LSU Study Updates

The first evidence of a lung cancer gene was reported by our lung cancer research group, in collaboration with the Genetic Epidemiology of Lung Cancer Consortium (GELCC)*, within a region on chromosome 6 (Am J Hum Gen, 2004). As we have shared before, we discovered the genes RSG17 (Clin Cancer Res, 2009) and PARK2 (Am J Hum Gen, 2015) within that region associated with an increased incidence of lung cancer in a small number of families. The genes discovered to date, however, explain only a small portion of the risk of lung cancer, and not all of the causal genes for lung cancer have yet been identified for the majority of the high-risk families with clustering of multiple lung cancer cases. To aid us in advancing our search for these other genes, we are presently performing sequencing in our previously collected familial lung cancer pedigrees and are also expanding our study’s eligibility criteria which will in turn expand our potential to unveiling other genes that play a role in the development of lung cancer (see page two for more details).

*GELCC is the only group in the world that studies lung cancer in high-risk families with multiple affected lung cancer cases.

New in the News of Lung Cancer: A Quick Look

- Researchers at The University of Texas MD Anderson Cancer Center are working on a personalized assessment tool to better predict the risks of developing lung cancer in never and light smokers (Scientific Reports, 2016; 6:36482). This may prove to be beneficial as recent studies have reported an increase in lung cancer among nonsmokers in the U.S. (Proportion of Never-Smoker Non-Small Cell Lung Cancer Patients at Three Diverse Institutions. J Natl Cancer Inst, 2017).

- Immunotherapy is a promising field of research that is changing the treatment of lung cancer for the better. Some studies are looking at standard lung cancer treatments, like surgery, radiation therapy or chemotherapy, in combination with immunotherapies, which could be a potential game changer for individuals undergoing lung cancer treatment. Lung cancer patients have more treatment options than they ever did before, especially since new breakthroughs for immunotherapy are occurring (Immune-based Therapies for Non-small Cell Lung Cancer. Anticancer Res, 2017).

- Research on precision medicine is advancing the treatment of non-small cell lung cancer (NSCLC) by providing targeted therapy. In recent months, several new drugs have been approved by the FDA (U.S. Food and Drug Administration) for specific types of NSCLC. Visit FDA.gov for a complete list of approved pharmaceuticals.

If you know someone who has been diagnosed with lung cancer, please share our research study information with them. If you would like to get in touch with us, please contact us by using our toll-free number 1-888-720-7757, emailing us at LungCaStudy@lsuhsc.edu, or visiting our website at http://www.medschool.lsu.edu/lungcancer for more information and to fill out our “Study Participation Form”.

Who Are We? We Are The Lung Team!

Some of you may know us already, and some of you may not. We are the Louisiana Lung Cancer Research Study Team, better known as “The Lung Cancer Study”. We are a long-term NIH-funded study located in the School of Medicine’s Genetics Department at Louisiana State University Health Sciences Center in New Orleans (LSUHSC-NO).

- Dipatsri Mandal, PhD, Principal Investigator
- Angelle Bencaz, MSPH, Co-Investigator
- Jessica Chambliss, MS, CRC, Co-Investigator

We enroll families not just from New Orleans, but also from all over the United States. New Orleans is known as “The Big Easy” and here we try our very best to make enrollment as easy as possible for all of our families.
The Lung Cancer Study has been applying an advanced technology called whole exome sequencing (WES) to examine various genes across families that have at least two or more relatives who have been diagnosed with lung cancer, for the purposes of identifying possible genetic mutations (changes in DNA) that may contribute to the development of lung cancer. This modern analytical tool, WES, is known as next-generation sequencing and allows us to detect genetic variants such as mutations and copy number variants (CNVs). We may not know all of the genetic variants linked to lung cancer at this present time; however, what we do know for certain is that there are many more unknown genetic variants still to be found. CNVs are deletions or duplications of parts of a chromosome (long strands of DNA) where genes can be found and that may increase risk factors for certain hereditary cancers. CNVs have been linked with many different cancers. Think of these CNVs as error messages that change the gene’s instructions, and this change, or error message, may lead to the development of cancer. We expect great knowledge to come from these genetic variants and CNV exploration endeavor with the help of WES technology. We will be able to identify the genes that are transmitted through the generations of each family. Identification of these genes can lead to better and cost-effective screening, prevention, and personalized treatment in individuals who are at the highest risk of lung cancer.

*We would like to express our sincere gratitude to all of you who have assisted us on this journey, by participating in the study, and without whom none of this would have been possible.

Physicians Corner

We want to take this opportunity to thank the physicians who have referred patients and the hospital collaborators who have contributed to our study. If you would like to refer potential participants to the study, or receive study pamphlets for distribution or display, please contact us by phone (1-888-720-7757) or via email (LungCaStudy@lsuhsc.edu). We believe that making our study information more available to lung cancer patients and their families may help us to understand the genetics of lung cancer. Also, hospitals and clinics that opt to join our study surveillance network will be in compliance with the standards and accreditations of the Commission on Cancer (CoC). We help those that collaborate earn and stay CoC accredited. If you would like to join our surveillance network, you can get in touch with us using the contact information given above.

Early Onset Lung Cancer

To aid us in advancing our search for the genes that play a role in the development of lung cancer, we recently expanded our study eligibility criteria by beginning to enroll individuals who were diagnosed with lung cancer at an early age (35 years of age or younger), regardless of whether the individual has a family history of lung cancer. Lung cancer that is diagnosed at age 35 or younger is classified as “early onset lung cancer” (EOLC). EOLC strongly suggests a genetic predisposition and familial aggregation of certain cancers despite an individual’s lack of a family history (of lung cancer) at the time of his or her diagnosis. We are now enrolling EOLC cases to determine if there are any major gene mutations in these individuals that could lead us to potential therapeutic strategies in the future.
## 2017 Health & Wellness Calendar

### JANUARY

1
A HAPPY NEW YEAR

1-31  National Radon Action Month

1-31  National Blood Donor Month

1  Global Family Day

2  LSUHSC is back from the Holidays

12  Martin Luther King, Jr. Day

16  National Certified Nurse Anesthetists Week

22-28

### FEBRUARY

1-28  National Cancer Prevention Month

1-28  Wise Health Care Consumer Month

1-28  National Heart Month

1-28  National Senior Independence Month

4  World Cancer Day

17  National Caregivers Day

22  World Thinking Day

28  Mardi Gras, LSUHSC Closed

### MARCH

1-31  National Nutrition & Health Month

1-31  March To Health Month

6-12  National Pulmonary Rehabilitation Week

12  “Spring Forward” Daylight Saving Time

12-18  Patient Safety Awareness Week

15  Kick Butts Day March

24  World Tuberculosis (TB) Day

30  National Doctor’s Day

### APRIL

1-30  National Cancer Control Month

1-7  Global Asbestos Awareness Week

3-9  National Public Health Week

7  World Health Day

11  World Parkinson’s Day

11-17  National Minority Cancer Awareness Week

25  World DNA Day

28  World Day for Safety & Health at Work

### MAY

1-31  National Cancer Research Month

1-31  Asthma & Allergy Awareness Month

1-31  American Lung Association’s Breath Easy Month

2  World Asthma Day

6-12  National Nurses Week

12  International Nurses Day

14-20  National Women’s Health Week

31  World No Tobacco Day

### JUNE

1-30  National Cancer Survivor Month

1-30  Cancer Immunotherapy Month

1-30  Alzheimer’s & Brain Awareness Month

5  National Cancer Survivors Day

8  World Brain Tumor Day

12-18  National Men’s Health Week

14  World Blood Donor Day

17  National Eat Your Vegetables Day

### JULY

1-31  National Social Wellness Month

1-31  Fireworks Safety Month

1-31  UV Safety Month

1-31  National Park & Recreation Month

4  Independence Day

11  World Population Day

30  International Day of Friendship

### AUGUST

1-31  National Immunization Awareness Month

1-31  National Water Quality Month

1-31  Family Fun Month

1-31  Back To School Month

1  WORLD LUNG CANCER DAY

5  American Family Day

13-19  National Health Center Week

21-25  National Safe at Home Week

### SEPTEMBER

1-30  Fruits & Veggies More Matters Month

1-6  World Asthma Week

15  Take A Loved One to the Doctor Day

20-28  Active Aging Week

21  World Alzheimer’s Day

25  National Research Administrator Day

26  Mesothelioma Awareness Day

26  Family Health & Fitness Day

### OCTOBER

1-31  Healthy Lung Month

1-31  National “Talk About Your Meds” Month

1-31  Employee Wellness Month

1  International Day of Older Persons

10  World Mental Health Day

19-25  National Respiratory Care Week

20  World Statistics Day

25  National Lung Health Day

### NOVEMBER

1-30  LUNG CANCER AWARENESS MONTH

1-30  COPD Awareness Month

1-30  National Family Caregivers Month

5  “Fall Back” Daylight Saving Time

17  LUNG FORCE Giving Day

17  INTERNATIONAL LUNG CANCER AWARENESS DAY

20  Great American Smoke-Out Day

27  National Family History Day

### DECEMBER

1-31  National Awareness Month of Awareness Months

1-31  Universal & Human Rights Month

3  Internationals Day of People with Disabilities

5  International Volunteer Day

10  International Human Rights Day

25-29  LSUHSC Closed for the Holidays

29  New Year’s Resolutions for Health

31  New Year’s Eve
The Louisiana Lung Cancer Study Newsletter

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

- Dartmouth-Hitchcock Norris Cotton Cancer Center
- 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 Medical Center
- 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
- 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
- University Medical Center of New Orleans
- Washington-St. Tammy Medical Center
- Louisiana Tumor Registry

Funded by the National Human Genome Research Institute, National Institutes of Health

LSU Health
NEW ORLEANS

School of Medicine
Department of Genetics
533 Bolivar Street
New Orleans, LA 70112