

Groundbreaking Database Helps Improve Cancer Treatments

Analysis by [Dr. Joseph Mercola](#)

January 28, 2024

STORY AT-A-GLANCE

- › Dr. William LaValley has created state-of-the-art databases of tens of thousands of studies covering the molecular biology of cancer and the anticancer benefits of nutritional supplements and repurposed drugs
- › The effectiveness of chemotherapy and radiation can be significantly improved by specifically targeted nutritional supplements and/or repurposed drugs, based on your cancer profile
- › Periodic fasting prior to and on the day of chemotherapy or radiation treatment can also be enormously helpful in reducing side effects and increasing effectiveness

Editor's Note: This article is a reprint. It was originally published May 14, 2017.

Cancer will affect half of all men and one-third of all women at some point in their lives. Having optimal metabolic flexibility can significantly reduce your chances of cancer and improve your chances of recovery, but it's certainly not the only way to address this devastating disease.

Dr. William LaValley is one of the world's most advanced clinical researchers and medical doctor practitioners in the field of integrative cancer treatment. He has broken new ground by creating state-of-the-art databases of tens of thousands of studies covering the molecular biology of cancer and the anticancer benefits of nutritional supplements and repurposed drugs (drugs used off-label).

LaValley Protocols – The Other Half of Cancer Treatment

LaValley, a family physician, spent a decade researching the scientific literature, ultimately developing a set of comprehensive databases that he now uses to educate other physicians about science-backed integrative treatments for cancer. He also trains physicians to treat cancer patients using evidence-based molecularly targeted treatments.

"When I was in medical school in the mid-1980s, we didn't learn molecular biology as part of the medical school curriculum. I always felt incomplete and inadequate because I didn't understand molecular biology," he says. "In the beginning of 2006, I took a self-imposed sabbatical ... to learn the molecular biology of cancer.

Since that time, I have developed relational databases that connect cancer cell types, molecular pathways and chemotherapy and pharmaceuticals, as well as natural products – how they interact and how they're cross-referenced with each other.

I have spent well over 13,000 hours developing these databases that now can be used to greatly accelerate the selection of these options, because the data is organized. It's collated. I can then go in and select specific recommendations because I know where to go look.

That information, I think, has great value for the medical community because now doctors don't have to go and do all of that. This information is now encapsulated and in a way predigested. It has great value for the broad spectrum of cancer cell types because there's so much data out there."

Many Nutritional Supplements Have Anticancer Activity

LaValley's work shows there are large amounts of data showing nutritional supplements have molecularly targeted, anticancer effects. Some readily available, commonly utilized

drugs also increase anticancer activity in those with cancer, and both can be used to boost the effectiveness of conventional chemotherapy and radiation treatments.

"The challenge is that most doctors, because they are already overwhelmed ... don't have the time to dig into this information," he says. "[There] are two other important reasons that doctors aren't being taught about this. One is that pharmaceutical companies are restricted by law and regulation from educating about the use of their drugs except for how they're approved ...

The concept is repurposing of drugs. Doctors do it all the time, except they don't learn about it except from other doctors. There are now doctors teaching about these commonly available drugs for anticancer activity.

In addition to that, supplement companies are forbidden from educating and marketing about the use of their products for disease treatment, specifically cancer treatment. Yet there are large amounts of data that show scientifically proven anticancer molecular effects from a whole range of natural supplements, in a whole range of cancers."

Metformin Versus Other Options

There are instances where older, inexpensive drugs can be repurposed for their useful anticancer properties. LaValley mentions metformin as an example, noting it is very low cost, has a long history of safety, is widely available and has significant evidence across a whole range of cancer cell types as having anticancer activity on multiple different molecular targets.

Personally, I have concerns about metformin, as it has been shown to be toxic to mitochondria. Many of its benefits, at least at a molecular level, can be replicated by nutraceuticals that don't have the mitochondrial toxicity. LaValley weighs in, saying:

"I call myself a molecular agnostic. I'm interested in using the molecules that are available. When you talk about metformin, yes, it does have some toxicity to mitochondria at a particular target within the mitochondria.

It also has many other anticancer targets within cancer cells and cancer stem cells. It's widely available. I weigh all of those and I make the recommendations to the doctors. I show the doctors the references, the scientific citations ...

I strongly encourage people diagnosed with cancer to access this emerging specialty of integrative medicine and the particular subspecialty within it that I do, molecular integrative medicine – looking at the spectrum of molecules that can add anticancer effects ...

None of these molecules have only a single target, these natural products or these generic pharmaceuticals. That's why I'm using [them]. Essentially, the goal is to use networks of therapeutic molecules to target networks of cancer molecular pathways."

Natural Medicine Has a Place in Personalized Precision Medicine

There are several important aspects of cancer: cancer metabolism in general; the molecular pathways within the cancer cells; and the microscopic environment adjacent to the cancer cells, the latter of which includes your immune system, which has anticancer immune cells that detect and eliminate cancer cells and precancer immune cells that protect and support cancer cells.

There are natural supplements that can increase or boost your anticancer immune cells and decrease your pro-cancer immune cells.

Now, what kills most cancer patients is actually the mechanism by which circulating cancer stem cells are distributed throughout the body. If you can target and eliminate these cancer stem cells, then it's relatively easy to control the cancer. LaValley says:

"When I describe cancer to patients or to their doctors, I'm looking at targeting cancer metabolism ... In addition [to] molecular pathways within the cancer cells, there are a whole range of cancer-supporting and protecting cells in the microscopic environment immediately adjacent to the cancer cells. That

microenvironment includes a population of stem cells that can replenish cancer cells even when those cancer cells are eliminated.

Whether it's cancer cells or those stem cells or some of the immune microenvironment cells, they can ... leave the cancer tumor ... and circulate throughout the body to other positions ... and start growing additional cancer tumors called metastatic cancer ...

Using natural products, we can target all of these ... There are many options available. Those options can be personalized depending on the molecular characteristics ... of those patients' cancer cells.

They can be evaluated using technology called genomics, DNA assessment, or look at RNA or look at the proteins in the cancer cells, to give a much better idea of how to target ... treatment on that particular person's cancer. That's personalized precision medicine, in addition to patient-centered medicine, which is where the integrative medicine doctors are giving people choices for natural medicine in addition to their conventional medicine."

Building Your Cancer Treatment Team

LaValley warns against taking a do-it-yourself approach when you have cancer. It's very important to work with a qualified team of physicians who have access to scientific literature and know how to personalize protocols for your particular cancer. Fortunately, there is now a large network of integrative medicine doctors in the U.S. and in Canada who are available for collaboration with your oncologist and integrative medicine doctor.

This is precisely what LaValley does. He collaborates with doctors to give them evidence-based, molecularly targeted, anticancer treatment recommendations for supplements, as well as off-label or repurposed pharmaceuticals. Another important member of the team is the nutritionist.

"All of [my recommendations are] specifically designed to be integrated with whatever their chemotherapy and or radiation therapy is, and not expected,

recommended or designed to be 'instead of.' Most people are getting chemo and radiation. That's where they are. They don't know that they can get this significantly greater increased benefit ...

The doctor receives the protocol recommendations and then considers and decides [on] each one ... with that patient. Then, with our team, we can help those people implement the selections that doctor has made so that we make it very efficient.

It's a very organized systematic approach. People can implement very complex, very effective, broad-spectrum protocols and get robust anticancer results, basically really healthy, good, long lives. They can do it because this system is made efficient for implementation at home on a daily basis."

Hope for Late-Stage Cancer Patients

When we're talking about cancer and cancer treatment, there's a really wide range of patients and potential options. If you've been recently diagnosed and have very localized stage 1 cancer, it is possible that you could control it by carefully implementing various principles that involve food or lifestyle changes. However, the more aggressive your cancer, and the later the stage at which you're diagnosed, the more comprehensive your treatment strategy needs to be.

Now, what if you've just been diagnosed with a stage 4 aggressive cancer? As demonstrated by the [ChemoThermia Oncology Center](#) in Turkey, these days there's often hope even for those given mere weeks to live. LaValley also sees many patients with stage 4 cancer.

"If they're able to implement at least a minor protocol or a medium-sized protocol, it's very common for us to see they're getting significant benefit. In other words, slowing down the progression, even getting the tumor amount, the tumor load, to decrease," he says. "There are ways to decrease the symptoms, decrease the suffering that people have as well.

There are ways to increase the anticancer part of the immune system with people in stage 4 cancer, because stage 4 can be a very end-stage, very dramatic, very difficult part. Or it can be an early aspect of stage 4 where they still have a really robust quality of life and they are able to manage and have a good full life doing what they want to do ... I think it really matters to the degree that they're willing to implement [the protocols].

What I tell people is try it for three months. See how you're able to implement. Collaborate with your doctor, your conventional oncology team, as well as your integrative medicine doctors. Assess how you are at one, two and three months.

These kinds of protocols, they take a while to get up and running. It may take a month or so just to get things up and running. Then over the next two months [of] very diligently implementing, reassess and determine whether there's value. If somebody has a rapidly progressive cancer and then it doesn't rapidly progress, that's progress. That's benefit. That's value. They're able to extend their length of life."

New Technology Can Identify Cancer Markers

Cancer patients also have more and better options today in terms of post-care, or that time after their cancer has gone into remission and can no longer be seen on a computed tomography (CT) scan, positron emission tomography (PET) scan, magnetic resonance imagery (MRI) or other kind of scanning tool. Just because the tumor can no longer be seen on a scan does not automatically mean there are no cancer cells left in the body.

Today, there are tools that can identify tumor markers, such as particular proteins in the blood. Should such markers be present, continuing the anticancer protocol would be prudent, and could mean the difference between living cancer free for the rest of your life or having to address a recurrence down the road.

More Information

If you've been diagnosed with cancer, or know someone who has been diagnosed, you may want to consider tackling it from more angles than just one. Chemotherapy and radiation are hardly magic bullets. Overall, they have fairly low success rates for many cancers.

Also know that LaValley and his team, as well as other integrative medicine doctors, are available to help, regardless of where you live. Oftentimes LaValley will initially be contacted by the patient. He can then contact your chosen oncologist or integrative medicine doctor to establish a collaborative team. If you don't have an integrative medicine doctor, or oncologist, he and his team can also help you find one.

Once a collaboration has been set up, LaValley can develop a customized treatment protocol just for you for your integrative medicine physician to consider in your treatment. Remember, it's important to have an integrative team working together to ensure the entire spectrum of care is properly covered.

You can find more information on his website, www.LaValleyMDProtocols.com. It's a phenomenal resource that both you and your doctor can peruse. To set up a consultation with LaValley, see the "Get Started" tab.

"We're developing resources for patients and their doctors to make it easier for them to understand [the information] and to have a discussion, as well as [make] this database access easier," he says.

"Medicine is undergoing such a great evolution that it's going to come across the full spectrum. That's what we're aiming to do. It's to make people have access to these [protocols] from whatever practice or whatever licensed physician they're going to."