

# VO2 Max test pushes endurance

The air left my body and my throat went dry. I started to dry heave, but the clear plastic mouthpiece was in my way as I fell against the side of the treadmill.

As a runner, I became curious about my cardiorespiratory endurance capabilities as well as improving the quality of my practices. After several of my fellow marathoners and my instructor participated in the VO2 Max test, I decided to figure out what made them feel like they were going to die.

The VO2 Max test measures the efficiency of oxygen delivered to the muscles during maximal exercise. In other words, I run on a treadmill that consistently increases in incline with a large mask covering my face. I run for as long as I can with a plug on my nose and a tube in my mouth while a computer reads how my body is reacting.

After I started researching the test, I realized that despite the fearful reaction I had from the mention of VO2 Max, it's actually a hidden gem in the back lab in Pershing Building. Anyone can contact Jerry Mayhew, professor of health and exercise science, to take the test.

Other VO2 Max tests cost between \$150 and \$200, according to [www.sport-fitness-advisor.com](http://www.sport-fitness-advisor.com), but Mayhew along with eager health and exercise science students frequently need volunteers and will hook you up for free.

One afternoon I decided to take advantage of this program and sat down with Mayhew to schedule my test. In our chat he took me through the process, what it would feel like, what the results mean and how the test could affect my training. He said that the test essentially causes the participant to hyperventilate, and that point is the participant's maximal endurance level. I left feeling confident I would glide through the test, and while I walked home I set several goals I wanted to accomplish. One of my goals was to be able push myself

as far as I could go and then some. Although not a realistic expectation, I thought it would be a feat of super-human strength if I could beat one of my marathon instructors, such as communication disorders professor Janet Gooch's VO2 Max of 58.3 percent. To put that into perspective, generally anything more than 41 percent is way above the average — when Lance Armstrong took the test, he scored 85 percent, according to [www.sport-fitness-advisor.com](http://www.sport-fitness-advisor.com).

Talking with Mayhew gave me some insight into the opportunities available for students who are interested in learning about basic health concerns and practices. As we walked to the lab, we discussed the skinfold test, which numerous students participate in during the entry level health class. Some students return later in the semester to see the amount of weight they have lost. He also told me that I could come back and take the VO2 test as many times as I wanted. Mayhew said that some of the athletic teams, including women's soccer and cross country, turn it into a competition to see who can last the longest during the test.

Gooch said her experience with the test truly became a mind over matter situation and thinking her advice was very wise, I went into the lab with that mindset. About six minutes into the test, I threw away whatever trick I thought I could use to forget I wanted to die and fell over onto the treadmill. Honestly, I believed that after all of the running and training I have done, the test would not be a problem. I did not understand why everyone I spoke to who has participated in the test had mentioned that their heart felt like it was going to fly out of their chests. The exploding heart wasn't even the worst part. I think losing control of breathing through my nose, having a gigantic mask covering my face and inserting a large mouthpiece contributed to the overwhelming feeling of becoming sick and drowning.



Cassandra McCarty



Sophomore Cassandra McCarty tests her VO2 Max, receiving a score of 43.7 percent. She said despite the pain the test involved, she is going to get tested again before the end of the semester.

My goal of reaching Gooch's test results was unrealistic. I received a 43.7 percent, and although I guess I am a little above average, I would have liked to have been able to run a lot longer on the treadmill.

After I caught my breath, I realized that I did gain some insight from this experience. Although I won't

be running with the cross country girls any time soon, I do admire that they utilize all the benefits the health and exercise science department provides. Despite the fear I felt while I was taking the test, I am upset that I quit at such an early phase. But I guess I have about four weeks to psych myself up for the second time.

# Clinical trial offers new ways to make money

BY EMMA MUELLER  
Staff Reporter

Advancing medicine takes one clinical trial at a time.

Although many people participate in clinical trials for the money, some research subjects receive no compensation. They indirectly help physicians gain information about a disease or drug.

Sophomore Stephen Kueny said he has participated in four clinical trials as a way to earn a little extra cash.

"Basically, there's a lot of different ones you can do, but I always picked them so I would check in on a Friday night, and then I would be done by Sunday evening," Kueny said. "It's always at least two visits."

Kueny has participated in a morphine trial, two heartburn medication trials and a blood pressure medication trial.

"The ones I did were called bio-equivalence testing," Kueny said. "They take the name brand drug versus the generic and

make sure they both stay in your blood for the same amount of time."

Vickie Peterson from Clinical Research of the Ozarks explained that seven to 10 clinical trials are conducted each year at the site.

She said not everyone is eligible to participate in a clinical trial. Some trials require an overnight stay or large amounts of blood being taken from the subject to study the effect of the absorption of the distributed drug.

"Subjects will come in, and they are screened to see if they do indeed qualify for the clinical trial," Peterson said. "The subjects often get a stipend for their time and their travel. It's like going to the doctor and getting paid for it."

Although subjects do receive a stipend for their services at Peterson's site, the subjects in neurologist David Lardizabal's trials do

not receive any compensation. Lardizabal is a neurologist from the Philippines who works at the Northeast Regional Medical Center.

"Sometimes, in the consent form, we will say, 'You may not have any benefit in this study,'" Lardizabal said. "There'll be no compensation in this study because we don't want to have the monetary component because it will cause some conflict in the study."

Lardizabal currently is working on a study of migraine headaches. His trials have included studying anti-seizure medication, tuberculosis, meningitis and epilepsy

patients.

Lardizabal said that before a clinical trial is conducted, the process has to be approved by an ethical review board, such as the International Review Board.

"After you create your hypothesis, you have to do your homework," Lardizabal said. "You have to do a review of literature. You study all the information about the medication, about the drug or the method of imaging. You have to do a lot of homework to defend why you're doing that study or why you need to do that study because there's a lack of information about it."

Lardizabal said that sometimes the study turns out positively and the drug or imaging technique is applied to outside patients. Other times, the drug that is being tested has adverse effects, and therefore the clinical trial is terminated.

He said that overall, clinical trials are important for the advancement of medicine and are conducted through funding.

"It's my love, outside my wife," Lardizabal said. "Doctors have the option to be involved in clinical trials, so that we can help humanity advance in the treatment of diseases. Without clinical trials, I couldn't imagine how we would help our patients."

"Subjects will come in, and they are screened to see if they do indeed qualify for the clinical trial."

Stephen Kueny  
Sophomore

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