The comfort of silent MRI for employees and patients

Image quality of silent sequences, acoustic noise difference between them and conventional sequences

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Private Ataşehir Sonomed Imaging Center

Information about Private Sonomed Imaging Centers

Our institution, which opened its first branch in Istanbul -Kadıköy in 1993, has become one of the leading institutions in Turkey in imaging and laboratory services. In our institution, many procedures are carried out for advanced diagnostic purposes. The examinations in our institution are carried out with specialized examination protocols for each patient's own complaints and help clinicians in order to reach the most accurate diagnosis.

In our newly opened Ataşehir Sonomed branch, we provide service with 4 medical imaging technicians, 2 radiology specialists and 1 laboratory technician, 1 MRI device, 1 Computed Tomography device, 1 DR, 1 mammography, 1 bone densitometry, 1 US device. We offer customized solutions to an average of 50 patients per day.

Ataşehir Sonomed

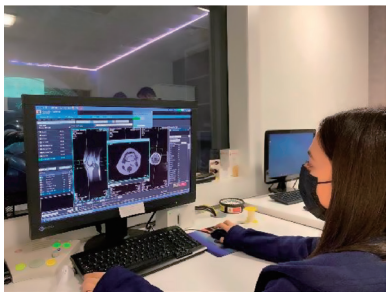
ECHELON Smart

First meeting with ECHELON Smart

Continuing to serve patients with 2 private imaging centers in important locations of Istanbul for approximately 28 years, our company decided to open the 3rd private imaging center in Istanbul-Ataşehir, which is of critical importance in terms of patient density, towards the end of 2020. Considering that mainly orthopedic patients will be served, we made our feasibility in this direction.
In our other centers that we opened before, we had cooperation on medical device solutions of different companies.

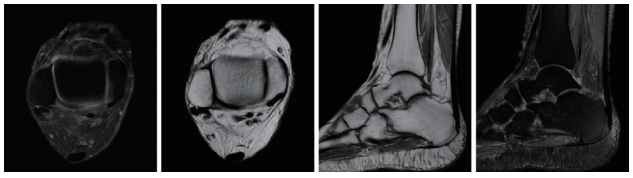
This time, we preferred the ECHELON Smart MRI device for the first time because; Especially the exemplary musculoskeletal images were very satisfactory. In addition, if we consider that energy saving has become the most important issue in today's world; The low energy consumption of the device due to its technical features has been one of the reasons for our preference. Getting maximum data with low energy consumption was also very important for the financial values of our business.

Working as a radiologist since 1997, I have worked with many different brands and models of MRI devices so far. And I was mainly interested in musculoskeletal radiology. It was also important for us that ECHELON Smart's musculoskeletal MR images were evaluated in terms of quality.



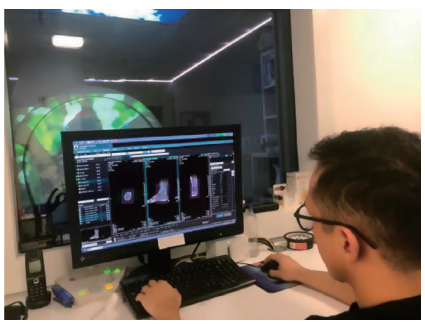
With the Smart Comfort Technology in the ECHELON Smart device, the comfort of both our patients and our employees has increased

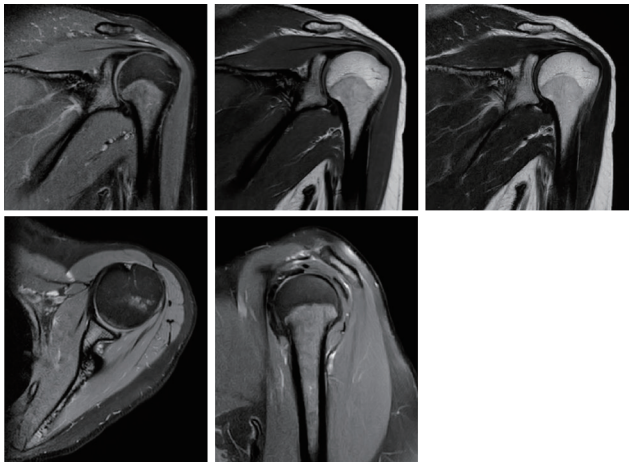
Our primary goal is to perform the examinations of our patients we host in our facility in a way that they will enjoy, and to provide the highest quality outputs on the way to diagnosis. The ECHELON Smart MRI device, which we have just added to our organization, has brought a new breath to our business that we have been carrying out for years with its ability to use the parallel imaging algorithm (RAPID) together with the region-independent silent operation technology. The availability of silent imaging sequences without sacrificing image quality has provided us with a new field of service in terms of the comfort of our patients. Silent imaging methods, with their acoustic noise reduction ability up to 97% compared to conventional imaging methods, also make the working environments of the patients waiting in line in the waiting room and the personnel performing the examination healthier and more convenient.



Sequences Parameters;

	Sequence Type	TR	TE	RAPID	NSA	Time
T1WI	Soft FSE	620	18	1,5	2	2,40 min
T2WI	Soft FSE	5300	90	1,5	2	2,20 min
Pd Fat Sat	Soft FSE	3400	30	1,5	2	2,40 min





Sequences Parameters;

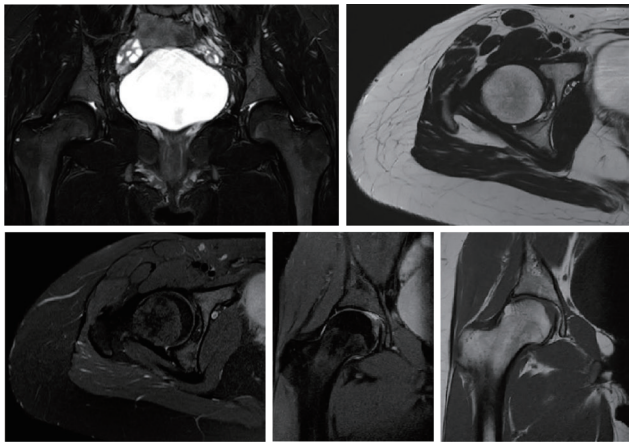
	Sequence Type	TR	TE	RAPID	NSA	Time
T1WI	Soft FSE	690	13	1,3	2	2,10 min
T2WI	Soft FSE	5000	85	1,2	2	2,20 min
Pd Fat Sat	Soft FSE	2800	30	1,5	1	2,10 min

Advanced Fat suppression feature

As it is known, homogeneous fat suppression ability is undoubtedly very important for differential diagnosis.

ECHELON Smart MRI device has "high order Shim system", multi-channel dedicated coil solutions and powerful 18kW RF output; Homogeneous and strong fat suppression can be applied in studies for the musculoskeletal system. In addition, such as shoulder which is likely to be positioned off-center of the magnet, is scanned with clear fat suppressed images. We have been successful, especially in studies for the musculoskeletal system, by using conventional RF fat suppression technique without using advanced, homogeneous and powerful fat suppression techniques such as "FatSep", DIXON type water and fat separation method. "FatSep" techniques are one of the methods used to suppress the fat signal in MRI. The robustness of fat signal suppression compared to other fat suppression techniques offers many advantages, including the possibility to combine these techniques with any sequence (GE, SE) and with different weights (T1WI, T2WI). Although imaging with and without fat suppression from a single shot brings many advantages, it can be considered a disadvantage that the examination takes a little longer than conventional fat suppression sequences. Furthermore, ECHELON Smart can offer us uniform fat suppression with the RF fat suppression technique, so we adopt the RF fat suppression.

I am sharing some of the studies we have done with the conventional RF fat suppression technique that we have used in MRI examinations of musculoskeletal systems.



Sequences Parameters;

	Sequence Type	TR	TE	RAPID	NSA	Time	TI
T1WI	Soft FSE	690	13	1,3	1	2,30 min	
T2WI	Soft FSE	5000	85	1,2	1	2,10 min	
Pd Fat Sat	Soft FSE	3200	35	1,5	1	2,30 min	
STIR	Soft FIR	5000	90	2.0	1	2,42 min	150

ECHELON Smart MR device, which I met in the first months of 2021;

It stands out with its economical energy consumption for sustainable financial and environmental values, increases the comfort of patients and employees with its region-independent silent MRI capability, and can do this without sacrificing image quality.

Brand name: MR imaging system ECHELON Smart
Medical device certification No.229ABBZX00028000

Standard configuration may vary depend on the country. For details of the configuration, contact our local representatives.