Review Article | Journal of Orthopaedic Case Reports 2024 October:14(10):Page 213-218

OrthoTV: Broadcasting Orthopedics around the World

Madhan Jeyaraman[1], Tarun Jayakumar[2], Swaminathan Ramasubramanian[3], Ashok Shyam[4], Parag Sancheti[4], Neeraj Bijlani[4]

Learning Point of the Article:

OrthoTV leverages technology to provide a comprehensive, accessible, and interactive orthopedic education platform, integrating AI for personalized learning and fostering global knowledge exchange.

Abstract

OrthoTV has emerged as a pioneering platform in the field of orthopedic education, leveraging technology to create a comprehensive and accessible knowledge repository. Originating from the vision of the Indian Orthopedic Research Group in 2013, OrthoTV has evolved into a global educational hub, streaming thousands of hours of surgical videos, webinars, and podcasts. It provides a dynamic learning environment through live interactive sessions, fostering real-time engagement with experts and facilitating a global exchange of knowledge. OrthoTV's expansion during the COVID-19 pandemic underscored its vital role in continuing medical education amidst travel restrictions. The platform extends beyond educational resources to include career support, collaborative research initiatives, and even virtual fellowships, embodying a multifaceted approach to professional development. With the introduction of OrthoAI, OrthoTV integrates advanced artificial intelligence to offer personalized, evidence-based responses to queries, setting a new standard in digital medical education. This narrative review highlights OrthoTV's foundational principles, its significant impact on orthopedic education and practice, and its commitment to democratizing knowledge across the globe. OrthoTV's innovative use of technology bridges geographical barriers enriches learning experiences, and fosters a vibrant community of orthopedic professionals, marking a significant advance in the field of medical education.

Keywords: OrthoTV, orthopedic education, digital learning, virtual fellowships, artificial intelligence.

Introduction

OrthoTV, a name synonymous with orthopedic education, has carved a niche for itself in the medical world. OrthoTV is a global collaborative platform that streams videos, webinars, podcasts, and surgical videos. It also offers patient information and is considered the "Netflix of Orthopedic Videos" [1]. Beyond simply being a television channel, it has become a comprehensive online platform brimming with resources for students, residents, and practicing orthopedic surgeons. The various facets of OrthoTV are presented in Fig. 1.

At its core, OrthoTV acts as a knowledge repository [2]. Its extensive library boasts thousands of videos covering a wide spectrum of orthopedic topics. From intricate surgical techniques to insightful discussions on complex diagnoses, the platform caters to diverse learning needs. Renowned surgeons and experts lend their expertise, demystifying complex concepts through high-quality visuals and clear explanations. This accessibility empowers learners to visualize procedures, refine their skills, and stay updated on the latest advancements in the field.

Access this article online

Website: www.jocr.co.in

DOI: https://doi.org/10.13107/jocr.2024.v14.i10.4868

Author's Photo Gallery



Dr. Madhan Jeyaraman | Dr. Tarun Jayakumar | Dr. Swaminathan Ramasubramanian | Dr. Ashok Shyam | Dr. Parag Sancheti | Dr. Neeraj Bijlani

[1]Department of Orthopaedics, ACS Medical College and Hospital, Dr MGR Educational and Research Institute, Chennai 600077, Tamil Nadu, India.
[2]Department of Orthopaedics, KIMS-Sunshine Hospital, Hyderabad 500003, Telangana, India,
[3]Department of Orthopaedics, Government Medical College, Omandurar Government Estate, Chennai 600002, Tamil Nadu, India,
[4]Department of Orthopaedics, Sancheti Institute for Orthopaedics and Rehabilitation, Pune, Maharashtra, India.

Address of Correspondence:
Dr. Madhan Jeyaraman,
Department of Orthopaedics, ACS Medical College and Hospital, Dr MGR Educational and Research Institute, Chennai 600077, Tamil Nadu, India.
E-mail: madhanjeyaraman@gmail.com

Submitted: 13/07/2024; Review: 25/08/2024; Accepted: September 2024; Published: October 2024

DOI: https://doi.org/10.13107/jocr.2024.v14.i10.4868

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License https://creativecommons.org/licenses/by-nc-sa/4.0/, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms

© 2024 Journal of Orthopaedic Case Reports | Published by Indian Orthopaedic Research Group



Figure 1: Various facets of OrthoTV.

OrthoTV transcends passive video consumption by fostering a dynamic learning environment. Live webinars and interactive sessions allow for real-time engagement with prominent figures in the field [3]. Participants pose questions, participate in polls, and gain valuable insights through live discussions. This interactive approach fosters a sense of community amongst learners, breaking down geographical barriers and creating a global network of knowledge exchange.

The platform's commitment extends beyond educational resources. OrthoTV recognizes the challenges orthopedic surgeons face, tackling crucial topics, such as medico-legal issues, financial management, and career guidance [4]. Dedicated channels address these concerns, providing practical advice and support to navigate the complexities of professional life. OrthoTV's impact is not limited to individual learners. It actively collaborates with medical societies and institutions, organizing conferences, workshops, and academic events. This synergy elevates the platform's reach and ensures diverse perspectives are included in the educational ecosystem. In this review, we aim to elaborate on its foundational principles, the impetus behind its creation, and its overarching goal of augmenting orthopedic education and practice.

Origin, Expansion, and Reach

OrthoTV's journey began in 2013 as the brainchild of the Indian Orthopedic Research Group (IORG), publishers of the esteemed Journal of Orthopedic Case Reports [5, 6]. Recognizing the potential of digital platforms to democratize knowledge, the visionaries behind OrthoTV sought to make an entire conference video recording accessible online by splitting it into topic-specific segments. This pioneering move garnered significant attention from the Indian orthopedic community, sparking a desire for further exploration.

However, technological limitations in the form of large file sizes and slower internet speeds prevalent in India at the time hampered accessibility. Undeterred, OrthoTV relaunched in 2017, equipped with better video compression technology and improved internet infrastructure, the platform resurfaced with renewed vigor. Orthopedic surgeons across India embraced this revised version, urging further content expansion. Building upon this positive response, OrthoTV adopted live-streaming technology in the latter half of 2017. This marked a momentous occasion, as OrthoTV streamed the entire annual conference of the Asia Pacific Arthroplasty Society live from Chennai, India, reaching nearly 8,000 surgeons across 50 countries. This event marked a pivotal

turning point, propelling OrthoTV into the global arena.

From there, OrthoTV's growth has been nothing short of phenomenal. The platform has secured exclusive broadcasting rights for over 100 international, national, and state-level continuing medical educations (CMEs) and conferences, solidifying its position as a premier destination for orthopedic education. Today, OrthoTV boasts a vast library of over 500 h of video content spanning all subspecialties of orthopedics, from trauma and arthroplasty to arthroscopy, pediatric orthopedics, spine surgery, and regenerative medicine. This dedication to comprehensive coverage is further reflected in OrthoTV's impressive membership base, with global orthopedic surgeons hailing over the globe.

The COVID-19 pandemic further amplified OrthoTV's significance. With travel restrictions and social distancing measures in place, OrthoTV emerged as a vital lifeline for surgeons seeking continued learning and professional development. The platform witnessed a surge in engagement, surpassing the video views and establishing itself as a reliable source of knowledge and support for the global orthopedic community.

Collaborative Associations

OrthoTV's commitment to fostering a vibrant and inclusive orthopedic community extends beyond its platform. They actively forge collaborative partnerships with multiple state and national orthopedic bodies, leveraging these alliances to telecast and host a diverse range of meetings catering to all levels of expertise within the field [7]. From budding postgraduate trainees to seasoned veterans, OrthoTV ensures that the content delivered meets rigorous global standards by featuring insights from the leading minds in each subspecialty.

This unwavering dedication to accessibility is reflected in the platform's commitment to making all content freely accessible and unrestricted to any orthopedic surgeon, regardless of their location or affiliation. This democratization of knowledge empowers individuals to continuously refine their skills and stay at the forefront of evolving practices, ultimately contributing to improved patient care across the globe.

Further cementing OrthoTV's dedication to continuous professional development, their collaborative efforts have led to remarkable achievements. They have secured formal approval from state and national medical governing bodies to award CME credit points to virtual participants in some of their events. This recognition by esteemed regulatory bodies serves as a powerful testament to the quality and educational value of OrthoTV's offerings and has received widespread acclaim and appreciation from the global orthopedic community. As the platform continues to expand its content library, adapt to new technologies, and foster international partnerships, its future promises to be even brighter, shaping the landscape of orthopedic education for generations to come.

Educational Content and Accessibility

A thorough examination of the surgical tutorials and educational materials curated by distinguished professionals, the open access model providing unrestricted, cost-free access, and the platform's commitment to global standardization in orthopedic education.

Communication Platforms

OrthoTV leverages the power of communication platforms, such as WhatsApp and Telegram to facilitate real-time updates and discussions within the IORG [6, 8]. Dedicated subgroups for each subspecialty pulsate with the intellectual exchange. Surgeons readily share relevant research articles, engage in case-based discussions among peers, and stay updated on the latest happenings, conferences, and developments within their field. This constant flow of knowledge creates a synergetic network where valuable information promptly permeates throughout the groups.

To maintain the sanctity of these digital forums, OrthoTV has carefully appointed group administrators who meticulously curate the content, ensuring its relevance, accuracy, and timeliness; thereby forging a vibrant virtual community where collaboration thrives, innovation flourishes, and the pursuit of orthopedic excellence finds fertile ground.

Career Support

OrthoTV leverages platforms such as WhatsApp and Telegram and acts as a job search and find platform not only for the employer but also for aspiring employees. Groups are where employers throughout India post available job vacancies and available fellowship applications with the respective contact links; thereby fostering easy access.

OrthoTV transcends its role as a mere educational platform by transforming into a dynamic networking hub through platforms, such as WhatsApp and Telegram. These interconnected groups function as a vibrant job market and fellowship opportunity portal, catering to both the needs of aspiring orthopedic professionals and established institutions across India.

Employing a user-friendly format, dedicated groups within the OrthoTV network become virtual bulletin boards where

employers can readily post details of available job vacancies and fellowship applications. Equipped with the necessary contact information for each opportunity, the platform streamlines the application process, fostering easy access for individuals seeking to advance their careers. This centralized system eliminates geographical barriers and facilitates a wider reach for both employers seeking skilled personnel and individuals searching for their ideal professional placement or fellowship program.

OrthoTV's job and fellowship groups foster transparency and open communication within the orthopedic community. Employers can engage with potential candidates through direct messaging or organized group discussions, allowing for a nuanced understanding of qualifications and skills. Similarly, job seekers can access detailed information about opportunities, ask questions, and gain valuable insights from peers and senior professionals within the community. This interactive environment fosters informed decision-making and cultivates a sense of trust and mutual respect between employers and potential employees.

Furthermore, OrthoTV's job and fellowship groups have evolved into a valuable resource for career guidance and mentorship. Seasoned professionals can offer advice and support to aspiring individuals, share their own experiences, and guide them through the application process. This collaborative spirit fosters a sense of community and belonging, empowering the next generation of orthopedic professionals to navigate the early stages of their careers with confidence and clarity.

OrthoTV's integration of job and fellowship opportunities within its social platform proves to be a transformative force within the Indian orthopedic community. By bridging the gap between employers and aspiring professionals, OrthoTV plays a crucial role in shaping the future of Indian orthopedics, ensuring a continued influx of talented individuals into the field.

Virtual Fellowship and Community Building

OrthoTV has taken a momentous step with the introduction of virtual fellowships. These immersive programs offer surgeons specialized training in their chosen fields, guided by the nation's most renowned experts [9].

The journey commenced with the primary total knee arthroplasty fellowship, spearheaded by Dr. A. V. Gurava Reddy, a stalwart from Hyderabad. Over 8 weeks, held virtually, participants actively engaged with the esteemed faculty from sunshine bone and joint institute. The interactive sessions, encompassing theory, live case presentations, surgical technique demonstrations, and personalized doubt clarification through WhatsApp and Telegram; were immensely successful, leading to a second season within a year of its introduction.

Inspired by this triumph, OrthoTV expanded its offerings to encompass various subspecialties. The trauma fellowship, led by Dr. DD Tanna, equips surgeons with comprehensive training in the management of acute trauma and other musculoskeletal injuries. The spine fellowship, guided by Dr. Abhay Nene, delves into intricate spinal disorders including spinal stenosis and lumbar spine degeneration. The osteoarticular infections fellowship, guided by Dr. Vikas Agashe, helped a lot of young orthopedic surgeons in treating musculoskeletal infections. Finally, the pediatric orthopedic fellowship, headed by Dr. Sahithya Bandi, caters to the unique needs of children's musculoskeletal health and injuries. Each fellowship has seen enthusiastic participation and widespread acclaim.

These virtual fellowships boast several advantages. Accessibility transcends geographical barriers with participants from several countries, allowing surgeons to learn from the best, regardless of location. The online format accommodates busy schedules with flexible participation. Live sessions, case presentations, and personalized doubt clarification foster active engagement and deeper understanding. Most importantly, renowned faculty members share their vast knowledge and experience, providing invaluable insights. A wide array of videos is systematically categorized on YouTube®, covering topics such as trauma, pediatrics, arthroplasty, and spine [10]. In addition, there are videos dedicated to patient education. The platform also hosts recordings of live-streamed webinars. Furthermore, viewers can access motivational and inspirational talks.

Webinars and Continuing Education

OrthoTV's dedication to education extends far beyond its platform, forging partnerships with various state orthopedic bodies across India. This collaborative spirit translates into a robust calendar of webinars covering a vast spectrum of topics within all orthopedic subspecialties. These webinars serve as a vital source of CME for practicing professionals, ensuring they remain at the forefront of their field with the latest advancements and best practices [9].

Recognizing the distinct needs of orthopedic postgraduate trainees, OrthoTV designs specialized webinars tailored to their academic journey. These sessions encompass immersive experiences like grand rounds, where renowned surgeons guide trainees through complex cases, offering invaluable lessons in diagnosis, treatment options, and clinical decision-making. In addition, trainees can refine their exam preparation through

dedicated sessions focusing on specific board exam sections and strategies for success. Case-based discussions provide a vital platform for active participation, and honing diagnostic and problem-solving skills through real-world scenarios. Practical examination tips, shared by seasoned instructors, empower trainees to excel in these crucial evaluations. Finally, OrthoTV offers webinars on fellowship specialization counseling, guiding young minds toward their ideal career trajectories by illuminating the path toward further specialization.

The impact of OrthoTV's webinars extends beyond mere information dissemination. These sessions foster a vibrant community and sense of connection among orthopedic professionals across India. The interactive format encourages real-time Q and A sessions, lively discussions, and peer-to-peer learning, creating a collaborative environment where knowledge is shared freely, perspectives are exchanged, and lasting professional relationships are forged.

Embracing the Future

As the winds of Industry 4.0 and the Internet of Things sweep across the world, and artificial intelligence (AI) experiences a resounding boom [11], OrthoTV has seized the opportunity to make a bold leap forward. Recognizing the transformative potential of technology, they have developed their large language model, aptly named OrthoAI [12].

OrthoAI represents a paradigm shift in orthopedic knowledge dissemination. It transcends the limitations of traditional search engines by offering an interactive and personalized experience [13]. Users can engage with OrthoAI in a natural conversational flow, posing their orthopedic and musculoskeletal queries with confidence. In response, OrthoAI draws upon its vast reservoir of up-to-date and evidence-based knowledge, providing precise and relevant answers informed by the latest practices in orthopedic surgery. This commitment to accuracy extends beyond mere words; OrthoAI meticulously cites references to pertinent PubMed articles, guaranteeing transparency and traceability of its insights. Furthermore, OrthoAI seamlessly integrates with the OrthoTV video database, offering relevant video links directly tied to the user's query. This multi-faceted approach, encompassing textual explanations, scholarly references, and visual demonstrations, establishes OrthoAI as a comprehensive and authoritative source of orthopedic knowledge.

OrthoTV's vision extends beyond the present. Driven by a spirit of continual innovation, they aspire to further enhance OrthoAI's capabilities in the future [14]. Their sights are set on incorporating multimodal inputs, including audio and images, drawing inspiration from cutting-edge advancements like Google Gemini. As they continue to refine and expand OrthoAI's capabilities, embracing multimodal inputs and exploring new frontiers in AI technology, OrthoTV cements its position as a pioneer in shaping the future of orthopedic education and clinical practice.

Conclusion

OrthoTV stands as a testament to the transformative power of technology in medical education. By bridging geographical distances, fostering collaboration, and democratizing knowledge, it has woven a global network of orthopedic practitioners united by a shared passion for learning and progress. OrthoTV's future holds immense potential, promising to further revolutionize the landscape of orthopedic education and research, shaping the future of this specialized field for generations to come. As OrthoTV continues to innovate and expand its offerings, it stands poised to revolutionize orthopedic education. Providing freely accessible, and high-quality training, empowers surgeons to refine their skills, stay at the forefront of their field, and ultimately deliver exceptional patient care. OrthoTV promises a future of enhanced patient care, built upon a foundation of excellence and accessibility. OrthoTV's unwavering commitment to webinars and continuing education initiatives play a pivotal role in shaping the future of Indian orthopedics. By elevating the standards of care, empowering professionals to stay at the forefront of their field, and nurturing the next generation of leaders through targeted learning and support, OrthoTV bridges the gap between established experts and aspiring minds, one webinar at a time.

Clinical Message

- OrthoTV leverages technology to provide a vast repository of surgical videos, webinars, and podcasts, making orthopedic education accessible globally.
- The platform fosters real-time engagement with experts through live interactive sessions, enhancing the learning experience and facilitating global knowledge exchange.
- With the integration of OrthoAI, OrthoTV offers personalized, evidence-based responses to queries, setting a new standard in digital medical education and professional development.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

References

1. OrthoTV Home of Orthopaedic Videos - OrthoTV. https://orthotvonline.com/

2. Shyam A. OrthoTV - An orthopaedic knowledge channel and much more. J Orthop Case Rep 2018;8:1-2.

3. Aweid B, Haider Z, Wehbe M, Hunter A. Educational benefits of the online journal club: A systematic review. Med Teach 2022;44:57-62.

4. Capozzi JD, Rhodes R. Ethical challenges in orthopedic surgery. Curr Rev Musculoskelet Med 2015;8:139-44.

5. Academic Partners. Journal of Orthopaedic Case Reports. Available from: https://jocr.co.in/wp/academic-partners [Last accessed on 2024 Apr 12].

6. Indian Orthopaedic Research Group, Orthopaedic Research Society, Orthopaedic Research and Education Foundation, Orthopaedic Research Unit, Orthopaedic Research Laboratories. Indian Orthopaedic Research Group. https://iorg.co.in/

7. Morshed S, Shearer DW, Coughlin RR. Collaborative partnerships and the future of global orthopaedics. Clin Orthop Relat Res 2013;471:3088-92.

8. Shyam A. Social media and orthopaedic surgeon: Concept of Orthopaedic Educational and Academic Network (OCEAN). J Orthop Case Rep 2014;4:1-2.

9. Mukhopadhaya J, Shyam A, Bhadani JS. Orthopaedic research and education foundation India, pandemic and orthopaedic education. J Orthop Case Rep 2021;11:104-5.

10. (290) Ortho TV - YouTube. Available from: https://www.youtube.com [Last accessed on 2024 Apr 12].

11. Prasad R, Mendonca J. Industry 4.0 is Using IoT and AI to Expand its Digital Presence. India: The Economic Times; 2019.

12. Sancheti P, Bijlani N, Shyam A, Yerudkar A, Lunawat R. Ortho AI: World's first artificial intelligence in orthopaedics. J Orthop Case Rep 2023;13:178-9.

13. Farhadi F, Barnes MR, Sugito HR, Sin JM, Henderson ER, Levy JJ. Applications of artificial intelligence in orthopaedic surgery. Front Med Technol 2022;4:995526.

14. Jeyaraman M, Ram PR, Jeyaraman N, Ramasubramanian S, Shyam A. The era of digital orthopedics: A bone or bane? J Orthop Case Rep 2024;14:1-4.

Conflict of Interest: Nil
Source of Support: Nil

Consent: The authors confirm that informed consent was obtained from the patient for publication of this case report

How to Cite this Article

Jeyaraman M, Jayakumar T, Ramasubramanian S, Shyam A, Sancheti P, Bijlani N. OrthoTV: Broadcasting Orthopedics around the World. Journal of Orthopaedic Case Reports 2024 October;14(10): 213-218.