

Tele3D Imaging and the Scope in India

GORDON J HARRIS



PLEASE PROVIDE AN OVERVIEW OF THE PROJECT

We opened the 3D Imaging Service in the Radiology Department at Massachusetts General Hospital (MGH) in 1999 to provide image post-processing as a service for aiding radiologists and referring physicians in diagnosis and treatment planning. Our lab was one of the first of its kind and has grown to be one of the largest, processing over 130 exams per day for MGH, our affiliated imaging centers, and our Tele3D client hospitals around the country. Our growth was in parallel with the adoption of multi-slice CT and its expanding use for procedures requiring 3D post-processing, such as CT angiography (CTA). As we grew, it became difficult to keep up with our growth in volume, and increasing needs for extended hours of coverage.

In 2003, in order to provide overnight 3D post-processing, we established a collaboration with a team of radiologists and IT support staff in Bangalore, India, through an agreement with Manipal Hospital and Wipro. Together, we created a 3D lab extension to support our overnight and weekend 3D needs. We went live with the India team in 2004 after 6-9 months of extensive daily training and review of cases led by our 3D Operations Manager, Jennifer McGowan, before we were comfortable that the quality was consistent with our internally processed exams. One of our MGH 3D lab-trained research fellows, Dr Roy D'Souza, joined the Bangalore team in 2004, and helped train other radiologists to process our exams, and continues to lead a team of three radiologists and support staff in Bangalore.

In 2016, we moved the team from Wipro to work under the umbrella of Teleradiology Solutions (TRS) as we felt that alignment with a company focused on radiology remote services would be a better fit for the team there.

Director of 3D Imaging, Massachusetts General Hospital, Boston

WHY HAVE YOU CHOSEN INDIA - WHAT IS THE BUSINESS CASE?

After a few years of rapid growth, we faced challenges in meeting our radiologists' and referring physicians' demand for clinical image post-processing in terms of turnaround time, hours of coverage and growing clinical volume while maintaining our high standards for quality, consistency and expertise. It takes us about 9-12 months to train new 3D Technologists in our 40-50 clinical 3D protocols, and our staff were not enthusiastic about the growing demands for them to take night and weekend call.

We were fortunate in having developed this collaboration that enabled us to have a highly skilled team of India-based radiologists perform our 3D exams during our overnight hours in their daytime. We established this to address needs for clinical care. We have radiologists in India performing work that we have 3D Technologists doing at MGH to ensure that the quality is maintained, and it costs us more as an outsourced service on a per case basis than it would to have overnight full-time staff on site. However, given the difficulty in finding and training qualified candidates who want to work overnight, we were unable to solve our issues through staffing on-site.

Thus, this is not the stereotypical overseas outsourcing business case of moving jobs to save expense, but rather, our motivation is to enhance patient care and maintain quality of service. The team in Bangalore is truly an extension of our 3D Lab team. We have bi-weekly calls and daily quality checks, as well as ongoing feedback and training in new protocols. The team has been amazingly cohesive, and most of the India staff have been there for over a decade with little turnover. Our MGH 3D Operations Manager and I visited the team in Bangalore this summer, which was my third visit to meet with the team since we started the India service.

DOWN THE LINE IN A 5-10 YEAR TIMEFRAME, CAN THE PROCESSING BE TAKEN OVER BY AUTOMATION?

We are in the 20th year of operation of our 3D Imaging Service at MGH. Every year, new technology

comes along that promises to automate different 3D image processing tasks. While these enhancements have impacted our workflow, and some of the more manual tasks have been replaced by more automated processes, it seems that every time some new technique reduces our work in one area, additional new work is requested.

As such, we are now busier than we have ever been and we have trouble keeping up with our workload. Will the advent of new technologies automate some parts of our work and enhance the capabilities of radiologists to provide better diagnosis and quantitative analysis of images? I certainly hope and expect so. Will this mean less work for our 3D lab? Probably not, but it will mean that some of the more mundane and repetitive tasks will likely be replaced by more automation, enabling us to shift our focus to new areas where our expertise can provide added value.

WHAT IS THE SCOPE FOR PROTOCOL-BASED, TELE3D IMAGING IN INDIA AND IN AREAS SUCH AS MEDICAL TOURISM?

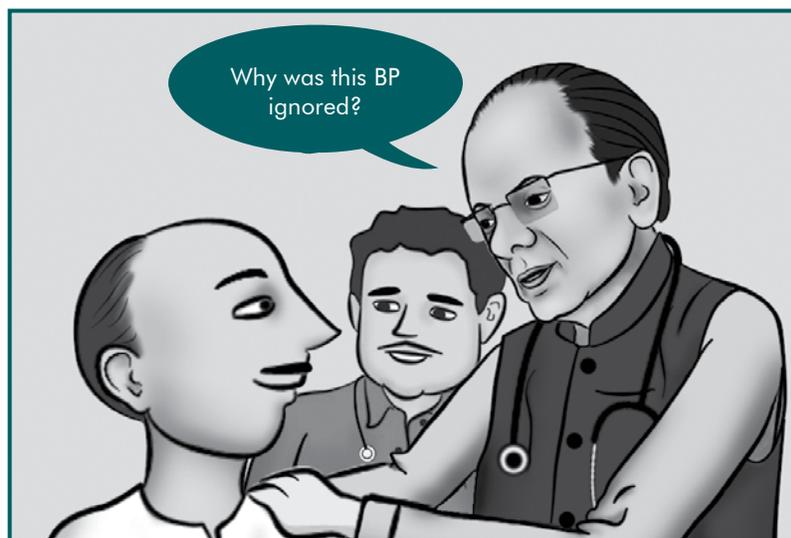
We are exploring ways that we can expand our Tele3D network through our collaboration with our India-based colleagues at Teleradiology Solutions, both in the US and in India and other regions. We have implemented a Tele3D workflow to provide 3D services to teleradiology client sites of TRS, and are preparing to launch this at our first pilot site. Once this is operating, we plan to make this service available to TRS' US-based client hospitals and imaging centers. For India and other regions, we could provide this service in reverse, where daytime cases are processed in India and the MGH team provides coverage during their nighttime. While this could be provided for self-pay patients who are either local or traveling for medical tourism, the challenge will be determining how the economics would work for routine clinical 3D exams.



Make sure

DURING MEDICAL PRACTICE

SITUATION: A hypertensive patient, who also had type 2 diabetes, persistently had mean BP level of 140/90 mmHg.



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LESSON: Make sure to remember that hypertension, in association with diabetes, has been found to be significantly correlated with an elevated risk for cardiovascular events. As the association between stroke and BP is stronger in Asians, a target BP of 130/80 mmHg in Asians should be considered.

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