



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

### Integrative Medicine Service Studies Complementary Therapies

#### Investigators Work to Understand Health Effects and Separate Myth from Fact

Nearly two-thirds of cancer patients and survivors in the US report using complementary or integrative therapies at some point during or after cancer treatment. At MSK the Integrative Medicine Service, founded and led by SOAR investigator, **Barrie Cassileth**, provides a range of complementary therapies and studies their impact on health outcomes.

Cassileth specified that the goal of complementary or integrative therapies is to manage cancer symptoms and the side effects of treatment, not to serve as an alternative to mainstream care. Through their research, she and her Integrative Medicine colleagues are building an evidence base to inform the use of integrative therapies. They have conducted numerous randomized trials of acupuncture, in some instances finding a benefit (reducing pain, dysfunction and dry mouth after surgery in head and neck cancer patients), while in others finding no effect (chemotherapy-related fatigue).



The service currently has seven active protocols, including a randomized trial of acupuncture in breast cancer survivors with chronic lymphedema. **Ting Bao**, an oncologist and acupuncturist, recently received NCI funding to study acupuncture for chemotherapy-induced peripheral neuropathy in breast cancer patients.

**Kathleen Wesa**, an internist, is examining the effects of Vitamin D and medicinal mushroom extracts on cancer symptoms. **Gary Deng**, an internist and acupuncturist, is leading a pilot trial of breathing exercises for patients and survivors with chronic dyspnea. In collaboration with MSK laboratory investigators, the service will soon open a large study examining the impact of vigorous yoga on specific biomarkers. "It's very well documented that physical activity produces survival benefits," said Dr. Cassileth. The new study will help elucidate the cellular and molecular mechanisms by which exercise improves health outcomes.

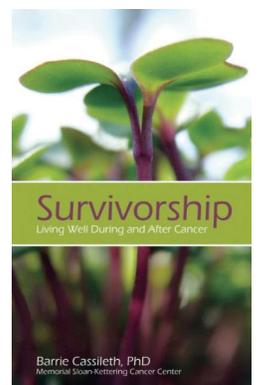
Another goal of the Integrative Medicine Service is to disseminate reliable information about complementary therapies. To this end, Cassileth and her colleagues created the *About Herbs* website, a searchable database of more than 270 herbal remedies, nutritional supplements, other complementary therapies, and "alternative" treatments. The website receives more than two million hits annually. A mobile *About Herbs* app, available for iPhone and iPad, has been downloaded more than 100,000 times.



Barrie Cassileth, Chief of Integrative Medicine

Despite efforts by Cassileth's group and others to counter claims that "alternative" therapies are viable treatment options, consumers remain susceptible to misleading messages about "alternative" cancer cures. In her new book, *Survivorship: Living Well During and After Cancer*, Cassileth describes the benefits of evidence-based complementary therapies and the harms of "alternative" treatments, and emphasizes distinctions between the two. In a recent interview with *The ASCO Post*, Cassileth said about the book, "I wanted to provide basic information, readily understandable to all patients, about what complementary therapies can and cannot do and to provide information about scams to steer people away from unproven dangerous therapies."

Cassileth's book and other findings published by Integrative Medicine investigators may help providers as well as patients. SOAR investigator **Emily Tonorezos** (Medicine), an internist who treats and studies cancer survivors, noted the challenge that she and her colleagues face when trying to direct patients, survivors and their families to sound information about complementary therapies. "The internet especially can be a minefield," Tonorezos said. "Dr. Cassileth's book can help guide patients towards potentially beneficial therapies and away from potentially harmful ones." All author proceeds from sales of the book support the MSK Bendheim Integrative Medicine Center.



### Gene Mutation Associated with Rare Ovarian Cancer

#### Discovery Suggests Target for New Therapies

A research team led by **Douglas Levine** (Surgery) discovered a genetic mutation linked to small cell carcinoma of the ovary, hypercalcemic type (SCCOHT). The study, published in the May issue of *Nature Genetics*, paired tissue from 12 SCCOHT tumors with 12 normal samples, and found that all of the SCCOHT tumors had a mutation in the *SMARCA4* gene. The probability that all 12 tumors had the mutation was estimated at less than  $2 \times 10^{-16}$ .

The 12 SCCOHT tumors in the study, including 3 samples from MSK patients, were genotyped using 279 cancer genes on the IMPACT (Integrated Mutation Profiling for Actionable Cancer Targets) panel, which contains known cancer genes and those that can be targeted by specific FDA-approved or investigational agents. A larger version of this custom panel is currently used in MSK's institution-wide initiative to profile the tumors of all patients who may be candidates for targeted therapy.

Ovarian cancer is the twelfth leading cause of cancer death in the US, with a median age at diagnosis of 63.

SCCOHT accounts for less than 1% of all ovarian cancers, but it affects much younger women – the median age at diagnosis is 23 – and it has an exceptionally poor prognosis. While the majority of women with SCCOHT present with early-stage disease, most will relapse and die within two years. There is currently no effective treatment for this aggressive cancer.

Gene sequencing has identified numerous mutations associated with various solid tumors. It is uncommon, however, according to Dr. Levine, for a single gene to be universally mutated as *SMARCA4* appears to be in SCCOHT. Dr. Levine said that the next step will be to investigate whether this one mutation is sufficient to transform any type of ovarian cell into a cancer cell, or whether other gene alterations are required. He also expressed enthusiasm for new drug development based on these findings. "We plan to develop potential therapies and test them on cell lines that carry the *SMARCA4* mutation. Now that we know the target...we'll try to hit it," he said.

## SOAR Seminars



Photos by Rick Dewitt

**David Allison**, University of Alabama at Birmingham, presented *Myths, Presumptions, and the Need for Probative Research in Obesity* on March 11th.



**Wendy Cozen**, Keck School of Medicine, University of Southern California, presented *The Etiology of Young Adult Hodgkin Lymphoma: From Germs to Genes* on March 24th.



**Michael Fiore**, University of Wisconsin School of Medicine and Public Health, presented *Engineering Tobacco Treatments for Smokers Seeking Primary Care: Translating Research to Practice* on April 15th.

### Mark your calendar

- May 30-June 3** **ASCO Annual Meeting**  
Chicago, IL
- June 8-10** **AcademyHealth Annual Research Meeting**  
San Diego, CA
- June 10** **SOAR Seminar**  
4:00PM  
M-107  
David Harrington, PhD  
Harvard University
- August 2-7** **Joint Statistical Meetings**  
Boston, MA

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**Behfar Ehdai** is an Assistant Attending Surgeon in the Urology Service, Department of Surgery, with a secondary appointment in the Health Outcomes Research Group, Department of Epidemiology and Biostatistics. He joined the faculty after completing fellowship training at MSK. He spoke with the SOAR Newsletter about his current research.



#### What are your broad research goals?

To determine the role of active surveillance in men with low-risk prostate cancer, to describe how these men are being followed by their physicians, and to identify barriers to the use of active surveillance.

#### Why is active surveillance an important option for men with low-risk prostate cancer?

In the past decade we've seen an increase in the incidence of prostate cancer, attributable to PSA screening. The majority of these men have low-risk prostate cancer, and the standard treatment options – surgery and radiation – may have more harm than benefit for them. In this space, active surveillance is an important option.

#### As someone who's trained to operate on patients, is it challenging to study a treatment approach that's about not operating?

When we started evaluating patient-reported outcomes in prostate cancer, it became obvious that we need to think about the adverse effects of treatment as much as the potential benefits. I still enjoy operating. And some men who opt for active surveillance will eventually have surgery, it's just delayed. We're now studying ways of following men on active surveillance.

#### You've been collaborating with a negotiation expert from Harvard Business School. What does negotiation have to do with prostate cancer treatment?

When I started seeing men with low-risk prostate cancer, it was obvious that I didn't have the tools to discuss non-intervention with them. They were coming to me expecting to discuss surgery. I discovered motivational interviewing and negotiation strategies. The centerpiece of negotiation is getting to the interests of the patient and enabling them to make an informed decision. My collaborator at HBS is an expert in negotiation theory, but he has never studied negotiation in clinical settings for treatment decision making. So we're exploring the application of negotiation strategies to prostate cancer. We're asking, can we teach surgeons negotiation principles and how will that influence the use of active surveillance in prostate cancer? We've created a simple intervention that can be adapted to any physician's style of communication, and we're planning a prospective trial to look at both uptake of active surveillance and surgeons' use of the negotiation principles.

#### You've also been studying new technology in prostate cancer. What can you tell us about that?

We're studying the role of MRI in prostate cancer diagnosis. Most places currently perform random systematic biopsies, where the prostate is identified using ultrasound, and the surgeon takes random tissue samples, as many as 10-15 cores or more. At MSK we have software that combines information from an MRI with real-time ultrasound images during the biopsy, so that tissue samples can be taken from the most affected part of the prostate. We need to ask, first, does this technology improve the diagnostic yield of significant cancers, compared with conventional biopsy. Then we need to ask whether the technology is worth its additional cost.

#### Questions about the value of new medical technology, and about non-surgical approaches to care, may be viewed as provocative by some of your clinical colleagues. Provocative questions seem at odds with your very calm demeanor.

These are important questions, and I'm fortunate to be at a place where we have the resources and opportunities to study them. Urologists in community practices face substantial pressures – competing for patient volume and market share. I think they look to us to answer these and other questions, because we can.

#### I know you got married recently. Congratulations! How was the wedding?

It was really fun. It was in Nicaragua where my wife is from, and it was a blend of Latin American and Persian traditions. Everything was great, except when I fumbled the ring and it rolled under the third pew of the church.

#### I assume you're more careful with your hands in the operating room.

Oh yeah.

### MEET THE REPORTER

**Val Pocus**, Research Study Assistant in the Department of Epidemiology and Biostatistics, works with Elena Elkin on studies developing and evaluating decision aids for people considering screening for breast and lung cancers. She will start her MPH at Hunter College in the fall. As an undergraduate, Val roamed the wilderness in upstate New York as Cornell University's Big Red Bear mascot. She enjoys returning to nature from time to time, and recently came back from a trip to Utah, where she hiked, camped and photographed around the Arches, Canyonlands and Zion National Parks.

