

# EXPOSURE



## RESEARCH ON THE RUN

*An undergraduate student's path to publication*

Story by [Fresno State](#)

February 13<sup>th</sup>, 2019

It was three weeks into her freshman year. Emily Burbulys, who studies kinesiology and biology, walked into her professor's office with a brief thought that she would express her interest in research.

That was where her path to publication began.

"My professor offered me the opportunity to work on a research project that I thought I was going to be assisting on," Emily said. "Then he asked me to come up with an idea for a project of my own, so I came up with an original study."

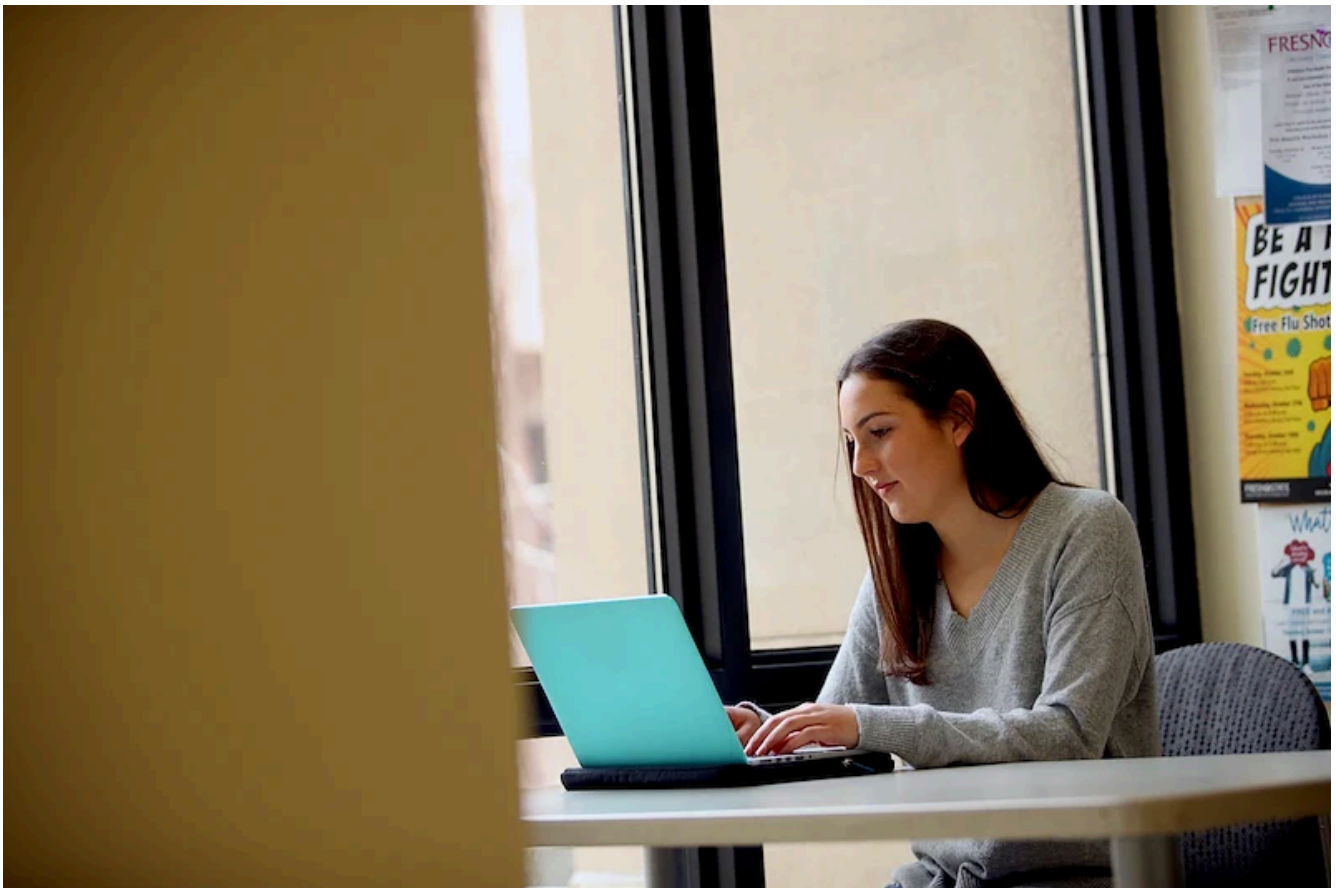
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Emily decided to channel her interests in exercise and medicine into a study about how different athletic surfaces affect people's risk of an ACL injury. She measured the jumps of people on hardwood, concrete, grass and turf surfaces. A camera recorded their movements, capturing how their ankles rolled, which correlated to a score that represented injury risk.

"There have been a number of epidemiological studies that have shown that American football players have a much higher rate of ACL injuries," said Dr. Luke Pryor, Emily's professor. "Yet for soccer players, who typically play on natural grass, we don't necessarily see that same rate... No one's looked at whether that athletic surface type influences a risk factor."



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Leading the original study as a young college student meant that oftentimes, Emily's research assistants would be several years older — already in graduate school.

"Typically students are in their second year of graduate school before they will lead a study," Luke said. "So it is very rare and unique that a student so young would be this dedicated to be able to lead a study and do it well."

Emily completed her study at the end of her sophomore year. Through her research, she found that athletic surfaces did not influence the likelihood of someone receiving an ACL injury or ankle sprain.

Now, as a junior, she is preparing her research article for publication in the Journal of Athletic Training. She also submitted her abstract to present at the National Athletic Training conference in summer 2019.

"I'm naturally a very curious person, so I always have questions going through my head," Emily said. "So for me it's cool to be able to answer any of those questions in a research study."



## NEW TRAILS

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Emily's passion for research hasn't ended now that she is working toward her goal of publication. She is currently the research coordinator for an interdisciplinary study in collaboration with Keiser Corporation, a company that produces and sells pneumatic fitness equipment.

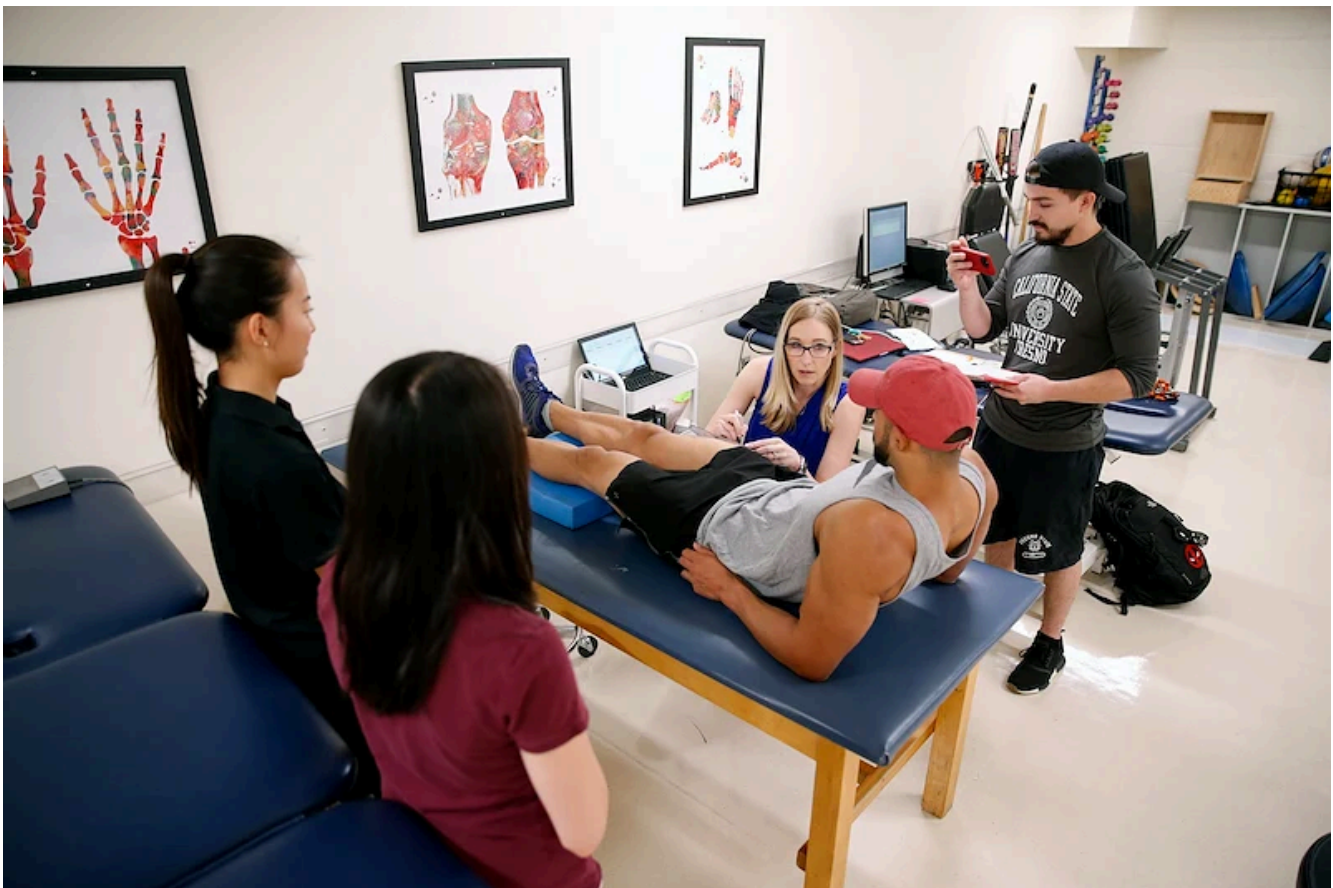
Through this study, Fresno State faculty and students across the Kinesiology and Physical Therapy departments are testing the validity of a Keiser product. Emily's role is to schedule appointments with the subjects and keep the study organized.

"We'd like to see if we can validate this equipment as a way to predict risk of falls," said Dr. Kristen Snyman. Kristen works in the Kinesiology Department and is joined by Physical Therapy Professor Dr. Peggy Trueblood in this study.

Luke added that this equipment will be especially important for the older population, who are more at risk for falls.

"Falls can be particularly catastrophic," Luke said. "The fall itself could cause an injury that could be devastating to the quality of life or result in premature death. So the significance and value of this research is monumental because it affects a population that is at risk."

The Keiser research study is being conducted in two phases over the course of one to two years.



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# PACING HERSELF

Juggling volunteer research and 15 units of coursework is not easy. Time management, Emily said, is key to her success.

She wakes up at around 4:45 a.m. each day to go for a run or to the gym because exercising is her “stress reliever.”

“Exercise is a big part of my life,” she said. “My dad is a firefighter. My mom's a dietician. My mom and dad are very active. So it kind of was just a no brainer for me that I would go into a field that can incorporate medicine and exercise.”

Next, Emily goes to class and research meetings. She said she always has her computer with her so she can respond to research-related emails immediately. She fits in homework whenever she has spare time.

Despite her busy schedule, Emily said she would not trade the experience she is getting at Fresno State for the world. As an undergraduate student, gaining hands-on research experience and leading an original study prepares her for a future in graduate school. After earning her bachelor's degree, Emily is considering becoming a physician's assistant or pursuing a Ph.D.

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“I love Fresno State, love the community here,” Emily said. “I don't feel like I have any limitations put on me. I think that's made it completely worth it.”

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Footnote: *Photos by Cary Edmondson, Story by Esra Hashem — University Brand Strategy and Marketing*

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