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## Dialing in the Numbers

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Notes from the Field

# DIALING IN THE NUMBERS

PROFESSIONAL BIKE RACING TEAM  
SEEKS FURMAN'S ASSISTANCE IN  
MEDICAL TESTING

BY LINDSAY NIEDRINGHAUS '07





## Notes from the Field

**T**he Furman Institute for Running and Scientific Training (FIRST) program is well known in the running world. Led by health sciences professors Scott Murr, Bill Pierce and Randy Hutchison, FIRST provides training assistance based on scientific principles from the professors' research, as well as individual data collected in the FIRST lab. The findings and data from the FIRST program have been cited and referenced in numerous scientific publications and also led to a book entitled "Run Less, Run Faster," which was published by Runner's World (Murr, Pierce and Professor Emeritus Ray Moss co-authored the book).

All ages and skill levels, from novice runners to professionals, have consulted the professors of FIRST for their knowledge and training programs. Murr explains, though, that findings from the FIRST program are applicable across all sports.

"While most of the folks that we test in our Human Performance Lab are runners, we have tested a diverse population of athletes. In addition to runners, we have tested collegiate rowers, ultra-marathoners, physique competitors, competitive kayakers, elite motor-cross cyclists, as well as road cyclists.

"In regards to prolonged exercise, the factors that influence endurance performance are basically the same; it is the environment in which these athletes compete and the contribution of the various factors of performance that

vary," says Murr. "Having participated in endurance events for most (if not all) of our adult lives, Dr. Pierce, Dr. Hutchison and I are able to apply the science of prolonged exercise to not just physiological testing in the lab but also in actual competitive settings."

Recently, professional road cycling team Holowesko|Citadel p/b Arapahoe Resources sought out the FIRST program to undergo medical baseline testing that would inform them of the team makeup and how to best plan for the season ahead. The 16-member team, managed by retired professional cyclist George Hincapie, races on the Professional Continental level, competing in races across the United States as well as the world. The team is a diverse mix of athletes, hailing from as far as Belarus, Colombia, Cuba, Denmark, Switzerland and Latvia. At Furman, each rider participated in Maximum Aerobic Power testing, and they also received DEXA scans, which provided information about rider bone density and body composition.

Kyle Cassas, the cycling team's doctor and sports medicine physician from Steadman Hawkins Clinic of the Carolinas and Greenville Health System, sought out the FIRST program to assist with the team. The team's performance director, retired professional cyclist and Olympic medalist Bobby Julich, also attended the testing to learn from the Furman professors about interpreting the data.

"It's important to gather this baseline data to know more about the health status



Scott Murr, assistant professor of health sciences and FIRST co-founder, explains the incremental cycling test that measures ventilation, oxygen consumption and carbon dioxide production to determine the athlete's maximal aerobic power.

of each rider to provide ongoing care and treatments throughout the year. Gathering this information before the season allows us to not only maximize each athlete's performance, but also to look for ways to reduce injuries during the season," Cassas says.

Adds Julich, "We're incredibly lucky to have this resource right here in Greenville. I'm very thankful for the partnership we have with Furman and everything we'll learn from this testing."

The cyclists weren't the only ones who learned something those few days. Also assisting Murr and Hutchison

in the lab were Furman students **Frank Lara '18**, **Mason Coppi '20** and **Jake Ogden '20**.

"I've been involved with the FIRST lab since before the start of my freshman year when I arrived on campus and was tested myself," says Lara. "Through classes and research opportunities at the FIRST lab, I've become more and more interested in exercise physiology and biomechanics. This experience is paving the way for my postgraduation aspirations, as well as my own personal improvement as an athlete." ●