

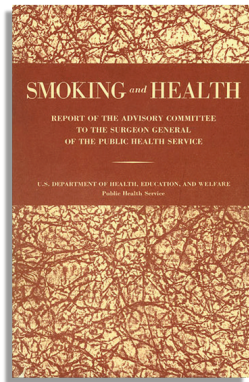


## Newsletter of the Survivorship, Outcomes And Risk Program at MSK

### Five Decades of Tobacco Research, Control and Public Awareness

#### Surgeon General's 1964 Report Established Link Between Smoking and Disease

This year marks the 50th anniversary of a landmark in cancer control and public health. On January 11, 1964, Surgeon General Luther Terry released the first national report on smoking and health. Terry and his advisors



concluded that smoking was a cause of lung cancer and laryngeal cancer in men; was probably a cause of cancer in women; and was the most important cause of chronic bronchitis.

The 1964 Surgeon General's report was the first in a series that publicized the effects of tobacco use on health. Later reports described the influence of smoking on other cancers – notably oral cancer and cancers of the esophagus, bladder,

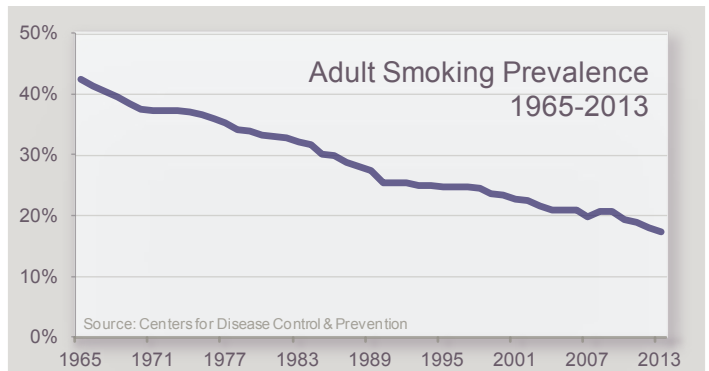
kidneys and pancreas – as well as heart disease, vascular disease, pulmonary disease, peptic ulcers, low birthweight and neonatal mortality.

The 1964 report prompted federal legislation to restrict tobacco marketing and sales. Congress passed the Federal Cigarette Labeling and Advertising Act in 1965, requiring health warnings on cigarette packages and banning cigarette advertisements in broadcast media. Subsequent laws required manufacturers to disclose cigarette ingredients (1984); expanded warning label requirements and advertising restrictions to smokeless tobacco products (1986); banned smoking on domestic airline flights (1987); and required all states to adopt and enforce restrictions on tobacco sales to minors (1992). After decades of fragmented federal policy, the Family Smoking Prevention and Tobacco Control Act of 2009 gave the Food and Drug Administration authority to regulate tobacco products. At the state level, laws and policy initiatives have increased cigarette taxes, restricted smoking in public places and supported smoking cessation and education programs.

**Helena Furberg-Barnes** (Epidemiology), who studies tobacco-related cancers, said "The Surgeon General's report was instrumental in starting the tobacco control movement in the US. We saw a significant decline in smoking prevalence after the report, and less than 20% of US adults were current smokers by 2007." Advances in molecular biology

have given scientists opportunities to study the biological basis of tobacco addiction and cellular mechanisms of carcinogenesis. Investigators are studying genetic variants associated with smoking behavior, interactions between germline DNA and smoking behavior and their impact on cancer risk, and smoking-induced genetic damage in tumors. For example, **Furberg-Barnes** is examining genetic variants for smoking and how they influence risks of bladder cancer and lung cancer. **Tim Ahles** (Psychiatry & Behavioral Sciences) is studying how interactions between smoking and *APOE* genotype influence cognitive declines associated with chemotherapy in breast cancer patients.

**Jamie Ostroff** (Psychiatry & Behavioral Sciences), who directs MSK's Tobacco Cessation Program, has spent the past three decades studying tobacco use in cancer patients and survivors. Despite progress in cessation research, smoking remains a powerful addiction even in those who have developed cancer as a result. Smoking prevalence is almost twice as high in survivors of tobacco-related cancers than in survivors of other cancers and adults with no cancer history. Harnessing mobile technolo-



gy, Ostroff and others are pursuing innovative approaches to smoking cessation. According to Ostroff, text messaging and smartphone applications have become standard fare in the tobacco treatment toolkit. She and her colleagues recently developed a virtual reality game called *QuitIT*, in which players practice coping with smoking urges. Ostroff said that while a multifaceted approach to tobacco control has been effective in reducing tobacco use, innovative translational research to improve the reach and impact of smoking cessation interventions is still needed.

### Mark your calendar

**March 11**  
4:00PM  
M-107

**SOAR Seminar**  
David B. Allison, PhD  
University of Alabama

**March 17-18**

**Advances in Endometrial Cancer Epidemiology and Biology Symposium**  
Boston, MA

**April 15**  
4:00PM  
M-107

**SOAR Seminar**  
Michael Fiore, MD, MPH  
University of Wisconsin

**April 23-26**

**Society of Behavioral Medicine Annual Meeting**  
Philadelphia, PA

### ASCO Celebrates 50th Anniversary

#### Society Supports Research and Advocacy

The American Society of Clinical Oncology marks its 50th anniversary this year. The seven founding members of ASCO met in April 1964 to create a professional organization devoted to the clinical needs of cancer patients and their physicians. Fifty years later, the society has a membership of nearly 35,000 oncologists, allied health professionals and cancer researchers. ASCO's annual meeting attracts more than 32,000 attendees from 113 countries. In addition to cancer site-specific research and educational sessions in clinical sciences, the meeting includes dedicated programming in Biostatistics, Cancer Prevention and Epidemiology, Health Services Research, and Patient and Survivor Care.

Through its Conquer Cancer Foundation, ASCO supports external research and career development, particularly for junior scientists. Several SOAR investigators are current or prior recipients of a Young Investigator Award or Career Development Award from ASCO, including **Victoria Blinder** (Health Outcomes), **Darren Feldman** (Medicine) and **Zsofia Stadler** (Clinical Genetics).

## SOAR Grants

**Sigrid Carlsson** (Health Outcomes) was awarded a two-year public health grant from AFA Insurance for her study, “*Re-Engineering PSA-Screening*.” This collaborative project with Sahlgrenska University Hospital in Göteborg, Sweden will evaluate the use of MRI and biomarker panels to improve accuracy in prostate cancer screening and reduce unnecessary treatment. Carlsson will work with **Andrew Vickers** (Health Outcomes), **Hans Lilja** (Laboratory Medicine) and other colleagues to develop a decision aid to inform men considering screening about the risks and side effects of treatment.

**Francesca Gany** (Immigrant Health & Cancer Disparities) was awarded a grant from the New York State Department of Health for her study, “*Affordable Care Act Patient Navigation Program*.” Gany and her colleagues are collaborating with the Coalition for Asian American Children and Families and nine partner organizations to address disparities in health insurance enrollment. Study sites include taxi garages, community centers, houses of worship and foreign consulates. Results will identify the most effective approaches for increasing health insurance enrollment among the underserved.

## SOAR Seminars



**Eva Schernhammer**, Associate Professor of Medicine at Harvard Medical School, presented “Sleep, Melatonin, and Circadian Rhythms” on January 21<sup>st</sup>.



**Anita Kinney**, Associate Director for Cancer Control and Population Sciences at the University of New Mexico Cancer Center, presented “Shaping Genomic Discovery to Maximize its Usefulness for Reducing the Burden of Cancer” on February 25<sup>th</sup>.

## SOARNEWS EDITORIAL STAFF

Elena Elkin, PhD / Department of Epidemiology and Biostatistics Val Pocus / Department of Epidemiology and Biostatistics Nidha Mubdi, MPH / Department of Medicine Meghan Woods, MPH / Department of Epidemiology and Biostatistics Saidah Henderson, MA / Department of Psychiatry and Behavioral Sciences



**Lee Jones** is an Attending Physiologist in the Department of Medicine and Director of MSK's Cardio-Oncology Research Program. He arrived in February following an accomplished career at Duke University. He spoke with the SOAR Newsletter about his research and goals at MSK.

### What brought you to MSK?

I came to give Rehab Grand Rounds and got my first taste of Memorial, and then later gave Medicine Grand Rounds. I was obviously aware of the clinical and scientific excellence of MSK but as soon as I came here and started meeting with everyone, I knew this was the place I wanted to be.

### Weren't you once a lifestyle coach? How did you become a scientist?

I was a lifestyle consultant. In England I finished my undergraduate in Exercise Science at Brighton University. After I graduated I did temp jobs for about six months, working on building sites and the local pottery factories in my hometown. I landed this job in a local health club. My position was ‘lifestyle consultant’ but essentially what I did was hand out towels and clean exercise equipment. One day a member from the gym started asking me about my future plans. He said, “well, you’re not going to stay here for the rest of your life.” That put the bug in my ear.

### I've never heard the term ‘exercise oncology’. Can you explain it?

Quite honestly it's a term I just made up. It's using exercise-based philosophy and principles and applying those to the study of oncology. We're interested in the physiological response to exercise in individuals with cancer. We can use that to prognosticate and to understand disease mechanisms and late effects of treatment. If you think about cardiotoxicity, that's a very broad outcome, but underneath that, what are some of the mechanisms that might lead to that? If we can identify those things, then we can do something about it, which brings in the other side of my program where we use exercise as an intervention to prevent or delay those chronic and late effects of treatment. We also study the effects of exercise as treatment for cancer. Does exercise delay or prevent recurrence or metastasis and even modulate the therapeutic response to conventional or novel anticancer agents? We adopt a translational approach to the study of exercise-oncology, using preclinical models to understand and support clinical studies.

### Are cancer patients capable of exercising enough to have a significant impact on their health?

I don't think, I *know* they are. Fifteen years ago when we started this research, that was exactly the response we got from oncologists. They said patients are already so fatigued, immune depressed, nauseous and frail. But there are many different clinical presentations of cancer. If you do it correctly, there are practically limitless exercise prescriptions that you can deliver. The prescription you deliver is going to be highly dependent on the goal of that program, who that individual is, and how long you want to train them. We've been doing personalized therapy or precision medicine with exercise for the last fifty years; we just never called it that. The majority of work in exercise oncology has been with early-stage breast cancer, probably because those patients are some of the healthier cancer patients. But I think now that we've demonstrated that it's safe and feasible and efficacious in that population, the field as a whole is starting to branch. We're doing work in metastatic breast cancer, metastatic lung cancer, early-stage lung cancer and exercise therapy during adjuvant therapy.

### Will you be replicating the Jones Cardio-Oncology Lab here at MSK?

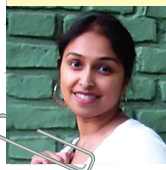
As a lab, we're a little bit unique in the types of space we need to do what we do. We use exercise-based tools to characterize and monitor cardiovascular functional damage in cancer patients. To do that kind of work we need a human integrative physiology laboratory. We'll be doing cardiopulmonary testing, rest and stress echoes, looking at muscle function, body composition, and the system as a whole. Once individuals have come into our trials and get randomized to an intervention, we need training space. We will have that space here at the Sillerman Center for Rehabilitation. The last thing we do is experiments in mouse models. We look at tumor progression, tumor growth, metastasis, response to therapy.

### Is there anything you're looking forward to doing in New York City?

I love the fact that you can just walk around the city, and regardless of what time I leave my apartment, there's always an energy on the street. I just love that! I just want to take it all in.

## MEET THE REPORTER

**Nidha Mubdi**, Research Coordinator in the Department of Medicine, works with Kevin Oeffinger on studies of childhood and young adult cancer survivors. She has a MPH in Health Promotion from the Mailman School of Public Health at Columbia, and she has been working at MSK since 2009. A native New Yorker, Nidha volunteered at the Adult Learning Center in Queens, teaching adults to read and write



English. Her most rewarding moment came when a former student who once could barely write her own name left the literacy program to take her first job at age 52. Nidha wrote this issue's profile of Dr. Lee Jones.