



She's on the Ball!

Amber Peterson and her Prosthetic Sports Arm

by Sherri Edge

What do you get when you cross an energetic 12-year-old with an upper-limb sports prosthesis? A baseball/basketball/volleyball/soccer/tennis player who loves riding her bike. And swimming. And snow skiing. And just plain having fun. In fact, Amber Peterson is so busy being active that her mom, Jennifer, has officially let go of a question that used to haunt her: "Will Amber be able to do what other kids do?"

Amber's childhood is practically a case study of the benefits of early prosthetic fitting for babies who are born with an upper-limb difference. Her parents learned during a mid-pregnancy ultrasound that their baby girl's right hand and part of her forearm had never formed. "For me and my husband, it was an advantage to know ahead of time," Jennifer says. "We were able to do research and learn about prosthetic options for children. When Amber was born, we already had a plan in place, and so we were able to be happy and focus on our beautiful, healthy baby girl."

Amber began wearing a passive prosthetic arm when she was 6 months old, which helped her with sitting, crawling and balancing. At 18 months, she moved up to a myoelectric hand that gave her the ability to grasp on her right side and to begin practicing the mechanics of using two hands. While she was 3, Amber was fitted with a durable activity-specific prosthesis that she could get wet at

the lake, or use to dig around in sand and mud. She began violin lessons a year later, with the addition of a custom-designed terminal device (TD) that held the bow at just the right angle. Before long, she started using a Pinch Hitter Bat Adapter, a Swinger TD for monkey bars and pull-ups, and a Criterium Bicycle Handlebar Adapter. When she was 8, Amber used the Swinger, along with the Shroom Tumbler, to do gymnastics, including the balance beam, parallel bars, vault and floor tumbling. Now, at age 12, her favorite TD is the Free Flex Hand, which works equally well for soccer, baseball, volleyball and basketball.


"I wear my myoelectric most of the time, like at school," Amber says. "But when I have gym and we play soccer or tennis or badminton, then I change arms. My sports arm is called 'Sporty' and it has about 10 attachments that I can change for different sports. Right now, my favorite thing is soccer because with my prosthesis, I can do throw-ins, which means I can play defense."

Amber's activity-specific prosthesis features a TRAC socket with a silicone suspension liner and a shuttle lock. A quick disconnect wrist makes it easy to switch between TDs. According to Amber's prosthetist, Pat Prigge, CP, FAAOP(D), clinical manager with Advanced Arm Dynamics, a well-fitting socket is the foundation of a patient's comfort and safety while being active.

"For children, exercise and play are important activities of daily living (ADLs)," Prigge says. "In particular, sports need to be done with proper body posture and biomechanics to reduce the risk of injury. A custom-fitted sports prosthesis ensures that alignment and length are optimized for that specific activity."

According to Jennifer, it took a few years to understand that upper-limb prosthetics are quite different than lower-limb prosthetics. "It's been very helpful to have a prosthetist who specializes in upper-limb, who really knows the ins and outs, and can explain all the options," she says.

The natural growth spurts of childhood have meant that Amber's socket requires regular adjustments. Her first socket, fitted at age 3, had to be modified after 6 months, then recast to a larger size after a year. Since then, she has needed socket adjustments at least once a year, and has been able to wear a socket for two to three years before needing to recast to a larger size.

Amber's experiences with an array of sports has increased her sense of athleticism and her confidence. She went to the Wounded Warrior Amputee Softball Team Kids Camp last summer, and this year, she's excited about attending volleyball camp. "Having 'Sporty' makes it easier to do things like other kids," she says. "And I think I'm really lucky to have different prostheses to use for different sports." 



All photos courtesy of Advanced Arm Dynamics 2016.