

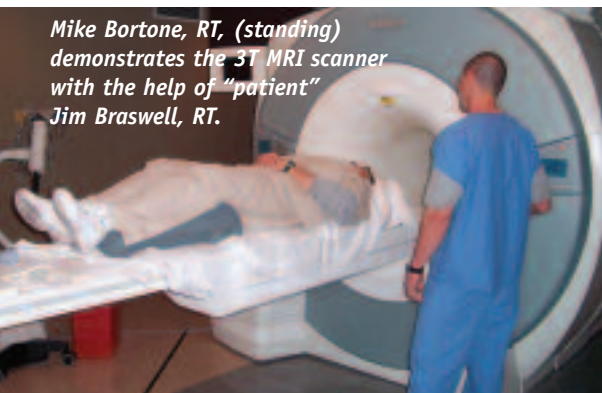
► A Closer Look at the NFL Combine

BY DANA HINESLY

For National Football League (NFL) hopefuls dreaming of a career under the stadium lights, the biggest hurdle to success might not be their on-field stats. Every year, the NFL invites a select group of college players for intense medical, physical, and psychological evaluations known as the NFL Combine.

The 2006 Combine marks the 20th year it has been hosted by Methodist Hospital (Indianapolis), a member of Clarian Health Partners.

Mike Bortone, RT, (standing) demonstrates the 3T MRI scanner with the help of "patient" Jim Braswell, RT.



"It used to be that if teams were interested in a college player, they would test him individually," said John Dickey, radiology manager at Methodist Hospital. Dickey oversees the coordination of all diagnostic testing at the hospital and has been involved with the Combine since its beginning at Methodist Hospital. "It reached a point where a player would travel to five or six different cities, having the same tests done over and over, until the NFL finally decided to have players tested at one place and provide all teams with the same information."

Prior to settling on Indianapolis, the Combine would travel from city to city. In 1987, the Indianapolis Colts hosted the event with such efficiency that NFL administrators decided the Combine should stay put. Since then, the week after the NFL Pro Bowl finds Methodist Hospital's staff bracing itself for 4 long days processing athletes from across the country.

Although it started small—the first year's Combine produced only three MRIs—the event's growth has been substantial. This year, 330 athletes were examined, and 348 MRIs were performed.

Imaging studies account for only part of a rigorous physical to which each athlete is subjected and are performed only on individuals who have suffered an injury at some point in their football careers.

"Any time a player has any sort of musculoskeletal injury or neurological injury, we're going to check that out very, very closely," said Dickey, who notes that the

nature of the sport translates to some sort of imaging exam being performed on almost every contender. "We very seldom do an MRI on the kickers, because they don't have as much contact, but that's about the extent of it, because everybody else gets pretty beat up."

Performing MRIs on these highly conditioned men presents some unique complications. "The biggest challenge we have is that a lot of the players are just huge human beings, so we find it very difficult to get them into the scanner, which compromises our ability to perform these diagnostic tests," Dickey explained. Many of the players also struggle with claustrophobia, so some of them are examined using one of the hospital's open magnets.

Numeric values are assigned to the results from each exam, resulting in a cumulative score that enables the NFL team physicians and trainers to rate players, which helps determine the NFL's professional interest in them. Because results can change the course of each athlete's future, it is not uncommon for the MRIs, CTs, and x-rays to reveal a host of

undisclosed injuries, such as knee, shoulder, neck, and back ailments.

"We also find things nobody had any idea about, something asymptomatic that could have caused problems later," Dickey said. "Just about every year, we discover things like lung and bone tumors and renal tumors—things the athlete didn't realize he had, but that will definitely change his draft status."

Each year, Methodist Hospital employs 14 different 1.5T MRI systems—manufactured by GE Healthcare (Waukesha, Wis) and Siemens Medical Solutions (Malvern, Pa). But this year's Combine helped break in the health care facility's new Magnetom Trio from Siemens Medical, a 3T magnet that came online the week before players started arriving. The hospital's scanner is the only 3T magnet in the state solely devoted to clinical use.

"We were hearing from our clinicians that they wanted us to upgrade to a 3T magnet, which definitely has some advantages as far as image quality," Dickey said. For example, the Trio produces higher-resolution scans for neurophysiology studies in less time than its lower-field counterparts. "We added the 3T to provide the highest-quality imaging available to our patients."

► Collaboration

Biophan and Siemens Medical Declare Collaboration Intent on Advanced Interventional MRI

Biophan Technologies Inc (West Henrietta, NY) has announced a declaration of intent to enter into negotiations for a strategic research collaboration between Siemens Medical Solutions' MRI Division (Erlangen, Germany) and Biophan Europe GmbH. The goal is to provide new solutions in interventional MRI and MRI-assisted minimally invasive surgeries.

The collaboration is the result of discussions between senior officers at the two companies for the further development and commercialization of potentially complementary MRI technologies. Biophan is attempting to enable effective MRI visualization of implanted medical devices, including heart valves, coronary and peripheral stents, and vena cava filters. Also, Siemens

Medical has developed a new MRI-scanning technology with aperture configurations that could be highly complementary to Biophan's research and development program in this area, according to Biophan Europe CEO Michael H. Friebe, PhD.

Many implantable and surgical devices containing metallic elements are contraindicated for use with MRI due to their potentially undesirable interactions with the powerful electromagnetic fields generated by MRI systems. To extend MRI to patients with implantable devices, who currently are denied access to MRI visualization, Biophan has developed a range of proprietary technologies to enable MR imaging to visualize the interiors of stents and other implants, and to enable the MRI-guided implantation of devices.

Running the Numbers

347 current US installations of 3T MRI scanners.* The numbers include 167 installations of the Signa HD and HDx lines from GE Healthcare (Waukesha, Wis), 60 installations of the Achieva line from Philips Medical Systems (Andover, Mass), and 120 installations of the Magnetom Trio line from Siemens Medical Solutions (Malvern, Pa).

* Numbers are based on a May 11 vendor poll.