Integrative Medicine Answers the Question: 'What Can I Do to Support My Treatment?'

An interview with integrative medicine specialist Gary Deng, MD, MPH, on strengthening the body while managing treatment side effects.

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When Dr. Gary Deng sits down with a new patient to discuss their goals and how integrative medicine can fit into their overall treatment plan, he likens his work to taking care of a plant. "With the right amount of water, sunshine, fertilizer, and soil – a plant will thrive. That's what integrative medicine is looking to do, but with an entire person," says Deng.

What is meant by this is that instead of concentrating on attacking cancer directly, integrative medicine focuses on how to make the body as strong as possible. With the implicit understanding that a stronger body is better prepared to tackle cancer, and when coupled with traditional cancer treatments – patient outcomes will improve. Through lifestyle changes such as optimizing diet, managing stress, and getting more active, Deng and his colleagues work to improve quality of life, reduce symptoms associated with treatment, and keep people both mentally and physically fit.

"When patients are referred to us, it's usually because they've asked their oncologist about what else they can be doing to improve their treatment," says Deng. "So, we sit down together and I ask: 'why do you want to explore these things?' And we go from there."

His patients have a variety of needs that range from managing treatment side effects like diarrhea, fatigue, or anxiety to getting better, more restful sleep. The common thread, underlining all of this work, is the idea that by taking care of the body – day in and day out – you can promote healing.

It's easy to understand how managing and reducing side effects can allow patients to stay on their treatments longer, deriving the maximum possible benefit.

Deng takes this concept a step further. In addition to managing side effects, he also works to strengthen the overall body – so it is as primed as possible to respond to treatment. "The body has an intrinsic ability to heal and we try to tap into these abilities to help cancer treatment," says Deng.

Integrative medicine focuses on three broad areas – improving the food you eat and your overall diet, helping you move more through exercise, and managing stress and improving sleep. He also employs specific practices from Eastern Medicine that have shown scientific evidence of efficacy – including practices like acupuncture and the consumption of specific herbs and supplements.

On Fueling Your Body Through a Healthy Diet

"Everything we eat contributes to a chemical environment in the body," says Deng. That's why he encourages his patients to pay attention to everything they consume and to focus on eating real, unprocessed foods as often as possible. "Patients always ask if they should be eating anything specific such as blueberries or broccoli. I tell them yes – all of these have a place in a healthy diet, but there is no one magic ingredient. The key is diversity."

The importance of eating a diet rich in fruits and vegetables may be especially true in melanoma where research has shown the importance of cultivating a diverse gut microbiome. Learn more about MRA-funded research in this area.

Deng also touts the benefits of a plant-based diet, which he stresses does not necessarily mean meat free, "plant-based diets have consistently been associated with lower rates of cancer, cancer recurrence, and lower rates of diabetes and improved cardiovascular health.[1]"

And finally, and without surprise, Deng always stresses the importance of watching portion sizes and the proportion between different types of food for each meal.

Exercise: Cleaning the Body from the Inside Out

When we think of the health benefits of regular exercise, we tend to focus on the many ways it can help prevent disease. Exercise builds up your muscles, increases flexibility, improves balance, and strengthens your immune system.[2] In addition to these benefits, Deng focuses on its ability to clean the body, from the inside out.

That's because exercise has also been shown to promote autophagy, a key process that is already happening in our cells for cleaning and removing dysfunctional components and debris. Physical exercise is one of the few things that can enhance this process, thus it literally cleans our cells from the inside out.

This process has also been shown to suppress tumor formation and modulating this cellular process is an area of current scientific research.[3] Deng likens this process to cleaning your house, "you clean your house so that you don't get anything growing where it's not supposed to be. Autophagy works the same way at the cellular level."

Reducing Stress & Getting Good Sleep

Stress is the body's natural reaction to a threatening situation. It activates the body's fight or flight response and triggers the release of hormones that make us temporarily more alert, faster, and

stronger. However, this becomes a problem when the body isn't able to turn off this crisis response and we get stuck in overdrive mode – called chronic stress.

Chronic stress is associated with a litany of ill health effects, such as cardiovascular disease and depression. In the context of melanoma or other cancers, Deng is especially focused on two key hormones produced during periods of stress, cortisol and epinephrine.

Cortisol, a steroid hormone, is responsible for providing the body with a temporary flood of energy during times of stress. Unfortunately, steroids are also known to suppress the immune system.

High levels of cortisol are also associated with increased risk of metastasis.[4]

Stress also floods the body with the hormone epinephrine and norepinephrine, better known as adrenalines. In laboratory studies these hormones were found to stimulate the creation of new blood vessels, called angiogenesis.[5, 6]

Angiogenesis is a critical process in growth, development, and healing of healthy tissue. It also is a key step in the process that drives tumors to metastasize.[7]

"Chronic stress is bad because it not only promotes tumor growth by enhancing angiogenesis it also hurts our immune response," says Deng. "To manage this, we employ a variety of mind/body techniques including meditation, mindfulness, guided imagery, and guided body scans which have been shown to change the way the mind and body react to stressors."

Stress is also intimately connected to sleep. People under chronic stress tend to get poorer sleep. During sleep, the body works to restore the immune system, so getting good sleep is an important, but often overlooked strategy to support and strengthen the body.[8]

What About the Skeptics?

While Deng and his work are grounded in scientific evidence, integrative medicine as a field is not without its critics.

"Skepticism [of integrative medicine] is totally justified," says Deng. "There are indeed people out there who use this approach who promote things with no evidence. They tell people 'do this' or 'don't do that', sometimes based on fallacies or specious theories – and then people may get hurt. It's a very mixed field."

Deng also points to the lack of awareness of the value of integrative medicine among providers and its scant inclusion in medical school curriculums.

Further, it is very challenging and expensive to measure the specific impact of things like improvement in diet or other lifestyle changes – so integrative medicine studies tend to use less rigorous, retrospective or prospective correlative studies instead of randomized controlled clinical

trials. For example, to study a specific diet in a randomized clinical trial setting every piece of food consumed by each participant would need to be closely prescribed and monitored for the duration of the study. Due to the cumulative effect of some lifestyle factors, this might need to take place over decades.

So, Where Does the Evidence Come From?

Everything that Deng or his colleagues employ at the Memorial Sloan Kettering's Bendheim Integrative Medicine Center is based on scientific evidence, and much of that evidence comes from studies done in breast cancer. Due to the much larger patient population in breast cancer, researchers can create clinical studies large enough to generate statistically significant results.

"While there are distinct differences between it (breast cancer) and other cancers, including melanoma, mechanistically they operate in a similar way," says Deng. "All cancers arise from mutations in critical genes."

There is even reason to believe that melanoma, as one of the most highly immunogenic human tumors, may respond better to some integrative medicine interventions that attempt to boost the immune system than do breast or colon cancers (which are considered immunogenically cold).

And while clinical trials in integrative medicine are less common, Deng is currently enrolling patients into one of the largest clinical trials of its kind evaluating the effectiveness of acupuncture, a traditional Chinese medicine therapy that involves penetrating the skin with very thin, solid needles, to improve the quality of life and reduce symptoms for patients going through hematopoietic stem cell transplantation (NCT01311862).

"Traditionally, symptom management relies heavily on drugs, which also have their own side effects," says Deng. "We did a study which showed that acupuncture, a non-drug therapy with few side effects, could actually improve appetite, reduce nausea and drowsiness, and decrease opioid use for pain. We believe this is due to the way acupuncture modulates neurological responses in the brain. We are now expanding that research to generate definitive evidence."

Where Can I Learn More?

If you are interested in learning more about integrative medicine, Deng suggests going to your local academic medical center. "While they may differ in scale and the types of programs they offer, an increasing number of cancer centers offer integrative medicine services." Dr. Deng's program at Memorial Sloan Kettering Cancer Center offers training courses for clinicians so that more patients can access integrative medicine.

He also warns that patients should not try to go it alone. "Be sure to talk to your treating physician before making any major lifestyle change," says Dr. Deng.

Also, before you get started with complementary and integrative medicine, be sure to look at what is covered by your health insurance to avoid any surprise bills. Many - but not all - cover integrative medicine services. Learn more about understanding your health insurance coverage

here.

This is especially true for any herbal or dietary supplements. MRA-funded research suggests that taking over-the-counter probiotics can reduce the effectiveness of immunotherapy!

“Think of herbs as medicine. They all have effects and side effects – and the effect of many supplements are also dose-dependent, meaning you need experience to manage them,” says Dr. Deng. “Treat these just like you would medicine and don’t self-medicate.”

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