

## The EAES Symposium on Innovation in Surgery 2026: A Meeting Report from Porto, Portugal

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The European Association for Endoscopic Surgery held its Symposium on Innovation in Surgery from January 22 to 24, 2026, in the historic city of Porto, Portugal. Under the expert stewardship of local hosts Professor Hélder Ferreira and Professor Jaime Vilaça, the three-day event brought together surgeons, innovators, and thought leaders from across the globe to explore the rapidly evolving landscape of minimally invasive and technologically advanced surgery. The symposium successfully integrated cutting-edge scientific presentations, live surgical demonstrations, and intensive hands-on training, offering participants both theoretical knowledge and practical skills directly applicable to modern surgical practice. Romania and the Romanian Association for Endoscopic Surgery were notably well represented at the meeting, with Romanian surgeons participating both as faculty members in symposium sessions and the hands-on courses, and as engaged participants, reflecting the association's strong commitment to advancing medical education and maintaining expertise in the newest technologies in minimally invasive surgery.

The symposium opened on Thursday, January 22, with two intensive full-day hands-on courses that set the tone for the educational rigor that would characterize the entire event. These courses were specifically designed to transform abstract concepts into tangible skills through direct engagement with advanced surgical models.

The first course focused on advanced techniques in image-guided surgery, directed by Hélder Ferreira from Portugal and Ludovica Baldari from Italy at the ICBAS University of Porto. This comprehensive workshop addressed one of the most significant recent advances in intraoperative visualization: indocyanine green fluorescence imaging and near-infrared technology. The assembled international faculty included Pedro Brandão from Portugal, Manish Chand from the United Kingdom, Juan Gilabert from Spain, Michele Diana from Switzerland, Rui Costa from Portugal, and Humberto Machado from Portugal, creating a truly multinational teaching environment

that reflected the global nature of surgical innovation. The course opened with basic sessions on ICG fluorescence imaging principles and its clinical uses, including perfusion assessment, cholangiography, and gynecologic or urologic procedures, supported by panel discussions and live demonstrations. In the afternoon, participants practiced hands-on procedures on porcine models in small groups, covering cystoscopy, lymphadenectomy, hysterectomy, cholecystectomy, and rectal resection using ICG imaging. The day ended with presentations on advanced technologies like laser and spectral imaging and AI in image-guided surgery.

Running concurrently, the second pre-conference course addressed the surgical management of obesity, which the organizers aptly characterized as a twenty-first-century pandemic. This advanced bariatric surgery course was directed by Paulo Soares from Portugal, Miloš Bjelovic from Serbia, and Cătălin Copăescu from Romania, also taking place at ICBAS- University of Porto. The faculty included Miljan Zindovic from Montenegro, Dragan Gunjic from Serbia, Isabel Mesquita from Portugal, and Humberto Machado from Portugal. The course utilized both human cadaveric models and porcine tissue to create realistic surgical scenarios that balanced anatomical accuracy with practical training considerations. Throughout the day, participants gained hands-on experience performing sleeve gastrectomy, single anastomosis duodeno-ileal bypass with sleeve gastrectomy, and gastric bypass procedures using laparoscopic techniques with instruments and materials identical to those used in actual clinical operations, benefiting from the cadaveric model's provision of human anatomy in realistic dimensions without hemorrhage complications. The faculty shared practical tips honed over years of experience, helping participants achieve their learning goals within the course framework.

Friday, January 23, brought participants to the magnificent Alfândega do Porto for the core scientific programme. The day opened with welcoming remarks from Hans Fuchs, chair of the EAES Technology Committee, EAES President Nicole Bouvy from the Netherlands, and the local hosts, setting an atmosphere of collegial collaboration and intellectual curiosity that would persist between sessions.

The first session, Technologies for Improving Operating Room Safety, focused on patient safety as the key theme and highlighted how new technologies can lower surgical risks.

Pietro Mascagni discussed AI tools that support

surgeons during procedures by identifying anatomy and warning of potential hazards. Hans Fuchs explained the concept of a surgical black box, inspired by aviation's safety improvements through thorough data recording and analysis. Michele Diana presented evidence that image-guided surgery helps reduce complications by improving visualization.

Martin Wagner showed how augmented reality can help prevent surgical errors by overlaying critical information during operations. Luigi Manfredi talked about simulation technologies for preoperative planning, likening them to flight simulators for pilots. Gadi Marom wrapped up with advances in endoluminal assistance and quality control, emphasizing real-time feedback systems for maintaining surgical excellence. After the morning break, the symposium moved into its innovative second session on telementoring for patient safety and outcomes. Moderated by Hugo Pinto Marques (Portugal) and Luigi Boni (Italy), it featured live surgical demonstrations from France, Germany, and Portugal, highlighting real-time education and the ability to overcome geographic barriers. Elisa Reitano showed endoscopic sleeve gastropasty from Strasbourg, Felix Nickel presented Caresyntax technology from Hamburg, Hélder Ferreira broadcast Hugo LiveStream from Porto, and Youness Ahallal demonstrated Toumai telesurgery from France- all enabling interactive learning across locations. The third session, chaired by Ivone Silva, Benjamin Babic, and Jorge Correia-Pinto, focused on new tools and technologies. Rosa Jiménez-Rodríguez discussed strategies to prevent staff injuries in robotic surgery, while Amilcar Alzaga advocated for quality equipment and workflow optimization to enhance efficiency. Luís Lopes presented progress in semi-autonomous flexible endoscopy with AI assistance, Andrew Gumbs debated the presence of level three robotic autonomy, and Kiyokazu Nakajima examined medical device development challenges affecting patient care. The final session of the main programme addressed Endometriosis as a Multidisciplinary Treatment Challenge, chaired by Fátima Faustino from Portugal and Manish Chand from the United Kingdom. This session acknowledged the complexity of endometriosis surgery, which often requires technical expertise spanning multiple surgical specialties and presents challenges distinct from other pelvic procedures. Hélder Ferreira from Portugal opened with a presentation on nerve-sparing techniques in endometriosis surgery, emphasizing that preserving

quality of life and functional outcomes requires meticulous attention to neural anatomy during disease excision. Jaime Vilaça from Portugal compared bowel endometriosis surgery to colorectal cancer surgery, explaining their distinct technical and strategic requirements. José Reis discussed extra-pelvic endometriosis in rare sites like the diaphragm, canal of Nuck, and inguinal region. Juan Gilabert from Spain shared practical advice on managing surgical complications in endometriosis, while Pedro Gouveia presented on the use of artificial intelligence in surgery. The day concluded with farewell drinks for further informal discussion.

Saturday, January 24, featured two highly specialized hands-on courses held at the University of Minho in Braga, allowing participants to extend their learning into niche areas of surgical innovation.

The first of these courses focused on remote access to the neck, directed by Jaime Vilaça, and addressed scarless thyroid surgery techniques that represent the forefront of endocrine surgical innovation. The distinguished faculty included Barbara Seeliger from Germany, Oscar Vidal from Spain, Ozer Makay from Turkey, Carlos E. Costa Almeida from Portugal, Carlos Serra from Portugal, and Louis Couceiro from the United Kingdom. The morning session featured presentations on evidence-based medicine and step-by-step techniques for axillary-areolar access and bilateral axillo-breast approach, followed by clinical case reviews and hands-on practice on porcine models. The afternoon shifted to transoral endoscopic thyroidectomy vestibular approach, including evidence review, indications, and detailed technical instruction, with additional presentations on emerging technologies including ICG fluorescence for parathyroid identification, neuromonitoring techniques for nerve preservation, and robotic applications. Participants spent the remainder of the afternoon in the cadaver laboratory, working through these advanced procedures on human specimens under close faculty supervision, gaining realistic experience with the spatial relationships and tissue characteristics encountered in clinical practice.

The second Saturday course addressed wall surgery, directed by Ferdinando Agresta from Italy and Fernando Ferreira from Portugal. This comprehensive training addressed the increasingly complex field of abdominal wall reconstruction, with faculty including Chi-Chuan Yeh from Taiwan, Emanuel Guerreiro from Portugal, and Juan Bellido Luque from Spain. The morning

covered internal laparoscopic anatomy, radiological safety, and three main approaches: Subcutaneous Onlay Laparoscopic, Transabdominal Preperitoneal, and Enhanced Totally Extra Peritoneal Rives-Stoppa with discussions on their uses and risks. Participants practiced laparoscopic suturing on porcine models, then spent the afternoon applying these techniques in the cadaver lab under faculty supervision, with ample hands-on training to build advanced skills.

The symposium's multidisciplinary integration reflected the modern reality that surgical innovation increasingly transcends traditional specialty boundaries. By including sessions spanning general surgery, colorectal surgery, bariatric surgery, gynecology, urology, and endocrine surgery, the organizers fostered cross-specialty dialogue and knowledge exchange. The careful balance between theoretical presentations, live demonstrations, and hands-on training ensured that participants gained both conceptual understanding and practical competence. Throughout all sessions, the overarching emphasis on patient safety – from AI-assisted decision support to telementoring for complex cases, from surgical black boxes to image-guided precision – underscored the symposium's commitment to ensuring that technological advancement consistently serves the ultimate goal of improving surgical outcomes. The surgical community faces the perpetual challenge of distinguishing truly valuable innovations from merely novel technologies that offer little practical advantage over existing approaches.

For general surgeons of all backgrounds, whether practicing in large academic medical centers or smaller community hospitals, whether early in their careers or approaching retirement, whether subspecialized in a single area or maintaining broad general surgical practices, the symposium offered valuable knowledge and skills. The emphasis on practical, implementable techniques rather than merely aspirational technologies ensured that participants could return to their practices and immediately apply what they had learned. The international scope ensured that innovations were presented with awareness of varying resource contexts, acknowledging that the most sophisticated technology is worthless if unavailable or unaffordable in one's practice setting.

The organizers, faculty, and participants in Porto demonstrated that the surgical community, including Romanian surgeons, remains committed to these principles and prepared to embrace the future of surgical care.