



Vaikunthan Rajaratnam

Senior Consultant Hand Surgeon, Department of Orthopaedic Surgery, KTPH
Clinical Senior Lecturer, School of Medicine, National University of Singapore

Research Interests:

- Hand Surgery and Microsurgery
- Medical Education and Instructional Design
- Educational Technology in Healthcare
- Surgical Volunteerism and Global Health
- AI in Healthcare and Medical Education

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Biography

Dr Vaikunthan Rajaratnam is an internationally accredited hand surgeon with four decades of clinical practice and medical education expertise. He received his MBBS (Distinction in Pathology) from University of Malaya in 1980, became Fellow of Royal College of Surgeons Edinburgh and Glasgow in 1984, and completed his PhD in Education from Open University Malaysia in 2023. He holds an MBA, European Diploma in Hand Surgery (Churchill Livingstone Medal), and Masters in Instructional Design & Technology (Distinction).

His research training includes extensive international experience across UK, Malaysia, and Singapore healthcare systems. He has pioneered the integration of educational technology with healthcare professional development and founded the BROASE Research Group, an international collaboration enhancing hand surgery education globally. His humanitarian work spans Bangladesh, Cambodia, and Sri Lanka, where he trains local surgeons whilst conducting action research in surgical volunteerism and capacity building.

Selected Publications

- Rajaratnam, V., Ng, H.J.H., Rahman, N.A., Dong, C. (2022). Online training module for micro suturing incorporating motor imagery and mental practice: a design and development research study. ANZ Journal of Surgery, 92, 2072-2081.

- Rajaratnam, V., Rahman, N.A., Dong, C. (2021). Integrating instructional design principles into surgical skills training models: an innovative approach. *The Annals of The Royal College of Surgeons of England*, 103, 718-724.
- Dong, C., Cheema, M., Samarasekera, D., Rajaratnam, V. (2015). Using LinkedIn for continuing community of practice among hand surgeons worldwide. *Journal of Continuing Education in the Health Professions*, 35, 185-191.
- Duraku, L.S., Hundepool, C.A., Power, D.M., Rajaratnam, V., et al. (2022). Collaborative hand surgery clinical research without sharing individual patient data; proof of principle study. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 75, 2242-2250.
- Rajaratnam, V., Kumar, C.M., Roy Chowdhury, A., Su, C. (2017). A snapshot survey of perceptions of healthcare professionals on ageing surgeons. *Postgraduate Medical Journal*, 93, 121-126.
- Cheok, S., Dong, C., Lam, W.L., Gollogly, J., Rajaratnam, V. (2020). A model for surgical volunteerism: a qualitative study based in Cambodia. *Tropical Doctor*, 50, 53-57.
- Rahman, N.A., Ng, H.J.H., Rajaratnam, V. (2021). Big Data Analysis of a Dedicated YouTube Channel as an Open Educational Resource in Hand Surgery. *Frontiers in Applied Mathematics and Statistics*, 7, 593205.
- Rajaratnam, V., Gan, G., Ahmad, A.A., et al. (2022). Design, Development, and Validation of a High-Fidelity "Ganglion Cyst" Model for Cadaveric Hand Surgery Training. *Journal of Hand and Microsurgery*, 14, 58-63.

Notable Research Awards & Grants from Past 5 Years

Name of Awards & Grants	Year Obtained
APU-UNESCO Chair Partnership (Innovative Digital Learning)	2023-2027
Teaching Excellence Award (Cambodia)	2019-2023
Teaching Excellence Award (Singapore)	2018-2023
Program Director Appointment - Instructional Design for Healthcare Professionals, NHG College	2020
Adjunct Professor Appointment - Asia Pacific University of Technology and Innovation	2021

Translating Research/Innovation Into Healthcare

- **Book Publications:** Authored 6 books including "Artificial Intelligence for Health Professionals: Transforming Practice, Teaching, and Research" (2023) and "Technology for Health Professionals: A Guide to Enhancing Practice, Teaching, and Research" (2023)
- **International Collaboration:** Founded BROASE Research Group - international network spanning Birmingham-Russia-Rotterdam-Australia-Singapore-Edinburgh for advancing hand surgery education and research
- **Educational Innovation:** Developed SCORM-compliant online training modules for healthcare professionals using case-based and problem-based learning methodologies
- **Global Health Impact:** Established sustainable surgical training programs in Bangladesh, Cambodia, and Sri Lanka with measurable improvements in local surgical capabilities
- **Technology Integration:** Pioneered use of AI and mobile learning platforms in healthcare professional education across multiple institutions