Editorial

Surgical video library—editorial introduction

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Virtual reality–based simulators are the future of orthopaedic training. Because of endless repetition on virtual reality trainers (VRT), the hand-eye coordination of airline pilots is faster, more accurate, and more reliable than ever before [1]. It started with early video games on Nintendo and Playstation and then evolved into simulators. It is safe to assume that VRT can provide similar benefits for the skills of orthopaedic surgeons [2,3]. Full simulators are in the process of being developed, but we currently have surgical videos that may serve as an early learning tool.

What distinguishes humans from other species is our language, but learning is strongly reinforced with visual imagery. Social media platforms such as Facebook, Snapchat, Instagram, and TikTok have become highly popular because they are flooding the world with instant pictures: “A picture is worth a thousand words.” [4,5]. Moving pictures and videos are even that much more valuable. Videos continue to evolve with

increasing quality and quantity at a rapidly expanding pace. The technology that used to require massive amounts of equipment is now at our fingertips, in every smart phone around the world. This has created a very powerful tool for us to catalogue and learn about our world.

Mental repetitions as a form of learning

Arthroscopy requires careful attention to the arthroscopic camera, as well as the surgeon's position and technique. The camera and the specialised instrumentation add another layer to the surgical burden. Many new trainees often find themselves wondering, “How should I position the instrument to avoid damage and insert the implant?” and “Where should the retractors go to give me the best view?” Surgical training represents a unique field in which continuous repetition for all forms of pathology is simply not feasible. The time required for surgical mastery is immense, and the resources required for multiple cadaveric training sessions for each individual trainee are beyond what is available for the vast majority of training programs around the world. The lack of resources and technical expertise required for orthopaedic cases thus creates a prolonged learning curve for many new surgeons [6,7].

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Fortunately, videos can help with surgical training to a large extent. They can demonstrate patient positioning, approach, all aspects of the technique, closure, and postoperative rehabilitation. In short, they can give us another valuable learning tool. Moreover, they can be watched again and again, so we can judge ourselves—and our handling of our latest case—against a “gold standard.” As a result, there is a large potential role for surgical video techniques to allow for trainee education and mental repetition, promoting surgical efficacy and efficiency in the setting of limited training resources and time.

Internet platforms

A number of platforms on the Internet have attempted to capture technical videos with varying degrees of quality. The popular surgical video sites include YouTube, VuMedi, and Sports Med Innovate. Few platforms, however, are subject to peer review or include any standardisation. Fewer still provide any information on critical aspects of surgical technique, such as patient positioning, surgeon ergonomics, and arthroscopic orientation. Videos are also edited to showcase only ideal technique and efficiency, so it can be difficult to appreciate working through surgical errors and challenging scenarios. As videos continue to get posted, there is an increasing need for establishing standards to ensure the surgical quality and technique are maintained in an educational format. As with articles, peer-reviewed videos would offer an additional layer of quality and scientific value for viewers.

Recognising the importance of video education, we are pleased to announce the creation of the newest addition to our journal, the Surgical Video Library. This will be a collection of peer-reviewed surgical techniques comprising both arthroscopic and open approaches. Videos will feature comprehensive yet succinct guidelines for surgical indications, positioning, approach, technique, and closure with technical pearls to avoid complications and optimise results.

There will be two main types of videos: novel and current techniques. Novel techniques deal with an entirely new surgical technique or a significant modification of a prior technique, whereas current techniques will review those that have previously been published with mid- to long-term acceptable results. Standardised formatting and editing will ensure all aspects of the technique are covered in an educational format for all viewers to gain a complete understanding of the procedure. It is our hope these videos will foster international collaboration and enhance our surgical techniques in the interest of our patients.

We invite you to consider submitting a video technique for future editions of our journal. Guidelines can be found in the Instructions for Authors on the JISAKOS web site.

We look forward to your new techniques and ideas.

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References

- [1] Fornette M-P, Bardel M-H, Lefrançois C, Fradin J, Massioui FE, Amalberti R. Cognitive-adaptation training for improving performance and stress management of air force pilots. *Int J Aviat Psychol* 2012;22(3):203–23. <https://doi.org/10.1080/10508414.2012.689208>.
- [2] Kelc R, Vogrin M, Kelc J. Cognitive training for the prevention of skill decay in temporarily non-performing orthopedic surgeons. *Acta Orthop* 2020;0(0):1–4. <https://doi.org/10.1080/17453674.2020.1771520>.
- [3] Camp CL. Editorial commentary: “virtual reality” simulation in orthopaedic surgery: realistically helpful, or virtually useless? *Arthrosc J Arthrosc Relat Surg* 2018;34(5):1678–9. <https://doi.org/10.1016/j.arthro.2018.02.042>.
- [4] Jildeh TR, Okorooha KR, Guthrie ST, Parsons TW. Social media use for orthopaedic surgeons. *JBJS Rev* 2019;7(3):e7. <https://doi.org/10.2106/JBJS.RVW.18.00085>.
- [5] Varady NH, Chandawarkar AA, Kernkamp WA, Gans I. Who should you be following? The top 100 social media influencers in orthopaedic surgery. *World J Orthop* 2019;10(9):327–38. <https://doi.org/10.5312/wjo.v10.i9.327>.
- [6] Keyt LK, Jensen AR, O'Driscoll SW, Sanchez-Sotelo J, Morrey ME, Camp CL. Establishing the learning curve for elbow arthroscopy: surgeon and trainee perspectives on number of cases needed and optimal methods for acquiring skill. *J Shoulder Elbow Surg* 2020;29(11):e434–42. <https://doi.org/10.1016/j.jse.2020.04.022>.
- [7] Mehta N, Chamberlin P, Marx RG, Hidaka C, Ge Y, Nawabi D, et al. Defining the learning curve for hip arthroscopy: a threshold analysis of the volume-outcomes relationship. *Am J Sports Med* 2018;46(6):1284–93. <https://doi.org/10.1177/0363546517749219>.

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