NorthShore University HealthSystem researchers are studying the link between obesity and other metabolic disorders to prostate cancer risk, progression and response to therapy.

By Barb Hailey

Losing weight through proper diet and exercise has long been touted as a key to good health. Now, physicians and scientists at NorthShore University HealthSystem (NorthShore) are exploring an even more compelling reason to maintain a healthy weight—prevention of and improved treatment for prostate cancer.

NorthShore has established a Metabolic Core Facility in response to recent evidence linking obesity and other metabolic disorders to prostate cancer risk, progression and response to therapy. Charles Brendler, M.D., and Susan Crawford, D.O., Director of the Metabolic Core Facility at the NorthShore Research Institute, are leading the Metabolic Core Facility’s efforts.

“We previously thought that fat cells were inert, but now we know that they actively participate in tumor progression,” Dr. Crawford said. “We think that there is a cross talk between tumor cells, fat cells and blood vessels, which nourish the tumor. As a result, these cells contribute to the overall microenvironment and determine whether a tumor remains small, or grows and spreads to other areas of the body.”

According to Dr. Crawford, early clues suggest that fat cells secrete molecules that directly promote tumor growth. It is also possible that circulating factors in the blood can provide a chemical fingerprint or marker of a patient’s metabolism, thus alerting a physician to the presence of disease before it becomes clinically detectable. Researchers at the Metabolic Core Facility are looking at profiles of what fat cells are producing in the bloodstream, and comparing these to what blood vessels and tumors are making.

“Through our research, I am hoping we can define metabolic profiles for various tumors to assist clinicians in triaging high-risk versus low-risk patients, even prior to the onset of prostate cancer,” Dr. Crawford said.

She says scientific data are emerging linking obesity to other hormone-sensitive tumors like breast and pancreatic cancer. “As scientists gain more information about metabolism, cancer risk and tumor progression, current research points to a factor within our reach—weight,” Dr. Crawford said. Individuals can play a role in mitigating some risk factors through healthy diet and exercise.

Research at NorthShore’s Metabolic Core Facility is being supported in part through external funding, such as from the National Institutes of Health (NIH) and philanthropic support from individuals. For more information on supporting the Facility with a philanthropic gift, contact John Hanson, Ph.D., Director of Philanthropy, NorthShore Foundation, (847) 492-5700 (Ext. 1264).