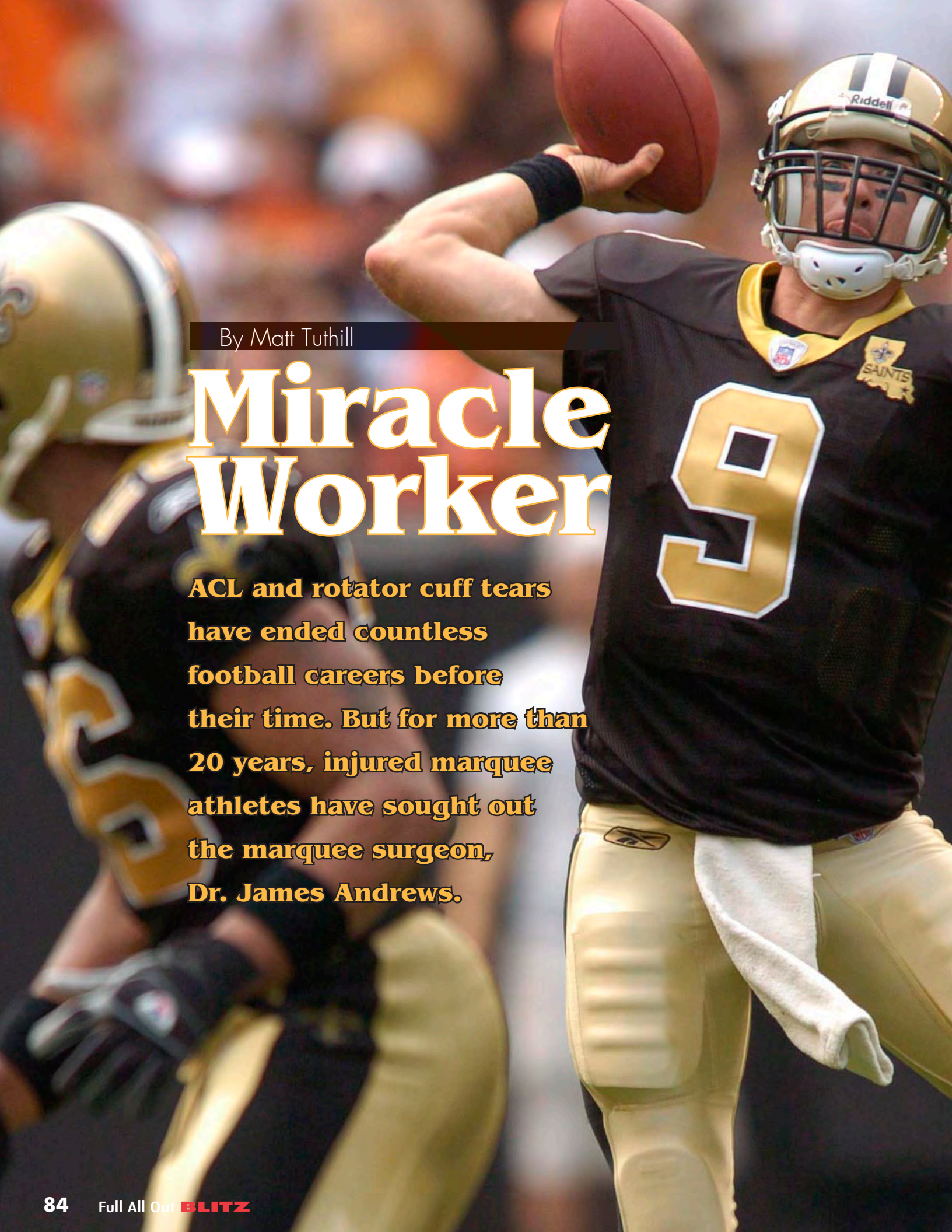
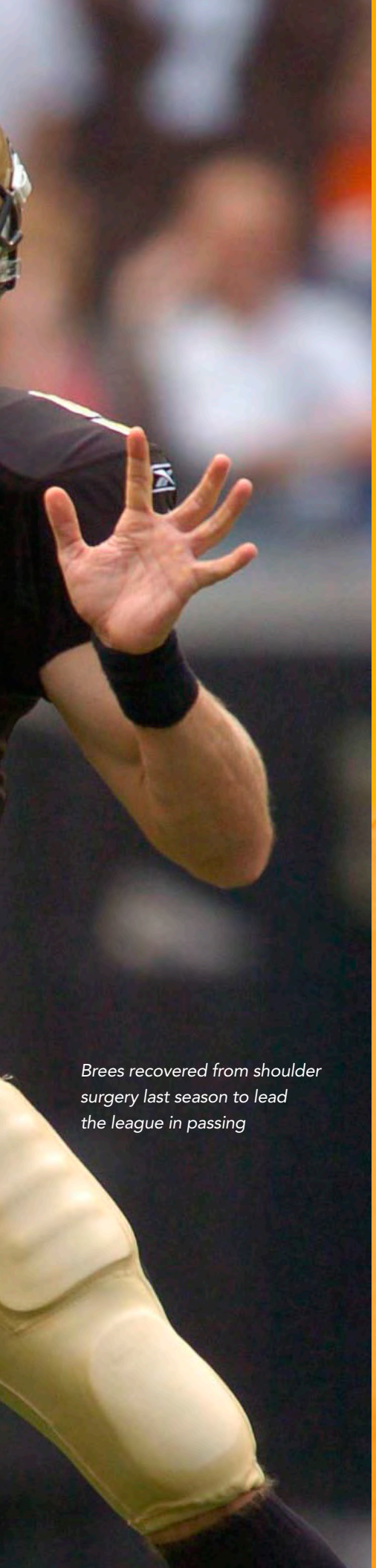
By Matt Tuthill

Miracle Worker

ACL and rotator cuff tears have ended countless football careers before their time. But for more than 20 years, injured marquee athletes have sought out the marquee surgeon, Dr. James Andrews.





Brees recovered from shoulder surgery last season to lead the league in passing

While the rest of the world is enjoying the game on Sunday afternoon, Dr. James Andrews studies the field, a pair of rosters in hand, drawing asterisks next to a handful of names while keeping notes. As senior orthopedic consultant for the Washington Redskins and the single-most prominent arthroscopic surgeon in the world, Dr. Andrews is in a fantasy football league all his own, surveying the progress of his life's work - ligament reconstruction, with every throw, catch and tackle made by a formerly disabled player.

Stats are worth a lot in this league. "As soon as the day is over, I'm checking the stats to see how good a day they had," Dr. Andrews said, explaining that while strong rehab and natural ability are most directly responsible for performance, a good showing on the chart is, in a way, a good indication of how well he did his job.

His job, more or less, is to correct one of the most devastating and common football injuries, the Anterior Cruciate Ligament tear. Catastrophic collisions like the one that took out Daunte Culpepper in 2005 are one way that an ACL tear occurs. But according to Dr. Andrews, 60 percent of the time it's a mere stutter-step while heading for the sidelines, like the one that ended Donovan McNabb's 2006 season, that can destroy the main stabilizing ligament of the knee joint and alter the path of a player's career, "He guillotined his ACL with the notch of the thigh bone catching it just right." Dr. Andrews said of McNabb. "It doesn't take much sometimes, just an awkward little step. They may have done that same maneuver thousands of times and all of a sudden they catch it."

An ACL tear can strike with the randomness and devastation of a bolt of lighting, but in the storm of NFL contact, lighting strikes in high frequency. Be it the full-speed impact of a

shoulder pad to the knee or the slight rotation caused by a cleat sticking in a clump of grass, a full ACL tear always has the same brutal result. "It looks like a hand grenade went off inside the knee joint," Dr. Andrews said, describing the typical war-torn terrain he sees once he gets the arthroscope inside. "There are strands of ligament tissue just stranded, sort of flicking around all over the place and there's blood everywhere."

Most of the time, a player visiting Dr. Andrews at the Alabama Sports Medicine and Orthopaedic Center can have his career extended. In 1985, Dr. Andrews operated on what was then Roger Clemens' "beat up" rotator cuff. The rest, quite literally, is history. "Let me tell you, if you have the opportunity to take care of a superstar athlete with good genetics, they can make you look awfully good as a doctor," Dr. Andrews said. "So I wouldn't take all

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But I learned a long time ago that the only results you remember are your bad ones and I've had some that didn't work. I've had some where their career was ended. You've got to know that when you're in a career-saving operation that you're not always going to be successful. And the player has got to know that, too. You've got to go hand in hand with him."

While Dr. Andrews' patient A-list stretches from Jack Nicklaus to Drew Brees and his surgery volume reaches a seemingly impossible 1,200 per year, his accumulated knowledge came at the price of years of failed procedures during the 1970's, a largely experimental era in ligament reconstruction. During this period, Andrews and his colleagues tried a number of unproven procedures to directly repair the ACL. These procedures included stitches, the use of carbon fiber pieces and the use of prosthetic ligaments.

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Stitching only held the ligament together and never allowed it to fully heal. Because the knee joint is bathed in synovial fluid, blood never reached the ligament and the bond was never reformed. The use of carbon fiber parts led to the eventual migration of carbon fiber particles to the lymph nodes. If migration of the particles went unchecked, patients could be poisoned. Prosthetic ligaments offered the most hope to solving the problem, but eventually proved too stiff and, over the years, eventually broke, Dr. Andrews said, like a metal coat hanger that had been bent back and forth too many times. "I've got a few prosthetic ligaments that I put in during the 70's that I'm still following and they've continued to work," he said. "But 90 percent of them didn't continue to work … and so all that was abandoned."

Finally, a procedure was developed using a live ligament graft from the mid one third of the patella tendon, the long tendon that attaches the knee-cap to the shin bone. This procedure and the advent of the arthroscope, the tube-like fiber optic instrument that makes minimally invasive surgery possible, have proven to be the two most significant breakthroughs in ACL reconstruction in the last 30 years. Dr. Andrews played a large part in the development of both and has done as much as anyone on the planet to perfect the process. Today, he can finish most ACL reconstructions in about an hour.

Dr. Andrews said he sees a day coming soon, perhaps within the next decade, when doctors will be able to pull genetically engineered ligaments off a shelf and be able to put them into the human body. Growing knowledge of such ongoing experiments and rumor of Dr. Andrews' abilities as a miracle

worker have helped give rise to the idea of performance-enhancing surgery. Ligament replacement surgeries may be more efficient now than ever, but Dr. Andrews said the ethical dilemma of such an idea isn't something he thinks he'll be challenged with in his lifetime, due to surgical risk factors that can never be totally eliminated. Nevertheless, Dr. Andrews is inundated with appointment

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requests from amateur, high school and junior high school athletes looking for an edge. When a quarterback like Drew Brees throws with as much pop as ever after rotator cuff surgery, it's only natural that people would track down his surgeon. "It happens more often than you'd probably imagine," Dr. Andrews said. "There are young kids that are just jumping at the least little bit of a ligament injury to their elbow and they're as happy as can be when you tell them you're going to have to reconstruct their ligament. Then one of the first questions the daddy asks is, 'Do you think you can make him a 100 mph fast ball pitcher?'"

Dr. Andrews, a devoted man of science, but also a man of Southern tradition and faith, always gives the same answer. " I tell them that there is nothing we can do surgically that is as good as the good Lord made it," he said.

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Two of Dr. Andrews' most prominent NFL patients, Drew Brees and Daunte Culpepper, competed last off-season in the open market for starting gigs. More specifically, the two quarterbacks vied for to fill the vacancy at the position for the Miami Dolphins. Fins coach Nick Saban chose Daunte over Drew, inferring in the Culpepper press conference that he'd rather take a risk on a knee injury over a shoulder one when considering a quarterback. Hindsight is no doubt 20/20, when you consider how prolific Brees was this season for the Saints compared to the still recovering Culpepper. The decision still resonates profoundly in all of the men's careers; it sent Saban back to the college ranks, Brees into superstardom and sadly, C-Pep's career into limbo.