

Louisiana Lung Cancer Study Newsletter



School of Medicine
Department of Genetics

LSU Study Updates

We at LSUHSC are taking a comprehensive approach to identifying the gene(s) for familial lung cancer. The network of hospital collaborations and assistance from physicians and genetic counselors are helping us to make the large stride towards disease gene identification. Once we obtain the clinical information and biological samples, we perform genetic analyses using the advanced technologies of next generation sequencing. We take a two-pronged approach to detect any changes inherited within the families. We and our GELCC team work on detecting point mutation, and at LSUHSC, graduate students Dinh-Van Tran and Kirsten Termine work on identifying structural variation in genes, the deletion and/or duplication of which may contribute towards lung cancer disease expression. Using these two strategies in conjunction with other advanced analyses, we are hopeful that we will be able to find the gene(s) of interest that someday will act as biomarkers for prevention, early diagnosis, and treatment of lung cancer. We highly appreciate the team work! Thank you to all the participating families!

There is no “I” in “TEAM” or “LUNG CANCER”

Greetings from the Lung Cancer Study’s Principal Investigator, Diptasri Mandal, PhD and Research Associate, Angelle Bencaz, MSPH. We are located at Louisiana State University Health Sciences Center in New Orleans and belong to a group of researchers nationwide known as the Genetic Epidemiology of Lung Cancer Consortium (GELCC). Please join us as we say goodbye to Jessica Chambliss, MS, CRC who has been a part of the study team for six years as a Research Associate. We wish her all the best in her future endeavors and appreciate the work she has done because, as we all know, there is no “I” in team.

What’s New in the News of Lung Cancer?

- ◆ Various genes have been identified that contribute to the progression of lung cancer, such as KRAS, EGFR, MET, TP53, KEAP1, BRAF, PI3K, CUL3, ATM, and ALK. Adjuvant therapies may be a treatment option for certain gene mutations found through genomic testing on one’s lung cancer tumor.
- ◆ Researchers have developed a blood test, or liquid biopsy, that can detect the presence of eight common cancers including lung cancer. One such biopsy called CancerSEEK (cancerseek.net) is less invasive than other biopsies and can be performed prior to even knowing that a cancer may be present, thus allowing for an early diagnosis which is key for cancer prognosis. Also, researchers at the University of Michigan have been investigating how cancer cells taken from a blood test may be able to predict the prognosis of early-stage lung cancer (*Cancer Research*, 2017; DOI: 10.1158/0008-5472.CAN-16-2072). Furthermore, the FDA recently approved a liquid biopsy test, the cobas EGFR Mutation Test v2 for non-small cell lung cancer, that can detect certain EGFR mutations.
- ◆ You may have heard of secondhand smoke, but did you know that there is such a thing as thirdhand? Researchers at the Lawrence Berkeley National Laboratory have shown that thirdhand smoke exposure (residue left behind long after a cigarette has been extinguished) increases lung cancer in young mice. Biological changes were found in these mice when exposed to thirdhand smoke. Further studies may reveal how thirdhand smoke affects infants and young children as they are likely to crawl on and have contact with these surfaces (*New England Journal of Medicine*, 2018; DOI: 10.1056/NEJMp1802256).
- ◆ Advancement has been made in surgery for lung cancer with the use of video-assisted thoracoscopic surgery (VATS) that is minimally invasive. VATS is used to treat lung cancer in its early stages and is not meant for everyone. Robotic surgery has also become available for certain patients, allowing for 3D view of the operation (*Nursing*, 2014; DOI: 10.1097/01.NURSE/0000441877.57254.95).
- ◆ To learn what discoveries researchers are predicting for 2018, visit <http://blog.aacr.org/experts-forecast-cancer-research-and-treatment-advances-in-2018/> or read the American Association for Cancer Research’s blog “Experts Forecast Cancer Research and Treatment Advances in 2018”.



If you know someone who has been diagnosed with lung cancer, please share our study information with them. And if you would like to get in touch with us, please give us a call at our toll-free number **1-888-720-7757**, email us at LungCaStudy@lsuhsc.edu, or visit our website at <http://www.medschool.lsu.edu/lungcancer> for more information and to fill out our **Study Participation Form**.

Why Participate in Research?

Are there benefits to participating in research?

Not everyone will benefit immediately from participating in the Lung Cancer Study. However, your participation will be of great benefit to future generations and to the medical community.

What is an IRB?

An IRB, or Institutional Review Board, is a group of scientists and non-scientists who thoroughly review proposed research studies in order to protect the rights, privacy, and wellbeing of all study participants. The IRB monitors every study to ensure that all the laws and regulations are being carefully followed. We have received IRB approval from LSU Health Sciences Center and are fully HIPAA compliant.

What kind of procedures are involved in a research study?

Different studies require different protocols. For this study, you will be asked to answer a few questions via

telephone, email, or snail mail to determine your eligibility to participate. If eligible, you will then be asked to review and sign the study's informed consent forms, and complete two questionnaires related to environmental risk factors. We also ask for a one-time donation of a blood and/or saliva sample for genetic analyses. In some cases, you will be asked to complete an additional questionnaire that we would use to construct your family pedigree.

Will I be given my gene test results?

At present, we are in the discovery phase of the research study. We are still collecting data to help us understand which genes are associated with lung cancer. Individual findings or results are not available at this time.

What is an informed consent form?

It is a form that explains the study details along with the associated risks, benefits, and

procedures. Potential participants should read this form before deciding to enroll into a study. By signing an informed consent form, you are giving your consent to participate in the study.

Who should I contact if I want to participate in the LSU Lung Cancer Study?

You can contact us by phone, email, or via our website, the details of which may be found at the bottom of page one of this newsletter.

We want to thank everyone who has participated in the study. We also encourage participation from other family members of individuals who had previously enrolled having multiple cases of lung cancer in the family. The more family members enrolled, the greater the potential for the lung cancer genes to be discovered. So please, share our study information with those relatives who may be interested in joining our study. Please contact us to see if your participation would be helpful.

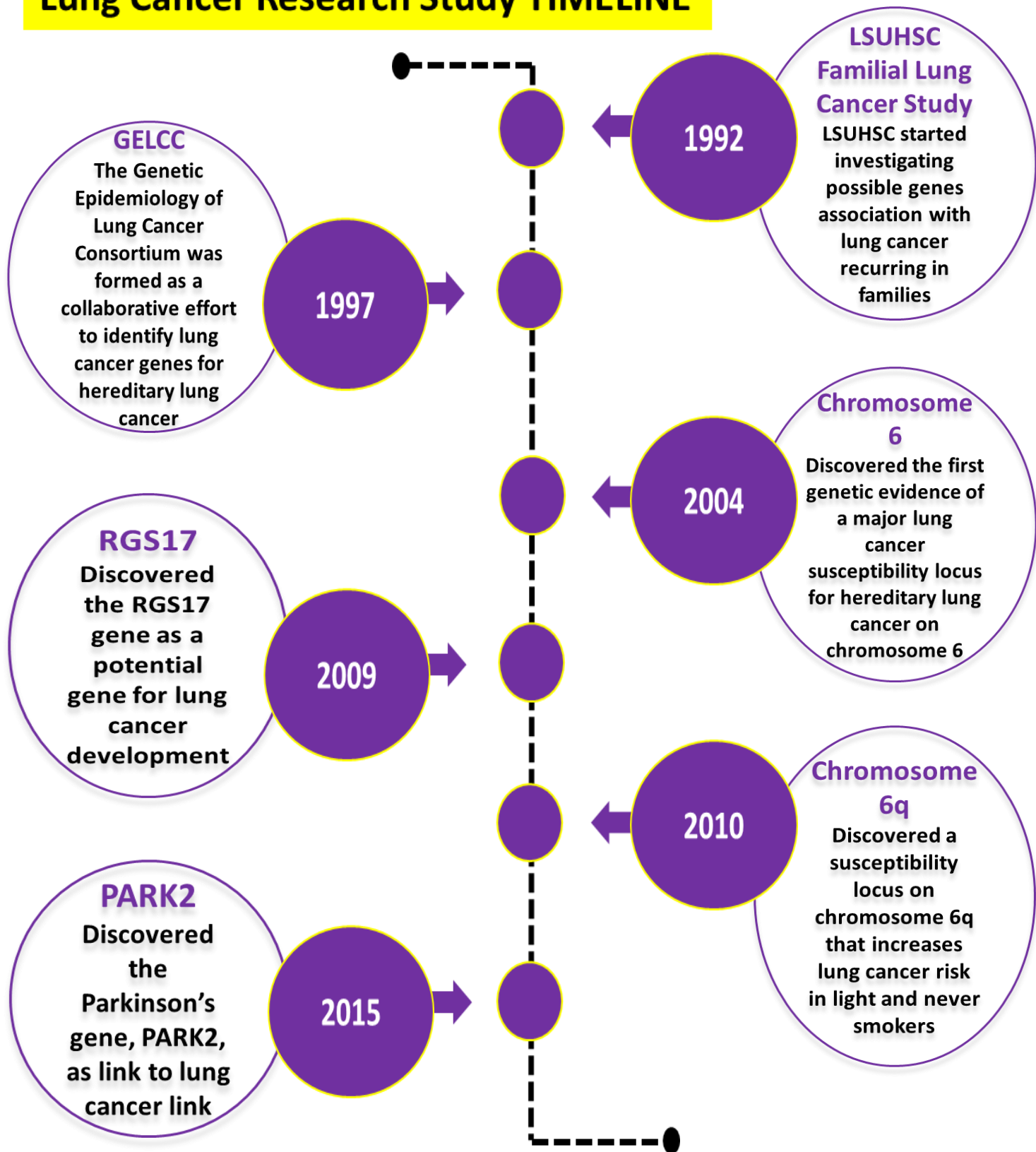
"We want to thank everyone who has participated in the LSU Lung Cancer Study."

The Role of Genetic Counseling in Research

With the advancement of genomic technologies, physicians are using genomics to treat their patients effectively and more efficiently than ever. Presently, for lung cancer, there are certain gene panels that are available to administer targeted therapy, meaning if patients have changes in DNA for the genes listed on the panel, patients will be given therapy targeting that specific change in DNA to stop further progression of the cancer. The involvement of genetic counselors is becoming an essential part of this type of treatment regimen and also for those who have multiple relatives affected with lung cancer.

Our Lung Cancer Study collaborates with genetic counselors nationwide. After patients are referred to the genetic counselors by their physicians, and detailed information about family history is obtained, the genetic counselors provide information about our study to the patients. Through counseling and knowing that family history for cancer is a major risk factor for their future generations, patients with lung cancer express interest in participating in our study. We are thankful to the genetic counselors for their time and sincere efforts in bringing those patients in touch with us. Our study may contribute to early detection, diagnosis, and prevention of lung cancer in the future and is only possible through ongoing collaborations with physicians, genetic counselors, patients and their families, as well as scientists.

Lung Cancer Research Study TIMELINE



FUTURE: More effective personalized treatment for lung cancer

The Louisiana Lung Cancer Study Newsletter

The Lung Cancer Study is part of the Genetic Epidemiology of Lung Cancer Consortium (GELCC), that includes the following members:

- Baylor College of Medicine
- Harvard School of Public Health
- Karmanos Cancer Center
- Mayo Clinic and Foundation
- National Human Genome Research Institute, National Institutes of Health (NIH)
- University of Cincinnati
- University of Toledo Medical Center
- **LSU Health Sciences Center—New Orleans**



*Our local network of collaborators:

- Abbeville General Hospital
- Abrom Kaplan Memorial Hospital
- Acadia—St. Landry Hospital
- Acadian Medical Center
- Acadian General Hospital
- Bunkie General Hospital
- Dauterive Hospital
- Franklin Foundation Hospital
- Iberia Medical Center
- Lady of the Sea General Hospital
- Lafayette General Medical Center
- LSU Lallie Kemp Regional Medical Center
- Interim LSU Hospital—New Orleans
- Mercy Regional Medical Center
- Opelousas General Hospital
- Our Lady of Lourdes Medical Center
- Pointe Coupe General Hospital
- Prevost Memorial Hospital
- Regional Medical Center of Acadiana
- ReliaPath, LLC
- St. Charles Parish Hospital
- St. Helena Parish Hospital
- St. James Parish Hospital
- St. Landry Extended Care
- St. Martin Hospital
- St. Tammany Parish Hospital
- Savoy Medical Center
- Southpark Community Hospital
- Teche Regional Medical Center
- Thibodaux Cancer Care Hospital
- Washington—St. Tammy Medical Center
- Reliapath LLC
- Louisiana Tumor Registry

LSU Health
NEW ORLEANS

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