



AGFA
RADIOLOGY
SOLUTIONS

Leading from the front

With the first DR 600 with SmartXR® tools in India, Sushrushah Hospitals puts X-ray artificial intelligence to work to improve the patient and radiographer experience, while enhancing patient care



Case study – Sushrushah Hospital, Nagercoil, Tamil Nadu, India



Case study

Interview with Dr. R. Mohandhas,
Orthopedic surgeon and owner of Sushrushah Hospitals

“Mobility is life, life is mobility: that’s our motto,” starts Dr. R Mohandhas, Orthopedic surgeon and owner of Sushrushah Hospital in Nagercoil, in the southern tip of India. “We are committed to ensuring that patients from all economic situations leave our hospital with the best outcome. That requires a mix of medical skill and advanced technology. Since 2006, Agfa has been our imaging partner for achieving this. Now, we have added the DR 600 direct radiography room with SmartXR® artificial intelligence tools to our imaging portfolio, and we are very happy with the benefits it has delivered!”



Dr. Mohandhas and Dr. Badri

“Innovation as a way of life”

Dr. Mohandhas started his orthopedic practice in 1986 in his hometown of Nagercoil, and then founded Sushrushah Hospital in 1992 together with Dr. Geetha Mohandhas after returning from several years of working in Europe and the USA. Since then, the facility has expanded into an Orthopedic Super Specialty Hospital with five orthopedic consultants with different subspecialties. Dr. Badri Ramnath Mohandhas completed his MS Orthopedics and joined as a consultant in 2010, and specialized in Sports medicine after completing an MCh (Orth) in Dundee, Scotland in 2012, along with Dr. Bhanumathi Badri. Dr. Pavithra Mohandhas joined as a consultant in the year 2018, and also completed an MCh (Orth) in Dundee, Scotland, in

2021. This has further added to the quality of service of the hospital.

The hospital also has six general doctors and more than 15 visiting consultants from different specialties.

“We initially started out with 10 beds; now we have more than 100 beds.

But even more important than this growth is the advancement of our vision of state-of-the-art patient care based on *innovation as a way of life*,” continues Dr. Mohandhas. “We have achieved many firsts in our area: first dedicated orthopedic center; first to computerize our hospital records; first to have an operating microscope and digital radiography; and first in South Asia to get a 3D CT C-arm. Now we are the first in India to have the DR 600 with artificial intelligence.”



“With the growth of our practice, the number of radiographers has increased, and image consistency has become a greater issue. From one exam to another, a position might be slightly different, dose varies, etc. But the SmartXR® tools solve this problem.”

Dr. R. Mohandhas

Orthopedic surgeon and owner of Sushrushah Hospitals

Improving productivity, reducing patient turnaround time

Over the years, the reputation of Sushrushah Hospitals has spread, attracting patients from all around. This has placed continuously increasing demand on the imaging department. “We now do over 300 X-ray exposures for around 100 patients every day. To ensure the best patient experience, we knew we needed to find ways to constantly improve productivity and decrease the imaging time for each patient. So I was very interested in the DR 600 and the SmartXR® tools: together, they offer a lot of ways to speed up the radiographer’s workflow, while ensuring optimum image quality,” explains Dr. Mohandhas.

The DR 600 is a top-of-the line, high-productivity DR room which delivers streamlined workflow, increased patient throughput, excellent image quality and low dose. Adding the SmartXR® intelligent digital radiography tools for dose, alignment, patient positioning and more enhances clinical and operational performance, while leaving the radiographer in control.



“The image quality is excellent, which pleases our consultants. They get more information from the images, for a confident diagnosis. This has helped us to further enhance our reputation as a state-of-the-art facility that treats all patients, from any economic background.”

Dr. R. Mohandhas

Technology that answers real needs

The implementation of the DR 600 went very smoothly, explains Dr. Mohandas: “Agfa is very good at planning; they carried out a site visit in February 2022 and delivered a sketch of the room set-up. The DR 600 was then installed within about a week; it was quickly up and running - including training for our radiographers.”

Since then, the DR 600 has delivered on its productivity promises – and more. “It’s very easy to use, and our radiographers were comfortable with it quickly. The system’s autopo- sitioning features make the imaging process smoother and quicker: the radiographer just presses a button. The ZeroForce technology offers excellent maneuverability, with almost no effort. And the screen on the tubehead allows the radiogra- pher to ensure correct patient posi- tioning, immediately,” he describes.

The MUSICA® image processing also helps to improve productivity and efficiency. “The radiographers have to do very little post-process- ing, which means the images are available much more quickly for the doctor, with both excellent image quality and consistency.”

The EasyStitch™ technology for full leg/full spine imaging is another big advantage of the DR 600, especially in an orthopedic environment. “We use it extensively for alignment assessment for joint replacement, especially knee and hip replace- ments. This is a very important fea- ture of the DR 600 for us,” adds Dr. Mohandas.

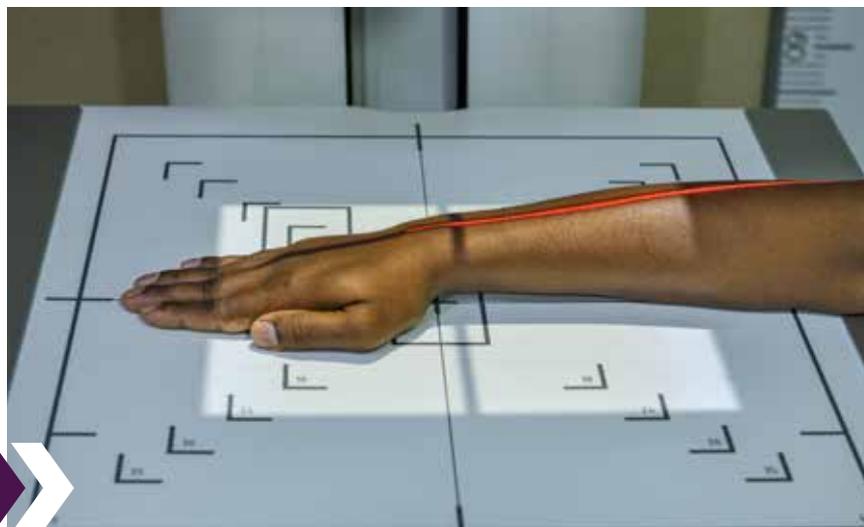
The radiographer’s ‘smart assistant’

The SmartXR® tools, however, take the benefits of the DR 600 even far- ther, says Dr. Mohandas. “With the growth of our practice, the number of radiographers has increased, and image consistency has become a greater issue. From one exam to another, a position might be slightly different, dose varies, etc. But the SmartXR® tools solve this problem.

As a first step, the LiveVision™ camera lets the radiographer posi- tion the patient correctly without radiation, before the first exposure. The SmartPositioning™ tool then makes positioning the collimation area even easier and more consistent,

which reduces retakes and, therefore, radiation dose for our patients. The SmartDose® tool, in combination with the AEC, tailors the dose to the patient’s actual thickness, including automatically selecting the mAs, keeping radiation exposure as low as possible, while delivering excellent clarity in the images.”

The collective benefits of the SmartXR® tools are clear to Dr. Mohandas: “The image quality is excellent, which pleases our con- sultants. They get more information from the images, for a confident diagnosis. This has helped us to further enhance our reputation as a state-of-the-art facility that treats all patients, from any economic background.”



Working together to improve SmartDose™

As part of a shared commitment to continuous improvement, Agfa and Sushrushah Hospitals are collaborating on a study to collect data from the hospital’s SmartDose™ tool, to further optimize doses for each exam and each patient thickness.



“Although we have three X-ray rooms, we now perform about 80% of our images with the DR 600, and it takes less time than before! That means we can see more patients, while keeping their experience fast and smooth.”

Dr. R. Mohandhas

Did you know?

- Sushrushah Hospitals has three X-ray rooms, all fitted with Agfa solutions. In addition to the DR 600 with SmartXR®, one room has the DR 400 floor-mounted X-ray system, and the third has the DX-D 300 compact solution. The hospital also has an Agfa mobile retrofit and DRYSTAR hardcopy solution.
- The city of Nagercoil is a center for a range of economic activities, and offers a maturing technology startup ecosystem. It is one of 50 Indian cities to be ranked in the World Startup Index of 1000 cities.
- The southern Indian state of Tamil Nadu has the second-largest economy in the country. It is the most urbanized state in India, and one of the most industrialized; it ranks 11th among all Indian states in the human development index, which comprises life expectancy, education and per capita income.

A smooth, efficient workflow for a busy imaging environment

With all the advantages, the DR 600 has become very popular with the radiographers, the doctors and the hospital itself. “Although we have three X-ray rooms, we now perform about 80% of our images with the DR 600, and it takes less time than before! That means we can see more patients, while keeping their experience fast and smooth. The DR 600 and SmartXR® are an excellent solution for a busy hospital that wants to invest in the best technology for patient care.”

Service, support and solutions

While Dr. Mohandhas is delighted with the advanced technology offered by the DR 600 and SmartXR®, he highlights that the service and support from Agfa are just as important. “Whenever we have an issue, they are here in less than 24 hours to solve the problem. They have an excellent network of engineers. Agfa supports us, and in return, we are big Agfa supporters! We consider them to be part of our healthcare family, and look forward to continuing our long and satisfactory relationship, together,” concludes Dr. Mohandhas.



Agfa's solutions

“Agfa supports us, and in return, we are big Agfa supporters! We consider them to be part of our healthcare family, and look forward to continuing our long and satisfactory relationship, together.”

Dr. R. Mohandhas



DR 600



The DR 600 is a **high-productivity, fully automatic**, ceiling-suspended X-ray room.



Powered by MUSICA®, it **streamlines workflow and increases throughput**, enhancing the experience of patients and operators alike with technologies including ZeroForce™ maneuverability and EasyStitch™ full leg/full spine imaging.



This makes it ideal for a busy **orthopedic environment** like Sushrushah Hospital.

SmartXR tools

SmartPositioning™ augments a live camera stream of the patient by projecting the collimation image area and the AEC X-ray feedback sensor positions onto the patient's body. This helps the technician speed up positioning, while making it more accurate and consistent to reduce retakes.

SmartRotate™ uses deep learning to auto-rotate images to their standard orientation based on the image content. Fewer post-processing actions are needed, while image presentation on both workstation and PACS is more consistent.

SmartAlign™ uses advanced sensing to give live feedback on the accuracy of the tube-to-panel alignment during bedside or out-of-bucky exams. Alignment is faster and more accurate, with fewer retakes due to grid cutoff and more consistent projections.

SmartDose™ uses 3D machine vision to determine the thickness of the patient, and then tailors the exposure parameters. This helps the technician to speed up the configuration of exposure settings, reduce retakes, improve image consistency and ensure the ideal dose for the patient.

LiveVision™ provides a first-person camera view of the patient, allowing patient positioning without using radiation before the main exposure.

AGFA RADIOLOGX SOLUTIONS

Follow us:



[agfa.com](https://www.agfa.com) » Septestraat 27 - 2640 Mortsel - Belgium

Agfa, the Agfa rhombus, MUSICA, DRYSTAR, EasyStitch, LiveVision, SmartAlign, SmartDose, SmartRotate, SmartPositioning, SmartXR and ZeroForce are trademarks of Agfa-Gevaert NV, Belgium or its affiliates. All rights reserved. All information contained herein is intended for guidance purposes only, and characteristics of the products and services described in this publication can be changed at any time without notice. Products and services may not be available for your local area. Please contact your local sales representative for availability information. Agfa-Gevaert NV diligently strives to provide as accurate information as possible, but shall not be responsible for any typographical error.

© 2022 Agfa NV - All rights reserved - Published by Agfa NV

EN202202

