

# Jacob's belated holiday gift will last a lifetime



A few months after the Christmas that Jacob Seyle was 11, he got an unexpected and most precious gift: his right arm. Jacob received a tissue transplant that enabled him to keep his right arm rather than have it amputated.

Jacob was being treated for persistent tendonitis in his right arm when on Thanksgiving 2004, he fell and cracked his shoulder. X-rays revealed a tumor, an osteosarcoma in his right shoulder, one of the most common bone cancers found in children. He began a round of chemotherapy before undergoing a procedure using an allograft prosthetic composite, a combination of an allograft and a metallic joint replacement.

Jacob's orthopedic surgeon Bryan Moon, M.D., described the three-hour procedure as a reconstruction. Jacob's proximal humerus was removed, which required cutting the rotator cuff tendon. His shoulder was then reconstructed with the allograft prosthetic composite. The allograft replaced the bone that was removed, and Jacob's rotator cuff was repaired by sewing his own cuff to the rotator cuff attached to the allograft.

Dr. Moon chose the allograft prosthetic composite over a metal mega prosthesis, which does not provide comparable shoulder function. His other option was an osteoarticular allograft, which typically requires joint replacement later due to joint deterioration.

"With the allograft prosthetic composite, we just go ahead and replace the entire joint rather than go back later and do it," said Dr. Moon.

Jacob was fortunate to be a candidate for this procedure, unlike the young boy he met whose cancer in his lower leg resulted in amputation. Jacob's mother Deborah Seyle knows the procedure has saved her and her son from the added pain and grief of amputating his right arm.

"Even though I trained in the sciences as a biologist, I was unfamiliar with the benefits of tissue donation or transplantation," said Deborah. "We are now big proponents of organ and tissue donation. Jacob thinks it's very special that he got a donated gift."



*Jacob with his mother, Deborah Seyle*

Through physical therapy, Jacob is regaining range of motion in his right arm and is working on developing circular range of motion. Shoulder function, though not completely normal, is much improved as the graft-host junction heals.

The ultimate goal, explained Dr. Moon, is to develop good shoulder function and excellent hand and elbow function.

"I know I will learn a lot from this and someday will be able to help other people, especially kids, who have to deal with hard things," said Jacob. "I've already been able to help a few and it felt great."



*Pre-Operative X-ray*



*Post-Operative X-ray*

**MTF** Musculoskeletal  
Transplant  
Foundation

125 May Street • Edison, NJ 08837 • 732-661-0202 • [www.mtf.org](http://www.mtf.org)

The Musculoskeletal Transplant Foundation is a non-profit service organization founded by surgeons to provide quality tissue for allograft transplantation. MTF is AATB accredited and committed to excellence in education, research, recovery and care for recipients, donors and their families. As the nation's largest tissue bank, MTF has provided over 2 million grafts since its founding in 1987.