

Space-Age Technology

The HEAT Institute is dedicated to conducting cutting-edge research using space-age technologies involving thermoregulation and fluid and electrolyte balance in athletes at risk of suffering heat-related illness. The HEAT Institute has partnered with companies such as VivoMetrics (Life Shirt) and HQI (CorTemp) to explore innovative ways to study physiological parameters in collision sport athletes during actual on-field and on-ice activities.

Prior to these technological developments, studies were limited to the laboratory environment and experimental protocols. Most important, data from these investigations does not usually provide accurate insight into "real-life" athletic situations.



CorTemp recorder and ingestible temperature sensors (HQI, Palmetto FL)



WCU football player Osagie Osunde wearing the LifeShirt (VivoMetrics, Ventura CA)

About West Chester University

A comprehensive, multipurpose institution, West Chester University of Pennsylvania offers high-quality undergraduate and graduate degree programs. As the second largest member of the State System of Higher Education, West Chester offers a full and rewarding educational experience as well as reasonable tuition; the Commonwealth of Pennsylvania provides more than \$5,000 toward the cost of each Pennsylvania student who attends. With a rich heritage dating back to the 19th century, West Chester University was founded in 1871 as West Chester Normal School. Today, more than 12,900 graduate and undergraduate students, along with 1,500 faculty and staff, study and work on the picturesque, 402-acre campus situated in and around the Borough of West Chester.

Strategically located at the center of the mid-Atlantic corridor between New York City and Washington, D.C., West Chester is convenient to major cultural and commercial institutions and recreational activities. West Chester is just 25 miles west of Philadelphia and 17 miles north of Wilmington.

HEAT INSTITUTE

of
West Chester University of Pennsylvania

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HEAT INSTITUTE

Heat illness Evaluation Avoidance and Treatment

*Providing Athletes with
Independent and Unbiased
Information about
Thermoregulation and
Fluid and Electrolyte
Balance*



HELPING ATHLETES
THROUGH RESEARCH



EXPECT EXCELLENCE

WCU

HEAT Institute Mission:

The HEAT Institute is dedicated to conducting independent research related to the evaluation, avoidance and treatment of heat-related illness in athletes. We are committed to raising funds from sources not associated with a corporation that could benefit from this on-going research. The HEAT Institute is interested in collaborating with individuals and private foundations seeking to support and promote independent and unbiased research on thermoregulation and body fluid balance in athletes at risk for heat illness.



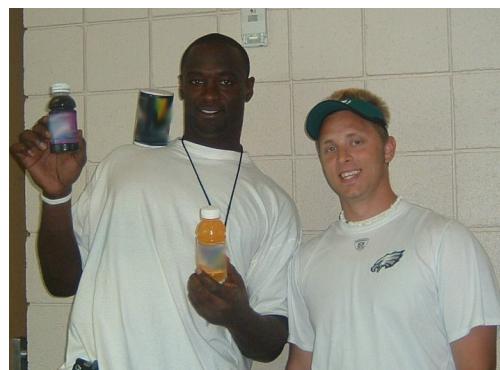
Heat Institute biochemistry laboratory

Our research is published in peer-reviewed journals such as the *American Journal of Sports Medicine*, *British Journal of Sports Medicine*, *Journal of Athletic Training and Medicine and Science in Sports and Exercise*. Our numerous studies involve athletes who routinely practice and play in environmentally stressful conditions and include investigations into the following:

- core temperature responses
- sweat rates and fluid turnover
- sweat sodium losses
- hypovolemic hyponatremia
- fluid and electrolyte replacement
- mechanisms implicated in exercise-associated muscle cramping

NATIONAL ATTENTION ON RESEARCH FOR ATHLETES' HEALTH

Dr. Sandra Fowkes Godek, the director of the HEAT Institute, is a professor of sports medicine at West Chester University of Pennsylvania. Her research on thermoregulation, hydration and electrolyte replacement in football players has attracted national attention. After the heat stroke death of Minnesota Vikings player Cory Stringer, Dr. Fowkes Godek appeared on MSNBC as an expert on heat illness in football players and was interviewed by Brian Williams. CBS news correspondent Byron Pitts visited the West Chester University campus to film a story about the silicone-encased internal body temperature sensors that members of the HEAT Institute use in field research. When Byron Pitts asked Philadelphia Eagles lineman Hollis Thomas how significant he thought the sensors were for football players like him, the lineman answered, "Keep us from dying."



Jevon Kearse of the Philadelphia Eagles with Jason Kopeck, WCU graduate assistant.

STUDIES WITH COLLEGE AND PROFESSIONAL FOOTBALL PLAYERS

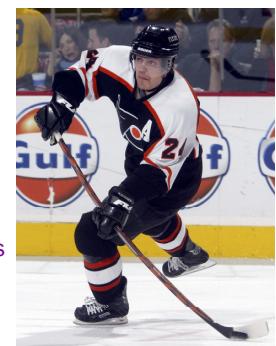
The HEAT Institute has received grants from NFL Charities to compare intravenous versus oral rehydration in football players, and from the NCAA to investigate acclimatization in players prior to and after changes in NCAA legislation for pre-season football. Dr. Fowkes Godek has secured funding for and completed extensive data

collections with the Philadelphia Eagles professional football team during its 2003 - 2006 pre-season training camps. Now, after collecting pilot data with the Eagles and Minnesota Vikings during the 2006 pre-season, the HEAT Institute is initiating a multi-site NFL study to investigate core temperature and heat illness responses in football players practicing in different environmental conditions. The HEAT Institute is currently working with Troy Vincent, a former Philadelphia Eagles player and current president of the NFL Players Association.

STUDIES WITH PROFESSIONAL ICE HOCKEY PLAYERS

Members of the HEAT Institute are currently working with the Philadelphia Flyers organization. They completed a two-week series of data collections with the ice hockey players during their pre-season training camp in 2006, including the collection of core-temperature and sweat-rate data during a pre-season game. As with the on-going investigations in professional football players, this is the first such research in the world involving thermoregulation and electrolyte balance in professional ice hockey players.

The HEAT Institute has continued with numerous investigations during the 2006 -2007 NHL season and currently the research has expanded to include the use of the VivoMetric's LifeShirt technology.



Sami Kapanen of the Philadelphia Flyers

HEAT Institute

The newly created HEAT (Heat Illness Evaluation Avoidance and Treatment) Institute, housed at West Chester University, supports nationally recognized independent research on heat illness prevention, evaluation, analysis and treatment.

