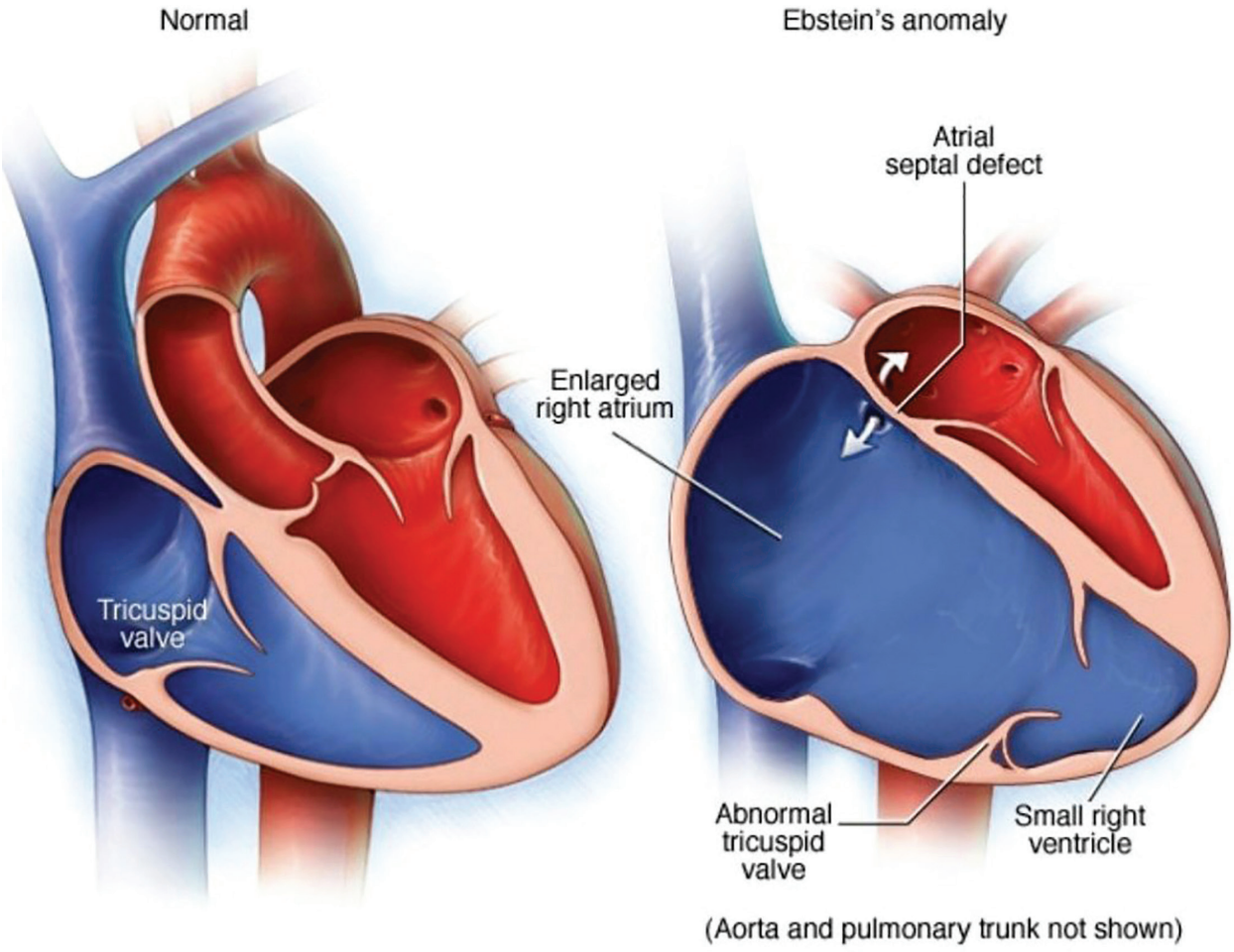
Tinslee Lewis was born with a rare, congenital heart defect known as Ebstein Anomaly.



Ebstein Anomaly
(Thanks to Mayo Clinic)

Babies born with Ebstein Anomaly have a malformed right and atrium and ventricle and misplaced (tricuspid) valves between the right-sided ventricle and atrium. The larger right ventricle can't pump efficiently.

In addition, the blood the right ventricle tries to pump into the lungs leaks/flows/churns (risking blood clots) back into the right atrium, which grows even bigger, with even thicker walls. The ventricle also grows bigger. When the muscle fibers of the chamber walls get stretched apart enough, they are less efficient. (Think of two hands gripping at the fingers. The farther out the grip, palm > 1st joint > fingertips, the less strength and pull on the opposite hand.) (For the geeks: Frank-Starling law.) The lungs aren't efficiently filled with blood, they don't expand, the pressure builds up in them, and efficient exchange of gasses doesn't take place.

In the meantime, the blood backs up in the body, the liver, kidneys, and extremities and eventually the left side of the heart, which can hypertrophy, too.

The enlarged heart puts pressure on the lungs and nearby soft tissue, including the blood vessels coming to the heart.

The combination of leaking high-pressure blood vessels and the body's increasing fluid in order to try to pump what oxygen there is, leads to edema or swelling of the body.

Sometimes, the fetal atrial-septal defect stays open, allowing mixing of the unoxygenated blood from the right, with the oxygenated blood. This malfunction can help, temporarily.

With the high pressure, poor flow, and actual physical damage due to the mass of the heart, none of the organs can function well. Increased activity, stress, and growth will increase the demand for oxygen, kidney & lung function.