Transforming the Cardiac MRI Workflow with myExam Cardiac Assist

Thamara Carvalho Morais[1], Michael Silva[2], Kleber Schuler[1]

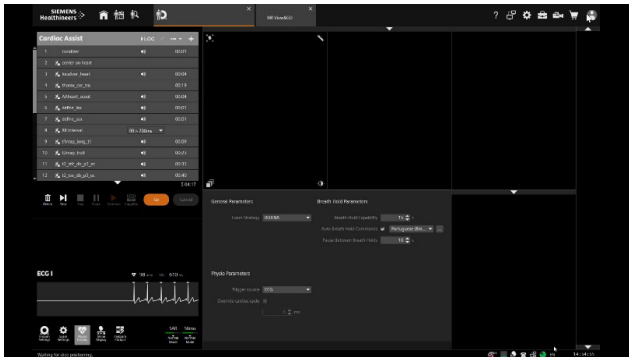
[1]Hospital Sirio-Libanês, Sao Paulo, Brazil
[2]Siemens Healthcare Diagnósticos Ltda., Sao Paulo, Brazil

Introduction

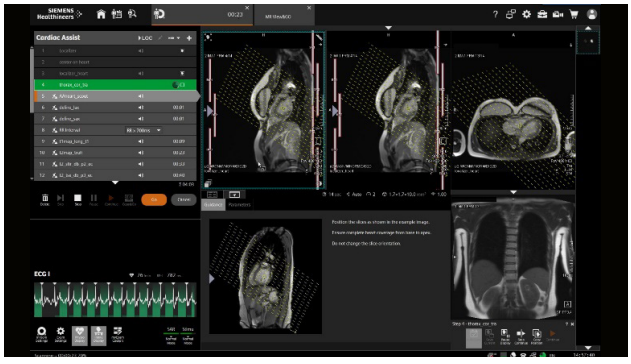
myExam Cardiac Assist represents a significant advancement in cardiovascular magnetic resonance (CMR) exams. Its features include automatic planning of cardiac views, calculation of the ideal number of slices to cover all short-axis views (preventing loss of slices at the base or apex of the heart, which is essential for accurate ejection fraction calculations), and calculation of the maximum number of slices based on the patient's breath hold capacity. Moreover, it provides clear step-by-step guidance throughout the examination process. It is an intuitive and quick-to-implement solution that requires minimal steps for application.

Impressive automation technology

One of the most impressive aspects of myExam Cardiac Assist is the fact that it is powered by artificial intelligence. The AutoAlign algorithm, for instance, automatically plans all cardiac views, ensuring exams are standardized and reproducible. This reduces the potential for error and delivers more reliable cardiac chamber volumes and ejection fraction measurements. Additionally, the step-by-step guides are extremely helpful, especially for teams with varied experience levels. Whether you're an experienced CMR operator or new to this area, the guides provide the right level of support to streamline the process.



1 The intuitive home screen enables adjustments to settings such as the breath hold time to enhance the patient experience.



2 AutoAlign Heart Scout.

Physician's perspective: The positive impact of automation in CMR imaging

myExam Cardiac Assist has truly impressed me with how it simplifies and enhances CMR exams. The automated planning of cardiac views is fast and precise. The tool can also safely reorganize the acquisition order of basic CMR sequences, prioritizing late gadolinium enhancement (LGE) sequences, which can be easily acquired before cine imaging, for example.

Additionally, it ensures consistency in the alignment and number of slices across different sequence types, such as dark-blood sequences, mapping, cine MRI, and LGE. All these improvements significantly reduce scanner time, enhancing both workflow efficiency and the overall patient experience.

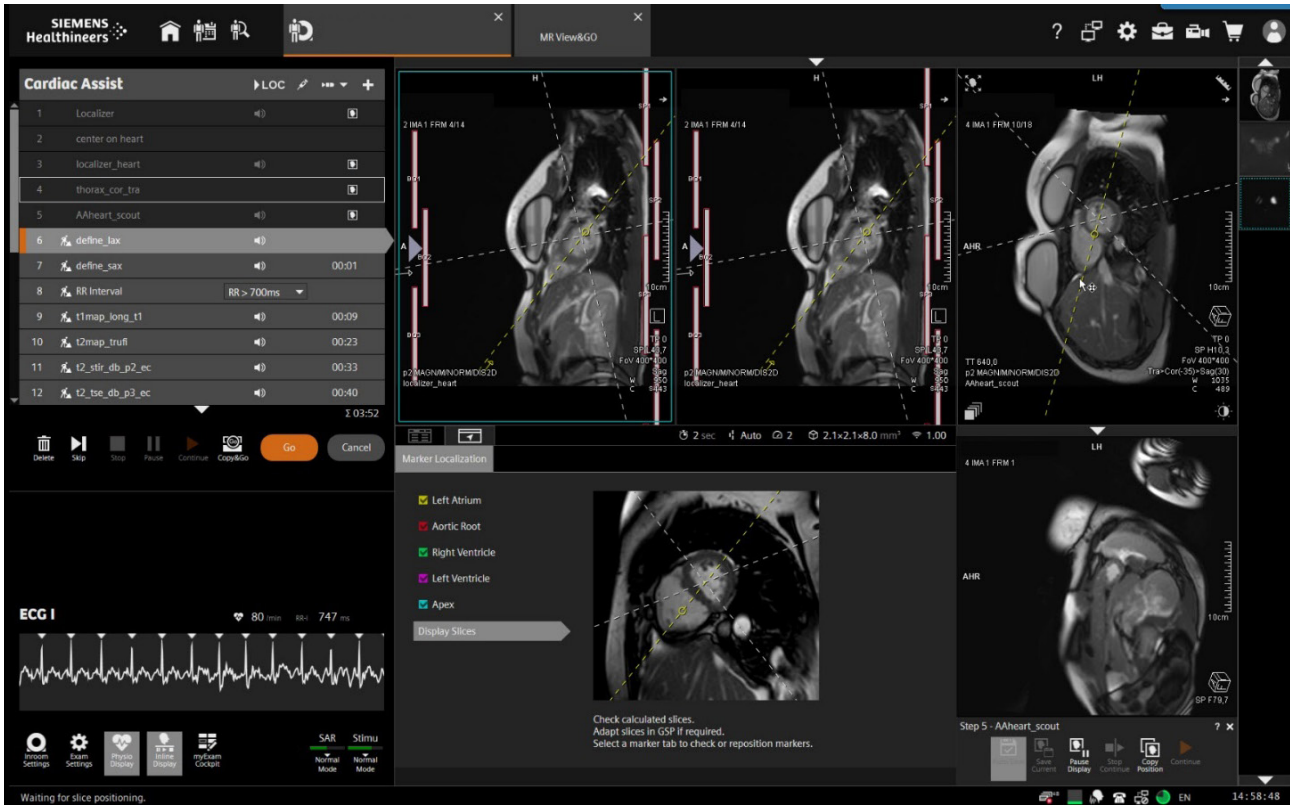
One thing I particularly like is the option to easily make manual adjustments. If I don't agree with the automated planning, manual intervention is simple and efficient, giving me full control without complicating the overall workflow. It's the best of both worlds.

Radiographer's perspective: The impact of myExam Cardiac Assist implementation

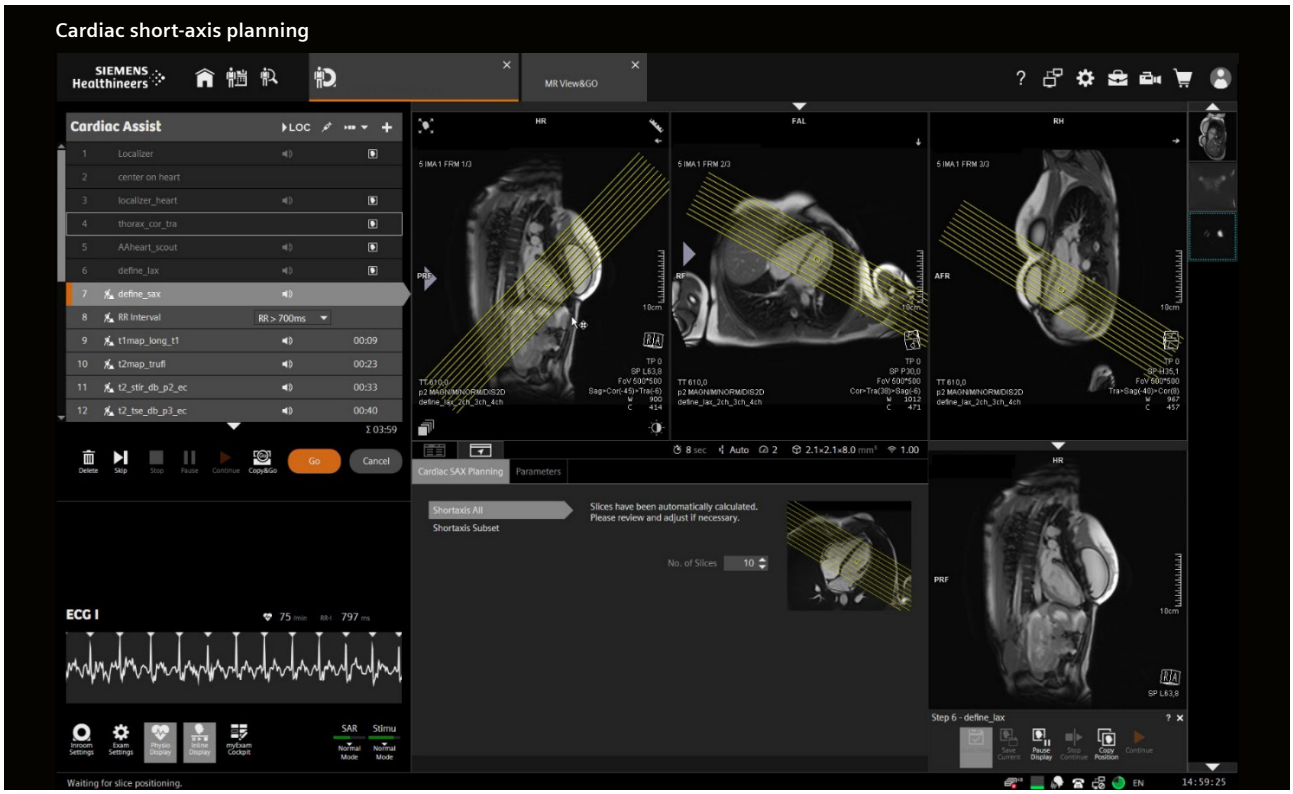
The myExam Cardiac Assist software has significantly enhanced the efficiency and accuracy of CMR imaging by automating the exam planning process. This minimizes the need for manual adjustments during slice acquisition and planning, enabling faster execution of standardized examinations.

Initial experience

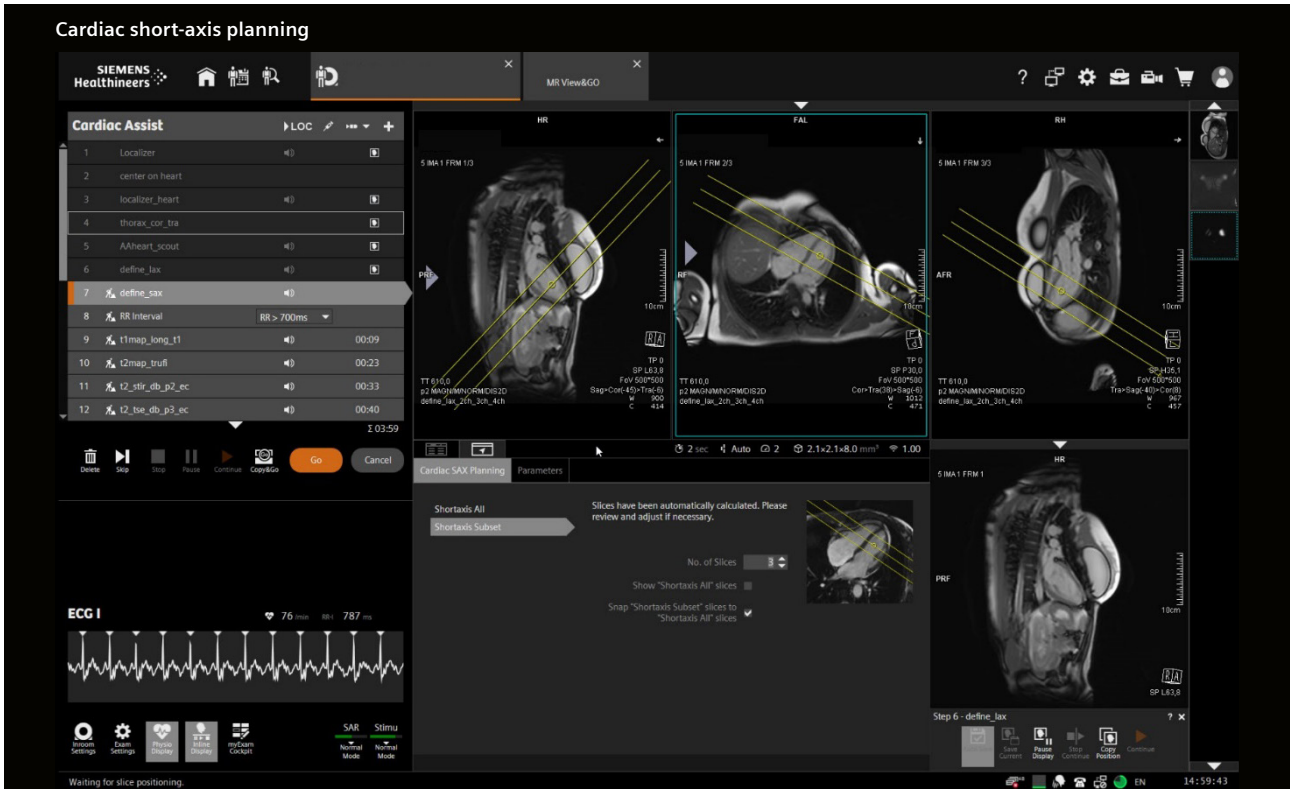
Our initial experience spans six months of using myExam Cardiac Assist on our 1.5T MAGNETOM Aera (software version *syngo* MR XA60). This period yielded remarkable results. The automation reduces the number of manual interactions ("clicks"), allowing MRI radiographers to focus more on patient monitoring. It also enhances the ability to precisely verify the quality of the acquired sequences, optimizes workflow organization, and enables more meticulous review of the images. The automation of planning processes has substantially reduced exam duration, thereby increasing overall productivity.



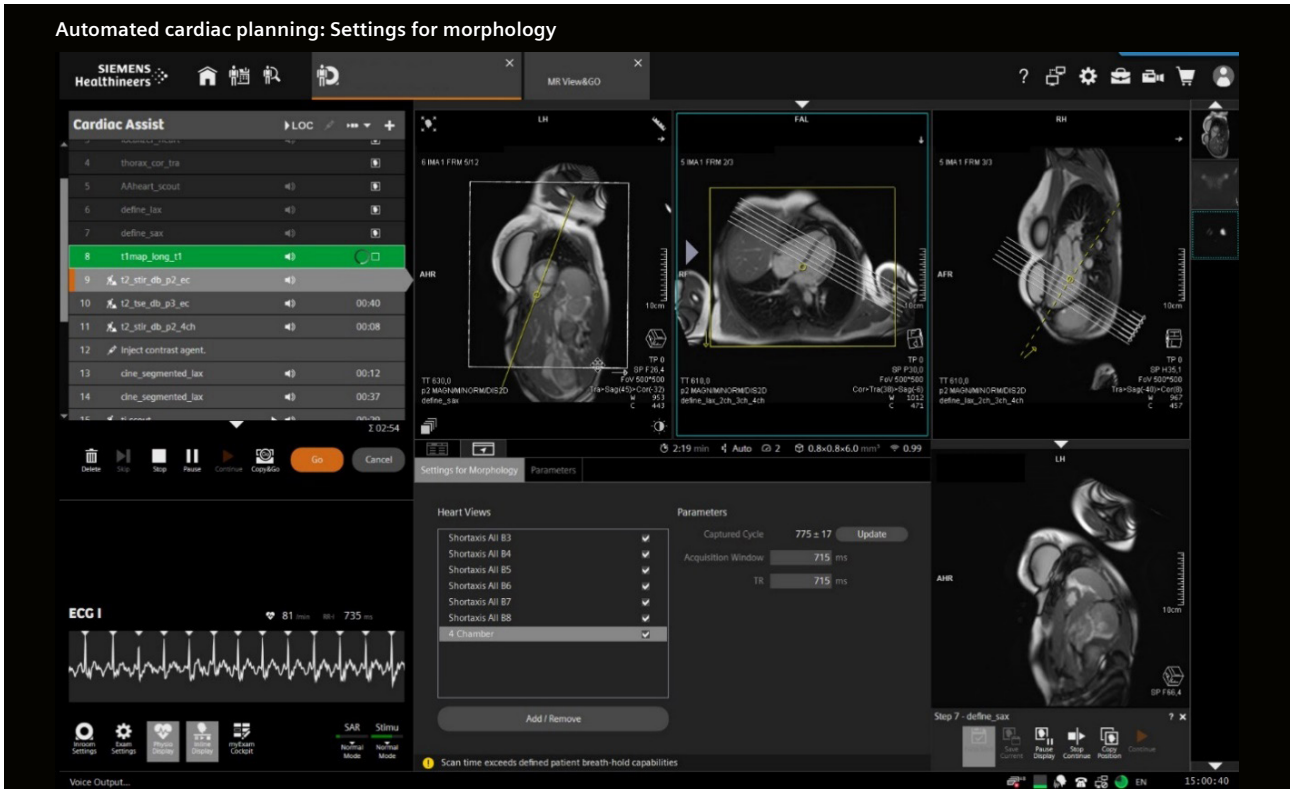
3 In addition to automation, the system offers a reference base image, which is essential for guiding less experienced operators through the planning process.



4 Planning Shortaxis All.



5 Planning Shortaxis Subset.



6 During cardiac planning, the reference lines allow users to verify the alignment of all cardiac views in just a few clicks.

Advantages observed

myExam Cardiac Assist incorporates several advantages as listed above. These benefit both MRI radiographers and patients by reducing scanner time and enhancing the patient experience.

From my perspective, myExam Cardiac Assist is a groundbreaking innovation that simplifies complex CMR imaging. It is important to note that effective use of this tool still requires a comprehensive understanding of cardiac anatomy and technical proficiency to accurately assess the quality of the acquired sequences.

Conclusion

myExam Cardiac Assist is a game-changer. It exemplifies how technology can streamline the workflow for health-care professionals while improving patient satisfaction with faster examinations. Its ability to organize protocols for a variety of clinical conditions – myocarditis, arrhythmias, cardiomyopathies, and more – while minimizing planning and execution errors is invaluable. For us, this tool is not just a time-saver; it is a meaningful step forward in how we approach CMR exams.

Contact

Thamara Carvalho Morais, M.D.
Department of Radiology
Hospital Sírio-libanês
Rua Adma Jafet, 91, Sao Paulo,
SP 01308-050, Brazil.
thamara.cmorais@hsl.org.br

Kleber Shiratori Schuler
MRI Biomedical Professional
Department of Radiology
Hospital Sírio-libanês
Rua Adma Jafet, 91, Sao Paulo,
SP 01308-050, Brazil.
kleber.schuler@hsl.org.br