Ryan Tran arrived in the U.S. as a Vietnamese refugee in 1982. Separated from his family, he built a life for himself in Seattle, marrying, having two daughters and working a job he loved as a software engineer at Virginia Mason.

Eighteen months ago during Tran's annual checkup, his doctor found elevated liver enzymes in his blood. Follow-up tests revealed that Tran, then 46 years old, had chronic hepatitis B, a potentially fatal liver disease.

"I didn't have any symptoms that suggested anything was wrong with me," Tran said. "I was very active and felt great, yet I had 7.5 million copies of the virus in a single drop of my blood."

Upon diagnosis, Tran learned he was in a high-risk population for contracting hepatitis B. According to data from the U.S. Health and Human Services, roughly 10 percent of foreign-born Asian Americans suffer from chronic hepatitis B infection, a rate 20 times greater than the rest of the U.S. population. For those native to some Asian countries, such as Vietnam, Korea or China, rates are even higher.

In an effort to better understand the disease and find effective treatment, a nationwide clinical trial is under way. The Benaroya Research Institute is one of about a dozen institutions chosen to host the study, due to the high percentage of Asian Pacific Islanders in the Seattle region. Here in King County, nearly 60 percent of pregnant women who test positive for hepatitis B infection are Asian, though they comprise only 13 percent of the population.

Hepatitis B is transmitted via blood and other body fluids, particularly during sexual intercourse or IV drug use. But in Asian countries, the most common transmission occurs unknowingly from mother to baby during childbirth.

"All pregnant women in the U.S. are tested for hepatitis B," said Kim Nguyen, program manager with the Hepatitis B Coalition of Washington. "But for those who are foreign-born, especially in Southeast Asia or Africa where health care is minimal, moms don't get prenatal care."

In the United States, all babies born since the early 1990s have been vaccinated for hepatitis B, but those immigrating here and adults born before the vaccination remain at risk. Getting mothers tested is crucial for keeping hepatitis B infections in check since 90 percent of babies exposed to the virus will go on to develop a chronic infection. In contrast, the majority of people exposed during adulthood develop immunity to the virus, or a temporary acute infection, which the body clears on its own.

For those like Tran, who develop the chronic infection, the virus persists and grows quietly in their bloodstream for years to decades, slowly damaging their liver. Twenty-five percent of those infected are likely to perish from liver disease or cancer.

"Most patients think if they don't have symptoms, they must be fine," said Dr. Kris Kowdley, director of the Center for Liver Disease at Virginia Mason's Benaroya Research Institute. But the liver is a huge organ with a remarkable capacity to withstand damage and still function, he said. "The only way to know you don't have hepatitis B is to be tested."

In line with Centers for Disease Control and Prevention recommendations, King County Department of Health recommends that all high-risk populations be tested for hepatitis B, especially those born in regions with high prevalence of the virus, like Southeast Asia, sub-Saharan Africa and the Mediterranean. Injection drug users and those with multiple sex partners are also at high risk, as well as U.S. natives who live with families from high-prevalence regions. Because hepatitis B is 50 to 100 times more virulent than HIV, sharing household items, such as razors or toothbrushes, can lead to transmission.

Tran made sure his wife and daughters were tested immediately after his diagnosis. When their results came back negative, they got vaccinated.

Despite increases in vaccinations and testing, hepatitis B remains a global concern. Two billion people worldwide have been exposed to the virus, with 600,000 people dying from it every year. In the United States, roughly 1.4 million people are infected, including 20,000 Washington residents.

Currently, two hepatitis B drugs have Food and Drug Administration approval. Tran takes one of them, which he calls "a miracle drug," with minimal side effects. For the past eight months, not a single copy of the virus has been detected in his bloodstream.

According to Kowdley, who is Tran's liver specialist and who is leading the hepatitis B clinical trial at Benaroya, those who get diagnosed and treated early may be cured and can expect to live a normal life span.

Tran expects to do just that, and hopes to be off the medication within a few months. "Those in high-risk populations need to get tested because this disease can kill you," Tran said. "I got very lucky."