

## Radiology in the workflow for internal medicine

### Abstract

Internists apply knowledge and expertise to the diagnosis and care of adults across the spectrum from health to complex illness. Cross sectional imaging (ultrasound, CT, MRI, etc.), is increasingly pivotal to diagnosis and monitoring of disease in patients with a rainbow of conditions. Imaging improvements and innovations can provide demonstrably better continuous care of chronic disease.

Technology today drives broad and rapid transformation and teamwork, especially as virtual clinics are the new norm, and imaging is increasingly done in outpatient centres away from acute settings. In these times of super-specialized imaging, it is impossible to expect a radiologist to be an expert on all imaging modalities, even more so to be an Internist and be aware of all the new or improved imaging technologies available to them. Internists need to lean on radiologists for the assessment of their patients both in health (e.g. screening for possible disease) and disease (diagnosis, extension, severity, prognosis, etc.). Radiologists in turn need to listen and adapt to the needs of physicians, with rapid and focussed reporting to answer specific clinical questions. Hospitals and community physicians need to share their practices to develop best practice pathways that are practical.

Most of times Internists trained elsewhere will come to a new workplace asking for specific imaging technologies they may have experience with, to be implemented locally. Some other times, internists will come to a new workplace to learn that they have locally available state-of-the-art imaging they can use for specific diseases and learn from it. The new normal is not dependent on geographical availability, as manufacturers have hugely increased infrastructure for cross-sectional imaging. Rather,

access is dependent on knowledge of new systems and prioritisation. An abdominal MRI in Texas for example, long thought to be very expensive, is now available for less than 600 USD. Point of care ultrasound is a widely used standard of care in emergency rooms and ICU settings.

### Standardisation of acquisition methods and reporting

Many Internists rely on the radiologist's report and not the images to assess their patient, which makes it important to standardize reports,

just as pathologists do. Radiological options today allow for things such as screening, minimally-invasive treatments or monitoring findings. As more and more of medical diagnosis require imaging, there is an increased need for improved workflows that facilitate communication and education to be reflected on better patient care. Internists rely on a good radiology service for success.

Radiology has also been enhanced by increased interconnectivity and communication among devices including mobile systems. Seamless integration of diagnostic data is still aspirational, but with digital pathology now normal, and digital image transfer acting as a base for automated reporting, we are getting closer. Roche and GE's Navify platform is a good example which promises to simplify the decision making in cancer care with a single workflow.

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**Biography:**

Rajarshi Banerjee is the CEO of Perspectum Diagnostics, which he co-founded in 2012. The company currently employs over 200 people in Oxford, Singapore, Dallas and San Francisco. He graduated in medicine from the University of Oxford and went on to complete a Master's in Public Health at the London School of Hygiene and Tropical Medicine, before returning to the Oxford, for his doctorate. He developed the magnetic resonance imaging techniques for rapid non-invasive liver assessment in Oxford, and commercialised the method as *LiverMultiScan*, which is now FDA cleared and used in over 300 sites.

He has many years of experience in running clinical trials and working in multidisciplinary scientific teams to develop applications for cutting-edge imaging technology and is a keen advocate of smart trial design.

Dr Banerjee continues to work as a Consultant Physician with Oxford University Hospitals NHS Foundation Trust, with research into the phenotyping of liver disease at an individual and population level in adults and children.