



# Miami Cardiac & Vascular Institute puts people at **the heart of diagnostic procedures**

## Miami Cardiac & Vascular Institute uses Ambient Experience to help a COVID-19 patient through a cardiac MRI

### Who/Where

Miami Cardiac & Vascular Institute (MCVI) at Baptist Health Miami, Florida, USA.

### Challenge

Conduct a cardiac MR exam for a very large, very reluctant athlete following his recovery from COVID-19.

### Solution

Use MCVI's new Ingenia Ambition 1.5T scanner and accompanying Ambient Experience installation.

### Results

The athlete was able to undergo the diagnostic exam without incident and returned to normal play. Ambient Experience and the advanced features of the Ingenia Ambition 1.5T combined to provide a unique experience. The benefits can be enjoyed by young and old patients alike.

Established in 1987, Miami Cardiac & Vascular Institute (MCVI) was one of the first centers in the United States to treat the heart and blood vessels as one entity. Today it is the largest and most comprehensive cardiovascular facility in the region. MCVI offers patients access to new technologies years before other regional hospitals.

One of those innovative technologies is the Philips Ambient Experience. When MCVI ordered their new Philips Ingenia Ambition 1.5T MR system they installed it in a room outfitted with an engaging environment designed to relax their patients – Ambient Experience. “Reaction has been remarkably positive,” says Carlos Avila, Clinical Specialist at MCVI. “It’s made a huge difference for our patients and our procedures.”

# Calming the reluctant patient

Patient fear and anxiety can play a significant role in MR imaging. For one athlete it nearly became a barrier to returning to play. The use of Ambient Experience and the wide (70cm) bore of the Ingenia Ambition 1.5T combined to allow for a successful diagnostic exam.

COVID-19 has impacted millions of people around the world including athletes. Teams have formed 'bubbles' to help contain the spread, but even then, dozens of players have become infected. One such patient in the South Florida area was instructed to undergo a cardiac MR following his recovery. "Of the many concerns with COVID-19 patients is that they might develop myocarditis – an inflammation of the heart muscle due to the infection," says Avila. "So for him to get clearance to return to play, his team required a cardiac MR." A physician referral brought him to MCVI and cardiac imaging specialist Carlos Avila.



**Carlos Avila,**  
Clinical  
Specialist  
at MCVI.



“Never before have I gotten so many comments from our patients, saying ‘wow that was a really good experience – this is much different than any other MR experience that I’ve had elsewhere.’”

Constantino Peña, MD  
Medical Director of Vascular Imaging at  
Baptist Hospital

## What is Ambient Experience?

Ambient Experience is an approach to clinical environment design aimed at improving the patient and staff experience. Based on years of design research and collaboration, Ambient Experience integrates dynamic lighting, video and audio components to create positive and engaging environments, with over 2000 installations around the world.

Carlos Avila can attest to the efficacy of Ambient Experience in the MR environment, “We used to have one or two patients a week who would quit due to claustrophobia. Now with Ambient Experience, nearly every single patient goes through without issue. In the nearly two years we’ve been using it, I can count on one hand the number of patients who’ve quit on us.”

## A focus on the patient

The MR Ambient Experience room at MCVI includes the latest in both patient-centric imaging and clinical environmental design to lower stress and increase comfort.

The Ingenia Ambition 1.5T delivers superb image quality even for challenging patients, and performs MRI exams up to 50% faster<sup>1</sup> with Compressed SENSE accelerations for all anatomies, in both 2D- and 3D scanning.

Compressed SENSE helps patients reduce breathhold time to 3 to 4 seconds in cardiac cine scans. And fast overall exam-time is achieved by simplifying patient handling at the bore with touchless guided patient setup.

MCVI has added a complete Ambient Experience consisting of dynamic ambient room lighting, a wall-mounted display screen for video presentations, and the Philips In-Bore Connect solution which includes a mirror placed directly in the patient's line of sight and headphones for audio. When a video is selected and played on the display screen, the patient in the bore can watch and hear. From the moment a patient is moved into the scanner (the point at which people report the most stress), through completion of the scan, the In-Bore Connect solution can help patients to relax, follow directions, and minimize motion.

Carlos Avila describes a typical scenario, "Some patients say, 'no I'm claustrophobic, it's going to be impossible for me to go through with this' and I tell them look, all I ask is that you give me an opportunity and I can assure you you're gonna be just fine – and of course they are. One thing that I do is I go around to the back and I have them see me through the mirror and I give them the thumbs up and we proceed without issue."

#### **Caring for a very large, very reluctant athlete**

Following his recovery from COVID-19, a negative cardiac MR scan was required for our patient's return to play. His only prior experience with MRI was in a 'feet-first' position for imaging of his lower extremities. The idea of going into the bore head-first made him very nervous.

Carlos Avila carefully explained the Ambient Experience options, showing him how he could choose from several calming and engaging themes including a sun-swept beach, a riverboat ride, or a lush green forest, accompanied by a soothing soundtrack. He described the mirror and headphone setup and told the patient he would coach him through the entire process.

At first, the patient opted to use only the headphones for music – no mirror or video. It didn't work, and he had to be pulled out of the bore. As Avila recalls, "I said to him, just give me the opportunity to put the mirror on – with the mirror you're going to be able to watch a movie and you're going to be able to see the opening into the room. He said yes, so I positioned the mirror, I put on the movie, and thanks to that he was able to complete the exam successfully."

"He told me when I got him up after the exam, that if it hadn't been for that mirror and movie there was no way he would have been able to go through with it. He said, 'I was ready to quit on you.'"

The Ingenia Ambition itself added to the patient's ability to complete the scan. At 6' 7" and more than 300 lbs., this athlete was a big man. The Ambition's big 70cm bore opening and the sturdy ComfortMattress tabletop further enhanced the patient's experience.

"For wider, bigger patients like this guy, the 70cm bore gives them an extra bit of room inside the magnet," says Avila. Having that extra room – it's about 2 inches all around – allows us to comfortably image larger patients. He could not have been imaged in a smaller machine."



“We’ve had a lot of patients provide compliments on the soothing Ambient Experience environment.”

Carol Melvin, COO  
Miami Cardiac and  
Vascular Institute

### Additional In-Bore Connect advantages

Innovative features of the In-Bore Connect solution provide information and guidance to the patient during scanning.



**Breath Hold Queue** helps patients hold their breath for the prescribed period of time



**Progress Scan Bar** indicates elapsed exam time and expected length to completion

### All around improvement

The Ingenia Ambition 1.5T combined with the Ambient Experience not only offers MCVI patients an entirely new exam experience, it improves staff satisfaction. “Our workflow has definitely improved,” says Avila. “What used to happen with many claustrophobic patients is that they’d say, ‘pull me out’ – and so we would. Then we’d have to pull all the coils off and talk them into trying it again. Having Ambient Experience has definitely impacted our procedural efficiency. Our exam times are significantly shorter, and retakes much fewer.”

Avila concludes, “The ambient lighting, the wide bore diameter, the ComfortMattress, the TV monitor in the back offering video and information during the scan, and the audio accompaniment – all of it has made a big difference for our patients.”

1 Compared to Philips scans without Compressed SENSE

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