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e-learning and the Internet : A key surgical resource for students and doctors in low resource settings

In low resource settings, information is one of the resources that is low. The limited workforce does not have adequate access to the latest surgical information. Africa accounts for 24% of the global disease burden but only 3% of the global health workforce (WHO, 2006). There are efforts to increase the limited number of surgeons through training (Luboga, 2009). However access to information for the trained personnel remains difficult, especially information on the latest surgical techniques. For students and doctors in low resource settings access to information is central to gaining new skills and therefore improving patient care.

With limited access to the latest information different e- platforms are key to learning and keeping in contact with colleagues in other parts of the world, an important aspect of global surgery. Current available platforms include: telesurgery, massive open online courses (MOOCs) , open access articles, and social media. Both the formal and informal modalities of e-learning present exciting possibilities for interaction and information sharing . They are also key to ensuring access to the latest surgical information for future health workers and current practioners in low resource settings.

Telesurgery is composed of different aspects which allow knowledge sharing and skill building in low resource settings. An example of information sharing is the collaboration between the Faculty of Medicine at the National University of Rwanda (NUR), Kigali Health Institute, and the University of Virginia (UVA). Teleconference sessions are conducted monthly between residents and faculty at NUR and UVA as a part of the dedicated academic day. A surgical resident from each program presents a clinical case or research topic (<http://viriniaglobalsurgery.wordpress.com>).

Telerobotic remote surgery, provides high-quality laparoscopic surgical services to patients in a rural community and superior collaboration between surgeons in teaching hospitals and rural hospitals (Anvari 2005). Telesurgery is currently used between rural and teaching hospitals in developed countries. It has potential for wider use and as a training tool to improve skills of surgeons in low resource settings under guided supervision. Telementoring, virtual surgery and telerobotics (Marescaux and Rubino 2005) are other electronic methods that advance global surgery in low resource settings. Massive open online courses (MOOCs) provide an opportunity to learn from experts virtually . MOOCs on surgical topics are one of the ways to gain additional knowledge especially on recent discoveries and the latest surgical approaches. Between June 2014 and July 2014 there was a MOOC on Bariatric surgery freely available to anyone interested (<https://ethicon.edx.org/courses>).

For social medial, youtube® provides a platform for short lectures and conference proceedings in an easy to access video format . On Twitter® the hashtag #globalsurgery immediately connects one to the active global surgery community and is a quick way to share ideas and get the latest global surgery information.