

# Exercise may decrease heart drug's effectiveness

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Peter Ruben and his team of researchers have spent years studying why seemingly healthy patients with inherited cardiac arrhythmias can sometimes suddenly die during exercise. (2017, 2016, 2015) His past research has shown that exercising can trigger a perfect storm of events, unmasking an arrhythmia: high heart rate, elevated body temperature, and elevated acid in the blood.

Now the team has dug deeper and discovered that some of these physiological changes accompanying exercise, particularly elevated body temperature and elevated heart rate, might also decrease the ability of Ranolazine to maintain a healthy heart rhythm during exercise.

Ranolazine is a second-line therapeutic agent prescribed for [angina pectoris](#), for which chest pain is the main symptom. It works to improve blood flow to help the heart work more effectively and also has been effective in treating those with some inherited arrhythmias.

Knowing that external triggers can affect drug-channel interaction, Ruben's team was keen to test Ranolazine's efficacy under various physiological states.

They discovered that increased body temperature and [heart rate](#) reduce the potential effectiveness of Ranolazine to exert its anti-arrhythmic effects in one of the most common forms of inherited arrhythmia.

Ruben advises physicians to caution patients who take Ranolazine for

this form of inherited arrhythmia (and perhaps others yet to be tested) that it may work well while the patient is resting, but could lose its effectiveness during exercise. "This is important because exercise can trigger a catastrophic arrhythmia in these patients, and Ranolazine could not be expected to control the arrhythmia in those patients during [exercise](#)." says Ruben.

Provided by Simon Fraser University

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