

Lung Cancer Voice

Fall 2006

Kathryn Joosten: Emmy Award Winner, Lung Cancer Survivor

You may recognize Emmy award-winning actress Kathryn Joosten from her role as Mrs. McClusky on ABC's *Desperate Housewives*, or from her role as Mrs. Landingham on NBC's *West Wing*. Maybe you've seen her on ABC's *My Name is Earl*, where her character was "kidnapped" by the lead character, Earl, so he could help her quit smoking. What you may not know about Ms. Joosten, though, is that she is a 5-year survivor of small cell lung cancer. The Partnership talked with Ms. Joosten about her experience with the disease and what she's learned as a lung cancer survivor.



KATHRYN JOOSTEN

Ms. Joosten credits her early lung cancer diagnosis to a great relationship with her primary care physician. He knew that she smoked, so he insisted she receive chest x-rays every 6 months. One visit, they found a suspicious lesion, and a subsequent PET scan "lit up like a neon light," according to Ms. Joosten. Fortunately, her cancer was caught very

early, before she had any symptoms, so although it turned out to be small cell lung cancer, which is not typically treated with surgery, she was a candidate. "My thoracic surgeon had a horrible bedside manner, but he was the best surgeon around, so he and my primary care doctor convinced me they could get all of the cancer," said Ms. Joosten, "I quit smoking the day I was diagnosed."

Although Ms. Joosten had been a nurse for 10 years, she wasn't prepared for what would happen as a result of the surgery. "They thought they could make a small incision and do a camera-assisted, minimally invasive procedure. When they got in there, though, they found that the tumor was very close to my ribs, so I wound up having my upper right lobe removed, along with the lymph nodes on that side and a couple of ribs. I was really in denial about this - I didn't tell my children about it right away - I thought I could just go in on a weekend, have the procedure and recover quickly," Ms. Joosten said. Although she has to deal with significant keloid scars on her back and some nerve damage as a result of the procedure, she is glad to have had the surgery. "They got it all and told me I was cancer-free, there was no need for

chemotherapy or radiation therapy. I am now officially a survivor, having passed my 5-year mark," said Ms. Joosten.

"We need to understand why there are such striking differences in this disease between women and men, because that knowledge may lead to better treatments for both sexes."

When asked about whether having lung cancer has affected her career, Ms. Joosten said that at first she didn't want anyone to know, because she was afraid she might not be able to get work. When working on films, actors are required to undergo physicals so that the producing movie studio can get insurance to assure that the picture will be completed. Although the physicals are limited, ("They listen to your heart through your shirt and ask you to turn your head and cough and that's it," according to Ms. Joosten), she knew that her diagnosis could present a problem. Television roles were offered to her instead, so her diagnosis wasn't an issue. Now that she's passed the 5-year mark of her diagnosis, she is no longer considered a risk to producers. "The biggest effect this has had on me professionally is that I drive the make-up people crazy," said Ms. Joosten. "I only sweat on one side of my body since my lymph nodes were removed on the other."

Ms. Joosten wants people to know that she was incredibly lucky, and that this was primarily due to the fact that she had the right physician at the right time. She encourages everyone - especially cancer patients - to be partners with their doctors in their own care. She also highly recommends getting treated at a major cancer center if you are diagnosed. "People can become paralyzed by their acceptance of disease - you just can't do that," said Ms. Joosten. "You have to become proactive - research your condition and treatment recommendations and find the best place to receive the treatment. Being treated at a trauma center or general hospital is not the same as being treated at a cancer center."

Ms. Joosten decided to get involved in lung cancer advocacy because she wanted to make a contribution to the cause, and she wants people to know that research is the key to making strides against the disease. "There's not going to be a parting of the waters or a tap on someone's shoulder from God to cure this disease," said Ms. Joosten. "Wonderful advances have been made in breast and reproductive cancers - we need to apply this same kind of research to lung cancer. We need to find out a lot more about the etiology and treatments for this disease. We also need to understand why there are such striking differences in this disease between women and men, because that knowledge may lead to better treatments for both sexes."

Ms. Joosten said that at 66 years old, she is more acutely aware of death, but happy she's not facing any health challenges. As a lung cancer survivor, she is having fun acting in roles she loves, and we have the privilege to sit back and enjoy the show.

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**November is Lung Cancer
Awareness Month.**

*How will you observe it?
See page 7 for ideas!*

We gratefully acknowledge the support of the following companies for making publication of our newsletter possible: OSI Pharmaceuticals, Inc., Eli Lilly and Company, Telik, Inc., and Novartis Pharmaceuticals Corporation.

Letter from the President



Joan H. Schiller, MD

November is National Lung Cancer Awareness Month. As lung cancer advocates, we are young in our movement - we have much to learn from the success of our compatriots in the breast cancer, HIV/AIDS, and other disease-awareness movements.

Many have queried "Why don't we see lung cancer awareness events as often as for breast cancer? After all, lung cancer kills almost twice as many women as breast cancer each year." The answer is relatively simple - we haven't had the numbers of individuals fighting for awareness and advocacy surrounding lung cancer. The reasons why, however, are complex:

- the survival rate is far lower than that for breast cancer, so there are fewer survivors to speak out;
- until recently, lung cancer was a disease of elderly men, often from lower socioeconomic backgrounds - a group that does not traditionally advocate for itself in terms of health care;
- family members often feel the need to move on with their lives after a loved one has passed away from lung cancer;
- there is a stigma associated with lung cancer and smoking. This stigma exists despite the fact that smoking is incredibly addictive, with many patients having started smoking before its dangers were well known, or while rebellious teen-agers, targeted by advertising from the tobacco industry. The difficulty of quitting often leads to feelings of guilt and shame around a lung cancer diagnosis - and a reluctance to speak out.

We have made progress, however. The National Lung Cancer Partnership, among other organizations, is working to raise awareness of the disease. Through events such as our *Free to Breathe 5K* to be held in Philadelphia, PA on November 5, the *Chicago Lung Run*, which was held on September 9, and community health fairs and events throughout the country, we are able to spread the word that lung cancer is this nation's top cancer killer and deserves equal footing on the research funding landscape. It is primarily through the dedication of volunteers that we are able to accomplish so much; we are so grateful to those who have helped us and continue to help us in these endeavors.

Not only are we working to raise awareness of lung cancer, we are also funding research to better the lives of current and future lung cancer patients. Our first research grants were given in 2005, and we are looking forward to learning the results from the studies we have funded. Our second

competition is currently underway, and we are eager to expand our list of award winners. We provide critical education to physicians, researchers, patients and their families, to help ensure earlier diagnosis and better treatment regimens. One of our newest initiatives is to create a video to educate patients about clinical research, and how their participation is critical to advancing treatments for everyone. If you have been a participant in clinical research and would be willing to talk about your experiences on camera, please get in touch with us - we are interested in hearing from a variety of viewpoints.

As you know, we also firmly believe that the federal government needs to devote more resources to understanding how lung cancer starts and progresses, and how it can best be treated. Thus, we are also working in all ways possible to advocate for further research dollars being devoted to lung cancer at the federal level. Recently, our Executive Director, Dr. Regina Vidaver, was invited to meet with the Director of the National Cancer Institute (NCI), Dr. John Niederhuber. While we praised the fact that a Lung Cancer Program is now in place at the NCI, we wanted to be sure that it was clear we will not be satisfied with a small increase in the funds devoted to the nation's #1 cancer killer. Meetings such as this are only the start of a dialogue that we hope will yield significant gains in the near future.

All of the initiatives mentioned above are made possible by the generosity of people like you. We need you to help us celebrate lung cancer awareness month. Celebrate the gains we have made in treatments, in awareness and in advocacy, while continually striving to do more. Celebrate the survival of people profiled in our *Stories of Strength* - on the pages in this newsletter and on our website. Celebrate the hope that we have to turn lung cancer into a disease that can be thought of as a chronic, but manageable disease. Celebrate with us by donating, volunteering, participating in events, and anything else you might think of. There is strength - and hope - in numbers.

Sincerely,

Joan H. Schiller, MD
Deputy Director, Simmons Cancer Center
Chair, Hematology/Oncology
University of Texas-Southwestern Medical Center



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Advancing Lung Cancer Research

National Lung Cancer Partnership's Annual Meeting was held on June 2, 2006 in Atlanta, GA. Our annual meeting is designed to highlight advances in lung cancer, with an emphasis on research about how the disease affects women and men differently. In addition, we offer information valuable to patients and advocates to help them improve awareness and advocacy surrounding the disease. Here we summarize some of the major points presented at our meeting.

Lung Cancer Research at the NCI

Dr. John Niederhuber, Director of the National Cancer Institute (NCI) opened the session by recognizing that lung cancer incidence continues to increase among women, while it has decreased among men since the early 1990's. He also noted that more never-smoking women are affected by the disease than never-smoking men. Dr. Niederhuber then moved into a discussion of the budgetary restraints facing the NCI at this time, what that means for overall cancer research spending, and for lung cancer research spending.

After much advocacy, in 2003 Congress completed the process of doubling the budgets for the National Institutes of Health (NIH) and NCI, which began in 1998. However, since 2003, funding levels have remained flat or been reduced for NIH and NCI. Making adjustments for inflation, the lack of budgetary increases for the Institutes has meant an actual decrease in real dollars available for research.

In spite of this funding climate, Dr. Niederhuber has begun to implement a lung cancer program, which is based on the recommendations from the trans-NIH lung cancer integration and implementation (I2) team. Included in the program are:

- increased funding for some major cross-cancer initiatives already underway that are expected to yield significant information about lung cancer biology;
- a new request for applications in lung cancer research (expected to debut in early 2007);
- pilot projects to identify genetic changes in lung cancer tissue which will likely improve drug delivery, and treatment success.

While the current funding level for the lung cancer program is slightly below that which the I2 team recommended, we hope to see that funding increase in the next several years.

Estrogen's Role in Lung Cancer

Dr. Kathy Albain of Loyola University Chicago Cardinal Bernardin Cancer Center next moderated a session on *Estrogen and Lung Cancer: Friend or Foe?* with presentations from Dr. Jill Siegfried of the University of Pittsburgh, and Dr. Margaret Spitz from the M.D. Anderson Cancer Center. Dr. Albain reviewed with the audience several sex differences we see in lung cancer, including:

- women typically survive longer than men at each stage of the disease,
- women are more likely to get certain types of lung cancer, while men are more likely to get other types,
- different molecular changes have been observed in lung tumor tissue taken from women vs. men.

Dr. Albain suggested that being female may not be the real cause behind these differences, but rather may be the "package" for favorable and/or different molecular biologic variables, which are likely to include hormonal interactions. The major player in these hormonal interactions - estrogen - was the focus of the remainder of the session.

Dr. Siegfried began by trying to dispel the notion that estrogen is either a "friend" or "foe" to lung cancer, but rather may act as both - a yin-yang type of relationship, where it likely has both pro-cancer and anti-cancer effects. On the pro-cancer side, estrogen can turn on genes involved in promoting lung cancer cells' growth. Estrogen also plays a role in increasing epidermal growth factor receptor activation in lung cancer cells - an extremely important pathway for inducing cell division in and survival of lung tumors.

In terms of anti-cancer effects, estrogens can stimulate cells of the immune system, thus increasing the ability of the immune system to recognize and kill pre-cancerous cells. Recent data show that several mitochondrial genes respond to estrogen signals, thus inducing the expression of antioxidant genes; the resulting cellular products help protect cells from damage caused by age and carcinogens. Estrogen signaling also increases progesterone receptor expression. The progesterone receptor appears to act to inhibit cell division in the lung. Estrogen also appears to decrease circulating levels of Insulin-like Growth Factor -1, which is an important growth stimulator for lung cancer cells.

Dr. Spitz's presentation focused on the epidemiology of lung cancer, particularly in regards to the use of hormone replacement therapy (HRT) and the level of plant-based estrogens in one's diet. Much of the data regarding HRT use are conflicting: several studies have indicated an increased risk of lung cancer with the use of HRT, while others have shown no increase in risk, or even a decreased risk. Dr. Spitz's data suggest a decrease in risk of lung cancer with use of HRT, with the risk decreasing over time of use. There is also indication that tobacco and estrogen interact - in those who currently smoke, HRT seems to have more of a protective effect than for former smokers.

Dr. Spitz's data regarding intake of plant-based estrogens from food sources and tea and coffee were also provocative. Her analysis found decreased risk of lung cancer with higher intake of total plant-based estrogens from food sources in both men and women. Again, there was an interaction with smoking status: for those who have never smoked and those who are currently smoking, there was significant protection against lung cancer through increased plant-based estrogen consumption, but for former smokers, there was little benefit. Interaction between high plant-based estrogen intake and HRT use appeared cumulative, with those women taking HRT with the highest plant-based estrogen intake having the lowest risk of lung cancer. Dr. Spitz concluded her presentation by describing data regarding the use of HRT

and lung cancer survival. Her data suggest an increase in survival with HRT use, however the survival difference did not reach statistical significance. A larger study from a different group, which did reach statistical significance, showed a nearly two-fold increased risk of death for women taking HRT vs. those who didn't. With such conflicting data, it is clear we need further research on the topic to reach a definitive answer.

Genetic Susceptibility to Lung Cancer

After a short break, attendees had the option of remaining in the scientific sessions, or moving into a session on research advocacy. In the scientific session, Dr. William Bennett of the Beckman Research Institute at the City of Hope began by describing results from the Missouri Women's Health Study - namely what they have learned about genetic susceptibility to lung cancer.

It has long been known that not all people who smoke get lung cancer, and there are many people - approximately 17,500-20,000 in the U.S. per year - who get lung cancer in spite of never smoking. Dr. Bennett and colleagues formed a hypothesis that some people have a genetic composition that makes them more susceptible to lung cancer, while others are more resistant. One gene, named GSTM1 (glutathione-S-transferase M-1), became an early candidate for a lung cancer susceptibility gene. Glutathione-S-transferase enzymes play a defensive role in detoxifying mutagenic agents, such as those found in tobacco smoke. About 50% of people carry a "null" version of the GSTM1 gene and therefore do not express this particular enzyme. Dr. Bennett and colleagues found that, in non-smoking women exposed to second-hand smoke, those with the null version of GSTM1 experienced a two-fold increase in risk of lung cancer. Among those exposed to residential radon (the second leading cause of lung cancer after active smoking), having a null version of GSTM1 tripled the risk of lung cancer. Low intake of vegetables seems to further compound the risk.

Dr. Jin Jen of the National Cancer Institute next spoke about her research into the genetics behind early-onset lung cancer - that which occurs before age 50. Typically, lung cancer occurs in patients between the ages of 60 and 78. Roughly 10% of all lung cancers occur in those under age 50 or over age 80. Dr. Jin chose the early age onset group as a focus of study because others previously showed that for those patients, there is a much higher chance that a first-degree relative has been affected by lung cancer, thus suggesting a genetic component to the early-onset disease. Of further interest is that, among these young patients, twice as many are women than men, with the majority being never-smokers. Dr. Jin has worked to pin down the genetic factor(s) responsible for early-onset lung cancer, and has narrowed down the search to one arm of chromosome 3, which often shows changes in cancerous cells from a variety of human tissues. Dr. Jin stressed the need for additional research to further pinpoint the gene(s) responsible.

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Stories of Strength

A Survivor's Story

Carolyn Olbum has been a lung cancer survivor for just over a year now. Carolyn was diagnosed at 68 with stage IB lung cancer, due to her insistence that her primary care physician do more to determine why she had a persistent cough. While undergoing treatment, Carolyn began a unique enterprise, Carolyn's Pin-Ups see page 5 to help chemotherapy patients look and feel better, and to raise critical funds for lung cancer research and education. We asked Carolyn about her lung cancer experience, what it's taught her, and what it can teach others.



Q: How are you doing now?

A: It is almost six months since the end of my chemotherapy treatments and I feel well. It took more time to regain strength and confidence in my well-being than I expected.

Q: Do you talk openly about having lung cancer with others? What is the reaction you get when you do speak of lung cancer?

A: I do talk openly about having lung cancer. The immediate response is the question: "Are you a smoker?" When I answer; "Not for over thirty five years," the questioner's expression changes from that of safety if they are not smokers to surprise and concern. The questions roll out from there.

Q: What advice would you give to others recently diagnosed with lung cancer?

A: When I was first diagnosed, I was so stunned and frightened. Actually, I was scared to death. I needed, and was fortunate to receive, support

and direction from my family and friends. Eventually I became my own advocate as much as I could, with the continued aid of my ever-present support system. I suggest the newly-diagnosed be patient, become informed and accept help.

Q: What is the most important thing you believe the general public needs to know about lung cancer and how it affects you?

A: The public needs to know that lung cancer is not only contracted by smokers, but by never-smokers and former smokers as well. It can happen to anyone at any age. It is not a disease that is easily detectable. It should not be a whispered disease.

Q: What advice would you give to health care providers in dealing with patients with lung cancer?

A: I find that the availability of the doctor or physician assistants (PAs) at my treatment center can be difficult. A patient needs personal access to the doctor or PA. It is important for the physician to prepare the patient for the post-chemotherapy period. My physician did explain the drugs would have an affect on me for quite a while after treatments. However, I didn't understand it would take as long as it has, I expected to jump right back into my life. I finally feel as though I have—six months later!

Q: How has having the diagnosis of lung cancer changed your life?

A: Having lung cancer has changed me in many ways: I feel more vulnerable and more fallible. In my personal life, I have learned to accept help. Although I need to remind myself, I continue to work on letting go of smaller

worries in life. All I need to do is remember this last year of diagnosis, surgery and treatment, and that brings everything into perspective.

Q: What inspired you while receiving treatment for lung cancer?

A: I was inspired by the spirit of some of the patients, who were very ill at the treatment center. During treatment I developed a project to raise money for lung cancer research and education (Carolyn's Pin-Ups; see page 5). When I felt strong enough I worked on the project, bringing focus and meaning into my days. I am thrilled that my little project is thriving, and helping to support the Partnership's critical work in lung cancer research and education.

Q: What keeps you hopeful about lung cancer research/treatment?

A: I am hopeful that, with the developing awareness of the prevalence of lung cancer, monies will come for research, and that research will yield processes for early detection and eventually, a cure for lung cancer.

Q: Is there anything else you think our readers should know about you/your disease/the challenges you've faced?

A: It was important for me to take control of as much of my life and health as I could. Although I was very tired a great deal of the time, I managed to continue with my tai chi classes in a limited way, walk every day – it didn't matter how far or for how long but just to get some fresh air– and work on Carolyn's Pin-Ups. I also had acupuncture to help with the side affects of the chemotherapy treatments. All these measures helped me to feel part of the world and less isolated.

A Physician's Perspective

Dr. Jennifer Garst is a thoracic oncologist with the Duke University Comprehensive Cancer Center and a valued member of the Partnership's Board of Directors, where she serves as Chair of the Development & Outreach Committee.



Q: What inspired you to enter lung cancer research and treatment?

A: There were so many people with lung cancer, and at the time, not many oncologists specializing in the care of people with lung cancer. There seemed to be a lot of opportunities to help people, and explore new and better treatment and quality of life options for patients.

Q: What advances in lung cancer research have made you hopeful as a thoracic oncologist?

A: The newer, targeted therapies are an incredible breakthrough. (Editor's note: see page 5 for an in-depth article on targeted therapies.) These "smart bombs" are able to go through the body searching for and targeting cancer cells in a variety of ways. They spare patients from the damage to other organs and tissues that occur with the "cluster bomb" of traditional chemotherapy.

Q: What would you like young professionals entering into lung cancer research/treatment to know about this field?

A: The patients are inspirational. Lung cancer affects people of all ages, backgrounds and walks of life. Taking care of people with lung cancer and their families is the most rewarding aspect of my career.

You will also get to practice as a complete physician encountering issues that have to do with every sub-specialty of Internal Medicine. There are many exciting breakthroughs occurring in lung cancer research and care and there is a lot more work to be done.

In general, the life of a physician offers more flexibility than many other professions. Most doctors are able to set their own hours and schedules. There are opportunities to cross cover for each other and create a shorter work week or hours that are conducive to raising a family.

Q: Is there any advice you would like to give to others entering this field?

A: This career is rewarding at so many levels. Make sure that you truly love what you do and try to interact with your patients on a personal and professional level when giving care.

Q: As the Chair of the Development & Outreach committee for the Partnership, what role do you see the Partnership playing in the future of oncology?

A: The Partnership has already made a significant impact on the oncology community by bringing more attention to the disease of lung cancer. By hosting scientific symposia at several major oncology meetings, the Partnership has gotten the issues of lung cancer in women and sex differences in lung cancer onto the radar screen for many physicians and scientists. Our two grant programs support significant lung cancer research, which we hope will ultimately yield new treatment advances for people with the disease.

Q: What would you like patients to know about lung cancer treatment – now and for the future?

A: We have made tremendous advances in lung cancer care over the past 15 years:

- Many new and active chemotherapies have been developed;
- We are adding the new targeted therapies, including anti-blood vessel treatments, to our regimens;
- Lung removal surgeries can often be done through key-hole incisions;
- Radiation therapy can be given with precise aim thus minimizing injury to healthy lung;
- Supportive care treatments to battle nausea, keep blood counts from falling dangerously low, improve patients' energy and mood, and better manage pain are widely used.

I would also like patients and their families to know that new and exciting treatment ideas come across my desk every week. There is tremendous hope! Breakthrough concepts of care such as customizing treatment to the individual based on the genomic signature of the tumor are currently being tested in clinical trials.

Q: What is the most important thing(s) you have learned from your patients?

A: The most important things that my patients and their families teach me are courage and grace. People affected by lung cancer have incredible strength in the face of what is often a very difficult road to travel. They are so inspirational! The people I have cared for and their families have made my life infinitely better. The relationship between an oncologist and their patients is, I believe, one of the most rewarding in all of medicine.

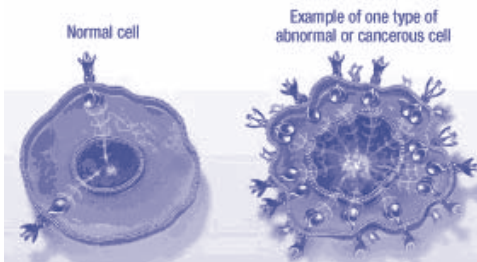
Patient Point of Interest: Molecular Targeted Therapies

For many years, patients and their families have been waiting and hoping for new treatments against cancer, specifically lung cancer, since it has historically been one of the more challenging cancers to treat. Traditionally, treatment options included surgery, chemotherapy and radiation therapy. Recently, another option has been added to the treatment plan. Some cancers, like non-small cell cancer of the lung, can now also be treated with a different type of medicine known as molecular targeted therapy, or MTT. MTT can help physicians "tailor" treatment allowing the prescription of treatment to be "individualized" based upon unique characteristics of the patient's tumor.

The basics of MTTs.

Molecular targeted therapies involve the use of drugs that block or "target" signals of cancer growth that are not found in most normal cells. How does this occur? Targeted therapies interfere with the molecules that are involved in the process of how normal cells become cancerous (carcinogenesis), how they grow, and how they spread (metastasize). Research scientists and physicians have referred to these molecules as "molecular targets," so these new and specific treatments are referred to as "molecular targeted therapies" or MTTs. Although we are still learning a lot about how MTTs work, it is thought that MTTs focus on molecular changes that are unique to cancer and are more abundant in cancer cells than normal cells.

A cancerous cell looks and acts differently from a normal cell (and may have molecules on its surface that are different in number or type from those on a normal cell).



What causes these changes in the first place?

For each of us, a complex network of biological, chemical, and molecular signals provide "instructions" to tell cells how to control normal cell growth. The interaction process between proteins in the cell is called a "signaling process." In normal cells, proteins work together as a team relaying messages (sending signals) and carrying out the work of the cell.

But, sometimes cells don't get the right signal. It is thought that genetic changes can alter the way cells receive their signals, causing cells to abnormally divide, grow, and die. These changes lead to the production of abnormal proteins in the cell.

Here's an example:

There are certain molecules called "growth factors". The proper functioning of these

growth factors is critical to our cells being able to grow and divide when and how they should. Each growth factor has a specific receptor on the surface of the cell to which it is supposed to attach. When this attachment occurs, a process that is carried out by proteins sends a signal for the cell to divide. If proteins are damaged, they might not respond to normal signals or they may "over-respond" to signals, or they may not carry out any of their normal functions. What happens then? Cancer develops when these abnormal proteins inside the cell cause uncontrolled and excessive cell growth.

Molecular targeted therapies are effective against some kinds of cancer because they can interfere with cancer growth and division at various phases of cancer development, growth, and spread. For example, MTTs may block the signals that tell cancer cells to divide uncontrolled, and thus, slow or stop the growth and division of cancer cells.

How Do Molecular Targeted Therapies and Chemotherapy Differ?

Chemotherapy works by preventing rapidly growing cells, like cancer, from dividing or by causing these cells to die. Chemotherapy does not specifically target cancer cells. It generally works on all fast-growing cells, and as a result there is damage to many types of healthy cells, including blood cells, cells that line the mouth, and hair cells. Most chemotherapy is administered through an IV (into a vein), although certain types are available in pill form.

Molecular targeted therapies, MTTs, differ from standard chemotherapy, because they are designed to target parts of the cell that cause abnormal growth and cancer development. There are different types of MTTs, and they work in specific ways. For example, some MTTs work by recognizing certain molecules on the surface of a cancer cell that are different from those on a healthy cell. Some other types of MTTs recognize the molecular signals a cancer cell sends out to tell the body to make blood vessels that will feed the cancer (a process known as angiogenesis). MTTs can intercept these signals and slow or stop cancer growth. Thus, although there are different types of MTTs, ALL molecular targeted therapies, are designed to target cancer cells and to stop or limit the growth and spread of cancer. It is also important to remember that because MTTs have a targeted focus, they attack cancer cells in a way that traditional treatments cannot. Targeted therapies have been shown to be helpful in treating certain cancers, including in some patients with non-small cell lung cancer, both in combination with chemotherapy agents and on their own.

There currently are two targeted therapy agents that are approved by the Food and Drug Administration (FDA) to treat non-small cell lung cancer in the U.S.: erlotinib (Tarceva) and bevacizumab (Avastin). Additional MTTs are available to patients participating in clinical research

(clinical trial listings can be accessed on the Partnership's website). The clinical research process allows researchers to evaluate new compounds, as well as combine current treatments with other treatment options such as other MTTs, surgery, chemotherapy and radiation.

Advances in targeted therapy have changed the care of cancer patients. MTTs provide physicians with additional options and a focused way to individualize cancer treatment. It is thought that, in the future, treatments will become even more cancer specific, with fewer side effects and with the hope of an improvement in overall quality of life.

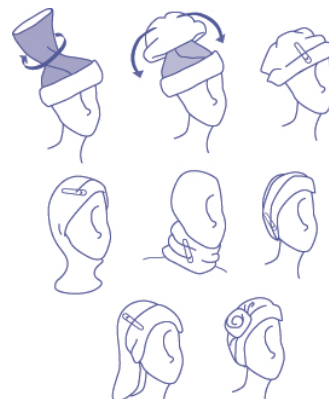
For more information and to answer particular questions regarding MTTs, including how to participate in clinical trials for MTTs, patients are advised to consult with their physicians and members of their healthcare team.

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We are a beneficiary of GoodSearch – a search engine designed to give back to non-profits. Please go to www.GoodSearch.com and type in "lung cancer" in the "I'm supporting" field, then click on "National Lung Cancer Partnership". Every time you use GoodSearch to search for things on the internet, we get a penny. Just think, if one individual does 100 searches in a day, we'll get \$30 from that person each month. You can add GoodSearch to your default search engine toolbar! Please use GoodSearch today!

Carolyn's Pin-Ups are now available for order!

These attractive head coverings are for those undergoing chemotherapy, or for anyone who is looking for a quick and stylish hair accessory. Proceeds from the sales of Carolyn's Pin-Ups benefit National Lung Cancer Partnership. Cost is \$18 plus shipping. Available in black, white, red, turquoise, and limited other colors. To order, go to www.NationalLungCancerPartnership.org and click on "Marketplace."



Upcoming Events

National Lung Cancer Partnership's Career

Development Workshop – October 26, 11:15am
Dr. Valerie Young will lead our annual Career Development Workshop at the **Chicago** Sheraton Hotel & Towers. Dr. Young will present “How to Feel As Bright and Capable As Everyone Seems to Think You Are. What Every Woman Needs to Know About Competence, the Impostor Syndrome, and the Art of Winging It”.

National Lung Cancer Partnership's Scientific Session

– October 28, 9:45am
The National Lung Cancer Partnership will host a scientific session at the International **Chicago** Symposium on Malignancies of the Chest and Head & Neck at the Chicago Sheraton Hotel & Towers. Dr. Michael Thun, lead epidemiologist for the American Cancer Society, will be our plenary speaker.

Free to Breathe 5K Run

– November 5
Lace up your running shoes and meet us in **Philadelphia, PA** for our inaugural Free to Breathe 5K run and 1K walk to raise awareness and



funding for the fight against lung cancer. For more information and to register online visit www.freetobreathe.org. To volunteer, contact Kenda Schwarz by phone at (608) 233-7905 or by email at Kenda@NationalLungCancerPartnership.org

The Great 108 – December 21

Please join the National Lung Cancer Partnership for the second Great 108 Yogathon at the Yoga Spot, 501 Washington St. Suite K, **Durham, NC**, to benefit our Lung Cancer Research Grant program. Yogis often celebrate the change of seasons by doing 108 sun salutations on the solstices and equinoxes. You can celebrate the Winter Solstice by sponsoring The Great 108 or join your friends in doing 108 sun salutations to bring hope to lung cancer survivors everywhere. For more information please call 919-667-YOGA or email webmaster@yogaspot.com

Annual Meeting – June 1, 2007

Save the date for our Annual Meeting, to be held in **Chicago, IL**. Breakout sessions on advocacy and research advancements in lung cancer will be presented. If you have suggestions regarding topics or speakers, please contact us at info@NationalLungCancerPartnership.org.

Advancing Lung Cancer Research (continued from Page 3)

HPV Infection and Lung Cancer

Dr. David Christiani of Harvard University's Schools of Medicine & Public Health concluded the scientific presentations by describing the potential role of Human Papilloma Virus (HPV) in lung cancer in Asian women. In Taiwan, about 85% of males and 10% of females smoke, although, like in many areas of the world where tobacco has just begun to be marketed to women, the number of female smokers is rising rapidly. Nonetheless, the number of Taiwanese women with lung cancer is high, relative to the small number who smoke. Among the potential causes are exposures to second-hand smoke, burning of wood fires, and the fumes caused from high-heat wok cooking. But another intriguing possibility has arisen – that of infection with HPV.

It has long been known that HPV causes cervical cancer. Sexual transmission also appears to contribute to HPV infection of the oral cavity and larynx, and the subsequent increased risk of head and neck tumors. Respiratory infection with HPV has also been described, and several Asian studies have shown a correlation between such infection and lung cancer – not enough to prove a cause-and-effect, but enough to raise some significant questions, particularly in relation to bronchioloalveolar carcinoma (BAC), which has long been thought to have some viral contribution to its onset. Dr. Christiani noted that HPV infection does not appear to be a significant factor in lung cancer in the West, which also raises the question of why it should be seen in Asia and not elsewhere. More research is needed to answer the provocative questions raised in this session.

Research Advocacy

During the research advocacy session, Elda Reilly of the Research Advocacy Network led the breakout group in a discussion of the different ways advocacy works. One often thinks of advocacy as going up to Capitol Hill to talk with representatives. However, Ms. Reilly stressed that the definition of advocacy is “to speak or write in support of something.” Advocacy can be anything from writing a letter to the editor of your local paper, holding a bake sale in support of a cause you believe in, volunteering to sit on patient review panels for research grants, and everything in between.

There are several points in the research process where advocates can play a role. Advocates can work to increase research funding, perform patient review on everything from basic to clinical research, and work to get their friends and family participating in clinical research. Ms. Reilly stressed the need for advocates to have a good understanding of the research environment - including funding levels, pathways of knowledge, ethics and the protections required by them - to be able to best help researchers do their work. Dialogue between advocates and researchers is critical, so National Lung Cancer Partnership will continue this discussion at our next Annual Meeting, to be held on June 1, 2007 in Chicago, IL.



The 2006 Chicago Lung Run 5K and 1K walk was a resounding success, drawing over 900 participants! We surpassed our goal of raising \$50,000 for lung cancer research!

Memorial Giving

The National Lung Cancer Partnership extends our warmest thanks to the following families who have designated us as the beneficiary of memorial donations this year:

Deborah Asaro	Ruth Frerichs	Michael C. McDermott
Glenn Asato	Teresa Casey Fretard	Loreta Milani
Ann Ballantyne	Loretta Grable	Sara (Chip) Mueller
Jeannie Bilodeau	Judith Hehn	Emma Napier
Robert Binder	Beverly Hollesen	Lisa Neal
C. Bernadette Bowen	Virginia Hostetter-Holman	Diane Olson
Sheila Bryant	Elizabeth Hyde	Flo Ostanik
Anne Caprinolo	Joan Jantorni	Barbara Rossnick
Jill Cotoia	Margaret Jantorni	Gabriella W. Smith
Arthur Croce	Marie Juedes	Meng-Chin (Jean) Chen Tsai
Brenda Dunn Shue	Joanne Juscik	Elizabeth Whitham
Concetta Encizo	Rose Luray	Anne Woolner
Mary Elizabeth Foretic	Cynthia McAlister	

Support Research, Awareness, and Change

November is Lung Cancer Awareness Month!

The National Lung Cancer Partnership encourages you to get involved to help raise public awareness about lung cancer. There are many ways you can join the Partnership's efforts to decrease deaths due to lung cancer, and help patients live longer and better, through research, awareness and advocacy. Here are a few of the things National Lung Cancer Partnership is doing to recognize Lung Cancer Awareness Month:

Free to Breathe Lung Cancer 5K

In an attempt to raise awareness and funding to assist in the fight against lung cancer, the #1 cancer killer of both men and women in the U.S., National Lung Cancer Partnership founded the *Free to Breathe* race series. The inaugural *Free to Breathe* 5K run and 1K walk is scheduled for Sunday, November 5, 2006, in Philadelphia, PA. The 5K run will begin at 8:30 am and the 1K walk will begin at 8:35 am, a lung cancer rally will follow the race.

Online Marketplace

The National Lung Cancer Partnership will launch an online Marketplace, with the sale of items benefiting lung cancer programs.

On our marketplace web page, you can purchase items such as coffee, bracelets, and head wraps and know that a portion of the proceeds will benefit National Lung Cancer Partnership. We are excited to partner with Generous Joe, BreatheDEEP, Carolyn's Pin-Ups and others in these endeavors! Regardless of whether you purchase items for yourself or to give as a gift, you can be

assured that your purchases will help make a difference in the outlook for lung cancer patients.

Members Area Online

National Lung Cancer Partnership Members will receive access to more resources through a password protected area of our website. Some pages that are currently freely available will become password-protected for the benefit of our members, and additional content will be added, including a membership directory, and slide sets. To join, please see our website at www.NationalLungCancerPartnership.org.

You can help

What can you do in your community to help in the fight against lung cancer—especially during Lung Cancer Awareness Month? There are several ways you can advocate for awareness and funding including:

- Sign and gather signatures for National Lung Cancer Partnership's petition (download at www.NationalLungCancerPartnership.org or contact us for printed copies).
- Write letters to your congressional representatives, governor, and state representatives to urge them to secure funding for lung cancer research at levels appropriate for the #1 cancer killer.
- Distribute National Lung Cancer Partnership brochures to hospitals, clinics, businesses and events.

You can also support National Lung Cancer Partnership and our work by raising funds for our organization.

Some ideas are:

- Organize a walk, run, bike ride, silent auction, golf outing, luncheon, or other community event to raise lung cancer awareness and benefit National Lung Cancer Partnership programs.
- Donate a portion of your proceeds from the crafts, art, food, or other goods you sell.
- Ask family and friends to help you celebrate an anniversary or birthday by donating to National Lung Cancer Partnership.

More suggestions are listed in detail on our website:

www.NationalLungCancerPartnership.org

Donations can be made to National Lung Cancer Partnership by:

Mail: 222 N. Midvale Blvd., Suite 6
Madison, WI 53705
Phone: 608.233.7905
Fax: 608.233.7893
Email: info@NationalLungCancerPartnership.org
Online: www.NationalLungCancerPartnership.org



In the Press

Survey finds women don't know much about lung cancer.

In June, the Partnership released a survey of women aged 18 to 65+ assessing their knowledge of lung cancer. Unfortunately, the survey found that women's knowledge is limited, with only 41 percent knowing that lung cancer is their #1 cancer killer, and only 36 percent knowing that lung cancer kills more women each year than breast cancer. The survey was picked up by HealthDay.com, and results were distributed around the country in:

- **Chicago, IL** - WMAQ-TV aired the survey results on a "HealthWatch" segment, and posted the results to their website.
- **Nashville, TN** - WKRN-TV aired the survey results, and posted the results to their website.
- **Philadelphia, PA** - KYW-AM radio focused on the survey results during a medical review.
- **St. Louis, MO** - SLFP.org (St. Louis Front Page) posted the text of our press release on the survey.

- **Tampa, FL** - *The Tampa Tribune* published a health brief on the survey.
- **Poughkeepsie, NY** - *The Poughkeepsie Journal* published a health brief on the survey.
- **Green Bay, WI** - WFRV.com posted a brief about the survey results.
- **Asheville, NC** - *The Asheville Citizen-Times* published a health brief on the survey, and posted the article to their website.
- **Craig, CO** - *The Craig Daily Press* printed an op-ed article regarding Colorado passing a smoking ban that referenced the survey results, and posted the article to their website.
- **SIRIUS radio** - Dr. Regina Vidaver, Executive Director, was interviewed on Martha Stewart Living Radio to discuss the survey findings.

JAMA article finds women have twice the risk of men of developing lung cancer

Soon after the Partnership's survey results were widely circulated, a compelling article was published in the *Journal of the American Medical Association (JAMA)* by Dr. Claudia Henschke and colleagues, in which they concluded that women have a two-fold

increased risk of lung cancer over men when smoking the same amount. **Dr. Joan Schiller**, President of the Partnership, was tapped as an expert to describe the results of the study in:

- **The Wall St. Journal** (New York, NY)
- **"The Health Show"** - a nationally syndicated radio show heard on public radio and ABC radio stations around the country. The program is also heard in 138 countries on U.S. Armed Forces Radio.
- **WebMD.com**, and multiple re-postings to other websites

Dr. Schiller was also quoted in the September issue of *Self Magazine* alongside a reporter's story of her diagnosis, and in *Advance for Managers of Respiratory Care* in an article about lung cancer.

Dr. Regina Vidaver, Executive Director, was interviewed for an article in the Summer issue of *Women & Cancer*, which ran a special section on women and lung cancer.