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E-learning in vascular surgery: five years of research

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Nikolaos Patelis (Riyadh, Saudi Arabia) and colleagues have been investigating e-learning's role in training and educating the vascular community. Their most recent paper, published in *Annals of Vascular Surgery*, offers over five years of research on this topic. Here, Patelis writes about the team's research.

EL-COVID and EL-POCO are two international research initiatives in vascular surgery that examine the use, perception, and sustainability of e-learning within specialty training and continuing professional education.^{1,2} Together, they describe the transition from the acute disruption of the pandemic to the more deliberate choices educators and learners make as everyday clinical activity resumes.

EL-COVID focuses on the period when the pandemic interrupted conventional teaching and reduced access to in-person education, accelerating reliance on technology-enhanced training and its rapid adoption. The project explored how the vascular community engaged with e-learning and how they evaluated the educational value, accessibility, and constraints of the latter. The emphasis was not just on whether online content existed, but on whether it reached learners equitably, was perceived as credible and relevant, and supported continuity of learning during periods of limited physical presence and reduced social contact. EL-COVID is the largest study on e-learning in vascular surgery and it was supported by eight national societies.

EL-POCO continued this inquiry in the post-pandemic setting, shifting from emergency adoption to long-term integration. It examined the advantages and disadvantages of e-learning that persist when clinical services normalise and how it can complement rather than compete with traditional methods. It operated from a pragmatic view: e-learning can effectively support the educational experience in vascular surgery. By examining how participants used and prioritised different learning modalities over time, EL-POCO provided a framework for understanding what future sustainable educational approaches should look like in the future.

Across both projects, the findings are consistent. Respondents generally provide positive feedback on e-learning, even while identifying weaknesses, gaps, and conditions for success. Reported limitations often relate to the need for meaningful interaction rather than passive viewing and the importance of careful curation and faculty engagement. The inherent

constraints of online formats for teaching operative techniques are also noted, although some other technical skills can be acquired online, as reported in an earlier publication.³ Yet, despite these concerns, the prevailing message across EL-COVID and EL-POCO is that well-designed e-learning is a valuable component of vascular education, particularly for extending access to structured teaching and enabling repeated review of complex content.

The two projects are part of a larger framework on technology-enhanced learning in the specialty and reflect a continuous research effort based on the foundation of the [European Society for Vascular Surgery \(ESVS\)](#) e-learning team, which was active from 2009 to 2016. The availability of project materials and updates through [med-pie.com](#) reinforces continuity, transparency, and ongoing collaboration regarding how vascular surgeons learn.

References

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