

One of North America's Most Innovative Academic Health Centres Uses Intelrad to Provide Specialized Patient Care to 750,000 Patients Across Five Hospitals



About MUHC

Located in Montreal, the McGill University Health Centre (MUHC) is one of Canada's largest medical institutions, providing healthcare services to over 750,000 patients annually. A bilingual teaching hospital with close ties to McGill University, MUHC was created through the merge of five local hospitals. Together, they provide inpatient and ambulatory care, as well as specialized and ultraspecialized services for cancer care, mental health, surgery, neurosciences, women's health, pediatric medicine and more.

A Leading-Edge Medical Facility

Founded in 1997, the MUHC is currently made up of three standalone institutions (Montreal General Hospital, Montreal Neurological Hospital, and Lachine Hospital) and their recently-opened Glen site – a 500-bed mega facility that encompasses Montreal Children's Hospital, Royal Victoria Hospital, Montreal Chest Institute, and a new cancer centre.

Opened in 2015, the Glen site focuses on providing specialized patient care; teaching the next generation of healthcare professionals; conducting fundamental and clinical research; and evaluating new technologies. To accomplish this, the site features leading-edge surgical facilities, separate adult and pediatric emergency departments, outpatient clinics linked to 25 departments and a neonatal intensive care unit, amongst other services.

The Glen site is also home to the Research Institute of the MUHC, an international research powerhouse with a worldwide reputation in the field of biomedical sciences and healthcare, which supports over 460 researchers and over 1,200 graduate and post-doctoral students and fellows.

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-Dr. Jeffrey Chankowsky
Radiologist and Associate Chair
MUHC

Innovation in Medical Imaging

Belonging to one of the most innovative academic health centres in North America, the MUHC's radiology department has long been focused on leveraging innovative technologies and methodologies to improve patient care. As early adopters of digital imaging, the MUHC deployed one of Canada's first large-scale PACS in the late 90s. At the helm of that project, were Chris Henri, Bob Cox and Rick Rubin, who would found Inteleraad in the years that followed.

Since that time, MUHC's staff of 50 radiologists use Inteleraad solutions to read large volumes of studies per year across all subspecialties. Flexible and modular, these solutions allow radiologists to leverage various workflows that drive productivity, ensure quality, and help train the next generation of physicians.

Leveraging a Highly Efficient Diagnostic Workflow

To ensure the highest levels of patient care, MUHC relies on an effective and efficient diagnostic workflow. Focused on having all specialty exams read by the right subspecialist, the organization uses a single worklist across the enterprise, which is then filtered to give each radiologist a unique list that corresponds to their distinct competencies.

At MUHC, radiologists read based on the urgency of the case, which is automatically prioritized and identified by color within the worklist. When a radiologist selects a study to read, the images (including the most relevant priors) are displayed according to the hanging protocol that the radiologist has set. The radiologist will review the images and, using integrated speech recognition, dictate their report. Finally, the radiologist reviews and signs off on the report to complete exam. From there, the radiologist can return to the worklist or use a setting to have the next exam automatically presented.

Effectively Training the Next Generation of Radiologists

As a large academic institution, the MUHC relies on an effective learning workflow to train resident radiologists. When they finish their teaching rounds and sit down at their workstation, they'll select a handful of cases based on the subspecialty on which they're focused. From there, they use the same workflow as attending radiologists, except that once their dictation is complete, cases are saved as a draft and then reviewed by attending radiologists. Once the review is complete, the resident will make any necessary changes and then sign off on it, at which point it is added to the attending radiologist's worklist for their sign-off.

Alongside the Viewing and Reporting workflow, the MUHC uses Inteleraad's teaching module, which allows radiologists to build collections of images for learning purposes.

"The module allows radiologists to build substantial collections over the year," said Alain Gauvin, RIS-PACS Manager, MUHC. "Its high volume of use shows that it fills the need for a lot of users."

Technology That Drives Workflows

At the heart of the MUHC's diagnostic and teaching workflows is a common set of Inteleraad solutions, most notably Inteleraad Viewer™. According to Dr. Jeffrey Chankowsky, Neuro and Interventional Radiologist and Associate Chair (Education) at MUHC, one of Inteleraad Viewer's key benefits is the consistent workflow that it provides, regardless of location. This is beneficial for home reporting, as well as for radiologists who work at multiple sites within the healthcare system.

"Inteleraad Viewer's ease of use is one of its main strengths, along with the consistent user experience it provides across different workstations, which is extremely important to radiologists," said Dr. Chankowsky. "It's also fast and dependable, with good common functions, such as hanging protocols, window levelling, synchronization, and key images."

Enabling Collaborative Care

To enable collaborative care, MUHC has IntelViewer set up at workstations throughout the hospital. This is possible due to the solution's ease of installation, which according to Dr. Chankowsky is a fast and easy process. For communicating results to clinicians from outside clinics, the hospital uses IntelPACS's Physician Portal, which sends an alert when a report is ready for viewing.

To consult on studies with peers within the MUHC, radiologists use the instant messaging (IM) tool that is built directly into IntelViewer. For subspecialists like Dr. Chankowsky, this enables a second opinion to be easily obtained from a colleague, even if they're based on a different site within the enterprise. It also allows him to communicate with residents who may have completed reads during an overnight shift and are offline. The attending radiologist simply clicks on the resident's name in the IM tool, informs them of the error alongside a link to the case. The next time they log into their workstation, this information pops up automatically.

"Everybody loves this tool. I use it all day, every day," said Dr. Chankowsky. "It's extremely good for cross-consulting and it's also very good for teaching, as it allows residents to share cases, and to provide feedback to them post-call."

Helping to Pave the Future of Radiology

As an academic institution, MUHC's radiology department is always working on ways to improve, whether it's new methods or planning procedures. For 16 years, Intelrad has kept the department well-equipped with state-of-the-art technology and well-supported as they continue to innovate, teach and provide high-quality patient care.

"Our relationship with Intelrad is quite good," said Mr. Gauvin.
"We've been collaborating for a long time and receive good support from them."

About Intelrad

Intelrad is a global provider of medical imaging solutions that help streamline the flow of information while simplifying complex processes and maximizing efficiencies for medical professionals. Intelrad's robust imaging technology empowers confident decision-making, improves access to critical health information, and gets patients the answers they need faster. For more information on Intelrad and its leading technology solutions, visit [intelerad.com](https://www.intelerad.com) or follow the company on [LinkedIn](#).