

# MAGNETOM Network

Issue 06 | April 2017

## First 3T Skyra 24 MRI in Canada

# HealthView partners with Siemens Healthineers

## The move from 1.5T to 3T

Powered by Siemens Healthineers fourth generation coil platform – Tim 4G allows parallel imaging in multiple directions for fast data acquisitions; reducing scan times by up to 40%<sup>1</sup>; and increased patient throughput for core brain procedures with clinically validated, push button brain exams with GOBrain. The MAGNETOM Skyra is the best-selling 3T MRI scanner in the market with over 1300 systems installed worldwide<sup>2</sup>. The majority of these installations are in large hospital complexes and university settings.

In an effort to allow smaller community hospitals and private facilities access to those technologies, Siemens Healthineers recently introduced the 24-channel RF configurations for the MAGNETOM Skyra 3T as well as the MAGNETOM Aera 1.5T scanner.

The first Skyra scanner with the 24-channel configuration was installed in January 2017 at HealthView Medical Imaging in Halifax, Nova Scotia. The staff has adapted very quickly to this new technology, despite making a switch from another vendor to Siemens Healthineers and from 1.5T up to 3T.

HealthView has provided MRI services for the last twelve years with a 1.5T scanner. In order to maintain their market share and presence in the community as well as distinguish themselves as the leader in medical imaging in Eastern Canada, they decided to make the move to 3T. Since this would be a stand-alone 3T system, HealthView partnered with Siemens Healthineers because of our clinical experience with 3T MRI and with 70 cm bore imaging, and specifically, the Skyra scanner due to its performance and reliability. These

are very important factors for HealthView. Their core value is to offer the best healthcare services possible and provide an experience that will help to alleviate the patient's anxieties during what is normally quite a stressful point in their lives.

### Designed to optimize image quality

HealthView staff members commented that the initial impression by all of the patients of the Skyra scanner has been very positive such as with the large bore, track lighting within the bore, as well as the room design which provides a more relaxing environment than what they have experienced previously.

For the radiologists, the biggest challenge has been getting accustomed to seeing

structures that they weren't able to resolve earlier. Because of the increased image quality and image resolution, in the beginning, it actually took the radiologists longer to report some of their cases as a result of the increase in SNR and sensitivity.

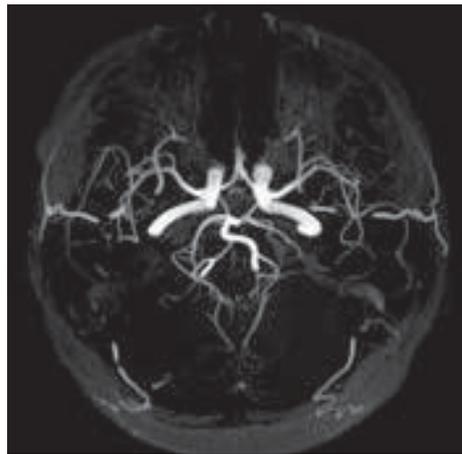


Figure 1: Due to the shorter T1 relaxation times at 3T, TOF imaging is much more robust. With the addition of Siemens Healthineers' high density Tim 4G coils, we are able to use parallel imaging to reduce acquisition times as well.

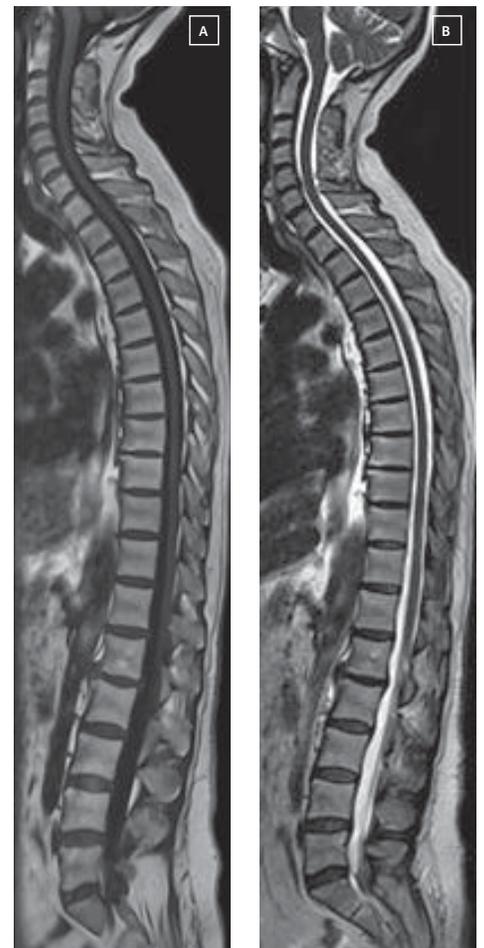


Figure 2A: T1-weighted complete spine imaging using Inline Composing to automatically reconstruct the three separate FOV's into one image for easier assessment.

Figure 2B: T2-weighted complete spine imaging using Inline Composing to automatically reconstruct the three separate FOV's into one image for easier assessment.

**“The move to the Siemens 3T Skyra has been a game changer... Better, Faster, Stronger!”**

**–Dr. Derrick McPhee, Radiologist, HealthView Medical Imaging, Halifax, Nova Scotia, Canada**

<sup>1</sup> The direct result of higher coil element density and higher channel count with Tim 4G, comparing a 30-channel setup vs. 18-channel setup. Data on file.

<sup>2</sup> Data on file.

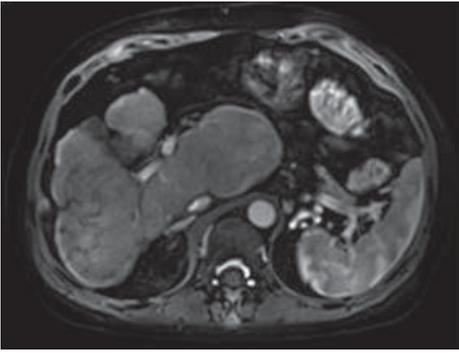


Figure 3: Axial 3D T1 VIBE with fat saturation and with the CAIPIRINHA acceleration technique to reduce the acquisition time to 12 seconds for this patient with cirrhosis.

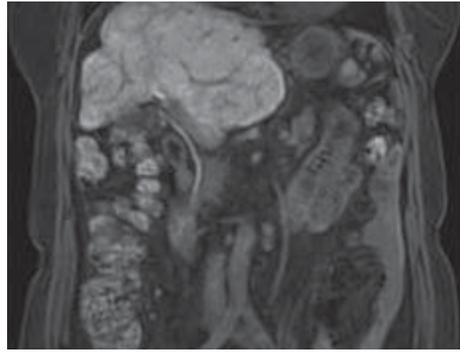


Figure 4: Coronal 3D T1 VIBE with fat saturation and with the CAIPIRINHA acceleration technique to reduce the acquisition time to 14 seconds for this patient with cirrhosis.

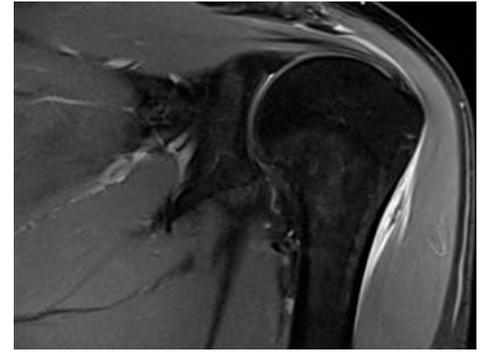


Figure 5: Strong magnet homogeneity along with standard 2nd order Shim coils allows us to obtain high quality imaging, even at the edge of the magnet bore for this coronal PD fat saturation of the shoulder with the 16-channel Shoulder coil.

The MRI technologists have seen a dramatic increase in image quality, especially in musculoskeletal studies and have found a much easier and efficient workflow with the MAGNETOM Skyra.

The lightweight design of the RF coils and integration of the software features such as AutoCoil Select which is automatically selecting the appropriate coil elements within a given FOV. The wide bore and table functions are very much appreciated as well as the actual RF coils. The RF coils have been designed to optimize image quality while also facilitating coil handling. Several of the RF coils have no cables whatsoever and use a technology called DirectConnect while all the other coils use a technology called SSlideConnect which allows technologists to very easily connect and disconnect the coils from the sockets on the table without damaging the coil connectors.

In order to truly optimize the performance of an MRI scanner, the complete integration of both hardware and software is required and Siemens Healthineers has accomplished this by manufacturing everything from the magnet, gradient coil and RF coils, to the software and new pulse sequence design that allows us to take advantage of the increased SNR with the Tim 4G system.

The MAGNETOM Skyra with the 24-channel RF configurations is going to provide HealthView Medical Imaging with an opportunity to be more productive. HealthView predicts a 30% increase in productivity per year, which will provide a much better service to the community, especially with a wait list at the hospital of approximately 24 months.

Siemens Healthineers is proud to partner with HealthView Medical Imaging and this is a great example where great staff and powerful technology prove to be a winning combination for patients, technologists and radiologists.

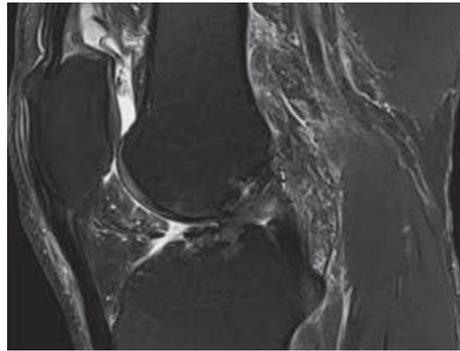


Figure 6: Sagittal T2 fat saturation with the 15-channel Knee coil allows us to use acceleration techniques in order to reduce acquisition times without compromising on the spatial resolution.

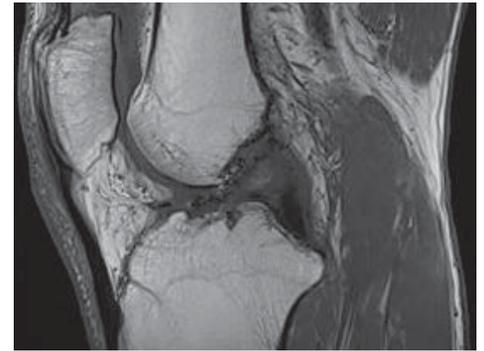


Figure 7: Sagittal T1 with the 15-channel Knee coil allows us to use acceleration techniques in order to reduce acquisition times without compromising on the spatial resolution.



From left to right - Joanne Korman and Jane Slaunwhite, MRI Technologists; Dr. Derrick McPhee, Radiologist

To learn more about the MAGNETOM Skyra, please visit [siemens.com/skyra](https://www.siemens.com/skyra) or email us at [customeradvocate.ca@siemens.com](mailto:customeradvocate.ca@siemens.com)

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Siemens Healthineers Innovations Symposium is an annual knowledge-sharing event designed exclusively for imaging professionals. Over the course of two-and-a-half days, you will have access to timely and relevant education to help you acquire the tools and knowledge you need to maximize the use of your Siemens Healthineers equipment and help you improve the level of care you deliver to your patients. You will also have ample time to learn from and share best practices with your colleagues.

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We look forward to seeing you there!

For event details, visit: [siemens.ca/innovationssymposium2017](http://siemens.ca/innovationssymposium2017)



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