

EDITORIAL

Advances in Surgery Channel: the future of surgical education

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Abstract

The Advances in Surgery (AIS) Channel was created in 2013 as an initiative that offers universal access to high-quality and cutting-edge surgical learning content, produced by elite international surgeons, with the aim of creating a unique learning experience. Universal access, quality of the procedures, and the goal of excellence in all its services differentiate this platform from its competitors. Surgical procedures compiled in our library range from the elementary to the highly specialized, performed by highly skilled surgeons worldwide and supported by the latest technology. Users from all training levels – from medical students to senior surgeons and their teams – are able to navigate through the Courses, Open Classroom, Live Surgeries, and Live Congresses sections and communicate with doctors by posting their questions and views, read the latest news, techniques, and skills, all within the reach of a single click. The future of the AIS Channel lies in its technical innovations, starting with the design of mobile apps (multicam and virtual reality-based), which will soon be launched. The AIS team is committed to making knowledge more electronically accessible from any electronic device. To summarize, the AIS Channel is a platform for excellence in surgery that has had an amazing impact on the global surgical community, enabling all surgeons to achieve excellence regardless of their geographic location.

Keywords: surgery; education; learning; training; online training

Technological developments in the last few years have been a launching platform for new methods of communication and learning. This exponential growth has spread to the medical field, where innumerable websites, mobile applications, and social media profiles have been created to reach the vast medical community.^{1–4} Medical professionals are increasingly relying on these electronic tools to find information they need in their daily practice.⁵ Up to 96% of physicians are using a targeted website to find online information and trust the content to be valid.²

Video-based education specifically has emerged as a very useful learning tool for the surgical community. Watching expert surgeons perform common or specialized procedures from a personal computer has revolutionized surgical training.^{1,3} Across all levels – from medical students to senior surgeons and their teams – users access these websites looking for specific techniques and skills to apply in their surgical practice. The downside of this uncontrolled

proliferation of surgical sites is content quality and the lack of support from recognized scientific institutions, which are needed to ensure that learners are provided with high-quality and reliable teaching materials.⁶

As part of this technological revolution, the Advances in Surgery (AIS) Channel (Fig. 1) was created in 2013 as an initiative that offers universal access to high-quality and cutting-edge surgical learning content, produced by elite international surgeons, with the aim of creating a unique learning experience. Surgical students and health care professionals worldwide are able to observe, interact, and learn, in real time or on demand, by viewing surgical procedures ranging from the elementary to the highly specialized, performed by highly skilled surgeons worldwide and supported by the latest technology. Universal access, the quality of the procedures, and the goal of excellence in all its services differentiates this platform from its competitors. AIS Channel collaborates with recognized medical and surgical

institutions, which endorse its unquestionable endeavour, such as Hospital Clínic in Barcelona (Spain), Cleveland Clinic Florida, in Florida (USA) or University College London Hospitals (UK). Free universal access is the AIS hallmark, which opens the way to a comprehensive high-quality repository of both online and brick-and-mortar

surgical learning and experiential content. Free membership in the AIS Channel community grants direct access to an exclusive and constantly updated network of the most highly skilled international surgeons in various surgical fields, with live and on-demand content (Fig. 2):

- Open classroom: videos, news, lectures, debates, and outstanding pictures
- Live surgeries, demonstrating a specific surgical procedure streamed live, with a real-time chat for viewers to ask questions related to the procedure
- Live congresses, where several experts discuss various topical issues and interact with the users through a live chat
- Hands-on courses (onsite), where specialists learn different techniques from various surgical specialties (colorectal, bariatric, upper gastrointestinal, etc.)

In-depth use of state-of-the-art surgical tools and devices, together with an innovative and disruptive digital platform, serve a single purpose: AIS's commitment to leverage the skills and knowledge of surgeons and health care professionals around the world for a positive global impact on the quality of care and quality of life of millions of patients.



Figure 1. Advances in Surgery Channel (AIS) logo.



Figure 2. Online content available through the AIS Channel website.

The first procedures discussed on the AIS Channel were bariatric and colorectal: gastric bypass, sleeve gastrectomy, low anterior resection, transanal total mesorectal excision, and revision surgeries, among others. Full-length surgeries or specific steps of procedures are available to viewers and have been carefully reviewed to deliver high-quality information from trusted and renowned surgeons. Endocrine surgery is the latest addition to the channel, providing AIS Channel viewers with the most relevant and up-to-date techniques in thyroid, parathyroid, and suprarenal pathologies.

Interaction is an essential tenet of the AIS Channel's mission, which is reflected in the various sections available. Viewers can navigate through the courses, open classrooms, live surgeries, and live congresses and communicate with the doctors by posting their questions and views.

The bricks-and-mortar courses are intended to bring innovative, specialized techniques to every surgeon, including the flagship course on transanal total mesorectal excision. Hundreds of surgeons worldwide have taken the course in Barcelona, learning from live surgeries, hands-on cadaver labs, and didactics about this cutting-edge technique. Bariatric and metabolic surgery and transthoracic esophagectomy courses are also offered, during which the most topical issues are discussed.

The open classroom section provides weekly videos, news, lectures, debates, and photographs for the AIS community. In this section, information is presented in various formats, all of which are 100% interactive so that viewers can participate in ongoing discussions. Educational videos are detail oriented, focusing on key parts of various procedures, with concise messages for the audience. This format is very appealing for viewers, resulting in rapid learning and positive feedback experience.

The live surgeries section broadcasts a specific surgical procedure in real time, which is narrated by the operating surgeon (Fig. 3). A live chat adjacent to the streaming video allows viewers (AIS community members) to pose questions during the surgery, which are answered by a member of the AIS team or the surgeons themselves during the broadcast. This resembles the teacher–student learning relationship. During 2016, more than 25 live events were broadcast through the AIS Channel from locations ranging from Chile to Taiwan (https://www.youtube.com/watch?v=obokgJn_2pk&t=22s). The live congresses section is based on a similar concept, with several experts coming together to discuss various topical issues (Fig. 4). Events are streamed live, and an interactive chat is available for users to communicate with experts, much like a face-to-face discussion. Live surgery is also performed at these events, during which experts discuss the surgery with the



Figure 3. Operating room during a live surgery streamed from Hospital Clínic (Barcelona, Spain).



Figure 4. Experts after the topic discussion during the 2016 Summer Event live congress regarding the use of indocyanine green in abdominal surgery.

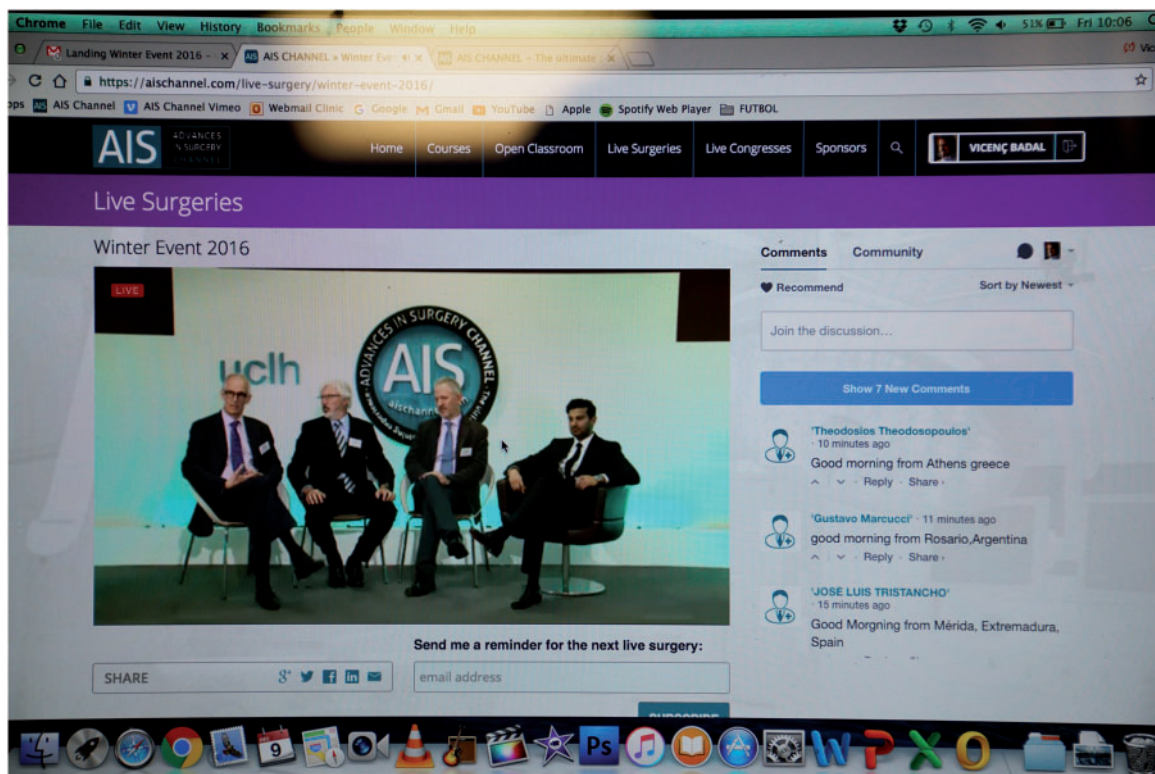


Figure 5. Live chat containing the viewers' questions during the 2016 Winter Event, held in London, where the four different approaches for rectal cancer were discussed.

surgeon in the operating room as well as with the global audience, making these events the highest exponent of surgical learning. To give an example of the huge impact and audience reached by AIS, the most recent AIS live congress, held in London on December 9, 2016, attracted an astounding 25,000+ live viewers in 102 countries (Fig. 5). Indeed, this is a clear example of how AIS Channel is connecting and educating the entire surgical community around the world.

The future of the AIS Channel lies in its technical innovations, following the lead of the technology giants, starting with the design of mobile apps (multicam and virtual reality-based), which will soon be launched. The AIS team is committed to making knowledge more electronically accessible from computers, tablets, and phones, so that the latest news, techniques, and skills can be reached through a single click. To summarize, the AIS Channel is a platform for excellence in surgery that has had an amazing impact on the global surgical community, enabling all surgeons to achieve excellence regardless of geographic location.

Conflict of interest

Beatriz Martin Perez is a Content Manager, and Director of the Research & Innovation Department at AIS Channel; Gabriel Diaz del Gobbo is a Medical Content Manager at

AIS Channel; Hugo De Lacy is Chief Operating Officer at AIS Channel; Steven D. Wexner is a Board member of AIS Channel; Antonio M Lacy is a founder of AIS Channel.

References

1. O'Neill S, Brady RR. Colorectal smartphone apps: opportunities and risks. *Colorectal Dis* 2012; 14: 530–534. <https://doi.org/10.1111/j.1463-1318.2012.03088.x>.
2. De Leo G, LeRouge C, Ceriani C, Niederman F. Websites most frequently used by physician for gathering medical information. *AMIA Annu Symp Proc* 2006: 902. PMID: PMC1839616.
3. Connor K, Brady RR, de Beaux A, Tulloh B. Contemporary hernia smartphone applications (apps). *Hernia* 2014; 18: 557–561. <https://doi.org/10.1007/s10029-013-1130-7>.
4. Moodley A, Mangino JE, Goff DA. Review of infectious diseases applications for iPhone/iPad and Android: from pocket to patient. *Clin Infect Dis* 2013; 57: 1145–1154. <https://doi.org/10.1093/cid/cit455>.
5. Huang GJ, Penson DF. Internet health resources and the cancer patient. *Cancer Invest* 2008; 26: 202–207. <https://doi.org/10.1080/07357900701566197>.
6. O'Neill S, Brady RR. Clinical involvement and transparency in medical apps; not all apps are equal. *Colorectal Dis* 2013; 15: 122. <https://doi.org/10.1111/codi.12086>.