

Putting Shaq Together Again

Here's how this podiatrist used GraftJacket® to repair a torn Achilles tendon in this all-time great basketball player.

Shaquille O'Neal is one of America's most beloved sports figures. *PM* recently interviewed Shaq and Dr. Jonathan Blum, the podiatric surgeon who repaired Shaq's torn Achilles tendon.

PM: Dr. Blum, tell us about your background.

Blum: I started out as an undergrad at The Johns Hopkins University and ended up at Pennsylvania College of Podiatric Medicine (now Temple University). I did my residency in Miami with Dr. Keith Kashuk at Health South Larkin Hospital. I came up to Central Florida and I have been here for 15 years now with Orthopaedic Associates of Osceola.

PM: Now how did you get involved in sports medicine?

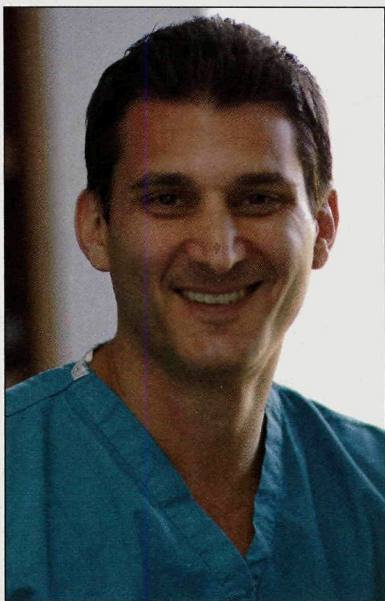
Blum: The sports medicine docs in my group have always been team doctors for the spring training teams, the local high schools, and some of the ice

hockey teams in town, so I got involved through that. I was always involved with sports myself. A good friend of mine is the Chief of Sports Medicine at a major university, and doesn't like treating feet or ankles. When he has interesting cases, he sends me patients. There are a couple of trainers in town whom I also became pretty friendly with over the years. I currently treat four or five of the top 15 LPGA golfers, a couple of PGA golfers, and a bunch of different baseball players, football players, and even Shaquille O'Neal.

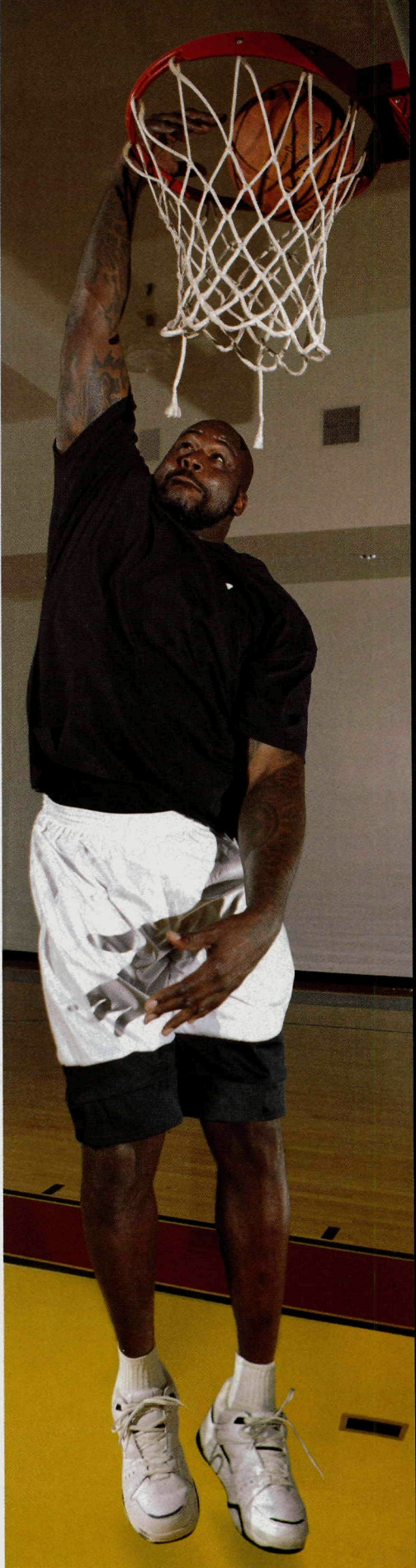
PM: You bring up Shaquille O'Neal. How was he referred to you?

Blum: Shaq and I, we have a mutual friend. Shaq is also involved in mixed martial arts (MMA), and his trainer, whom I also train with, is in town. The trainer called me and said that he was very worried about Shaq. He said that Shaq is not able to walk and that Shaq never complains about anything. To make a longer story short,

Continued on page 82



Dr. Jonathan Blum



Shaquille O'Neal

Shaq and I ultimately met up and went over his injury.

PM: When happened to cause your injury? Did you know it was a tear then? How did you initially treat that injury?

Shaq: I felt something like really, really tear. You know they say when you acutely tear a tendon, it feels like somebody kicks you or something. I felt like somebody kicked me. I knew it was a tear, but I wouldn't allow the doctor to get the MRI because I didn't want them to say it was a tear, so I went back to more of Eastern medicine, probably twice a day, acupuncture and electric shock treatment. I did everything. And it worked for a while. I played one game in the

playoffs, but then the next day, I couldn't walk. Then I realized something was wrong.

PM: When you had a chance to examine Shaq, how did you make the diagnosis, and what were your findings?

Blum: When I first saw Shaq, he had so much discomfort that he had a real inability to even just walk correctly. From a seated position, he could not do a calf raise on that side.

and the mid-substance on both sides. We took some PRP and sutured a Krackow-type suture on one side of the tendon and laid down a gel form of the PRP in the mid-substance, and then sutured the other side. We reinforced the sutured tendon with multiple GraftJackets (Figure 4). Because of Shaq's size and the size of the tear, we used three GraftJackets.

PM: What differences are there in treating this type of tear in a profes-

Shaquille's injury could be described as a tear that developed into anterior and posterior halves of the proximal portion of the tendon.

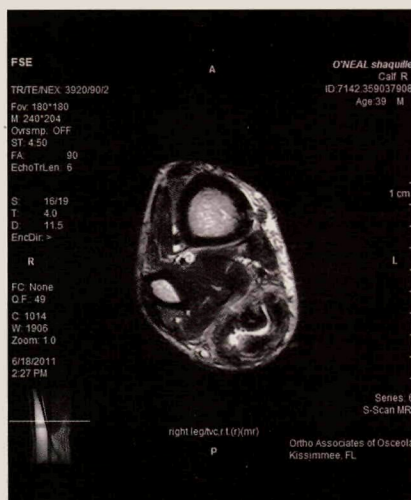


Figure 1: MRI showing Achilles tendon tear

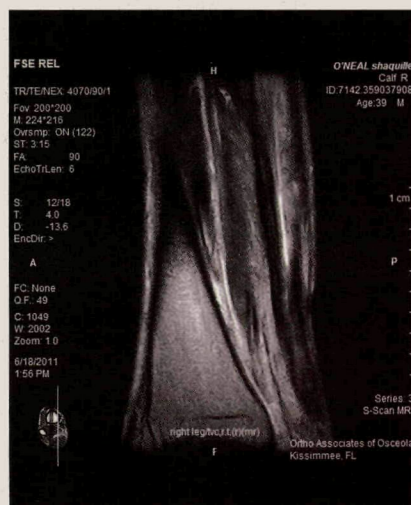


Figure 2: MRI showing Achilles tendon tear

He came into the office on a Saturday, and we took an MRI which confirmed the extensive Achilles tendon tear that he had. It was about 9 centimeters of tear and about 8 centimeters of distal tendinosis of the Achilles.

Shaquille's injury could be described as a tear that developed into anterior and posterior halves of the proximal portion of the tendon (Figures 1,2). Distally, it was classic tendinosis. That was pretty unique. It seems like he had some kind of dissecting injury, because of some of the cortisone injections he had been given previously. The dissecting nature of it weakened the mid-substance, and with repetitive injections, a tear occurred in the weaker tissue plane and dissected it into a full anterior and posterior half.

PM: Tell us about the procedure you performed.

Blum: Ultimately, once through the incision, we dissected off the paratenon, which was extensively adhered to the underlying tendon itself. Once we got in, it was easy to find the mid-substance of the tear and dissect through it (Figure 3). So the mid-substance had a fair amount of degeneration. It was grayish yellow in appearance with a poorly defined fiber structure. There was mucoid degeneration, and I ultimately debrided the tendon

sional athlete versus treating a similar tear in a weekend warrior?

Blum: My concern with Shaq was that he kept telling me he didn't want to go back and play basketball, and that he retired over this. However, my concern for someone of his size, 7 foot 320 pounds, was that there was going to be a lot of stress put through the healing tendon. If you undertake something like this and it doesn't go well, we were going to all hear about it very quickly. So, obviously, we wanted to have something that's done well and done strong.

PM: Describe Shaq's recovery.

Blum: He actually exceeded all of the milestones. Shaq actually pushed me as I expected he would. He came out of his boot sooner than I would have expected. On his one month visit, he came in and I asked him if he could do the toe raise exercises that he was supposed to be doing from his seated position. He said doc, I can do that standing. He had great strength from the very beginning. Over the whole course of his recovery, he lost only 2 millimeters in circumference on the affected side. I was told that he was attempting a light jog at three weeks because he felt so good. At around six weeks, he was basically

Continued on page 84

playing basketball, and at three months, he was fully back to all activities including sport-specific activity. He could run and jump normally.

Shaq: The procedure itself was a success. Dr. Blum put three GraftJackets on it and tied it up. Dr. Blum was very pro-active. He told me that I would wear a cast for five days, and then he would take it off to let my feet breathe. He wanted me to start walking slowly, but it felt good, and I didn't have to take any pain medication after the first two days. He told me to do light rehabs, but I was doing rehab like I was trying to come back and play. He told me to do ten leg lifts, but I did 50.

PM: Is that because you have had previous basketball injuries? One would usually listen and follow a doctor's advice, but in this case it looks like you used your own sense. Is that because you know your body so well?

Shaq: Well I know my body. One of the things Dr. Blum said to me

about this surgery was that if I wanted to come back and play, I could, because the surgical fix is so tight.

PM: So, now that you are healthy again, do you have any thoughts of a basketball comeback?

Shaq: No, not at all.

PM: Dr. Blum, what would be your recommendations on using Graft-

Blum: The rehab gets pretty intense as well. We start that first day, basically wiggling the toes and doing some leg lifts. Then starting at week two (when the cast comes off), the patient does toe curls with a towel, active plantarflexion with a Thera-Band, sitting calf raises, and stationary bike for 10 minutes a day three times a week, with a boot on. Then we increase that time by 10 minutes each week on the stationary bike (with the

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Jackets for partial tendon tears in average athletes?

Blum: I have gotten to the point where I am using GraftJacket on most tendon injuries because, per the literature, the strength with the GraftJacket allows me to rehab patients faster. So instead of the prior traditional six weeks of cast and crutches, I am prescribing cast and crutches for the first week non-weight-bearing.

When patients come back, I put them in a fracture boot with a little bit of a heel lift, and let them start walking to tolerance. Then at a month, I take them out of the boot and put them into a sneaker with a little bit of a heel lift, and start them walking in a sneaker.

PM: What is your rehab protocol?

boot on). At the six week mark, I start patients doing single leg balances for 60 seconds, and bilateral standing calf raises, progressing to a single-leg standing calf raise, and still continue with the Thera-band with no dorsiflexion. At the three months mark, I have them continuing the balance and strengthening exercises and the unilateral calf raises. At this point, we add some step downs and knee extensions, hamstring curls, and single leg presses. Patients will be doing the elliptical or the Stairmaster for 30 minutes, five times a week. By four months, the patient progresses to weighted calf raises, agility drills, and sport-specific skills.

PM: What have your experiences been with reimbursement for Graft-Jacket?

Blum: For the graft itself, I don't seem to have too many problems using it, whether it's in the hospital or the surgical centers. Obviously, we won't get directly reimbursed for using the graft, but in terms of the graft being covered, I haven't had a problem using it in any of the facilities that we go to. **PM**

Editor's Note: You can view a video about Dr. Blum's treatment of Shaquille O'Neal at <http://www.choosestrong-graftjacket.com/>



Figure 3: Inter-operative photo showing tendon tear



Figure 4: Inter-operative photo showing sutured GraftJackets

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