

# Reports of clinical education during COVID-19 pandemic all over the world

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# The situation

- ▶ As the coronavirus (COVID-19) pandemic becomes widespread, Numerous medical schools have suspended all clinical placements and classes with the hopes of mitigating viral transmission.

# The situation

- ▶ Whilst online platforms may be sufficient for students in their pre-clinical years, senior medical students who are placed in clinical environments require patient contact.
- ▶ Indeed, communication with and examination of patients is necessary for learning and building a diagnostic clinical thought process, for as William Osler proclaimed, ‘He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all’

# Pandemics and Their Impact on Medical Training: Lessons From Singapore

► Benefit or treat?

► Liang Z H et al. Pandemics and Their Impact on Medical Training: Lessons From Singapore. *Academic Medicine*. 2020

# Clinical Education at UK

- ▶ As an alternative to clinical placements, students at Imperial College London are being given access to an online repository of patient interview recordings and Cases.

However, Imperial clinicians are still delivering teleteaching and telemedicine through computers on hospital sites, which have seen excellent student attendance and interaction.

- ▶ Nonetheless, **student-patient engagement is still necessary**, and teleteaching does not substitute actual patient contact.
- ▶ **Clinical skills education??**

- ▶ Mian and Khan **BMC Medicine** (2020) 18:100 <https://doi.org/10.1186/s12916-020-01577-y>

# Residency programs

Case based teaching style, simulation, small-group e-learning, probing clinical scenarios and to facilitate deep learning, podcasts, email-based clinical vignettes with associated questions and clinical images, and “tweetorials” (tutorials composed of several linked tweets, available only on Twitter, which may include links to other sites and short videos).

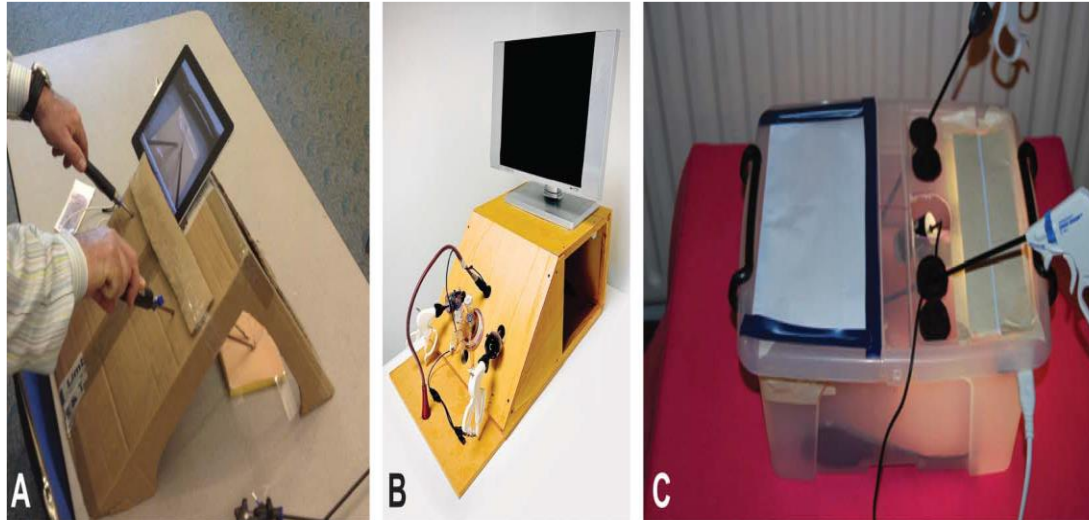
Five Questions for Residency Leadership in the Time of COVID-19: Reflections of Chief Medical Residents From an Internal Medicine Program : Rakowsky S et al. Academic Medicine 2020

# Reinforcing Cardiology Training During a Pandemic

- ▶ **Assess virtual clinical decision-making**
- ▶ Telehealth platforms, trainees can continue to be supervised and evaluated in this new era of clinical decision-making.
- ▶ Additionally, case-based virtual scenarios can be integrated into the learning platforms discussed above.
- ▶ ***procedural skills***
- ▶ *Simulation*
- ▶ *Dineen Hs et al. Reinforcing Cardiology Training During a Pandemic: An Open Letter to Our Leaders. circulation 2020*

# Home Surgical Skill Training Resources for Obstetrics and Gynecology Trainees During a Pandemic

- ▶ Laparoscopic box trainers,
- ▶ Virtual reality trainers,
- ▶ Homemade simulation
- ▶ Models,
- ▶ Video games
- ▶ Online surgical simulations,
- ▶ Webinars,
- ▶ Surgical videos,
- ▶ Smartphone applications,
- ▶ Hobbies including mental imagery
- ▶ Home Surgical Skill Training Resources



- ▶ Hoopes S. Obstetrics and Gynecology Trainees During a Pandemic. Obstetrics and Gynecology 2020.



# The Response of An Orthopedic Department and Specialty Hospital at the Epicenter of a Pandemic

- ▶ weekly scheduled conferences converts to online formats,
- ▶ Joining conferences with local programs, and multiple webinars
- ▶ Speakers from around the country to provide lectures to residents and fellows.
- ▶ While, there is no equivalent for hands-on operative experience, the residents have been able to rehearse surgical procedures using 10 virtual reality headsets and a surgical simulator program that they can use at home.
- ▶ Schwarzkopf R et al., The Response of An Orthopedic Department and Specialty Hospital at the Epicenter of a Pandemic: The NYU Langone Health Experience. The journal of arthroplasty 2020.

# The Past, Present, and Future of Orthopedic Education: Lessons Learned from the COVID-19 Pandemic

- ▶ supplemental educational content incorporating computer-based journal clubs
- ▶ online surgical video databases, such as the Orthopedic Video Theater (OVT)
- ▶ Surgical simulation
- ▶ Jeffrey B et al. The Past, Present, and Future of Orthopaedic Education: Lessons Learned from the COVID-19 Pandemic. The journal of arthroplasty 2020.

# Training in Neurology: Flexibility and adaptability of a neurology training program at the epicenter of COVID-19

- ▶ participate remotely in daily rounds, help with entering orders.
  - ▶ A method of interacting with patients virtually in the hospital called Jabber is newly available. A provider downloads the Jabber app on their mobile device, and is able to use this to securely dial into a patient's room through MyWall, an interface on every patient's hospital room TV.
  - ▶ A qualified assistant like a nurse could be available to aid with the encounter.
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- ▶ Agarwal Sh. Training in Neurology: Flexibility and adaptability of a neurology training program at the epicenter of COVID-19. Neurology 2020.

# Impact of the COVID-19 Pandemic on Neurosurgical Residency Training in New Orleans

- ▶ Restructured Resident Rotations
  - ▶ All non-urgent outpatient visits have been converted to a telemedicine platform
  - ▶ Restructured Education
  - ▶ Simulation and artificial intelligence technologies to maintain surgical skill
  - ▶ oral board style case presentations
  - ▶ Slowing down skill learning and focusing on education and research
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- ▶ Scullen T et al. Impact of the COVID-19 Pandemic on Neurosurgical Residency Training in New Orleans. World Neurosurgery 2020

# Creating a “Quarantine Curriculum” to Enhance Teaching and Learning During the COVID-19 Pandemic for psychiatric residents

- ▶ A14-day "Quarantine Curriculum"
- ▶ Modern psychiatric neuroscience
- ▶ A series of self-study resources and online
- ▶ Interactive experiences
- ▶ Each day focus on specific theme
- ▶ All materials including recordings of the live class sessions, are freely available online
- ▶ Creating virtual community of learners
  
- ▶ Ross DA. Creating a “Quarantine Curriculum” to Enhance Teaching and Learning During the COVID-19 Pandemic. *Academic Medicine* 2020.

# Digital Clinical Placement for Medical Students in Response to COVID-19

- ▶ In this scenario, students initially receive a weekly set of interactive online cases to simulate a clinical placement.
- ▶ The students review a patient's history, their physical examination findings, investigation results, and management plan on an online platform.
- ▶ The material is subsequently discussed at a webinar with the speciality clinician.
- ▶ This bedside teaching and can be supplemented with patient video cases.
- ▶ Sam AM et al. Digital Clinical Placement for Medical Students in Response to COVID-19. Academic Medicine 2020.

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

- ▶ Difficult decisions have been made to shorten the required rotations to 1/3
- ▶ Virtual clerkship
- ▶ Calhoun KE et al., The impact of COVID-19 on medical student surgical education: Implementing extreme pandemic response measures in a widely distributed surgical clerkship experience, The American Journal of Surgery, <https://doi.org/10.1016/j.amjsurg.2020.04.024>

# OB GYN virtual clerkship (Feinberg school of medicine)





# برگزاری راند مجازی در بخش مراقبت های ویژه بیمارستان امام رضا

- ▶ گروه بیهوشی و مراقبت‌های ویژه دانشگاه ع پ مشهد با همکاری مرکز آموزش مجازی اقدام به برگزاری راند مجازی آنلاین در بخش مراقبت های ویژه نمود.
- ▶ در این جلسه یکی از اساتید با استفاده از سامانه کلاس آنلاین دانشگاه و همچنین تلفن همراه هوشمند و یک گجت ویژه ارائه آموزش های مهارتی، جلسه آموزشی خود را برای دستیاران گروه بیهوشی برگزار کرده و به صورت زنده بیماران را ویزیت نموده و برای شرکت کنندگان در جلسه توضیحاتی را در خصوص درمان ایشان ارائه دادند. در این جلسه دو نفر از دستیاران فوق تخصصی حضورا و حدود ۳۷ نفر از دستیاران و اساتید به صورت مجازی (از راه دور) در جلسه حضور پیدا نمودند.
- ▶ مدت این جلسه یک ساعت و نیم بوده و دستیاران از کیفیت آن رضایت خاطر داشتند. همچنین در این جلسه امکان پرسش و پاسخ دستیاران با استاد ارائه دهنده به صورت همزمان از طریق رابط استفاده شده وجود داشت.
- ▶ حسن این روش ارائه آنلاین از داخل فضای بالینی و از کنار تخت بیمار است که در آموزش های کلاسیک و بیناری و با کمک لپ تاپ و رایانه های رومیزی امکان آن وجود نداشته است. در این روش با کمک گجت طراحی شده در مرکز آموزش مجازی دانشگاه، اساتید دانشگاه علوم پزشکی مشهد می توانند از کنار تخت بیمار اقدام به برگزاری راند بالینی نمایند که شامل اخذ شرح حال، معاینه بالینی و بررسی آزمایش ها و تصاویر رادیولوژی بیمار می باشد. در نهایت پس از بحث و گفتگوی استاد با فراگیران، اقدامات تشخیصی و درمانی لازم برای بیمار از بالین وی به صورت زنده قابل ارائه و آموزش به دانشجویان است. در این روش برای حفظ امنیت بیمار فقط دستیاران بالینی و فقط پس از وارد کردن نام کاربری و پسورد خود امکان ورود به کلاس مجازی را داشتند.

# mentoring for medical students during COVID-19 pandemic via a social media platform.

- ▶ A social media platform was created that employed the Near Peer Mentoring method by having senior medical students instruct junior medical

Amini M et al. Mentoring for medical students during COVID-19 pandemic via a social media platform. *Medical Education* 2020.

# Lessons learned from COVID-19 epidemic in Iran: The role of medical education

- ▶ What do we need to teach ?
- ▶ Competency Based Education and COVID-19
- ▶ Public health , Team work
- ▶ Crisis management technique
- ▶ Mental health care

Amini M et al. Lessons learned from COVID-19 epidemic in Iran: The role of medical education. Medical Teacher 2020.

# Conclusion

- ▶ Remote clinical roles using telemedicine technology
- ▶ Collaborative learning
- ▶ Online mentoring
- ▶ Online mental health services
- ▶ Student blogging
- ▶ Organizing online competition
- ▶ Access to institute's online library and online clinical cases
- ▶ Encouraging teacher-learner online participation

# Take home message

- ▶ Medical training is as important a mandate as patient care and service. We believe that even in critical times like this, rich and precious lessons can be sought and taught, which will immensely benefit medical students and residents—the **health care leaders of tomorrow.**



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