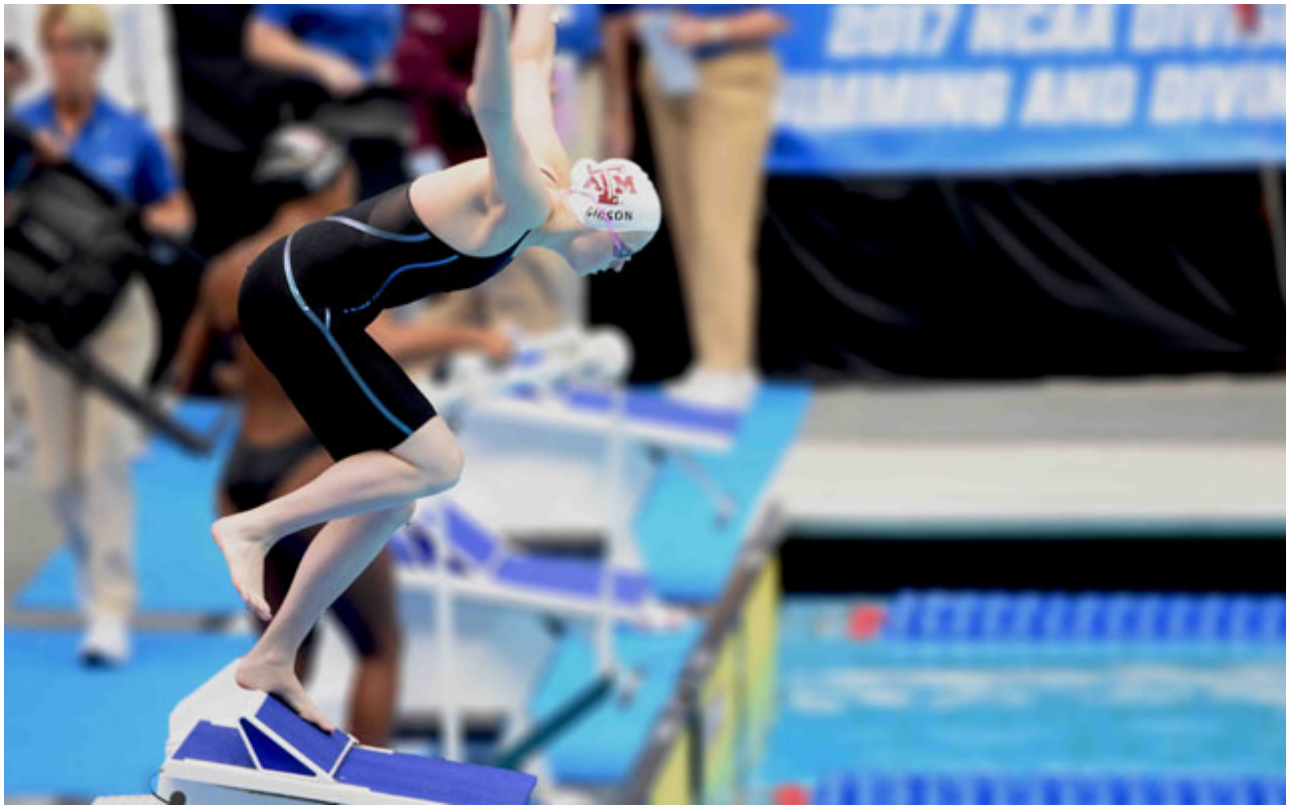
Swimming with Heart

By Ariana Remmel | October 23, 2018

Every athlete dreams of competing at the Olympic Games. Only the best of the best get to represent their countries on a world stage where years of training boil down to only a few minutes of competition, in which even a millisecond advantage can put someone on the winner's podium.



Twenty-three-old Sarah Gibson swam the 400 meter Medley Relay in the 2017 FINA World Championships in Budapest, helping the U.S.A. win a gold in that event. Because of Gibson's perseverance and dedication to her training, there was never a question of whether she had the heart to compete at the highest level — but as it turns out, a problem would lie in her cardiac valves.

Gibson started swimming competitively at age five, showing early promise for a future career in swimming. Originally from Texas, she chose to go to college and compete at Texas A&M. In her sophomore year, however, she started to feel ill. At first, she thought it might be a virus, but she was getting dizzy during training and passed out.

"The water is the last place you want to lose consciousness," says Gibson.

This concerned her coaches and she was sent to a cardiologist who diagnosed her with myocongenital heart disease, a structural defect in her heart that had been there since birth.

Both of Gibson's parents are physicians and it shocked them that they were only now finding this defect. Her father came out to be with her as further tests were done to figure out the exact problem. Sitting in the ultrasound room at the hospital, Gibson remembers her father's face when the doctor diagnosed her with bicuspid aortic valve disease. "His face went ashen. The doctors said they didn't want me in sports."

The aortic valve controls blood flow from the heart to the aorta, the primary artery that sends blood to the rest of the body. Normally, this valve has three cusps that create a strong seal to prevent leakage and ensure that the heart pumps blood efficiently. Some people, like Gibson, are born with only two cusps (bicuspid). This puts their hearts at risk for leakage and damage that could later require a full valve replacement.

According to the Centers for Disease Control and Prevention, approximately 40,000 babies are born with congenital heart defects per year in the U.S. Common symptoms of this condition include a heart murmur, an abnormal heart rhythm and shortness of breath.

Gibson would have to be regularly monitored to make sure the disease didn't require more drastic treatment — but she didn't want to quit swimming competitively.

"Being in the water is my true passion and the thought of not swimming was devastating," said Gibson. "I was determined to do whatever needed to be done to get back in the pool."

Eventually, Gibson found a doctor who would allow her to keep training "as long as I was smart about it." They would have to make some adjustments to her training program, but she worked closely with her doctor and coaches to make sure she wasn't putting herself at risk. Six weeks after her diagnosis, she qualified for the Olympic trials. "It was an emotional rollercoaster."

After her Olympic run, Gibson moved to San Diego where she now trains with David Marsh, the Head Coach at UC San Diego. She also works closely with Lori Daniels, MD, cardiologist at UC San Diego Health. Daniels has been treating Gibson so that she can continue to train at peak performance. She monitors Gibson's heart using an echocardiogram to keep an eye on the aortic valve and overall function and checks in regularly with her to ensure there are no concerning symptoms.

"The hard part for patients like Sarah is knowing when to push through an ache or pain during training and when it's a red flag to stop," said Daniels. "That can be mentally stressful and challenging for anyone to know the right answer to."

For Gibson, this has meant "being mentally tough. I have to listen to myself and ask if I'm just out of shape or if it is something serious." Gibson says all her coaches are aware of her condition and have made efforts to make sure she stays safe.

Working with Daniels at UC San Diego has helped Gibson not only make improvements to her training, but has also helped her make strides towards her future.

"Through my experience, I have decided that I would really like to become a doctor someday."

Daniels recognized an opportunity to help Gibson achieve that goal.

"She was so enthusiastic," said Daniels. "I wanted to do anything I could to keep her connected to her dream of becoming a doctor or maybe a cardiologist."

Daniels offered Gibson the opportunity to work in her research lab studying novel cardiovascular biomarkers. Gibson was immediately interested and now "juggles multiple projects."

"The research that I'm doing in Dr. Daniel's lab helps me with swimming by keeping my mind in a good place so I'm not hyper-focused on training," said Gibson. "Taking off my swimsuit and putting on a lab coat is allowing me to learn about medicine first-hand, to make sure it's a career I really want to pursue."

Through her training and research, Gibson is building a bright future for herself. She hopes to qualify for the 2020 Olympic Games and eventually apply to medical school. "No matter how I do in competition, I've already won. I'm beating my disease even if I'm not beating anyone in the pool."

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