A return to football after heart surgery

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When a football player tears a knee ligament, he has surgery, heals, and often returns to the playing field. Can a football player with a heart defect make a similar comeback? For Jesse Sapolu, the 36-year-old center for the San Francisco 49ers, the answer is an unprecedented yes.

Sapolu had aortic regurgitation caused by childhood rheumatic fever. He had a heart murmur, but was otherwise asymptomatic and played 15 years with the 49ers. Then echocardiographic monitoring confirmed not only aortic regurgitation, but an enlarged left ventricle that worsened during the 1996 season. The condition put Sapolu at risk for congestive heart failure, according to Joel P. Friedman, MD, chief of cardiology at the Palo Alto Medical Foundation in Palo Alto, California.

Friedman recommended that Sapolu undergo the Ross procedure. The patient’s faulty aortic valve is replaced with his or her own pulmonary valve and proximal pulmonary artery. The pulmonary valve is then replaced with a human cadaver aortic valve and proximal aorta.

The Ross technique was first performed in London 30 years ago, but it has been performed in the United States for only a few years. Patients who have had the Ross procedure do not need anticoagulation (1), eliminating one postop contraindication to playing sports. Because the procedure is so new in the United States, the 1994 Bethesda guidelines on sports participation for athletes who have cardiac disorders (2) do not address the Ross procedure.

Following surgery in January 1997, Sapolu recovered quickly. He left the hospital 4 days after surgery. The size of his heart was dramatically reduced by 1 week after surgery. He was running 3 weeks later, and was rehired by the 49ers to play center when their starter, Chris Dalman, injured his knee in August.

Sapolu was in greater danger playing football with aortic regurgitation and an enlarged heart than he is playing now with his repaired heart, according to Friedman. Open-heart surgery made Sapolu’s heart stronger, and his chest is completely healed. "It's like a broken bone. Once it heals, it's healed."

The Ross procedure is more complicated than replacing one defective valve with tissue or a prosthesis because it requires severing and reconnecting the coronary arteries, says Paul D. Thompson, MD, director of preventive cardiology at Hartford Hospital in Hartford, Connecticut, president-elect of the American College of Sports Medicine, and an editorial board member of...
The Physician and Sportsmedicine. He recommends that valve-replacement patients wear protective chest gear.

For a pro athlete Sapolu's age, Thompson agrees the Ross procedure was practical. But for a teen or young adult he would favor conventional valve replacement because the Ross procedure is relatively new.

John D. Cantwell, MD, team physician for the Atlanta Braves and a cardiologist at Cardiology of Georgia PC in Atlanta, says sports physicians will watch Sapolu's case with great interest. "Somebody had to be first," says Cantwell, who is an editorial board member of The Physician and Sportsmedicine. He says he would be concerned about football's pushing, straining, and weight training demands on the valve. Cantwell suggests that Sapolu is running a risk by playing, but adds, "A pro player is only going to go around once. It's an individual judgment call."

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Reference