

The Anti-Inflammatory Diet Through A Cancer Lens!

Webinar Questions Answered by Jean LaMantia, RD

- What are some general inflammatory labs you recommend patients with cancer or cancer risk receive annually?
CRP is the main one I recommend.
- If high fat diets increase bile acid, have there been studies looking at rates of reflux or bile acid levels in those on keto diet?
I am not aware of studies on ketogenic diet and GERD. I did a PubMed search but could only find this <https://pubmed.ncbi.nlm.nih.gov/16871438/> but it doesn't specify the level of fat and I don't have access to the full study
- Does bile found in the stomach on EGD increase risk for stomach cancer?
I cannot say for sure, but presumably, the presence of bile acid would lead to more histological changes in the esophagus.
- How is Barrett's esophagus diagnosed and when in terms of symptoms?
It is diagnosed with endoscopy but I'm not sure if there is a standard protocol for when that should be done in patients with GERD
- Can you expand the connection between gall bladder stones and inflammation?
Essentially, people with gallbladder stones have a higher rate of cancer and the mechanism that triggers this link is inflammation. There are the two papers that discuss gall bladder stones, inflammation, and cancer.
<https://pubmed.ncbi.nlm.nih.gov/23981574/>
<https://pubmed.ncbi.nlm.nih.gov/27147576/>
- Are you aware of research that shows individuals with Multiple Sclerosis having chronic inflammation caused by the MS?
I am not aware of that, but I did find this paper that I think you will find interesting
<https://pubmed.ncbi.nlm.nih.gov/31420598/>
- What about people with a BMI over 30 (considered obese) but they work out and are muscular with low body fat composition. Are they at an increased risk of cancer?
I would not consider this person to be at increased risk of cancer. It is the visceral fat that increases the risk and in this example that would be low.
- Why would B12 be inflammatory?
The methodology used to develop the DII compared food constituents with blood levels, so presumably there was an association. But it is a weak effect and so, I would not recommend restricting B12.
- Does it matter what kind of tea/proteins to choose that are more anti-inflammatory when it comes to the DII?
Both green and black tea had the same anti-inflammatory strength, but we know from other cancer research that the EGCG is higher in green tea and so it would have an advantage for this reason. Since saturated fat is also inflammatory, I would presume that proteins that are lower in saturated fat would be less inflammatory.
- In the DII study, how did they identify that specific foods were pro-inflammatory?
The paper describes their methodology
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2777480/>
- Is there evidence that sugar or high-glycemic foods are more pro-inflammatory?

Yes, it was found to be inflammatory from the DII in 2009 and there have been other research since <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2777480/>.

- I work in an In-center Hemodialysis Unit. I love CRP but am unable to routinely draw this. I have been using NLR (Neutrophil to Lymphocyte Ratio) in lieu of CRP. What are your thoughts on use of NLR instead of CRP?

I have no comment on this, it is not something that I have researched, sorry.

- What about the low methionine diet you mention on your Facebook page? How do you suggest starting this type of diet?

That diet is used in the early stages of triple negative breast cancer. There is a trial underway right now. With a client that is motivated, then I would certainly be open to helping her to achieve this, but it is basically a vegan diet with restricted plant proteins, so they need to be motivated to do this. <https://jeanlamantia.com/cancer-bites-diet-blog/special-diet-for-triple-negative-breast-cancer/>

- Does inflammation increase dementia prevalence and risk?

Yes, inflammation is also linked to Alzheimer's.

- Do you have a practical tip for calculating the omega 6 and 3 ratio?

No, sorry.

- Are those high anti-inflammatory foods good for people with GERD?

You would have to customize that. Not all of them would be tolerated for example olive oil is anti-inflammatory, so are chilies but these would not be great for someone with GERD.

- Are not some of the Oleic acid oils also high in Omega 6

To be called "high oleic" an oil has to have 70% oleic acid. Yes, they also have linoleic acid, but the ratio is very favorable. You can see the profiles of the seed oils with high oleic versions in these links. Safflower oil: <https://www.oilseedssf.com/products/international/ho-safflower-oil.php#fragment-3>. For example Safflower is 77% oleic and 15% linoleic so a ratio of 0.2:1.

Canola: https://www.canolacouncil.org/media/515008/classic_and_high-oleic_canola_oils.pdf.

Soy: <https://www.qualisoy.com/food-industry-solutions/high-oleic-soybean-oil>. Peanut –hard to find info on peanut oil. <https://www.healthline.com/nutrition/is-peanut-oil-healthy#section3> or <https://www.goldenpeanut.com/PeanutOil.aspx>

- Regarding oils, are both mid or high oleic good?

High oleic is the best, mid is better than low, but I recommend my clients look for high. I only had the image of the "mid-oleic" label to show that it is listed, sorry for the confusion on that.

- I've seen multiple studies that show omega-6 is not pro-inflammatory. J Acad Nutr Diet 2012 Jul;11(7):1029-41 is one of them. Can you provide the sources to say the omega 6 ratio is pro-inflammatory? From what I've heard this idea has lost favor based on the research.

Ricker MA, et al Anti-Inflammatory Diet in Clinical Practice: A Review. Nutr Clin Pract. 2017 Jun;32(3):318-325.

- What are your thoughts on EVOO vs. other oils used commonly in the kitchen?

This blog will help you to understand my position. <https://jeanlamantia.com/cancer-bites-diet-blog/high-oleic-oil/> I think EVOO is great. I also like other anti-inflammatory oils that are stable with cooking including canola and high oleic sunflower and safflower.

- What CRP level is acceptable?

Less than 10 mg

- How often do you recommend having CRP checked?

I think about 6 mos., maybe 3 if there are a lot of changes.

- What are your recommendations for checking or monitoring CRP for someone with an active cancer diagnosis or during treatment?

I do not have a recommendation for that. I think there is so much going on with a new diagnosis, and treatment that you could not say that if the CRP changes that it is because of the diet.

- Isn't HS CRP ideal over CRP?

Yes, I believe so. The HS is more sensitive of course, but the one that is done more often in the research is CRP. Karen Collins has a good blog on this

<https://karencollinsnutrition.com/inflammation-measuring-antiinflammatory-diet/>

- If red meat is inflammatory and many whole plant foods including whole grains and legumes are anti-inflammatory, why is the Paleo Autoimmune Protocol used for autoimmune disease? If you look at the IF Tracker app you will see that many legumes are actually inflammatory. But the focus should be that at the end of the day, your eating is anti-inflammatory not that you can only ever eat anti-inflammatory foods. I don't know the Paleo Autoimmune Protocol, but I would hope if it is being used that it is evidence-based, but this is not an area that I have researched.
- Apart from turmeric what other spices have a lot of evidence to be protective against inflammation?
- According to the DII, the top anti-inflammatory spices are turmeric, garlic, ginger and saffron. He IF tracker app also adds cayenne, curry, chili powder, onion flakes and powder.
- Can you speak about Thyroiditis and inflammation?
No, I am sorry, I haven't looked at that.
- Do diets high in healthy fats (omega 3a and monos) still promote high excretion of bile acids?
I believe that yes, they would because they all require bile acid for digestion.
- What about red wine? Is it considered anti-inflammatory in reasonable amounts or would the alcohol outweigh the benefits?
According to the DII alcohol is anti-inflammatory, however, I am very careful with that message, as alcohol is linked with several cancers, especially breast. I think the risk of alcohol would outweigh the anti-inflammatory effect, and I would suggest a limit especially since there are many foods that are anti-inflammatory that do not have a downside.
- What do you think about carotenoids in either diet or supplementation?
I think carotenoids in the diet are excellent – they contain nutraceuticals and are anti-inflammatory. With supplements, you need to be careful as beta-carotene is linked to higher lung cancer rates in smokers.
- You mentioned there is no proven arthritis/cancer connection. I wonder about Inflammatory Breast Cancer. It is a poorly named cancer, it is more a cancer of the lymphatics, would there be a connection with it?
In the paper I presented *Smitten, A. A meta-analysis of the incidence of malignancy in adult patients with rheumatoid arthritis. Arthritis Res Ther 10, R45 2008*
<https://arthritis-research.biomedcentral.com/articles/10.1186/ar2404> They found a reduced risk of breast cancer with rheumatoid arthritis. Unfortunately, the authors didn't include this finding in their discussion, so the reader is left to ponder why this is the case. It is possible that the medication used to treat the RA reduced the risk. This paper did not subdivide the breast cancers, so I can't comment on inflammatory breast cancer vs other subtypes.
- Have you had people in cancer treatment have a high RDW sd and what you would advise?
Interesting question. No, I have not seen this. Sorry, I don't have any advice.
- Have you found any research that has linked Intermittent fasting to decrease inflammation?
Yes. This one showed that IF and CER had equivalent reductions in inflammation:
<https://pubmed.ncbi.nlm.nih.gov/29508693/> This was showed reduce inflammation during Ramadan fasting: <https://pubmed.ncbi.nlm.nih.gov/23244540/> This one was 8 weeks of 16:8

also showed reduced inflammation:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5064803/pdf/12967_2016_Article_1044.pdf

Two more that also reduced inflammation:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1859864/pdf/nihms19360.pdf> and

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6471315/>

- Practically speaking, how many anti-inflammatory food servings are enough per day to significantly reduce risk for cancer?
- That hasn't been studied and would be hard to answer as cancer is such a complicated disease. Walter Willett and his team at Harvard developed a "Empirical Dietary Inflammatory Index" the "EDII" based on food groups and not individual foods. This might be good research for you to look at <https://pubmed.ncbi.nlm.nih.gov/27358416/> There has also been research showing that a Mediterranean dietary pattern reduces inflammation. So that gives you an idea of the "number of food servings" <https://pubmed.ncbi.nlm.nih.gov/27101757/>
- What about gallbladder disease and inflammation? If the gall bladder has been removed, is inflammation still an issue?
I think removing an inflamed gallbladder would be a significant step to reducing cancer risk. I think it would also reduce the inflammation in the area, but it would depend on the person's other lifestyle factors whether some chronic inflammation remains in the area, I believe.
- Do you have any information regarding the value of Grapeseed Oil?
Grapeseed oil is very high in omega-6 fatty acids and forms polar compounds when heated. For these two reasons, I do not recommend it. I discuss it in the blog post. <https://jeanlamantia.com/cancer-bites-diet-blog/high-oleic-oil/>
- What about anti-inflammatory foods and hashimotos disease?
I didn't research that for this presentation. I did a quick search and this article might be worth reading as it mentions TNFalpha an inflammatory biomarker and Hashimoto's
<https://pubmed.ncbi.nlm.nih.gov/30058600/>
- What is a good number for DII on foods--connected to IF tracker? Or what is a good goal to strive for?
The DII and IF Tracker are two different tools so the numbers don't compare. The goal in using IF Tracker would be that at the end of your day your diet is anti-inflammatory. Then I would suggest a person would check the CRP to see what impact the diet is having. If they need to, they can set a higher target for the IF score that they want to attain.
- How are oils irritating to the esophagus in terms of GERD?
The oils might not irritate the esophageal lining per se, but could loosen the LES and allow more stomach acid to reflux up and damage the lining. The oil would also require more bile for digestion and if a person is refluxing bile then that would also be damaging.
- Is there a connection between ketogenic diet and decreased inflammation?
This study doesn't mention inflammation as one of the parameters that they measured, but since they reduced metabolic syndrome and NAFLD I suspect inflammation went down. I think a keto diet like this "Spanish Ketogenic Diet" with more emphasis of unsaturated fats would be a better approach. <https://pubmed.ncbi.nlm.nih.gov/21688989/>
- Would you consider dairy foods proinflammatory?
Yes, but I would not necessarily advise someone to avoid them, rather I would look at the whole diet.
- What are your thoughts on gluten causing inflammation?
I believe if someone is sensitive to gluten, then absolutely it will cause inflammation. But I would not say across the board that gluten is inflammatory. Also, I always recommend a celiac blood test before someone goes gluten free.

- What is your suggested daily dosage on turmeric if taken as a supplement?
I don't have one, sorry.
- Any high correlation between aging (length of telomeres) & anti-inflammatory diet?
Have you heard of Inflamm-aging? It is a thing. Increased inflammation with aging. This paper talks about it, but I do not think it gets into telomere length. But maybe one of the references used in this paper addresses it. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6689741/>
- Is avocado oil anti-inflammatory?
Yes. It's also high in omega 9/oleic acid but contains less than EVOO from the charts that I've seen.
- In the slides it mentions that caffeine may have an anti-inflammatory effect, does it pertain to sources such as green tea which also has EGCG or other sources as well?
You can read that paper, it doesn't divide green and black tea, so I take it that both green and black tea are considered equivalent in the anti-inflammatory strength, but I agree with you that green tea pulls ahead for cancer fighting ability because of the EGCG.
<https://pubmed.ncbi.nlm.nih.gov/19864399/>
- Is your Complete Lymphedema guide/book mostly for secondary Lymphedema or primary?
Both primary and secondary. The treatment is very similar. It is an excellent resource, so if you work with lymphedema, obesity or cancer patients you should definitely get one.
<https://amzn.to/2S38Ka4>
- What is the time frame for an anti-inflammatory diet to show benefit?
This trial used 3 weeks: <https://pubmed.ncbi.nlm.nih.gov/16902063/>. This one was also 3 weeks <https://pubmed.ncbi.nlm.nih.gov/16357066/>. This is only two trials of course but it gives you an idea that inflammatory markers can change quickly.
- Have you found much research on organic vs conventional foods with the anti-inflammatory diet?
No, but I also have not looked. Melinda Hemmelgarn will be presenting on Organic on Dec 9th and you can ask her that question. Register here <https://healthcare.orgain.com/webinar>
- Can you give references for use of DII and risk levels of these disorders and/or survival rates of the disease?
Here are some references that used the DII:
<https://www.ncbi.nlm.nih.gov/pmc/?term=susan+steck+DII>
- Any information with foods and successful treatment of Sjogren's?
Not that I am aware of, but this is not something I have researched.
- Are there any high protein supplements you recommend for patients during cancer treatment that struggle with nausea and vomiting?
Not that I have used. For nausea and vomiting, my approach is more traditional, in which I talk about reducing smells, cold and room temp foods, using cups with lids and straws etc. To keep the protein up, I usually recommend soft foods like yogurt, eggs, puddings. I find many cancer patients have an aversion to meat, but I think the Orgain protein powders would be excellent to try. <https://orgain.com/collections/protein-powder> In my experience cancer patients prefer to use organic products made from foods they recognize. In my book, I go through all my strategies to deal with the side-effects of cancer treatment, which is a good resource for patients and dietitians to have on hand if you want to check it out <https://amzn.to/2S6pQE2>
- What about calprotectin stool test for inflammation in the gut?
I haven't used it in my clients and am not familiar with it, sorry.
- Would you recommend an anti-inflammatory diet for individuals with fibromyalgia as well?
Sure. I think everyone should be on an anti-inflammatory diet, as it is good prevention. Not looking into the specifics of fibromyalgia though, but just commenting at face value, it seems

that it is an inflammatory condition, so I suspect patients would benefit but when I put “anti-inflammatory diet and fibromyalgia” into PubMed there were zero results.

- Did she say that breast cancer is not affected by the immune system? If not, can she please briefly elaborate on this?

In other reading that I have done looking at the role of the immune system and cancer, the authors categorize cancers as “immunogenic” and “non-immunogenic”. Those that are immunogenic “able to produce an immune response” are skin, cervical, Hodgkin’s lymphoma, liver, and stomach. The non-immunogenic are breast, colorectal and prostate. For me, when I talk about reducing cancer risk, I frame it as; there are 3 Keys to Cancer Risk Reduction: 1) support the immune system, 2) reduce chronic inflammation, 3) choose the foods/nutrients that act directly against the cancer cells. After reading a lot about diet and cancer, it seems to me, these are the 3 main mechanisms. I will use all three with my clients, but I understand that for someone with non-metastatic breast that the immune system may play less of a role than someone with skin cancer for example. Here is the food guide that I created that teaches patients the 3 Keys. I designed it like a teaching tool for dietitians to use with their patients <https://jeanlamantia.com/jeans-nutrition-books/cancer-risk-reduction-guide/>. Here are the studies that look at the immunogenics of cancer: <https://pubmed.ncbi.nlm.nih.gov/17617273/> and <https://pubmed.ncbi.nlm.nih.gov/25843729/>. There was also a text book that I like that discusses this and basically says that the immune system has the most protection against blood cancers and virus-associated cancers. A cancer that is tucked away in the breast tissue is less likely to be detected by immune cells which are circulating in the blood and lymph. This is the book: <https://amzn.to/3mYR3qt> I have the 4th edition but this looks like the more updated version.

- It would be interesting to read that article about inflammation and intermittent fasting, can you share?

Yes. This one showed that IF and CER had equivalent reductions in inflammation: <https://pubmed.ncbi.nlm.nih.gov/29508693/>. This was showed reduce inflammation during Ramadan fasting: <https://pubmed.ncbi.nlm.nih.gov/23244540/>. This one was 8 weeks of 16:8 also showed reduced inflammation: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5064803/pdf/12967_2016_Article_1044.pdf Two more that also reduced inflammation: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1859864/pdf/nihms19360.pdf> and <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6471315/>

- Regarding B12 is there a difference between cyanocobalamin and methylcobalamin?

I do not know, but the effect of B12 was minimal. I would not change anything I teach my clients about B12 based on the 2009 DII study.