculum that appeals to a variety of learners. Multimodal remote education strategies can be used as a foundation for further innovation aimed at developing tomorrow's otolaryngologists.

**Database:** MEDLINE, Ovid Technologies

## 2ba. Virtual Radiation Oncology Clerkship During the COVID-19 Pandemic and Beyond

**Source:** Sandhu, Navjot; Frank, Jessica; von Eyben, Rie; Miller, Jacob; Obeid, Jean-Pierre; Kastelowitz, Noah; Panjwani, Neil; Soltys, Scott; Bagshaw, Hilary P.; Donaldson, Sarah S.; Horst, Kathleen; Beadle, Beth M.; Chang, Daniel T.; Gibbs, Iris C.; Pollom, Erqi (2020) *International Journal of Radiation Oncology, Biology, Physics* 108(2)444-451

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=146068758&site=ehost-live&custid=ns010363>

Purpose: We evaluated the impact of a virtual radiation oncology clerkship.Methods and Materials: We developed a 2-week virtual radiation oncology clerkship that launched on April 27, 2020. Clerkship components included a virtual clinic with radiation oncology faculty and residents, didactic lectures, student talks, and supplemental sessions such as tumor boards and chart rounds. Medical students completed pre- and post-clerkship self-assessments. Faculty and resident participants also completed surveys on their experience with virtual lectures and clinics. Pre- and post-clerkship results were compared using a 2-sided paired t test. An analysis of variance model was used to analyze the clerkship components.Results: Twenty-six medical students, including 4 visiting students, enrolled over 2 clerkship periods (4 weeks). All students completed the pre- and post-clerkship self-assessments and agreed that the clerkship improved their understanding of radiation oncology. Compared with 3 (11.5%) students who agreed that they understood the daily responsibilities of a radiation oncologist before the clerkship, 22 (84.6%) students agreed and 3 (11.5%) strongly agreed that they understood the daily responsibilities of a radiation oncologist after the clerkship (P < .0001). Although 15 students (57.7%) reported an increased interest in radiation oncology because of the clerkship, the mean level of interest in radiation oncology as a career remained the same, with pre- and post-clerkship scores of 3.0 (±0.9) and 3.0 (±1.1) on a 5-point scale, respectively (P = .7). Students found virtual clinic and didactic lectures to be the most valuable components of the clerkship. Most respondents agreed (30.8%) or strongly agreed (65.4%) to recommend the clerkship to their classmates.Conclusions: Our virtual clerkship was effective in increasing medical student interest in and knowledge about radiation oncology. These data will help optimize a new paradigm of virtual radiation oncology education for medical students during COVID-19 and beyond.

**Database:** CINAHL, EBSCOhost

## 2bb. Pre-Clinical Remote Undergraduate Medical Education During the COVID-19 Pandemic: A Survey Study

**Source:** Shahrvini, B. B.; Baxter, ; Coffey, C. S.; MacDonald, B. B. V.; Lander, S. L. (2020) *Res Sq* 10

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32702722&id=doi:10.21203%2Frs.3.rs-33870%2Fv1&issn=&isbn=&volume=&issue=&spage=&pages=&date=2020&title=&atitle=Pre-Clinical+Remote+Undergraduate+Medical+Education+During+the+COVID-19+Pandemic%3A+A+Survey+Study%26nbsp.&aulast=Shahrvini&pid=%3Cauthor%3EShahrvini+BB%3BBaxter%3BCoffey+CS%3BMacDonald+BBV%3BLander+SL%3C%2Fauthor%3E%3CAN%3E32702722%3C%2FAN%3E%3CDT%3EPreprint%3C%2FDT%3E>

Background: The COVID-19 pandemic has necessitated a sudden transition to remote learning in medical schools. We aimed to assess student perceptions of remote learning during the pre-clinical curricular training phase.

**Database:** MEDLINE, Ovid Technologies

## 2bc. Advising Medical Students During COVID-19: The Case for a Single Emergency Medicine Rotation for All

**Source:** Shandro, J.; Kessler, R.; Schrepel, C.; Jauregui, J. (2020) *Aem Education & Training* 4(3)318-320

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32704606&id=doi:10.1002%2Faet2.10459&issn=2472-5390&isbn=&volume=4&issue=3&spage=318&pages=318-320&date=2020&title=Aem+Education+%26+Training&atitle=Advising+Medical+Students+During+COVID-19%3A+The+Case+for+a+Single+Emergency+Medicine+Rotation+for+All.&aulast=Shandro&pid=%3Cauthor%3EShandro+J%3BKessler+R%3BSchrepel+C%3BJauregui+J%3C%2Fauthor%3E%3CAN%3E32704606%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2bd. Asynchronous teledermatology in medical education: Lessons from the COVID-19 pandemic

**Source:** Su, M. Y.; Lilly, E.; Yu, J.; Das, S. (2020) *Journal of the American Academy of Dermatology* 83(3)e267-e268

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32553635&id=doi:10.1016%2Fj.jaad.2020.06.033&issn=0190-9622&isbn=&volume=83&issue=3&spage=e267&pages=e267-e268&date=2020&title=Journal+of+the+American+Academy+of+Dermatology&atitle=Asynchronous+teledermatology+in+medical+education%3A+Lessons+from+the+COVID-19+pandemic.&aulast=Su&pid=%3Cauthor%3ESu+MY%3BLilly+E%3BYu+J%3BDas+S%3C%2Fauthor%3E%3CAN%3E32553635%3C%2FAN%3E%3CDT%3ELetter%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2be. Democratizing Access to Neurosurgical Medical Education: National Efforts in a Medical Student Training Camp During Coronavirus Disease 2019

**Source:** Thum DiCesare, J. A.; Segar, D. J.; Donoho, D.; Radwanski, R.; Zada, G.; Yang, I. (2020) *World Neurosurgery* 20

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32827739&id=doi:10.1016%2Fj.wneu.2020.08.100&issn=1878-8750&isbn=&volume=&issue=&spage=&pages=&date=2020&title=World+Neurosurgery&atitle=Democratizing+Access+to+Neurosurgical+Medical+Education%3A+National+Efforts+in+a+Medical+Student+Training+Camp+During+Coronavirus+Disease+2019.&aulast=Thum+DiCesare&pid=%3Cauthor%3EThum+DiCesare+JA%3BSegar+DJ%3BDonoho+D%3BRadwanski+R%3BZada+G%3BYang+I%3C%2Fauthor%3E%3CAN%3E32827739%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

BACKGROUND: National medical student surveys amidst the coronavirus disease 2019 (COVID-19)-driven subinternship cancellations have demonstrated the need for supplemental, standardized subspecialty medical education, mentorship, and career planning nationally. We have presented the first live, cross-institutional virtual medical student subspecialty training camp to deliver standardized neurosurgical educational content to medical students during the COVID-19 pandemic, and its results on medical student anxiety and perceptions of neurosurgery. METHODS: The online training camp used a video conferencing platform that was open to all medical students. A post-training camp survey was administered. RESULTS: A total of 305 medical students registered for the event from 107 unique U.S. medical schools. Of the 305 medical students, 108 reported intending to apply to neurosurgery residency in 2021. The top medical student objectives for the training camp were program networking and mentorship. Of the 305 participants, 121 (39.7%) completed the post-training survey. Of the respondents, 65.0% reported improved neurosurgical knowledge, 79.8% reported decreased anxiety about subinternships and interviews, 82.5% reported increased enthusiasm about neurosurgery, and 100% desired a future annual virtual training camp because of the increased accessibility and decreased cost. This was especially important for students at institutions without home subspecialty programs and those with financial burdens. CONCLUSIONS: COVID-19-driven innovations in medical education have accelerated changes that may have long been necessary. This virtual structure improved resource usage and scalability compared with in-person training, maintained social distancing, and democratized access to standardized, specialized content not often available through traditional medical curricula. Even as a supplement to in-person events, the virtual training camp model could be implemented by national medical societies, which might significantly increase medical students' preparedness for, and education in, neurosurgery and other subspecialties.

**Database:** MEDLINE, Ovid Technologies

## 2bf. Transition to online is possible: Solution for simulation‐based teaching during the COVID‐19 pandemic

**Source:** Torres, Anna; Domańska‐Glonek, Ewa; Dzikowski, Wojciech; Korulczyk, Jan; Torres, Kamil (2020) *Medical Education* 54(9)858-859

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=145115107&site=ehost-live&custid=ns010363>

The article addresses the problem of how to convert a simulation-based course in geriatrics into distance learning after Polish universities suspended all on-site activities in March 2020 due to the coronavirus disease 2019 (COVID-19). Topics discussed include the resulting on-line simulation environment, possibility of preservation of functional and psychological resemblance to on-site conditions, and barriers that could be overcome by proper faculty member and simulated patient (SP) training.

**Database:** CINAHL, EBSCOhost

## 2bg. Heart University: A new online educational forum in paediatric and adult congenital cardiac care. The future of virtual learning in a post-pandemic world

**Source:** Tretter, J. T.; Windram, J.; Faulkner, T.; Hudgens, M.; Sendzikaite, S.; Blom, N. A.; Hanseus, K.; Loomba, R. S.; McMahon, C. J.; Zheleva, B.; Kumar, R. K.; Jacobs, J. P.; Oechslin, E. N.; Webb, G. D.; Redington, A. N. (2020) *Cardiology in the Young.* <https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32228736&id=doi:10.1017%2FS1047951120000852&issn=1047-9511&isbn=&volume=30&issue=4&spage=560&pages=&date=2020&title=Cardiology+in+the+Young&atitle=Heart+University%3A+A+new+online+educational+forum+in+paediatric+and+adult+congenital+cardiac+care.+The+future+of+virtual+learning+in+a+post-pandemic+world&aulast=Tretter&pid=%3Cauthor%3ETretter+J.T.%3BWindram+J.%3BFaulkner+T.%3BHudgens+M.%3BSendzikaite+S.%3BBlom+N.A.%3BHanseus+K.%3BLoomba+R.S.%3BMcMahon+C.J.%3BZheleva+B.%3BKumar+R.K.%3BJacobs+J.P.%3BOechslin+E.N.%3BWebb+G.D.%3BRedington+A.N.%3C%2Fauthor%3E%3CAN%3E631824646%3C%2FAN%3E%3CDT%3EReview%3C%2FDT%3E>

Online learning has become an increasingly expected and popular component for education of the modern-day adult learner, including the medical provider. In light of the recent coronavirus pandemic, there has never been more urgency to establish opportunities for supplemental online learning. Heart University aims to be 'the go-to online resource' for e-learning in congenital heart disease and paediatric acquired heart disease. It is a carefully-curated open access library of pedagogical material for all providers of care to children and adults with congenital heart disease or children with acquired heart disease, whether a trainee or a practicing provider. In this manuscript, we review the aims, development, current offerings and standing, and future goals of Heart University. Copyright © Cambridge University Press 2020.

## 2bh. A scaffolded structured approach for efficient transition to online small group teaching

**Source:** Veerapen, Kiran; Wisener, Katherine; Doucet, Sharon; Amari, Erica (2020) *Medical Education* 54(8)761-762

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=144579354&site=ehost-live&custid=ns010363>

The article describes a scaffolded structured approach which was developed for the efficient transition of small group teachers in the University of British Columbia's Undergraduate Medical Programme to online small group teaching in response to the COVID-19 pandemic. Topics covered include the impact of the pandemic on the Distributed Medical Education programme, the challenges faced in optimizing learning in virtual spaces within the short time frame and the goal of a pre-session training.

**Database:** CINAHL, EBSCOhost

## 2bi. A Model for Undergraduate Medical Student Education in Otolaryngology During the Post-COVID-19 Era

**Source:** Wickemeyer, J. L.; Yu, J. (2020) *Otolaryngology - Head & Neck Surgery* 194599820959276

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32957851&id=doi:10.1177%2F0194599820959276&issn=0194-5998&isbn=&volume=&issue=&spage=194599820959276&pages=194599820959276&date=2020&title=Otolaryngology+-+Head+%26+Neck+Surgery&atitle=A+Model+for+Undergraduate+Medical+Student+Education+in+Otolaryngology+During+the+Post-COVID-19+Era.&aulast=Wickemeyer&pid=%3Cauthor%3EWickemeyer+JL%3BYu+J%3C%2Fauthor%3E%3CAN%3E32957851%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The clinical learning environment is limited for undergraduate medical education in otolaryngology as the result of coronavirus disease 2019. In an effort to foster and rebuild the attending-medical student relationship, we have developed the R4 teaching model. This model encourages the student to read background information, respond to questions, and review online with faculty with the goal of realization of clinical decision making with gained knowledge. Within the R4 model, there are learning environment subtypes, including real patient cases, journal club, interactive quizzes, flipped classroom, and attending-lead discussions. In the absence of a multitude of "live" patients, our curricula reinstate the core of clinical teaching for medical students.

**Database:** MEDLINE, Ovid Technologies

## 2bj. Opportunistic physiology: inserting physiology and pathophysiology content into virtually delivered clinical rotations

**Source:** Wilson, T. E.; Mulye, M.; Akbar, S. (2020) *Advances in Physiology Education* 44(4)545-549

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32880484&id=doi:10.1152%2Fadvan.00113.2020&issn=1043-4046&isbn=&volume=44&issue=4&spage=545&pages=545-549&date=2020&title=Advances+in+Physiology+Education&atitle=Opportunistic+physiology%3A+inserting+physiology+and+pathophysiology+content+into+virtually+delivered+clinical+rotations.&aulast=Wilson&pid=%3Cauthor%3EWilson+TE%3BMulye+M%3BAkbar+S%3C%2Fauthor%3E%3CAN%3E32880484%3C%2FAN%3E%3CDT%3EEditorial%3C%2FDT%3E>

It is important to reinforce physiology and pathophysiology concepts during clinical rotations, which traditionally occur after the foundational sciences in the US medical school system. We took an opportunistic approach when the COVID-19 pandemic forced our content into virtual delivery mode, as clinical medical education required a shift to nonpatient contact. We describe our experience in building a 2-wk course that consisted of online small groups during week 1 and panels and cases during week 2. The physiology content involved faculty-vetted resources, along with both discrete and open-ended focus questions for each learning objective. The course also included mechanical ventilation, and the physiologist utilized discussion points and developed a formative quiz to emphasize the physiology correlates, in addition to the very clinical aspects of mechanical ventilation. There were pathophysiology opportunities with pneumonia, acute respiratory distress syndrome, systemic inflammatory response syndrome, and multiple-organ system dysfunction among the clinical correlates. Review and recall of the foundational sciences occurred, allowing links between the pre-clerkship and clerkship years that were previously undiscovered in our institution. This virtually delivered medical curriculum related to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and COVID-19 is timely, carries high student interest, and can benefit medical students and the communities they serve.

**Database:** MEDLINE, Ovid Technologies

## 2bk. Telemedicine implementation in family medicine: Undergraduate clerkship during COVID-19 pandemic

**Source:** Yunus, S.; Cain, R.; Shafer Klink, D.; Yunus, S. (2020) *Medical education.* 22

<https://4315973.odslr.com/resolver/full?sid=OVID:embase&id=pmid:32959423&id=doi:10.1111%2Fmedu.14313&issn=1365-2923&isbn=&volume=&issue=&spage=&pages=&date=2020&title=Medical+education&atitle=Telemedicine+implementation+in+family+medicine%3A+Undergraduate+clerkship+during+COVID-19+pandemic&aulast=Cain&pid=%3Cauthor%3ECain+R.%3BShafer+Klink+D.%3BYunus+S.%3C%2Fauthor%3E%3CAN%3E632950858%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

## 2bl. Learning at home during COVID-19: A multi-institutional virtual learning collaboration

**Source:** Zuo, L.; Dillman, D.; Miller Juve, A. (2020) *Medical Education* 54(7)664-665

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32330317&id=doi:10.1111%2Fmedu.14194&issn=0308-0110&isbn=&volume=54&issue=7&spage=664&pages=664-665&date=2020&title=Medical+Education&atitle=Learning+at+home+during+COVID-19%3A+A+multi-institutional+virtual+learning+collaboration.&aulast=Zuo&pid=%3Cauthor%3EZuo+L%3BDillman+D%3BMiller+Juve+A%3C%2Fauthor%3E%3CAN%3E32330317%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 2bm. Strength, Weakness, Opportunity, Threat (SWOT) Analysis of the Adaptations to Anatomical Education in the United Kingdom and Republic of Ireland in Response to the Covid-19 Pandemic

**Source:** Longhurst, G. J. Stone, D. M. Dulohery, K. Scully, D. Campbell, T. Smith, C. F. (2020) *Anatomical Sciences Education* 13(3)301-311

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32306550&id=doi:10.1002%2Fase.1967&issn=1935-9772&isbn=&volume=13&issue=3&spage=301&pages=301-311&date=2020&title=Anatomical+Sciences+Education&atitle=Strength%2C+Weakness%2C+Opportunity%2C+Threat+%28SWOT%29+Analysis+of+the+Adaptations+to+Anatomical+Education+in+the+United+Kingdom+and+Republic+of+Ireland+in+Response+to+the+Covid-19+Pandemic.&aulast=Longhurst&pid=%3Cauthor%3ELonghurst+GJ%3BStone+DM%3BDulohery+K%3BScully+D%3BCampbell+T%3BSmith+CF%3C%2Fauthor%3E%3CAN%3E32306550%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

The Covid-19 pandemic has driven the fastest changes to higher education across the globe, necessitated by social distancing measures preventing face-to-face teaching. This has led to an almost immediate switch to distance learning by higher education institutions. Anatomy faces some unique challenges. Intrinsically, anatomy is a three-dimensional subject that requires a sound understanding of the relationships between structures, often achieved by the study of human cadaveric material, models, and virtual resources. This study sought to identify the approaches taken in the United Kingdom and Republic of Ireland to deliver anatomical education through online means. Data were collected from 14 different universities in the United Kingdom and Republic of Ireland and compared adopting a thematic analysis approach. Once themes were generated, they were collectively brought together using a strength, weakness, opportunity, threat (SWOT) analysis. Key themes included the opportunity to develop new online resources and the chance to engage in new academic collaborations. Academics frequently mentioned the challenge that time constrains could place on the quality and effectiveness of these resources; especially as in many cases the aim of these resources was to compensate for a lack of exposure to cadaveric exposure. Comparisons of the actions taken by multiple higher education institutions reveal the ways that academics have tried to balance this demand. Discussions will facilitate decisions being made by higher education institutions regarding adapting the curriculum and assessment methods in anatomy.

**Database:** MEDLINE, Ovid Technologies

# Teachers

## 3a. Adapting to the impact of COVID-19: Sharing stories, sharing practice

**Source:** Cleland, J. McKimm, J. Fuller, R. Taylor, D. Janczukowicz, J. Gibbs, T. (2020) *Medical Teacher* 42(7)772-775

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32401079&id=doi:10.1080%2F0142159X.2020.1757635&issn=0142-159X&isbn=&volume=42&issue=7&spage=772&pages=772-775&date=2020&title=Medical+Teacher&atitle=Adapting+to+the+impact+of+COVID-19%3A+Sharing+stories%2C+sharing+practice.&aulast=Cleland&pid=%3Cauthor%3ECleland+J%3BMcKimm+J%3BFuller+R%3BTaylor+D%3BJanczukowicz+J%3BGibbs+T%3C%2Fauthor%3E%3CAN%3E32401079%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Health Professions' Educators (HPEs) and their learners have to adapt their educational provision to rapidly changing and uncertain circumstances linked to the COVID-19 pandemic. This paper reports on an AMEE-hosted webinar: Adapting to the impact of COVID-19: Sharing stories, sharing practice. Attended by over 500 colleagues from five continents, this webinar focused on the impact of the virus across the continuum of education and training. Short formal presentations on teaching and learning, assessment, selection and postgraduate training generated wide-ranging questions via the Chatbox. A thematic analysis of the Chatbox thread indicated the most pressing concerns and challenges educators were experiencing in having to adapt programmes and learning across the continuum of medical education and training. The main areas of concern were: campus-based teaching and learning; clinical teaching; selection and assessment, and educator needs. While there is clearly no one simple solution to the unprecedented issues medical education and training face currently, there were two over-arching messages. First, this is a time for colleagues across the globe to help and support each other. Second, many local responses and innovations could have the potential to change the shape of medical education and training in the future.

**Database:** MEDLINE, Ovid Technologies

## 3b. Responding to COVID-19: Perspectives on Curricular Changes in a Rural Medical School

**Source:** Crumb, L.; Campbell, K. M.; Crowe, A.; Harris, J. A.; Acheampong, C.; Little, J. (2020) *Southern Medical Journal* 113(8)368-371

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32747962&id=doi:10.14423%2FSMJ.0000000000001124&issn=0038-4348&isbn=&volume=113&issue=8&spage=368&pages=368-371&date=2020&title=Southern+Medical+Journal&atitle=Responding+to+COVID-19%3A+Perspectives+on+Curricular+Changes+in+a+Rural+Medical+School.&aulast=Crumb&pid=%3Cauthor%3ECrumb+L%3BCampbell+KM%3BCrowe+A%3BHarris+JA%3BAcheampong+C%3BLittle+J%3C%2Fauthor%3E%3CAN%3E32747962%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Coronavirus disease 2019 (COVID-19) rapidly led to global human devastation, including multiple deaths, sicknesses, and financial reverberations across many individuals and communities. As COVID-19 gained its foothold in the United States, medical school administrators, faculty, and students had to undergo rapid change to mitigate the disease spread, putting all parties in dubious situations. Medical school administrators had to make swift and judicious decisions that would best serve the student body and the diverse patient population at clinical sites. Medical schools with students practicing in rural, remote regions with a dearth of healthcare resources have even more complicated decisions to make in these unprecedented times. We provide an overview of rapid decision-making processes that can be used by curriculum leaders and medical school administrators to continue to meet accreditation requirements while attempting to keep medical students safe and prepared for graduation in response to the COVID-19 health crisis.

**Database:** MEDLINE, Ovid Technologies

## 3c. Adapting medical education during crisis: Student-Faculty partnerships as an enabler of success

**Source:** Mehta, N.; End, C.; Kwan, J. C. S.; Bernstein, S.; Law, M. (2020) *Medical Teacher* 1-2

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32915091&id=doi:10.1080%2F0142159X.2020.1811215&issn=0142-159X&isbn=&volume=&issue=&spage=1&pages=1-2&date=2020&title=Medical+Teacher&atitle=Adapting+medical+education+during+crisis%3A+Student-Faculty+partnerships+as+an+enabler+of+success.&aulast=Mehta&pid=%3Cauthor%3EMehta+N%3BEnd+C%3BKwan+JCS%3BBernstein+S%3BLaw+M%3C%2Fauthor%3E%3CAN%3E32915091%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Restrictions imposed by the COVID-19 pandemic have required medical educators to reimagine almost every aspect of undergraduate medical training, including curriculum delivery and assessments in a short timeline. In this personal view article, executive members of the University of Toronto medical student government and Faculty leads of pre-clerkship and clerkship education highlight five practical ways in which a student-Faculty partnership enabled the rapid and smooth adaptation of curricula during the COVID-19 pandemic. These included involving students as partners in decision making to contribute learner perspectives early, agile and collaborative meeting structures, frequent and consistent communication with the student body, providing learners with Faculty perspectives from the frontlines, and striking a balance in the level of feedback collected from students. These strategies may be of utility to medical administrators, educators, and student leaders in future crises affecting medical learners.

**Database:** MEDLINE, Ovid Technologies

## 3d. Virtual Cafes: An Innovative Way for Rapidly Disseminating Educational Best Practices and Building Community During COVID-19

**Source:** Blankenburg, Rebecca Poitevien, Patricia Gonzalez del Rey, Javier Degnon, Laura (2020) *Academic Pediatrics* 20(6)756-757

<http://search.ebscohost.com/login.aspx?direct=true&AuthType=athens&db=cin20&AN=144689805&site=ehost-live&custid=ns010363>

The article offers information on Virtual Cafes created by the Association of Pediatric Program Directors (APPD) during the COVID-19 pandemic. Topics covered include sessions hosted by the board of directors and executive committees each week that focused primarily on COVID-related graduate medical education issues, the impact of Virtual Cafes on member engagement, and APPD's plan to adapt sessions that focus on new challenges and include more interactive features such as online polling.

**Database:** CINAHL, EBSCOhost

## 3e. Suspending Medical Student Clerkships Due to COVID-19

**Source:** Goldenberg, M. N. Hersh, D. C. Wilkins, K. M. Schwartz, M. L. (2020) *Medical Science Educator* 1-4

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32837784&id=doi:10.1007%2Fs40670-020-00994-1&issn=2156-8650&isbn=&volume=&issue=&spage=1&pages=1-4&date=2020&title=Medical+Science+Educator&atitle=Suspending+Medical+Student+Clerkships+Due+to+COVID-19.&aulast=Goldenberg&pid=%3Cauthor%3EGoldenberg+MN%3BHersh+DC%3BWilkins+KM%3BSchwartz+ML%3C%2Fauthor%3E%3CAN%3E32837784%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

Medical schools around the world have been grappling with how to adapt undergraduate medical curricula in the face of the COVID-19 pandemic. Our institution made the decision to suspend all clinical clerkships the day before the Association of American Medical Colleges (AAMC) recommended to US medical schools a similar suspension of "medical student participation in any activities that involved patient contact." This manuscript describes the rapid evolution in our decision-making as we weighed various information, values, and priorities in the face of the emerging public health crisis. We discuss how a compromised learning environment and concerns about student, patient, and the public health led to the suspension. We also consider next steps as we move forward in this uncertain time.

**Database:** MEDLINE, Ovid Technologies

## 3f. Addressing Faculty Emotional Responses during the Coronavirus 2019 Pandemic

**Source:** Schulte, E. E. Bernstein, C. A. Cabana, M. D. (2020) *Journal of Pediatrics* 222(13-14)

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32387715&id=doi:10.1016%2Fj.jpeds.2020.04.057&issn=0022-3476&isbn=&volume=222&issue=&spage=13&pages=13-14&date=2020&title=Journal+of+Pediatrics&atitle=Addressing+Faculty+Emotional+Responses+during+the+Coronavirus+2019+Pandemic.&aulast=Schulte&pid=%3Cauthor%3ESchulte+EE%3BBernstein+CA%3BCabana+MD%3C%2Fauthor%3E%3CAN%3E32387715%3C%2FAN%3E%3CDT%3EEditorial%3C%2FDT%3E>

**Database:** MEDLINE, Ovid Technologies

## 3g. How we make choices and sacrifices in medical education during the COVID-19 pandemic

**Source:** Tolsgaard, M. G. Cleland, J. Wilkinson, T. Ellaway, R. H. (2020) *Medical Teacher* 42(7)741-743

<https://4315973.odslr.com/resolver/full?sid=OVID:medline&id=pmid:32442052&id=doi:10.1080%2F0142159X.2020.1767769&issn=0142-159X&isbn=&volume=42&issue=7&spage=741&pages=741-743&date=2020&title=Medical+Teacher&atitle=How+we+make+choices+and+sacrifices+in+medical+education+during+the+COVID-19+pandemic.&aulast=Tolsgaard&pid=%3Cauthor%3ETolsgaard+MG%3BCleland+J%3BWilkinson+T%3BEllaway+RH%3C%2Fauthor%3E%3CAN%3E32442052%3C%2FAN%3E%3CDT%3EJournal+Article%3C%2FDT%3E>

In this commentary, we highlight some of the pressing choices and sacrifices we must make in medical education during the COVID-19 pandemic.

**Database:** MEDLINE, Ovid Technologies

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**Databases searched:** Medline, Embase, Emcare, Cinahl.

**Search history:**

Database: Embase <1974 to 2020 October 28>

Search Strategy:

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1 covid-19.mp. (57842)

2 (wuhan adj2 coronavir\*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (67)

3 ncov.mp. (1376)

4 sars-cov\*.mp. (23381)

5 exp Coronaviridae/ (21596)

6 exp Coronaviridae Infections/ (22162)

7 lockdown\*.mp. (2445)

8 (social\* adj2 distan\*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (7013)

9 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 (86491)

10 (medic\* or doctor\* or physician\*).ot,ti. (814118)

11 (student\* or undergrad\* or under-grad\* or universit\* or "higher education").ot,ti. (182475)

12 health student/ or student/ (111429)

13 undergraduate student/ (6936)

14 university student/ (10530)

15 11 or 12 or 13 or 14 (268905)

16 \*medical student/ (25765)

17 \*medical education/ (104171)

18 \*medical school/ (16480)

19 10 or 17 (873698)

20 15 and 19 (55861)

21 16 or 18 or 20 (75173)

22 9 and 21 (432)

23 limit 22 to english language (403)

24 limit 23 to (english language and yr="2019 -Current") (348)

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The search was translated for other listed databases.

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