THE *Kids* ARE ALL RIGHT

For most children with congenital heart defects, exercise can help keep fragile hearts strong. By Heather R. Johnson

Photo: Getty Images ; AshleyWiley

Brinly Barker, whose family are members of Mended *Little* Hearts of Dayton, Ohio, participates in several athletic activities despite having congenital heart defects. Her mother, Molly, says that three months after Brinly started swimming, her enlarged heart decreased in size.

Molly Barker of Washington Township, Ohio, watched with pride, excitement and anxiety as her daughter, Brinly, competed in her first swim meet. Barker, of Mended *Little* Hearts of Dayton, Ohio, had reason to be nervous. Only two years prior, Brinly had surgery to repair a hole in her heart. Now she was swimming for the WTRC Sharks. Would the meet overstress Brinly's fragile heart?

Many parents of children with congenital heart defects share Barker's worries. What if their kids overdo it? Will they get an infection? Faint? Get hurt?

The American Heart Association and many cardiologists agree: let the kids play.

"We should be promoting physical activity as opposed to restricting it," says Nicholas Madsen, M.D., M.P.H., pediatric cardiologist at the Cincinnati Children's Heart Institute. "Children gain important health benefits with exercise that they would otherwise miss."

The American Heart Association guidelines support Dr. Madsen and other physicians' endorsement of physical activity. An AHA 2013 Scientific Statement says, "There is no evidence regarding whether or not there is a need to restrict recreational physical activity among patients with congenital heart defects, apart from those with rhythm disorders."

Exercise for Healthy Heart Function

Exercise not only helps prevent obesity and other conditions associated with inactivity, but also keeps precious hearts strong. "The more efficient a person's cardiovascular system, the less strain it puts on their heart," says Gerald Marx, M.D., senior associate in Cardiology at Boston Children's Hospital.

> **We should be promoting physical activity as opposed to restricting it.** — Dr. Nicholas Madsen

Photos courtesy of Molly Barker

When he was in kindergarten, Arley Couch would faint if he did too much. After starting physical therapy at Providence St. Peter Hospital, his strength and stamina have improved. Now, at 13, Arley enjoys baseball, golf and running.

Health Benefits OF EXERCISE

The benefits of exercise for children with CHD mirror those of the general population:

- Stronger muscles and bones
- More energy
- Lower risk of diabetes
- Fewer colds
- Lower blood pressure and cholesterol levels
- Improved sleep
- Healthy weight
- Less stress
- Stronger heart and lungs
- Improved concentration

Three months after Brinly started swimming, her enlarged heart decreased in size. Now, two years later, she has a normal size heart. She swims three times a week for 45 minutes. "She can rest if she wants to, but she makes it look easy," says Barker. "She's gone from being the kid that was winded to being one of the faster kids."

Hollee Stanton's son Gabriel has to watch himself during soccer games, but not because of his heart. Born with double outlet right ventricle and other defects, Gabriel had surgery at five and six weeks old to repair his heart. And then his kidneys failed.

Because of kidney damage, Gabriel, now 8 years old, has to closely monitor his hydration. "He has 50% kidney function," says Stanton, who is also a member of Mended *Little* Hearts of Dayton, Ohio. "So if he gets dehydrated, he goes into kidney failure. He wears a device that buzzes to remind him to drink.

Photo courtesy of Angie Brown

He does struggle when it's hot, though, because he doesn't have any reserve."

Despite his limitation, Gabriel plays soccer and other sports pretty much like any active kid. His coach doesn't have to pull him out of a soccer game anymore when he overexerts himself. Gabriel knows when to walk, rest and drink water when he needs to.

With the exception of certain high-risk individuals, Dr. Marx encourages all of his young patients to participate in physical education and exercise. "They should always be allowed to rest," he says. "But they should be allowed to exercise with friends and participate."

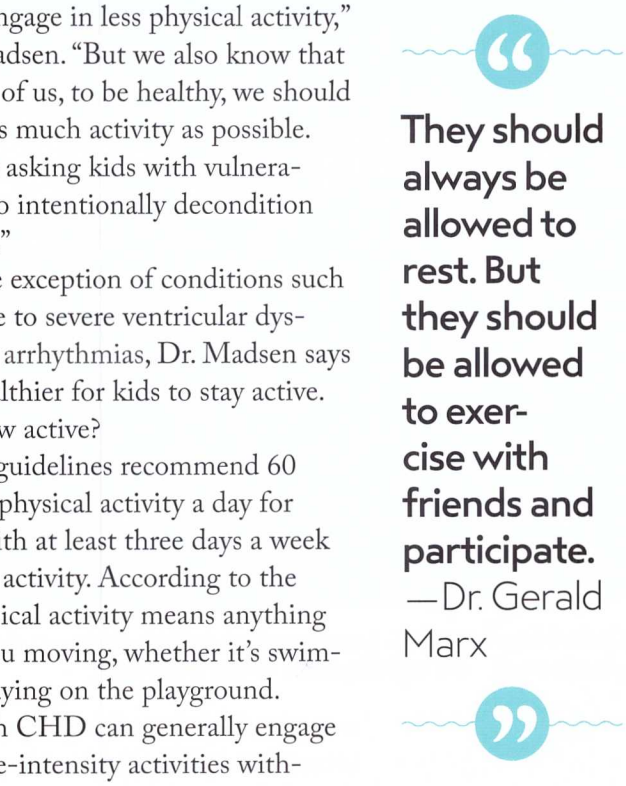
Just How Much Exercise?

Experts agree that avoiding physical activity does more harm than good for CHD patients. "Traditionally, kids with CHD have been told not to stress their hearts, to engage in less physical activity," says Dr. Madsen. "But we also know that for the rest of us, to be healthy, we should engage in as much activity as possible. So we were asking kids with vulnerable hearts to intentionally decondition themselves."

With the exception of conditions such as moderate to severe ventricular dysfunction or arrhythmias, Dr. Madsen says that it's healthier for kids to stay active. But just how active?

Current guidelines recommend 60 minutes of physical activity a day for children, with at least three days a week of vigorous activity. According to the AHA, physical activity means anything that gets you moving, whether it's swimming or playing on the playground.

Kids with CHD can generally engage in moderate-intensity activities without risk. A few AHA-recommended



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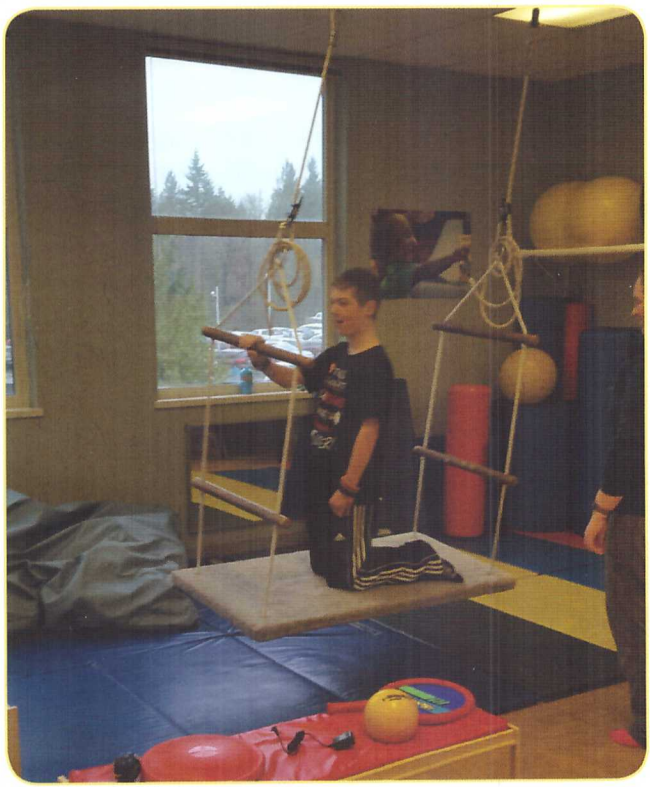

Through rehab, Arley Couch improved from zero to 40 pull-ups in the pool, and from doing no activity to running on the playground and playing sports.

Gabriel Stanton, No. 10, plays soccer and other sports just like any other kid, his mother, Hollee, says. She adds that he knows when to walk, rest and rehydrate when he needs to.

activities include walking, racquet sports, soccer, baseball/softball, table tennis, dancing, yoga, bowling and cricket.

Kids can participate in swimming, bike riding, ice skating or skiing with supervision, unless episodes of fainting are common. "I've had kids participate in high-level baseball, tennis, swimming and basketball," says Dr. Marx.

They can even participate in a running program if "it's not a significant dynamic burden," says Dr. Marx. They may not run at the front of the pack, but they can participate, which is important for confidence-building and social skills. Contact sports, such as football, are not recommended.

In kindergarten, Angie Brown's son Arley Couch would faint if he did too much. Now, at age 13, he likes baseball and golf and wants to run track in junior high. Brown, a member of Mended *Little* Hearts of Puget Sound, credits her son's physical therapy team at Providence St. Peter Hospital in Olympia, Washington, and his cardiology team at Tacoma Mary Bridge Children's Hospital in Tacoma, Washington, for helping Arley get up and moving after a complicated open heart surgery.

Brown pushed Mary Bridge's heart center to develop a rehab program for preteens, an age group commonly overlooked in rehab. The program not only helped Arley rebuild his strength, but also gave him and his mom activity options for Washington's rainy season. "They gave him exercises to do with a stability ball and weights — things I would have never thought of," says Brown.

Through rehab, Arley improved from zero to 40 pull-ups in the pool, and from doing no activity to running on the playground and playing sports. "His heart function is better now than it's ever been in his life," says Brown.

The benefits and risks of exercise vary with every CHD patient. Parents should talk with their child's cardiology team to determine what he or she can do to stay healthy. By focusing on what they can do, rather than what they can't, parents can help their kids find plenty of ways to have fun, stay active and thrive.

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—Angie Brown

Photo courtesy of Hollee Stanton