

Building a Technology Framework of Excellence in Health and Healing

The Emory Musculoskeletal Institute in Brookhaven, Georgia, roughly 10 miles north of downtown Atlanta, is the newest addition to Emory Healthcare's Executive Park health innovation district. The Musculoskeletal Institute is one of the most state-of-the-art, intelligent, healthy, sustainable, and high-performance buildings in healthcare. The institute is a comprehensive patient and family-centered facility providing orthopedics and spine care, physical therapy, advanced imaging, ambulatory surgery, and a range of clinical, discovery research, and education services.

With a peaceful, curving architecture, spacious natural-lighted interiors, and a floorplan and flow that makes movement throughout the facility calming and comfortable, this incredible 180,000 square-foot LEED-certified facility was specifically designed to provide the very best in patient care and healing.

Within this health-focused oasis is a start-of-the-art technology support system that shows glimpses of the facility's leading-edge role in research and treatment. Through a series of strategic partnerships, administrators have been able to bring the highest level of technology to the building. LG Business Solutions is honored to have played a role in providing a range of high-quality display and digital signage solutions to help shape and support the institute's holistic healthcare vision.

"The key to designing the perfect building is to get input from everyone who's going to occupy it — physicians, nurses, support staff, patients — and to rely on the technology experts who can make our vision a reality," said Dr. Scott D. Boden, MD, the Director of the Emory Musculoskeletal Institute. "This building is at the forefront of clinical care and research because of the strength of the relationships we've created with our technology suppliers. From medical imaging to patient information, display quality and usability are crucial, and LG took the time to understand what we wanted to create and played a key role in our success."

Technology touches all aspects of the facility. The building's air quality is continuously monitored, with extra fresh air injected as needed to enhance the comfort and cognitive performance of staff and patients alike. Automatic, electronic window glass tinting on the south side of the building eliminates the need for dusty blinds or shades while maintaining an open feel and more efficient temperature control. All operating rooms are disinfected with UV lighting to ensure that infection prevention is always a priority. Even a custom smartphone app was developed specifically for this building to allow the staff contactless access to security cards, door openings, and elevator calls — no detail was left to chance.

The Emory Musculoskeletal Institute also uses some of the most up-to-date AV electronics available. Immediately upon entering the institute, visitors are greeted with a sense of light, depth, and space that speaks to the substance and tone of the hospital's work. The centerpiece of the main lobby is a 160" or 13' (diagonal) curved, large-format DVLED display from LG that welcomes visitors with a flow of peaceful visual images and general information. The screen serves multiple objectives—signage and artwork during the day to greet visitors as they enter the institute and a conference center presentation screen for events and all-staff meetings.

"The use of technology at the institute sets the stage for what patients and healthcare professionals can expect," said Craig Rathbun, Senior Vertical Manager, LG Business Solutions. "We worked closely with the architects, the AV consultant, and the integrator to place the most appropriate displays and digital signage solutions possible throughout the facility. It's been gratifying to work on a project of this scale with such a focus on performance and excellence in patient care. I'm proud that LG was selected as their display partner."

There are more than 155 large-format LG displays within the facility, and new systems continue to be added. The very large, curved display within the lobby is an [LG LAP025EL Premium Fine-Pitch LED](#) signage system. The system's 16-bit color processing provides a high greyscale level, seamlessly displaying different depths and densities of colors without distortion, giving the video images a very

realistic look. The LAPE Series supports true, smooth concave and convex curvatures, and delivers excellent brightness, color detail, and super image contrast that brings displayed content to life as an outstanding work of media art.

Within the institute's wide variety of consultation rooms, conference rooms, and training spaces—and as use as public digital signage for wayfinding and general information—there is a mix of 50- to 65-inch LG displays, including UT347H0UA Series displays, and [UL3G-B](#) Series displays placed optimally throughout the facility.

LG Ultra HD large format digital signage displays deliver vivid colors with fine details, giving audiences a clear viewing experience. With a resolution four times higher than FHD, LG digital signage makes colors and details more vivid and realistic, and the displays' wide viewing angles provide rich, clear content with virtually no distortion. The built-in LG Smart Signage Platform features Quad-Core SoC that can execute several tasks at once, providing smooth content playback without the need for a media player. Also, LG webOS smart signage technology enhances user convenience with intuitive GUI and simple app development tools.

Displays in each of 117 patient exam rooms are used to present customized information to patients about their provider, and offer QR codes for them to access and learn more about the facility. Providers can also wirelessly display patient imaging or educational diagrams to explain injuries or potential surgical procedures right in the room. This is far superior to fixed anatomy posters or hand drawn sketches.

Rathbun explained that LG worked with Emory administrators as well as project consultant Newcomb & Boyd, and systems integrator Diversified Media, for more than two years leading up to the final project specifications and construction phases. And during the installation and commissioning, LG technicians were on hand to lend any support needed.

"Our Vertical Market team was especially integral in bringing this project together," added Rathbun. "They worked with the client to really go through and define the details of how digital signage and LG solutions could be trusted to support the facility's vision. Because of our early involvement on a partnership level, we were able to satisfy all the institute's large format, digital signage needs, and help create an exceptional healthcare experience."