



Revolutionizing Surgical Training in Urology: Integrating Remote Technologies in Medical Education

In an era where surgical training and live demonstrations face significant logistical and patient safety challenges ^[1], Dr. Iván Schwartzmann, a urologist at the Fundació Puigvert, has emerged as a frontrunner in addressing these issues through the innovative use of remote technologies. In a recent interview, he shares his belief that ExpertLink services are set to redefine traditional training methods and enhance the overall educational experience for healthcare professionals.

Challenges

Live surgical demonstrations have gained traction as a key component of scientific congresses, offering a unique opportunity for education. However, these demonstrations come with a host of regulatory challenges that are critical to address ^[2]. Key considerations include ensuring patient safety, maintaining ethical standards, protecting privacy, and complying with legal requirements. Dr. Schwartzmann, a seasoned medical trainer, emphasizes the paramount importance of patient safety during procedures, a concern frequently raised by patient associations. His approach emphasizes the significance of a familiar environment, which he believes can improve patient outcomes. He notes, "When surgeons operate outside of their operating room, they face a challenge of working with unfamiliar equipment and staff. This might increase the risk of complications during procedures."

Moreover, traditional training methods often demand that physicians travel to various healthcare facilities to gain hands-on experience and guidance from experienced mentors. This process is not only time-intensive but also financially burdensome, as it involves costs for transport, lodging, and other logistical needs for trainees and trainers alike.

In addition to the logistical hurdles, Dr. Schwartzmann points out a growing hesitance among physicians to adopt new technologies. As he notes, "Innovation in medicine is often met with skepticism, especially when it comes to protecting patient privacy."

Solution

To address these challenges, Dr. Schwartzmann has adopted advanced technology by using GDPR-compliant smart glasses provided by Boston Scientific—an initiative that demonstrates how contemporary tools can be seamlessly incorporated into the training of healthcare professionals.

One notable example of this initiative was a live surgical procedure conducted in his operating room at the Fundació Puigvert. This event was not just a routine surgery; it was a pivotal moment in medical training as it was broadcast in real-time to an audience of 150 physicians attending the annual T&T Endourology Congress held at the Hospital Cottolengo in Turin. The use of smart glasses created a uniquely immersive learning experience, allowing physicians to witness an endoscopic prostate enucleation through Dr. Schwartzmann's perspective. This approach enriched their comprehension of the Holmium Laser Enucleation of the Prostate (HoLEP) techniques. Participants were able to gain deeper insights into the intricacies of the surgery, with the possibility of asking real-time questions.

Another example occurred during a training session, where a trainee adeptly executed a HoLEP procedure in the presence of his mentor, Dr. Schwartzmann, at the same hospital. What set this experience apart was the use of smart glasses worn by the young physician. Using ExpertLink services facilitated a unique feedback mechanism, allowing Dr. Schwartzmann to observe the procedure from the trainee's viewpoint. Through his computer, he provided immediate insights and guidance, fostering an engaging and interactive learning environment. Since the procedure took place in the same hospital, Dr. Schwartzmann could have entered the operating room, if necessary, further enhancing the level of support.

The outcome of this collaborative training session was notably positive. The procedure was completed efficiently, demonstrating a marked improvement in speed compared to traditional training methods where the trainee would have operated independently.

INCREASE IN PATIENT
SAFETY



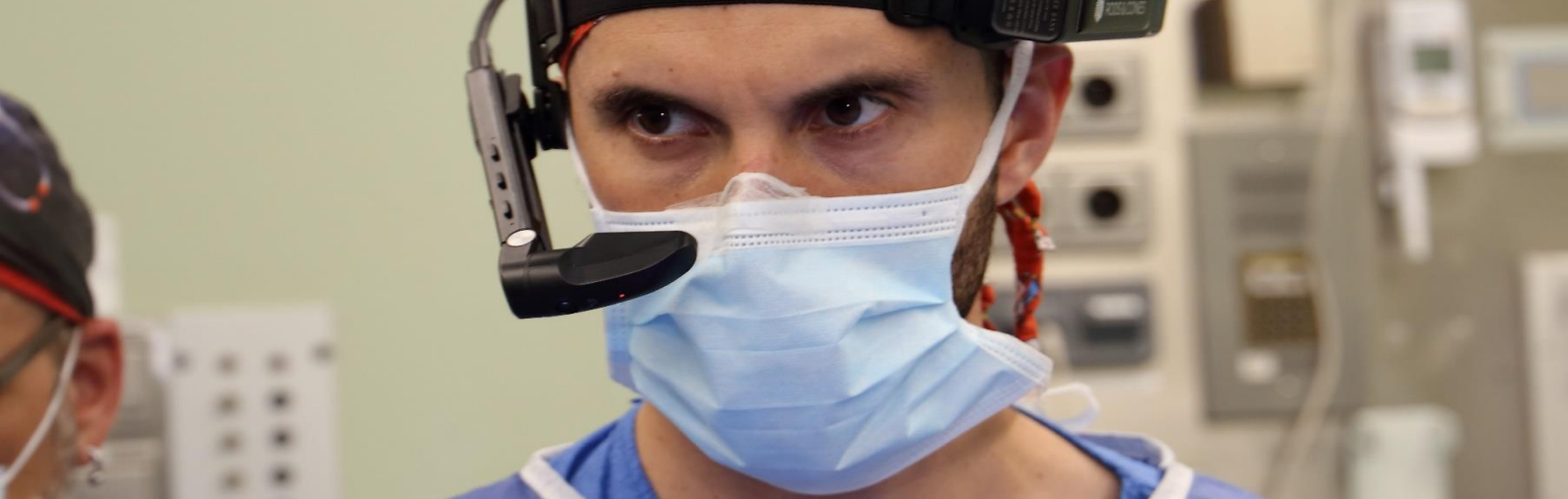
TIME SAVINGS
3 days

Travel time per training
for the mentor

TRAINING
EFFECTIVENESS

X4

Nr of mentees who
have received a personalized
follow-up



Impactful Outcomes

One of the foremost advantages of using smart glasses, as identified by Dr. Schwartzmann, is the enhancement of patient safety through hands-on experience. With the ability to provide real-time guidance and feedback, mentors can oversee procedures while ensuring that trainees adhere to best practices. This immediate oversight minimizes the risk of complications, accelerates training and reinforces the importance of safety in clinical settings.

Moreover, smart glasses enable mentors to train and follow up with a larger number of trainees simultaneously. Currently managing a mix of thirty trainees, including those undergoing simulation training and in-house residency, Dr. Schwartzmann finds that this technology allows for a more efficient allocation of time and resources. Mentors can deliver instruction to multiple trainees at once, fostering a collaborative learning environment while ensuring that each trainee receives personalized attention. "With the use of remote technologies, I can now offer an interactive follow-up session to four trainees within just half a day," noted Dr. Schwartzmann.

Another significant benefit for mentors and trainees is the improved balance between professional and personal life. Traditional mentorship often entails extensive travel, which can take physicians away from their practices and homes for days at a time. For example, by using smart glasses instead of traveling to Turin, Dr. Schwartzmann has saved three to four valuable days. Similarly, with the ability to participate in training sessions remotely, trainees can engage in their education without the logistical burdens associated with travel, allowing them to maintain personal commitments while advancing their skills.

[1] Kallmes, D. F., Cloft, H. J., Molyneux, A., Burger, I., Brinjikji, W., & Murphy, K. P. (2011). Live case demonstrations: patient safety, ethics, consent, and conflicts. *The Lancet*, 377(9776), 1539–1541. [https://doi.org/10.1016/s0140-6736\(11\)60357-7](https://doi.org/10.1016/s0140-6736(11)60357-7)

[2] Brundhorst, O., Challacombe, B., Abboud, H., Khan, M. S., Dasgupta, P., & Ahmed, K. (2014). Systematic review of live surgical demonstrations and their effectiveness on training. *British Journal of Surgery*, 101(13), 1637–1643. <https://doi.org/10.1002/bjs.9635>

Disclaimer: Results are based on an actual survey conducted for this case study between November 2023 and November 2024.

These materials are provided to outline general clinical considerations, educational and training practices, and procedural steps for the referenced technologies. However, they may not be suitable for every patient or situation. Decisions regarding patient care, as well as the choice of educational and training settings, should always be based on the physician's professional judgment, taking into account the specific circumstances and all relevant information available for each case.



Doctor Ivan Schwartzmann

Urologist, with special dedication to HoLEP
(Holmium Laser Enucleation of the Prostate)
used to treat BPH (Benign Prostatic Hyperplasia)



"I have certainly noticed a shift towards greater reliance on technology, facilitating remote connections with trainees. As these trends evolve, it will no longer be acceptable for healthcare professionals to encounter complications without seeking distant support, as the option for assistance is readily available."

About the Hospital

Fundació Puigvert, established in 1958 in Barcelona, is a premier healthcare institution specializing in urology, nephrology, and andrology. Renowned for its advanced research and innovative treatments, it offers comprehensive care for various male health issues. The foundation emphasizes patient-centered approaches and is committed to educating healthcare professionals through several key initiatives, notably training and fellowship programs, research opportunities and congresses or workshops.



ExpertLink

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Enhancing the
physician
experience



Embedding digital
innovation



Championing
efficiency and
sustainability

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