

MURDOCK Study Milestones

Our progress since 2008. Visit www.murdock-study.org



Growth and Achievement

- More than 12,000 participants and nearly 450,000 biological samples
- Two locations: 5,000-square-foot clinical office on the North Carolina Research Campus and a data management office in downtown Kannapolis
- Studies: Multiple sclerosis, type 2 diabetes, healthy aging, prostate cancer, memory health and cognition, severe acne, centenarians, use of electronic health records, and more. Ongoing recruitment for many.
- Proposals for new studies: COPD, diabetes, obesity, chronic kidney disease, atrial fibrillation, cognitive impairment, Alzheimer's disease, nutrition, smoking cessation, and more.
- More than 30 published papers. More than 40 presentations at national conferences and meetings.

Use of MURDOCK Study Samples and Study Findings

- **Multiple Sclerosis** study team has analyzed hundreds of samples to identify biomarkers or "signals" that can better predict the onset and progression of MS.
- **Centenarian** study sequenced whole genomes of 19 participants at least 100 years old and found no variations in their genes that influence longevity.
- UNC Nutrition Research Institute on the NC Research Campus used 150 samples in the **Male Fertility Study** to help understand whether a nutrient in foods like beets and spinach can improve sperm function in certain men.
- Duke Cancer Institute will use more than 600 samples to help understand why African American men more frequently have a more aggressive form of **prostate cancer**.
- Nearly 1,500 samples from participants ages 55+ in the Memory and Cognitive Health Study are being analyzed for genetic variations. The information will bolster data being collected for research on **memory health, like Alzheimer's disease**.
- Healthy Aging Study is analyzing about 800 samples to study biomarkers of **physical function**.
- Studies of **epilepsy** and **schizophrenia**, as well as **drug-induced liver injuries** and **hepatitis**, have used hundreds of samples, resulting in better understanding of these diseases and two publications.
- Samples are often used as **controls**. A control is a sample from a healthy person used to compare variables like age, sex, race, and ethnicity. Enrolling healthy people, as well as sick people, enables researchers to gather accurate information, draw reliable conclusions, and understand diseases and treatments.
- Discovery of a gene that can predict which patients with **hepatitis C** will respond to a certain treatment. That led to development of a lab test to determine a patient's genetic profile and new guidelines by the American Association for the Study of Liver Diseases for physicians.
- Discovery of new biomarkers to diagnose and predict **osteoarthritis** in the knee using X-ray image analysis. The study was the first biomarker to show specificity for a particular joint and has led to additional research studies.
- Development of a **simplified informed consent form** used by the MURDOCK Study and other biobanks that store biological samples.
- Researchers interviewed MURDOCK Study participants and non-participants to figure out why people participate in clinical research. They found that participants had a high level of trust in the MURDOCK Study and Duke University staff, while expressing few fears about privacy or data security. People who enrolled were motivated to join because of altruism — wanting to advance scientific research and improve the health of their community.

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