



**PHILIPS**

## Faster scans and better image quality<sup>1</sup> at Mermaid Beach Radiology

According to Ben Kennedy the biggest change they have seen over time in MR imaging is alleviating the trade-off between speed and image quality. "MRI has always been wonderful at showing high detail contrast, but acquisition time has often been the challenge. Now with SmartSpeed, what we thought normal for speed versus quality is changing to a whole new level."

*"Our workflow and productivity are vastly improved. For many complex cases that would often take longer, we're now able to fit them into a normal routine scanning time."*

**Ben Kennedy, Director of MRI  
at Mermaid Beach Radiology**

## Amazing productivity and clinical confidence

Mermaid Beach Radiology, Australia, values accuracy in medical care and patient satisfaction. To provide the best service, they partner with Philips to use the latest innovations. “We’ve enjoyed a good collaboration with Philips that’s grown a strong trust over time,” says Ben Kennedy. “We’ve seen research applications translate into the clinical world, where we have had a chance to review and help optimize them before they came to market.”

After using Philips SENSE, Mermaid Beach had adopted Compressed SENSE that offers a k-space sampling approach to speed scans while preserving details. “And now SmartSpeed enables denoising the sparse under-sampling in a new way that has allowed us to increase acceleration and bring image quality to a whole new level,” notes Kennedy, “It’s truly revolutionized our MRI work space, especially for difficult patients.”

“After enjoying the fruits of Compressed SENSE for quite some time, we didn’t think productivity would get much better, but seeing the difference with SmartSpeed is just amazing. It’s almost too good to believe,” says Kennedy.

Philips SmartSpeed has multiple approaches to denoising. Raw k-space data, coil sensitivity and coarse background information are all used and reconstructed with artificial intelligence (AI) to provide true resolution in shorter scan times<sup>1</sup> with more sequences. Kennedy states, “I noticed that since the introduction of SmartSpeed, our day is a lot less stressed. When complicated exams need extra time, we just get on with them. And if we need to do something new or extra, we have the time for it and our workflow is still a lot more efficient.”

In addition to workflow benefits, Kennedy highlights the improvement in their diagnostic confidence. “The quality of output is so much higher than what we believed was possible, and it is very consistent across multiple patients. SmartSpeed made it feasible for us to include extra sequences in our exams and still maintain routine scanning times. This allows us to make a surprising number of diagnoses that we couldn’t have appreciated before with our previous protocol. We’ve gotten an extremely positive response from our referrers.”

*“Being able to use it everywhere and anywhere has been a whole new transformation to our productivity and confidence.”*

**Ben Kennedy, Director of Clinical and Research MRI**

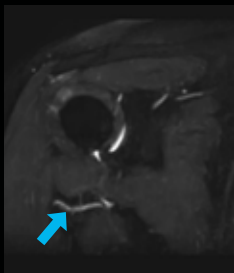
*“Using Philips SmartSpeed we’ve taken resolution to a new level across all applications with faster protocols, so the patient, referring physician and reporting radiologist all benefit.”*

**Ben Kennedy, Director of Clinical and Research MRI**

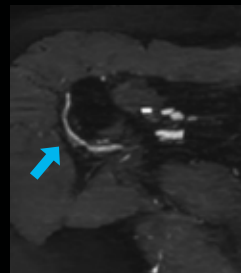


### 3D NerveVIEW SmartSpeed, 6:30 min

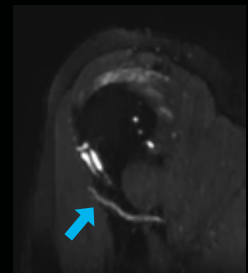
More details, within the same scan time, up to 65% higher spatial resolution



Coronal reformat



Axial reformat



Sagittal reformat

## Opening up new opportunities

"With SmartSpeed, we've been able to use some extended applications more routinely. A good example is Philips 3D NerveVIEW. Being able to bring its scan time down to 3 or 4 minutes rather than 6 or 7, has allowed us to use it routinely and find answers that we haven't achieved before. We've introduced it in many peripheral MSK and extracranial neural applications. Now we are seeing diagnoses of neuritis in regions that we've never seen previously. It's a whole new way of looking at peripheral neurography." As a result, Mermaid Beach receives great feedback from their referring hospitals.

The broad applicability of SmartSpeed allowed the imaging center to use this technology across many scan types, including non-cartesian imaging as used for motion correction in uncooperative patients or challenging anatomies.

"We use SmartSpeed frequently on difficult areas such as the abdomen and chest where it is common to see respiratory motion and other bowel motion," says Kennedy. In MSK scans they use SmartSpeed not only for speeding up their exams, but also to reduce slice thickness and improve resolution "We may be increasing the number of slices, but we're still doing this in less time than we were previously."

SmartSpeed also helps taking on implant imaging. "From time to time we get people with implants, like hip replacements or knee replacements. O-MAR has always been our go-to sequence for metal artifact reduction in those patients. However, it takes substantial time for acquisition. Using Philips SmartSpeed has allowed us to cut this scan time in half. It's a huge innovation."

### Knee with SmartSpeed

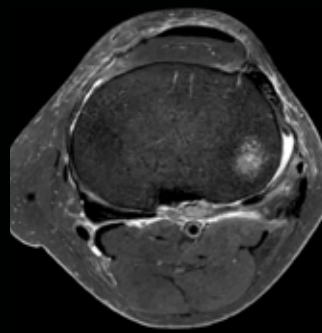
More details, within the same scan time, up to 65% higher spatial resolution



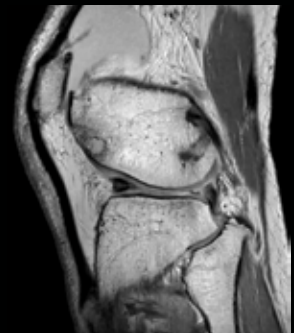
PDw TSE fatsat SmartSpeed  
0.5 x 0.5 x 2.0 mm, 2:38 min



PDw TSE fatsat SmartSpeed  
0.5 x 0.6 x 1.5 mm, 2:41 min



PDw TSE fatsat SmartSpeed  
0.4 x 0.4 x 2.0 mm, 3:04 min



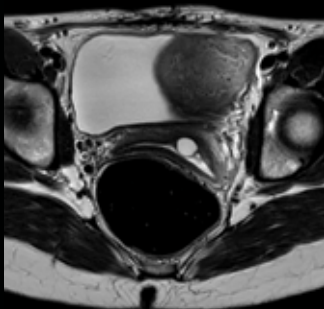
T1w TSE SmartSpeed  
0.3 x 0.3 x 1.5 mm, 2:35 min

## Easy to adopt into a daily routine

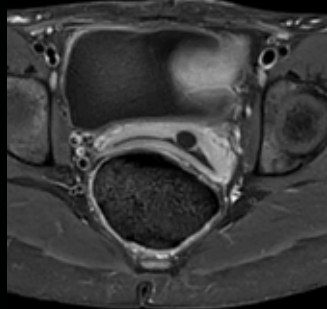
Philips SmartSpeed is designed with ease-of-use in mind and therefore easy to adopt. "It has been really easy to implement across all of our Exam Cards, which is one of the pleasures of SmartSpeed. Often with a new innovation comes some nervousness as to how we can use it best. SmartSpeed however has just been a breeze since the get go."

Initially, Mermaid Beach worked out the exact level of denoising preferred by each of their radiologists to support their applications for the best possible diagnoses. After completing that step, each radiologist will consistently have their preferred level. According to Kennedy, "It's very simple for the staff and we can enjoy the fruits of beautiful images and very fast imaging."

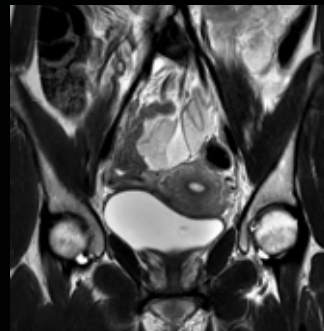
### Motion robustness and high-resolution uterus protocol



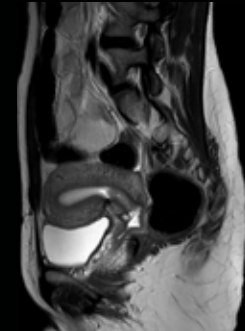
SmartSpeed MotionFree  
Axial T2w TSE  
0.4 x 0.4 x 3.0 mm  
3:11 min



SmartSpeed MotionFree  
Axial T1w TSE FS  
0.5 x 0.5 x 3.0 mm  
2:18 min



SmartSpeed MotionFree  
Coronal T2w TSE  
1.1 x 1.1 x 3.0 mm  
2:09 min



SmartSpeed MotionFree  
Sagittal T2w TSE  
0.4 x 0.4 x 3.0 mm  
3:25 min

*"To sum it up, SmartSpeed is easy to use, we can use it everywhere with confidence, it virtually works first time every time, and it helps us reduce the number of repeats. If we need to go fast, we can go really fast. If we want to accentuate our quality for time, we can really go for it."*

**Ben Kennedy, Director of Clinical and Research MRI**





Explore more



### Philips SmartSpeed

Enjoy fast and high-quality imaging for a broad range of patients via our state-of-the-art speed engine with AI.

[Learn more >](#)



### FieldStrength MRI articles

Read articles on latest trends and insights, MRI best practices and clinical cases, application tips and more by and for Philips MRI users.

[Learn more >](#)



### Magnetic Resonance

Discover innovative MRI solutions for precision diagnostic imaging and exceptional patient experience. Learn more about Philips MRI technologies.

[Learn more >](#)

© 2023 Koninklijke Philips N.V. All rights reserved.  
Specifications are subject to change without notice.  
Trademarks are the property of Koninklijke Philips N.V.  
or their respective owners.

4522 991 81331 \* FEB 2023



**How to reach us**  
Please visit [www.philips.com](http://www.philips.com)  
[healthcare@philips.com](mailto:healthcare@philips.com)