

Comprehensive Cancer Care: Integrating Complementary & Alternative Therapies
Complementary Therapy is an Essential Part of Cancer Treatment
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Thank you, Jim. It's a real privilege and honor to be here, and it's a daunting task following Dr. Siegel. Even though we're both surgeons, I'd like to make a distinction. I am a surgeon who absolutely loves surgery, and I'll tell you a little bit about why I changed my career. I even like to wear neckties.

As Dr. Gordon mentioned, I have become much more interested in the area of alternative and complementary medicine. Part of this came from some of our research dealing with nutrition and cancer, especially prostate cancer. Until recently, I was the head of urology at Memorial Sloan-Kettering. Recently, as part of my own plan of stress reduction, I resigned as chief of urology, although I'm still there in the department. That was one of my most important stress reduction activities.

I also have another distinction. I like to say that I could have gone through life very well without ever having it. Three years ago I was diagnosed with colon cancer. I've gone through four surgeries and a year of chemotherapy, and, as the saying goes, so far I am a cancer survivor. You always have to qualify cancer survivor with "so far," because we all know that that's a tenuous proposition at best. It was this conversion that led me to my current interest.

My career has been not only at Memorial. I started out at Stanford and then at Washington University in St. Louis. I spent 30 years on full-time academic faculty at those three institutions, which represent some of the best medical institutions in the world, but hardly what one would consider on the cutting edge of alternative or complementary medicine. As a result of my own experience, I became exposed to a lot of thinkers in complementary and alternative

medicine. Although I never met Dr. Siegel before this morning, his books and tapes were very helpful to me going through my own process. People like Dean Ornish and Michael Lerner have also contributed to my approach to this problem.

As a result, my goal is not to turn my back on standard medicine. I love surgery, and I'll still continue to do some surgery. I do it as well as anybody in the world in my field, and it is really a meditative phenomenon. You are totally concentrated. There are no telephones ringing. You're totally concentrated on the task at hand, which I understand is what meditation is all about. My goal is to show that there is a natural blend between standard allopathic or Western medicine and the complementary and alternative techniques that you all believe in. I honestly feel that the central decision that I reached is that I think I can do more good in the time I have left in medicine by trying to preach this message than I can by doing another 1,000 or 2,000 or 5,000 radical prostatectomies. With that, I'd like to start with the slides.

This is an academic and personal perspective on the role of complementary medicine as seen by a surgeon. On your right is a graph that was in *USA Today* – a questionnaire given to men with prostate cancer. It says most men now take an active role in treatment decisions for prostate cancers, and gives the factors they say are very important. The major factors are slow the cancer, extend life, followed very closely by improve life quality. Despite what the folks at Pfizer and Viagra say, only 38% were worried about sexual function. The major point is that nowhere on that list is cure of the cancer. It was slowing the cancer's growth and extending life. We all die.

Cancer is one of the few diseases (probably the only one) we learn about in medical school where it's absolutely imperative that we eradicate every last cell. If you stop and think about it, that's a little bit odd. We don't talk about cure of diabetes. We talk about control and

maintaining quality of life. We don't talk about cure of arthritis. We talk about improving the quality of life. There are a host of other diseases that we treat as chronic diseases. People can go on and live a very active and high quality life without curing them. With cancer, we do everything we can. We operate, we radiate, we give chemotherapy – to eradicate. I think that approach needs to be reevaluated. We should approach cancer as a chronic disease. The goal should be to extend life, to keep the quality of life or improve the quality of life, and not do everything possible to eradicate every single cell. This approach may carry with it more harm than the disease itself.

In talking about unconventional medicine, someone said yesterday, the definition is what we weren't taught in medical school, and that's true. You can use the term "alternative." "Integrative" has been used – that simply means the coming together. I prefer "complementary." It really does mean that the techniques that we talk about as alternative or complementary medicine truly do complement standard therapy. It's not just coming together. It's an improvement in standard therapy. Why is this important to physicians? These slides are known to all of you. This is David Eisenberg's study published in 1993, but it is 1990 data. An estimated 61 million users at that time – 72% of those using it did not inform their allopathic physician.

As was mentioned yesterday, more patient pay visits to alternative therapy practitioners than to all U.S. primary care providers. The overall expenditures for alternative therapy in 1990 approximated the cost for all U.S. hospitalizations that individuals paid out of pocket. People are willing to pay for these things. *The Wall Street Journal* had an article in the last six months that this figure is now approximating 50 billion. It's interesting to see that the highest use is not in

the lower socioeconomic uneducated classes. It's younger individuals, 25-49 years old, with a higher education and income level.

Where did we get into this difference between complementary medicine – I'll use that to encompass all the terms – and Western medicine? If we go back to early medicine, early medicine really was the province of the priests and the shamans and the religious. It wasn't physicians. It was the religious that took care of the mind as well as the body. Yesterday Dr. Benson mentioned something about voodoo and hexes. He's absolutely right that there are still cultures where if a hex is put on the person, the person will die. Have you ever thought about what happens when a person goes into a doctor's office, a cancer patient, and the doctor says, "You have six months or a year to live?" That's putting a hex on that patient. That's one of the things that I always stress with residents and fellows. It is the worst thing a physician can do to a patient. It's exactly the same as a voodoo doctor putting a hex on an individual in a primitive culture.

It was René Descartes in his meditations arguing for the existence of God who made the argument for separation. The Cartesian philosophy holds that there is a difference between the psyche and soma, the mind and body, the spirit and substance. That has been carried into Western medicine. We're always looking for the magic bullet. Western medicine is always looking for one thing. We want the one cure for cancer. We're going to change the altered P 53 and that's going to take care of everything. We're going to have one antibiotic, we're going to have one this or that.

In Eastern medicine it's more of a holistic approach – if you will, polytherapy. I don't know that much about Eastern medicine, but what I'm learning is that the approach in the Indian or Chinese tradition has always been to do things that will stimulate the entire energy or chi or

prana of the body. It's not just looking for one thing. It's a recognition that chronic disease, be it cancer or some other disease, is a manifestation of a disturbance in the entire body, not just one gene that has gone wrong.

Techniques we're going to talk about today include nutrition, exercise, stress reduction, and so forth, as a surgeon sees them, and how they can relate to standard medicine. One of the most important things, being a urologist, is prostate cancer. It's the most common cancer in men, the second leading cause of cancer death, but it's also one of the most fascinating cancers. The reason is as follows: we have this unresolved paradox between the latent cancer and the killing cancer.

On your left is an autopsy specimen of a prostate cut in half. This looks like a normal prostate. Right here in the triangle, it's blown up on this side. This is a cancer of the prostate. This man died of another cause. He had no idea that he had cancer of the prostate. He had a normal PSA, a normal physical examination. This to a pathologist is cancer. It's not premalignant. It's not dysplasia. It's cancer. Any pathologist will look at this and say this is cancer.

The interesting thing is when one looks at the distribution of these microscopic cancers – this was a study that just came out last year. When I was a resident they used to teach us that one third of men over the age of 50 had these microscopic cancers. This study came from Detroit last year. A third of men over the age of 30 have cancer in their prostate, and this is not PIN, a premalignant condition. If you go up to age 40-49, almost 60% of men have either premalignant cancer or frank cancer of the prostate. Now obviously, most men don't die of prostate cancer, even though it is the second leading cause of cancer death. It raises the question, why do we have so much cancer in the prostate?

In the majority of men it stays simply that – a latent, or occult, or microfocal, or simply a pathologist's curiosity. If we knew what regulated the growth of that tumor, or conversely what inhibited the growth of it in most men, we would have a much better understanding of the cancer problem in general. The prostate is unique in that regard, but many of the same principles that apply to prostate cancer apply to breast cancer and colon cancer. There are many indirect bits of evidence that prostate cancer is also unique and may be due to some factors that relate to this current topic.

This shows what happens with men in Japan or China when they migrate to the United States, specifically the San Francisco Bay area. This is the incidence of prostate cancer in first generation Japanese or Chinese Americans after moving to the United States. In contrast to Japanese and Chinese men in their homeland, within one generation the incidence of prostate cancer increased three to sevenfold. This is clinical prostate cancer that can be felt. This was before the days of PSA. It's a tremendous increase. Obviously this is not genetic. These men bring their genes with them when they come to San Francisco. There is something related to changing their place of residence.

As I'll try to do throughout this talk, I'd like to blend in with the clinical observations some of the experimental data. These are data from our own laboratory. We took human prostate cancer, put it in a nude mouse, and followed this tumor along. You can actually measure the tumor and weigh the tumor. We can measure things like PSA. What we're able to show is that these animals were started on a high-fat diet similar to what the average American eats. When the diet was changed, this is the control arm, but these are the animals that were fed a lower fat diet. The tumor doesn't disappear, but it basically doesn't grow, or grows very slowly. This is just an example of the animals. This is a dose response curve. This is the

animals receiving a 40% fat diet. This is the same tumor in the animals with a 20% or less fat diet. There's a marked difference in the overall growth of the tumor.

We know that from the time that small cancer starts in men, say in their 30's, until the time it becomes clinically obvious, if it does, is probably 20 to 25 or maybe even 30 years in the average individual, from the time the first cell becomes malignant until we can detect it. If we could simply double the growth that it takes until it's clinically obvious (instead of 25 to 30 years to 50 or 60 years), that would be tantamount to cure in most men. Again, it gets back to the idea of thinking of cancer as a chronic disease rather than one that we have to bring out all the big guns to cure, regardless of the side effects.

Here's the last bit of indirect evidence that fat is involved. This is the age-adjusted death rate per 100,000. This is the per capita dietary fat intake. Down here in the lower corner are the Philippines, Thailand, Japan, Ceylon. Up here in the upper right-hand corner are a high death rate, high fat intake in the United States and Western European countries. You could almost draw a regression line right through that. How much should we recommend men take if they want to avoid prostate cancer, or for men who have prostate cancer? Based on our experiments and some of the clinical studies that we've done with Dr. Wynder at the American Health Foundation and also with Dean Ornish at UC San Francisco, we feel that 20% of total calories in the form of fat should be the absolute upper limit. This means that, figuring nine kilocalories per gram, about 44 grams per day should be the upper limit of fat intake.

How do we do with that? Not surprisingly, here's some of the fat intake that the average American eats. A Jack in the Box cheeseburger would take care of one and a half days of fat. If you go up to a Quincy Steakhouse T-bone, you're up to almost four days of fat in one meal. What is surprising is some of the food products that we think would ordinarily have little fat in

them. Nathan's Chicken Platter – chicken's good, we know that – here's two and a half days of fat with one platter. Here's Little Caesar's veggie pizza. That can't hurt you. Well, 47 grams of fat in one veggie pizza. In contrast, even a McDonald's Big Mac looks relatively good compared to some of these other low fat items.

Participant: Are you funded by McDonald's?

Dr. Fair: No. I put that up there out of a sense of guilt. The incidence of prostate and breast cancer in Japan is going up markedly, and I've always said that it's directly proportional to the number of golden arches. I've been saying that for so many years, I felt guilty when I looked at some of these other things and realized that McDonald's really wasn't so bad. I have no funding – I don't even buy their hamburgers.

Looking at micronutrients, what can we tell folks with prostate cancer? The major interest is in vitamin A and prostate, and this is a study that was done in Finland. It was the alpha-tocopherol beta carotene cancer prevention study, based on the observation that smokers had a decreased incidence of lung cancer if they took vitamin A supplements. There were 29,000 men in this study. What they showed was that in men who were smokers who were taking beta carotene (the vitamin A supplement), there was actually an 18% increase in the incidence of lung cancer in the men taking vitamin A.

A secondary end point was looking at some of the other cancers. There was a 32% decrease in the incidence of prostate cancer. This experiment with vitamin A has been duplicated in our laboratories. This is animals being fed a 40% fat diet plus vitamin A versus those on a 40% fat diet alone. Even though the animals are on a high-fat diet, the growth of this

tumor was markedly inhibited in the presence of vitamin A compared to the animals not receiving vitamin A. Therefore I feel that vitamin A also plays a role in prostate cancer prevention.

A year or so ago, there was a lot of excitement because of an epidemiologic study at Giovannucci College showing that with increased tomato products there was a decreased incidence of prostate cancer. Lycopene was thought perhaps to be involved. Lycopene's an antioxidant, the most potent of the carotene family. It has been shown to inhibit proliferation in a number of cancer cell lines. In our studies, however, and these have not yet been published, when we started the human prostate cancer in the nude mice, and fed the animals lycopene, not only weren't the tumors inhibited, they actually seemed to grow a little bit faster.

We could find no inhibition of this human tumor in animals receiving lycopene. This doesn't mean that lycopene is not involved. There are a number of types of lycopene. But it may be that there is something else in tomatoes. I think it's inappropriate to start telling your patients that they should be taking lycopene until we have better evidence. Tomato products may help, may be of some value, but just selecting out lycopene is the wrong way to go. That's nutrition.

Let's look at some of the other things. Let's look at exercise. These two slides are very important. They are all publications within the last six months. This is a study of 40,000 women, contrasting the activity and mortality rate. For the women who rarely or never exercised, the death rate was arbitrarily set at one. There's almost a nice dose response curve here. Women who exercise as little as four times a week for 30 minutes had a death rate that was one-half that of the women who never exercised.

Just to show you we're not sexist, on the right side is a study with men. This was a very interesting study because this was a 12-year follow-up. Men were queried 12 years prior to this being published in *The New England Journal of Medicine* this year. They were asked how much walking they did. Men who gave a history of walking less than a mile a day were contrasted with those who walked more than two miles a day. Twelve years later, the overall death rate was 50% less in the men who walked more than two miles a day. The cancer death rate was two-thirds less. If this was a new drug that somebody could make a lot of money out of, it would be on every television station and in every newspaper in the country. Because it's exercise, it's not publicized very much, but it's more profound than any drug that we have in terms of preventing cancer.

What about stress? Does stress cause cancer? We know stress can alter the immune function, and the immune system can regulate the tumor growth. We also know that both the type and magnitude of immune changes can influence tumor growth or the ability to metastasize. A lot of these things are relatively new because we didn't have the molecular biology techniques to measure these responses until very recently.

A study that came out last December looked at 93 HIV positive men. They did not have clinical AIDS. It was a 42-month prospective study. The men had medical and psychological assessments every six months and did standard statistical analyses. What they found was significant. It is the first prospective study to study stress and cancer. They found that with a higher stress level there was increased disease progression. The men with the most severe stress level had a four times increase in conversion from HIV positive to clinical AIDS compared to those who did not. Again, this was a prospective study. This is not just looking back and saying, well, stress may have a role here.

Moving on to some other things such as group support and spirituality, several speakers have talked about social isolation. There are eight large-scale studies in the 15-year period with a wide geographical variation. In each of these studies there was a significant relationship between social isolation and disease, with a two- to fivefold increased risk of premature death in those who were socially isolated. Dean Ornish, in his most recent book, made this comment: “I’m not aware of any other factor in medicine – not diet, not smoking, not exercise, not stress, not genetics, not drugs, not surgery – that has such a major impact on our quality of life, incidence of illness, and premature death from all causes.” He was speaking of love and intimacy.

A very interesting study, particularly to physicians, was made of Johns Hopkins medical students in the 1940’s. These students were all male. They were given a closeness to parent scale questionnaire to test the hypothesis whether the quality of human relationship is a factor in the development of cancer later on. This study is ongoing, and it has been evaluated up to 50 years afterwards. It shows that the best predictor of cancer, decades later, up to five decades later, was the closeness of the father-son relationship in early life. This predictive power did not diminish over time. It was not explained by other factors, including smoking, drinking or radiation exposure.

It’s not just related to humans. I throw in a few animal studies here. This is a study that appeared in *Science*, one of the most reputable science journals. It was in 1980 and they were studying the effects of cholesterol on arteriosclerosis. In this study they had rabbits in a cage, and each of the rabbits got the same diet. When it came time to sacrifice the animals and look for plaques in the coronary arteries, they found an amazing thing. The animals in the top cages, 100% had severe plaques in the coronary arteries. When they got down to the lower cages it was

about 40%, a 60% reduction. The question was, why? A whole series of experiments later, it turns out that the lady who came in to feed these rabbits couldn't reach the top cages, so she just pushed the food through the cage. But the ones she could reach, on the lower levels, she would take them out and pet them and play with them. It turned out that social interaction was the most significant factor in reducing the coronary artery plaques in animals, which correlates with what we saw in humans.

Moving on then to group support and spirituality, you're all familiar, I'm sure, with David Spiegel's classic observation at Stanford, psychosocial treatment in metastatic breast cancer. It took women with metastatic breast cancer, already metastasized. The only intervention was one-and-a-half hours of weekly support group. The study divided them into treatment and control groups. They found out that the women getting the one-and-a-half hour of support weekly – just for one year, and then it was stopped – lived twice as long as the women who did not get this, despite the rest of them getting the same type of standard oncologic treatment. When this was published, at ten years, about 8% of these women were still alive ten years after their diagnosis of metastatic breast cancer in the support group, whereas all the women in the standard treatment group were dead within three-and-a-half years.

Moving on to things like symptom control – acupuncture. When I was in medical school, acupuncture was thought to be really hocus pocus. We now know (especially in the area of oncology) that nausea and vomiting can be very effectively controlled by acupuncture. For years neurologists and neuronatomists have looked at what effect acupuncture has on the nerves. We can't show any effect, but again the difference between pain and suffering is often not appreciated. Pain is a physical process, but suffering is the perception of that experience. It's not unrealistic to assume that acupuncture can have an effect without actually altering the nerve

pathways but simply the perception of that experience. We'll find more and more roles for the use of acupuncture in the oncology patient.

Herbal therapy goes back to Old Testament times. This is a quote from Ezekiel. "And on the banks on both sides of the river there will grow all kinds of trees. Their fruit will be for food, and their leaves for healing." While it's a standard in traditional Chinese and some of the Oriental medicines, it's become lost in Western medicine. Yet just within the last few years, we've seen that benign prostatic hyperplasia responds very well to saw palmetto, St. John's wort for depression. Most recently, probably the most exciting thing we have in the chemical treatment of prostate cancer is PC SPES. It is a combination of eight herbs. I think Sophie Chen is in the audience and is on one of the breakout sessions. It has an effect like a phytoestrogen. It inhibits bcl-2, which is helpful in causing the cells to undergo programmed cell death or apoptosis. There's scientific evidence now that herbal medicine really does have a role.

(WARNING: Recent developments on PC-SPES have shown it to contain estrogens and other non-herbal remedies, which have the potential to be dangerous. This info was not known at the time of this conference. When reading about PC-SPES, keep this information in mind. For more information, see the [Washington Post Article from September 5th, 2004](#)[may require registration].)

Aromatherapy. I'm going to wind up with a couple of cute slides. I thought this was really for the birds, so to speak. These studies fascinate me. If you take a female rat and mix her with a male rat and the female gets pregnant, she will go on to deliver rat pups. Once the female becomes pregnant, if you take the male out of the cage, the pups will be reabsorbed. If you separate the pregnant female from the male by a wire cage, so they can see and smell each other, but they can't touch, the pregnancy will go on normally. If you put them in the same box, the

female is pregnant, and you put a glass partition between them so they can see but they can't smell, the fetus is reabsorbed. How does that work? I have no idea.

Just this year there was a fascinating study published on pheromones. These are defined as airborne chemical signals which cannot be detected by normal smell. They are released into the environment and are thought to affect the physiology and behavior of other members of the species. I think every woman in the world knew this, but I didn't know this. If women live together, in a boarding school, convent, or so forth, they tend to synchronize their menstrual cycles. This was a study to try to see whether that was really true, or whether it was just an anecdotal observation.

They took a group of donors, and they wore pads in the axilla for eight hours. They took these pads, cut them up and dropped them in some alcohol. They also measured evening urine samples for luteinizing hormone which tells you the phase of ovulation the woman was in, basal body temperature and progesterone. They took these pads from the donors and cut them up. Then they took the pads and wiped it above the top lip of some women who agreed to serve as recipients. They couldn't smell anything.

They were able to show the presence of two pheromones, one that appeared to be present before ovulation and the other after the women ovulated. They could show that if the donor was in the preovulation phase of the cycle, it would decrease the cycle in the recipient, in other words, try to catch up. The opposite was also true. If the donor was at the time of ovulation or after, the effect on the cycle of the recipient was to lengthen the cycle, lengthen it out to get them in sync. The timing of ovulation in the recipients was manipulated by these chemical signals that could not be appreciated. This is the first definitive evidence in humans that such a thing exists.

Here's another thing that intrigues me. It has nothing to do with oncology but it reflects something that Bernie Siegel mentioned. Here's the sea turtle, a pregnant sea turtle. She wanders up onto the beach and lays the eggs. All those eggs have the same DNA, absolutely the same DNA in every single egg. Whether or not it's a male or a female depends on the temperature of the sand. The eggs that are near the top, and get more of the sun's exposure and have warmer temperature, come out female. The ones on the bottom come out male. I have no idea, no one has any idea how that can be explained. Sir Denis Burkitt, who is well known for his studies in Burkitt's lymphoma, has a saying I always liked: "Not everything that counts can be counted." I think this is another one of those examples.

In conclusion, what is the future of complementary medicine? We are going to see more of it for a variety of reasons – the ineffectiveness of current treatment has a role, but is not the major reason, as a recent study pointed out. As a surgeon, and we recognize that surgery still cures more cancer than radiation and chemotherapy combined, but the surgeon has to recognize that we use surgery as a last resort. John Hunter, who was probably the father of modern surgery, said this in the 18th century: "Surgery is like an armed savage, who attempts to get that by force which a civilized man would get by stratagem." He didn't say it in so many words, but think about the mind-body connection. If a civilized man can use other approaches to effect the same thing as surgery, that's the way we would go. This is not to say that I believe that mind-body approaches should replace surgery, but certainly they have value as an adjunct.

We need more evidence-based therapy. That's the common theme of this meeting and other meetings of this type. It is often said that there's not enough evidence-based therapy. I submit as an allopathic physician that the lack of evidence-based treatment is not limited to alternative medicine. Between 1989 and 1994 there was a sixfold increase in the number of bone

marrow transplants for women with breast cancer. I am not aware of a single randomized study that showed bone marrow transplants improve survival in breast cancer, and yet that's the state of the art.

So we talk about disease, and the distinction between healing and curing. Obviously, we cannot provide total cure, and living forever is impossible. The role of the physician should be to provide healing, even if we can't cure, and to provide an expansion of life, even when we cannot extend life.

I congratulate you all for what you're doing, and I hope to join you in this effort. Thank you very much.