



## BC community clinic adopts DR technology

**Coquitlam doctors believe the future is digital.**

BY NEIL ZEIDENBERG

Most diagnostic imaging clinics in Canada are still using film when it comes to general radiography. At a community imaging facility in Coquitlam, B.C., doctors believe the future is digital; their centre recently became just the second independent clinic in Canada to implement direct radiology (DR) for X-rays.

Instead of capturing radiographs on film, the new solution uses CCD technology to convert X-ray images to a digital format. CCD is used in digital cameras for consumers; the system for medical clinics is a high-end version.

While the cost can be relatively high at several hundred thousand dollars, there are benefits for clinical care and substantial administrative savings.

"DR has a very wide exposure level, allowing us to take excellent quality radiographs with fewer repeats," said Dr. Brad Halkier, radiologist at MedRay Imaging in Coquitlam, B.C. "By not having to re-image people as often, staff efficiency increases and patients can be X-rayed with less radiation."

Moreover, "we view the images on high resolution monitors that allow us to alter the imaging characteristics of the X-ray, and can interact with the image," said Dr. Heather MacNaughton, also a radiologist at MedRay. "With film, you get what you get. We can't alter it in any way."

By manipulating the digital images using a host of computerized tools, radiologists can see much more in a study and produce a better analysis.

DR images are produced very quickly, in as little as six seconds. That

compares with minutes needed to transport film and develop it. Over the course of a working day, digital radiography can save hours in labour, allowing a clinic to see more patients.

There's no need for film or chemicals and no requirement for physical storage. There's no need to look for films or to re-file them - a significant savings in real estate and labour costs.

Better quality images, better efficiency, less radiation, ease of transfer of the images, ease of storage. About the only disadvantage, said Dr. Halkier, is the cost of installation and implementation.

However, Canada Health Infoway recently gave the Fraser Health Region \$10 million to institute this type of radiology in its area hospitals. Significantly, 50 percent of all imaging in the province is done at community imaging facilities like MedRay Imaging.

Although MedRay wouldn't disclose the exact price of the Xplorer system, Dr. Halkier explained the cost of the machine is just part of the cost of implementing the technology. "Switching to

DR means you need to completely digitize your office, and on top of that, you need computers to image everything."

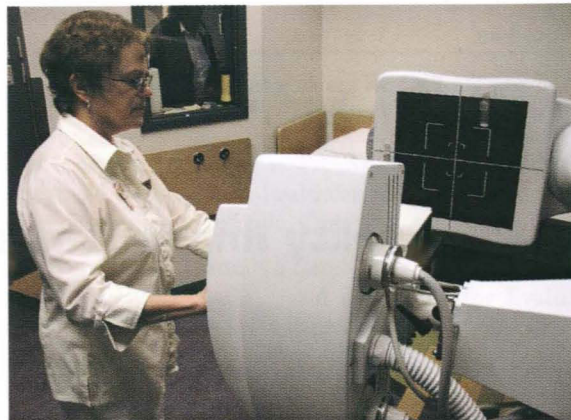
Moreover, a digital environment completely changes the workflow of the entire office. By going from analogue to digital, everything changes from the time the patient walks into the clinic to the time he or she leaves.

The MedRay Imaging clinic acquired an Xplorer 1600 DR system from Imaging Dynamics Co. ([www.imagingdynamics.com](http://www.imagingdynamics.com)) of Calgary, which has been growing rapidly as a supplier of direct radiology systems to hospitals and clinics around the world. Its competitive edge is a form of the technology that's much less expensive than DR from bigger vendors. Moreover, the company offers a three-year warranty, in contrast to the standard one-year warranty in the diagnostic imaging industry.

Furthermore, an applications specialist from IDC has been helping MedRay with the transition, training staff on the equipment, and helping to iron out problems.

With the DR system now in place, MedRay is almost entirely filmless. "Not completely," said Dr. MacNaughton, "because we're still doing mammography, which in BC, with the exception of the cancer centre in Vancouver, is still done using film."

"Though it's expected to change in time, digital mammography will be an expensive venture. "The image resolution for mammography is the highest of anything we do because we're looking for tiny structures. The monitors needed to view mammography need to be of even higher quality than what's used for radiography. You need equipment to both acquire the images and to display them. That presents a big hurdle."



**DR has improved the quality of images.**