



CLL SOCIETY

Webinar Transcript

Common Infections with CLL: Prevention and Treatment

December 13, 2024

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This text is based off a computer-generated transcript and has been compiled and edited. However, it will not accurately capture everything that was said on the webinar. The time stamp is approximately 10-minutes off due to editing. The complete recording of this webinar is available on-demand.

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Hello and welcome to today's webinar.

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I am Robyn Brumble, a registered nurse and CLL Society's Director of Scientific Affairs and Research.

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At the CLL Society, we are dedicated to bringing credible and up-to-date information to the CLL and SLL community...

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because we believe smart patients get smart care.

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This program was made possible through support from both our donors and our industry partners.

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At this time, I would like to introduce our moderator.

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Thank you. Thank you, Robyn. I would like to welcome our audience...

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to today's event. I'm Dr. Brian Koffman, co-founder, Executive Vice President...

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and Chief Medical Officer of the CLL Society.

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And today we're joined by Dr. William A. Werbel. He's the Assistant Professor of Medicine, Division of Infectious Disease, Section of Transplant and Oncology Infectious...

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Diseases at Johns Hopkins University School of Medicine.

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He's also the Associate Director of Epidemiology and Quantitative Science at Johns Hopkins Transplant Research Center.

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And we'll be answering audience questions at the end of this event...

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so, please take advantage of that opportunity and ask your questions in the Q&A box.

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Before we begin, I'd like to share a few important disclaimers.

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The information provided during today's webinar...

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is for educational purposes only and should not be considered medical advice.

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For any personal health or treatment questions,...

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please consult your healthcare team.

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Please note that while the CLL Society may have its own opinions and policies,...

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our speakers may offer differing viewpoints,...

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especially about the management of CLL...

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and its complications, including infections.



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Now it's our pleasure to welcome Dr. William Werbel.

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Well, thanks very much for the introduction. My name is Bill...

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Werbel and uh, you know I take care of...

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patients with CLL and...

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as an infectious disease doctor trying to prevent or treat infections if they come up. So, I'm not a cancer expert, but...

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I do work closely in trying to keep people with cancer healthy.

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So with that, I wanted to spend some time now to talk about common infections in people with CLL and their prevention and treatment.

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So as a brief outline,..

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we'll talk first about a respiratory infection kind of status report and a little bit of a forecast for the winter;..

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then some general and CLL specific factors for serious respiratory diseases with the focus on viruses which are the most common infections;..

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some ways to reduce risk,..

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and then we'll drill down in sort of the three most...

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common viruses in the winter, RSV, influenza, and COVID-19.



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And hopefully we'll have time for this, it's a little bit of a grab bag at the end, about some relationship between certain...

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CLL drugs and certain infections, being a little bit more specific, and then really hopefully, have time to talk about emerging infections, meaning things that are kind of coming up...

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this year that are a threat to people who are immunocompromised.

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So in terms of...

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the status reporting forecasting. It's actually been relatively difficult to understand which viruses are circulating at a given time...

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due to variation in testing and reporting by the CDC and others. So, some have looked to wastewater, basically sewage, to see what is being shed in the community. And so these are from...

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A publicly available resource called BioBot, which is similar to what the CDC does. And to orient you, this is a graph of RSV,..

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where the purple line denotes how much RSV virus is kind of being found in the wastewater. There's a little teal circle there that should be January 1st, which you see is a theme through these.

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And then most importantly, the arrow here showing an uptick in late November that's continued now in early December, showing us that we are indeed in the start of an RSV surge that will likely peak...

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in the next...

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four to six weeks. Influenza is relatively similar, also tends to peak...

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at a relatively similar time as RSV, but kind of a longer lag time. It's usually a second hump...

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in the late winter, early spring...

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and also is ticking up. It's likely to begin about a week or two after RSV.

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And like I said, have a longer season...

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so, this is a timely, timely webinar. And then lastly, the hardest one I save for last, which is COVID-19 or SARS-CoV-2.

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You can see here, these are teal dots, those four ones here for the last four years of circulation.

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As you can see, there is about a January 1st surge as well with COVID-19...

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but there's usually like a second hump...

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in the late summer or early fall for the last two years, in particular. And then if you zoom all the way to the right of the graph, this was that most recent hump that peaked around...

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September, mid-September,..

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a little bit later than in the previous year or two.

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And right now, we're actually at a relatively low circulation relative to what we would probably anticipate later...



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in the winter.

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And, there is uncertainty here. I would probably predict that we'll be seeing it more in January,..

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maybe January, February, but it's really hard to know. And part of it is you can see kind of the glaring obvious giant spike in the middle of that graph that corresponded to the first Omicron wave, meaning a major shift in the viral variant...

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led to a lot of people being susceptible and eventually infected. That is basically always possible.

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It's becoming less and less likely over time owing to increased immunity. But the virus is tricky.

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So, I actually wanted to talk a little bit about the variant forecast because it directly relates to what we're discussing.

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So, there's a lot of letters that end up in the...

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numbers and the sort of alphabet soup of variants that show up on headlines and CNN and such. But to kind of drill down,..

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all the variants that are circulating now are children or grandchildren of some of the early Omicron variants.

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JN.1 was the most recent successful child that was part of the peak that was happening in the...

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fall and its grandchildren are KP.2 and KP.3. And those are actually, the targets of the updated vaccine that...



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some of us received this past fall.

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And those are the sort of greenish,..

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green purple sort of parts of these bar graphs, which are week by week variant proportions. There's a light green...

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graph, part of the graph that's increasing. And that variant is called XEC,..

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the newest member, an X, if you ever see that in a variant, means two variants combined together.

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And basically, this was the product of two JN.1 variants combining together. And it's likely the one that's going to be the most common in December.

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And it does seem to be a little bit more immune evasive, meaning evades some of our antibodies, but not a dramatic shift necessarily as compared to prior variants.

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There is another one on the horizon that you might see, I would bet maybe January, February, called LP.8.1, but that is beyond...

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the current discussion today and again, doesn't seem to be dramatically different than prior.

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So that was viruses and one bacteria I will bring up is something called mycoplasma,..

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which you may have heard of, and it increased in the US last fall and also this past fall, particularly in children and...

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it was the cause of this so-called white lung disease noticed in...



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China, was concerned for maybe another COVID variant, and then places like Ohio and the United States. But it actually is a common bacteria that's a cause of walking pneumonia or a chest cold and spread through droplets and...

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coughing and sneezing like viruses and can be diagnosed kind of in the same way by swabbing your nose or in particular your...

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throat.

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The difference though is that you can treat this with antibiotics. And the classic antibiotic is the Z-pak or azithromycin, which in most cases should be effective.

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Though what is a little notable, as per the CDC, is that there is some increase in resistance to azithromycin...

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so second line antibiotics such as doxycycline or other ones called moxifloxacin or...

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Avelox may be used if people have a known diagnosis of mycoplasma and they're not improving.

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So, there was more of this in the late fall and early winter. It may be a player this winter as well. It's just something to be on the radar.

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Okay, so that is the forecast of the forecast for...

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the winter. And now the reason we're having this...

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webinar is because people with CLL are more likely to get certain infections. And so, we'll talk a little bit about the why of that. Why is that the case?

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Many people with CLL are older, 60s or 70s, with non-CLL medical conditions that can be exacerbated by getting...

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an infection and also contribute to reduced immunity like diabetes or heart or lung disease.

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CLL by its nature does sap the good immune system. A lot of energy is being put into the wrong kind of immune cells and supplies a less functional one in its place, particularly lymphocytes that we'll talk about a little bit later. That's the L...

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in CLL, such as the B cells, which make good antibodies...

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which are less likely to be produced in people with CLL...

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and in particular, people who are on treatments for CLL.

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So, things like steroids or chemotherapy or getting a bone marrow transplant...

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further impair the immune system actually, in an additional way. So other parts, not just the lymphocytes,...

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for example, and that can lead to...

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having it be easier to get an infection...

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harder to fight it off if you get an infection and does unfortunately interfere with some of the...

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impact of preventative vaccines, which are key to keeping us well.

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So, to kind of frame this in a pictographic kind of way, I wanted to show this graphic that I helped develop for a CDC...

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affiliated website to look at COVID-19 as an example, but you could substitute in other viruses here or other infections to kind of create a...

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continuum of risk,..

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from lower risk on the left side to..

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higher risk on the right side. And for COVID in particular, but for many of these viruses, the most important risk factor for getting a severe infection is how old you are.

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And so people, particularly in their 70s, are going to be at higher risk for some of these...

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infections we discussed. Also, not every 70 year old is the same person with respect to their other medical conditions. So as those increase, the potential for...

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infections or maybe complications related to your underlying medical conditions will go up.

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And then one thing that we definitely can change is being vaccinated. So being unvaccinated against whatever disease we're talking about is the highest risk situation versus...

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having a full vaccination and boosting ideally with an updated formulation...

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from last year would be the lowest risk.

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And then there's this big sliding scale of immunosuppression. And in my line of work, I mostly deal with the right side here of people with...



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more intense immunosuppression, organ transplants,..

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people who get lymphodepleting therapies such as rituximab or Obinutuzumab,..

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people who have CLL or stem cell transplants. Those are on the higher end, particularly when the disease is active...

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and being treated. And the issue, as I mentioned, is not only does that make it easier to get infections....

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but they do negatively impact

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some of the benefits of vaccination.

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So, what are some general things that one could do to reduce infections? And some of this sounds like something you learn in school but...

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it's good to review. The one first is wash your hands. And I actually, mentioned that specifically because hand sanitizer is good but not perfect.

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Washing hands for certain viruses actually is important.

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Although there has been controversy in the news and things related to masking,..

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when I go see somebody in the hospital who has influenza, I always wear a mask and...

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eye protection is actually, required. So clearly, if the doctors are doing it, there's probably something good about masking.

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And it's a relatively low risk and inexpensive intervention. And so particularly high quality, well-fitted masks when indoors...

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in high risk situations, so like large groups of people,...

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particularly at times when there are high viral circulation like December, January, February, and a setting that's poorly ventilated would be higher risk. For example, 100 people in a church basement...

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in a choir when everyone's unmasked and the windows are all closed is going to be the highest risk situation versus...

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outside in a fairground with you know 40 people...

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is not going to be high risk at all.

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Another thing that we can do that doesn't affect us but doesn't directly affect us but indirectly helps us is ensuring that close contacts are vaccinated around you,...

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forming this ring of protection. And those people should also let you know if they're not feeling well or ideally asked before gatherings. They are home tested for COVID as well as more recently for influenza.

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And then one that we'll spend a little time on today is what we would call immunoprophylaxis, meaning preventative things that you can do with your immune system, and that would be vaccines,...

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the most common kind, or passive...

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antibody infusions or injections that can help on top of that.

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And we're not going to talk about the use of certain drugs as that would be outside of the scope.

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So I want to talk about how vaccines work as depicted here fighting off...

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cartoon viruses.

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Basically, the whole point of a vaccine is to show you in advance a small important piece of something that could make you sick later.

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You get a head start on it. The things you probably need to be shown it a couple of times before you can really develop full immunity. And that's the sort of concept of...

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priming and then boosting an immune response.

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Relevant to those lymphocytes I mentioned before, one of the main things that vaccines do where they make your B cells make antibodies and they store that memory...

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for a rainy day. If you have a lot of really great antibodies produced and they're very active, they can neutralize...

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the infection, if you have enough of those, you won't get infected. They will block infection altogether.

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The problem is that these will wane over time. And even to begin, there are some people, including people with CLL, who...

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aren't able to produce high and high quality levels of antibody.

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What is arguably as or more important is this concept of T cell memory, another kind of lymphocyte....



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that is important because once the defenses are breached...

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so, you get infected, which happens,...

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those T cells send alarm signals around the body to kind of rally the troops,...

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including antibodies. And certain ones, like killer T cells, are designed to clear and destroy infected cells once the infection begins.

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This is probably most key to prevent severe disease once you get infected, like getting pneumonia from RSV, for example,...

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after infection.

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So the issue and the reason we have this talk here is that if a person either one, doesn't have enough immune cells, you take medicine or you have a cancer that prevents the development of good immune cells;..

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or the cells that you have are weakened or because of medicines you take,...

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vaccine immunity will be diminished. And so the reasons to, rather..

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the ways to...

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reduce some of this deficit is to get potentially more vaccines or vaccines of a different kind, such as those of a higher dose...

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or with an immune booster in it, like an adjuvant.

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Which is a term of art we'll talk about.



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So the complement, meaning the thing that will go along with vaccines, they're important and they will help, but if they're not...

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totally protective, we can provide these sort of passive immunity through antibody infusions, right? And as many people I'm sure on this call are familiar with,...

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there is something called..

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hypogammaglobulinemia, or basically having low antibodies, sometimes referred to as CVID,...

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there's a certain subtype of that. And particularly people with low antibodies and the documentation that vaccine responses are poor, for example, we sometimes test...

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people for like flu antibody after they get a vaccine.

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This can be an issue and puts you at risk for getting infections. And if a person has a history of recurrent sinus infections and is shown to have hypogammaglobulinemia...

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Then, using intravenous immunoglobulin, meaning IV infusions of antibody like IVIG,...

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can help. Usually, it's given every two or four weeks. And it turns out, and these are two graphs here,...

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those antibodies are able to usually recognize and often neutralize common viruses because they're pooled products from everybody in the community. And we've all had flu a bunch of times.

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Blood donors tend to be healthy and antibodies tend to be functional. So there is neutralizing antibody against flu in IVIG. And on the right here, this is like the Omicron variant neutralization. And in the sort of circle, open dots, these are people pre-IVIG,.,



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then you get IVIG, and then you're neutralizing antibodies increase...

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for some people to be about, basically similar to the light gray dots, which are healthy people.

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So this is something that can be added on top..

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to vaccination because remember...

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these are just antibodies. There's none of that great T cell stuff that you will also need hopefully,..

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your body will generate to prevent severe disease.

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They work together. All right, so now we're going to talk about...

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a couple of the individual viruses and some of their ins and outs,..

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to be more sort of pointed.

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The first is RSV or respiratory syncytial virus, a common cold virus, but it's actually, despite not getting as much press, it's about as severe as flu in older adults.

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Actually, the lung problems related to RSV tend to be even more serious.

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It is a cause of up to 10,000 deaths per year in adults, typically older adults...

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who are frailer or have chronic lung disease or are immunocompromised.



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And it's the leading cause of hospitalization in young children in the winter.

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So going back a year or so, when there was a national study looking at people with RSV, adults...

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who are older and were in the hospital, the majority of these people were 75 years or older, thinking back to that pictograph with those sort of blue to red risk factors.

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And almost everybody had at least one risk factor for having a...

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severe infection. Five percent of people who are hospitalized died. And then another series, actually, I was part of...

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up to 10% of people who had certain organ transplants, for example, may die after hospitalization for RSV.

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These are generally people who are very old.

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And there are often conversations about using ventilators and stuff like that in that circumstance. So that really just has to be noted.

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Many, many people get RSV, only a certain number get hospitalized and of those...

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a small, you know, a moderate percentage of people can get seriously ill.

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Fortunately, we're in the midst of a revolution, which are RSV vaccines.

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And these are three of the plots from the three landmark studies that show in the blue versus the orange.

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If you didn't have a vaccine versus you did, your risks of getting things like pneumonia from RSV are much, much lower,..

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up to three quarters lower, depending upon the study. And all these vaccines, all...

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create high levels of antibody in healthy adults.

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The three here, Arexys by GSK, Abrysvo by Pfizer, and mRESVIA by Moderna,..

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they appear to be safe. There are rare instances of an autoimmune nerve problem called Guillain-Barre...

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that are deemed by the CDC to be...

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low risk due to there being less than 10 per 1 million doses administered so far.

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But that means 999,990 people did not have this problem.

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The issue is that there are no published data for people with CLL. There was a Pfizer, there is a Pfizer trial that has yet to be published,..

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some of those data were shown to the CDC that showed that it was safe.

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But we don't have enough information on that.

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So I belabor that. I talk about that because the best treatment for RSV is prevention.

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And the CDC now recommends a single RSV vaccine dose for all adults 75 or older.

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And then for adults 60 to 74 who are at increased risk for severe RSV, and I would



CLL SOCIETY

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for intents and purposes, consider that anybody with CLL at this time.

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Notably, CDC did not expand the recommendation down below 60, nor did they recommend a second dose, despite some of the data that the vaccine companies provided.

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If you do get sick, tell your doctor because you can get medicine for this. One would be IVIG, which can be given acutely as treatment,.

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especially for someone who we know has low antibodies. There is an antiviral called ribavirin, which can be used for people. The best data are for actually, bone marrow transplant recipients...

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who have basically like the cold version of RSV and preventing the pneumonia version. So, that's the best...

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data for that. In other groups, it's a little bit less well established.

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So talk to your doctor.

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That's RSV, which, as I mentioned, is surging now in the United States. Soon to follow would be influenza...

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which is, I think we're a little bit more familiar with. About one out of 10 people in the US gets flu every year, which is like around 30 million people.

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And of those people,...

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about 500,000 or so can be hospitalized and up to 50,000 people may die. And this really varies based upon how many people get vaccinated and how good the vaccine is in terms of matching with...



CLL SOCIETY

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what's circulating. And, you know, we know that if you don't see anybody and you don't interact, there will be no flu.

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That's what happened during COVID, but we're back towards basically normal interaction. So there will be flu.

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Now people, similar to RSV, basically the risk of potentially dying if you get hospitalized with flu is relatively high...

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in all comers with blood cancers, particularly more likely in people who are older, as I mentioned, with other major medical problems and very low immune systems. And part of the issue is that people can get a second...

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sort of like a double pneumonia, so to speak,...

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bacteria that normally lives in your lungs can cause problems when your immune system is focused on fighting off the flu.

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And unfortunately, it is associated with things like heart attacks and strokes. So even more reason to get vaccinated and to get treatment, as we'll talk about...

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if you're ill. So for flu treatment,...

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the main one you're probably familiar with is Tamiflu, or oseltamivir, which...

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can reduce severe disease in high-risk people. So, the combination of being vaccinated and taking Tamiflu if you have flu...

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will definitely reduce your risk of getting very sick.

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CLL SOCIETY

Earlier is better with Tamiflu, usually if you give it within the first couple days, that's what the best data are that it can reduce things like getting hospitalized.

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It can cause some stomach upset so, that should be counseled and be aware of that.

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And there are rare cases of resistance of flu to Tamiflu that can emerge over time, but they are, you know, 99% of the time, this is not an issue.

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I think notably and probably less well publicized is that Tamiflu can be given as what we call post-exposure prophylaxis.

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You say, my spouse just came down with the flu two days ago. I feel kind of okay, but we live together.

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That's actually a reason to give Tamiflu if given early on in the...

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disease, even if you don't have a confirmed diagnosis. And that can be, actually, pretty powerful and it works.

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The other drug that's available that actually the WHO recommends as the first line therapy, but that's not quite the case in the United States, is a drug called baloxivir or Xofluza, which is approved for the same things that Tamiflu is, but the benefit of...

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this drug is that it's a single dose. And I particularly like it as an idea for post-exposure prophylaxis...

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because you just take the one pill and that's what's recommended as opposed to maybe taking...

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pills for five to 10 days after exposure.

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CLL SOCIETY

The problem is there can be resistance to this drug as well. We have a little bit less experience with it,...

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some have thought that it can be combined with Tamiflu,...

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but it's not clear that that necessarily adds much. So that's not something that's basically typically done. It's usually one or the other.

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But these drugs should be available,...

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if needed.

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Okay, and then the last parts about flu relate to flu shots.

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The most common shot we're probably familiar with. There are many available vaccines. It's a little bit confusing. They all should have some benefit, but the ones I think that are relevant, particularly to older people...

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on the call here are the high dose and adjuvanted vaccines, which are recommended for people 65 and older, because they are, they do create better immune responses.

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The names are listed here if you were to ask at the pharmacy, these should be available to you.

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Don't take a live inhaled vaccine.

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Hopefully you know about that.

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You know, we can't turn back the clock, but it's generally better to give flu shots in late October or early November because the protection for flu shots is the highest in the first three months after you get them.



CLL SOCIETY

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Think about the flu peaks in December, January, February, you kind of want those to be when your immune system is...

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feeling really good as opposed to before that time.

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What is important is that you can get a flu shot with any other shot.

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The one kind of caveat is that if you're going to get a shot that has an adjuvant or immune booster in it already, like a COVID shot...

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or an RSV shot that has that, they tend to not recommend getting an adjuvanted flu shot at the same time because you may have more side effects. Not necessarily serious, but ones that might be uncomfortable.

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It is important to note that for a flu shot and for all these inactivated vaccines like RSV and COVID, you don't need to time your IVIG dose. Just do it as you're doing it. That shouldn't interfere.

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And one that you might have heard of when you were younger is if you have an egg allergy, you can't get a flu shot. That is not true. You can get any flu shot, including ones that include eggs.

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The only reason would be if you've taken a flu shot before and had a reaction, then the suggestion would be to get a different one than that one.

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Next slide.

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So in CLL and flu, there's not as much information as il kind of wish but...

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kind of like what other vaccines, flu responses are generally poorer. So sometimes as few as maybe a fifth of people will show a boost in their high levels to high levels of antibody...



CLL SOCIETY

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but it does reduce severe outcomes. People are less likely to get very sick if you get a flu shot, probably from some of that T cell...

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benefit we talked about before. And as I mentioned, the higher dose in adjuvanted vaccines do improve response, particularly in older persons.

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Now, some medications that many of you may be taking, like the anti-CD20 medicines, rituximab or obinutuzumab...

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or these BTK inhibitors like ibrutinib and Imbruvica or acalabrutinib or

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zanubrutinib, they do really impair antibody responses a little bit more powerfully than some other medicines.

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So, there are recommendations to try to wait a few months from rituximab, for example, to get your shots and wait a couple weeks after the shot before...

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you restart it. But the thing is, you know, time marches on. And so, any vaccine is better than no vaccine in advance of a flu season.

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If that window were to like...

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deep into flu season, it's not worth waiting. You should just get the vaccine before and then readdress...

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later.

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We're not going to talk about vaccination after bone marrow transplant because it's quite complicated and you're basically...

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CLL SOCIETY

in a situation where many people say, consider it that you've got no vaccines and restart everything.

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Long story short.

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All right, so that was RSV and flu, and now we'll talk about COVID as the last virus before we do sort of a grab bag.

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You know, we all have a lot of collective trauma here from COVID in the early days if you are immunocompromised or work with people who are immunocompromised...

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with high mortality in the early waves and older adults with...

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immune system issues.

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But the current risk of severe disease is much, much lower. The number of people who are hospitalized has gone down probably...

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you know 20-fold...

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due to a combination of immunity, people getting infections and vaccines, as well as our having a lot of antivirals to treat that we'll discuss. And plus, we know what we're doing, at least on the doctor side.

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The post-COVID condition thing, I'll just mention briefly, like long COVID is not very well understood, unfortunately, still.

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In the early waves, we saw people who were really sick in the ICU and we were familiar with that, that it will take months to get better from that.

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And in the middle wave, something that is still happening a bit...



CLL SOCIETY

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some people can get prolonged infections...

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with COVID and not feel normal.

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And that can still happen...

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in the sort of going forward future here of this, I'm not sure what the landscape is. Ideally, if you can avoid getting infected, that would be...

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great. Though you have to live your life.

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Now, as we talked about these variants before with all the numbers and letters, I do think it's worth...

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reiterating why it matters for people with CLL.

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We know at baseline vaccine responses are poorer. And if you look at this plot here from the CDC, the dark blue dots are like how many people...

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showed that they even developed any antibody after the first two COVID shots. And it was 50:50 for some people with CLL...

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as compared to 100% of the average healthy person.

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And if you don't make the antibodies, you can't block the initial infection. And then some proportion of people will develop severe disease or difficult to clear infections, as I just mentioned.

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You know, if I were writing a board exam for infectious disease doctors and I said, who's somebody who's going to have the worst...



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trouble clearing off COVID, uh you know,..

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or SARS-CoV-2 infection, an older person with CLL taking rituximab....

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who hasn't had a ton of vaccines...

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would be a classic case, for a classic case...

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prolonged course with COVID.

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And unfortunately, as the variants change,

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we lost some of our good drugs like these monoclonal antibodies.

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So that does reduce our armamentarium.

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You know, we are in a situation, as I mentioned that...

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the number of people who are getting severe disease is much, much lower, but the relative risk compared to an average person is still 10 to 20 times higher if you're a person, for example, with CLL as compared to a...

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30-year-old person with no medical issues walking around.

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So, with accumulated information about these variants and vaccines, which are very safe,...

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it has been recently recommended by the CDC that people who are greater than 65 or who are immunocompromised receive actually, two vaccines, two doses in a year, as opposed to like this once-a-year flu type of situation.



CLL SOCIETY

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They recommend separating by six months. That's actually kind of the upper limit, it can be closer. So somewhere between two and six months is the recommendation. There is flexibility...

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to prevent even additional boosts, for example, people who have had bone marrow transplants.

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There isn't a recommendation for one vaccine over another. Antibody levels tend to be a little bit higher with the Moderna shot,..

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side effects tend to be a little bit lower with the Novavax shot. It's really whatever you're comfortable with and is available.

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There is discussion about whether someone who's had a recent infection should get a vaccine and...

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some people say you can wait a few months after that, kind of thinking of it...

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almost like if it were a vaccine, so to speak and I think...

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one model for vaccination that might work...

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is somebody getting a vaccine in the, uh let's say,

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late summer and then again...

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let's say three or four months later in...

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December to kind of give the coverage for the rest of the winter.



CLL SOCIETY

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Now, we've talked about IVIG, which can potentially help with all the many different viruses...

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for people who have lower vaccine response. And we've gone through now a couple of...

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monoclonal antibodies as prevention or prophylaxis, some of you may have received this. When these work,..

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these antibodies do reduce severe disease significantly, but the problem is the variants outsmart them. And we're kind of in that pattern yet again.

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The currently available drug called pemivibart or Pemgarda,..

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it's uncertain whether it remains highly active against some of the more recent variants. It depends on who you ask, basically.

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On the left is a study from the New England Journal that showed really significant decrease in neutralization among one of those KP

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variants that gold one there on the right...

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but then the company released information that says on their hands that there should be...

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neutralization of these variants...

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is decreased but not gone.

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And there's actually, another...



CLL SOCIETY

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group that found somewhat similar. A lot of reduced neutralization, but not useless, so to speak. So, I would say the jury is out on this.

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The natural history is that variants are smarter than we are. So, I wouldn't be banking on this as the thing that prevents you from getting sick per se as compared to, for example,...

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vaccines and protecting yourself through other means that we discussed.

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All right, so the last part about COVID before we kind of start closing up is...

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treatment for COVID. So, if you're a person who has a lot of things on the right side of that...

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graphic that I showed you, antivirals can reduce the chances of being sick and...

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these are the three in each row that are currently approved. The first one is called remdesivir.

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It's a very good, safe drug that's FDA approved...

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but it's only available in IV. So, some of you may have had this experience, you have to go to an infusion center. It's kind of annoying.

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If you can do it, it's great. But if you can't,...

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you'd be ideally thinking about maybe a pill option if it were available.

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And the one for that that is the most effective is called Paxlovid...

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CLL SOCIETY

which is the middle one here, which is an oral pill,..

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twice a day, very effective, but it has a lot of issues that we'll talk about. It's not recommended for people with..

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severe kidney or liver disease and there are a lot of interactions,..

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problems with other medicines you might take...

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that make it less safe.

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And the final drug is something called molnupiravir or Lagevrio, another oral drug twice a day for five days. Very clean in the sense that it doesn't mess with your other medicines. It doesn't sort of matter what your kidney or liver function is, but it doesn't work as well,..

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lower effectiveness. And there are some concerns about creating mutations, either in a person like a..

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pregnant woman or a child, so it's not recommended for those people...

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or in the virus itself. So, when we give it, it's usually either in combination with one of these other drugs or if we don't have any other options.

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But these are available and earlier the better if you're someone who's very high risk.

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Now, I mentioned that thing about the difficulty in using Paxlovid and the main issue is these interactions with other drugs, many of which are listed here, some of whom,..

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some of these you may be taking. And so, what I really recommend is the long story short, is before you're sick...



CLL SOCIETY

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talk to your doctor or pharmacist about whether with your current health status and medicines you take, whether you can even take Paxlovid if you were to get ill.

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And there are many resources that you can look at yourself...

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or you can access these online.

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All right. So, with the last five minutes, we do a little bit of what I would call a little bit of an infectious diseases roundup,...

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if we have the time. The first one I do want to talk about is these emerging threats I mentioned. And the main one on my mind has been bird flu...

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which has been in the news. That's another name for this highly pathogenic avian influenza or H5N1 that's widespread...

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in US livestock and in wild birds, presumably other animals as well. And there have been at least 50 cases in people, mostly mild pink eye kind of symptoms, but one...

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person in Canada, a younger person actually, was...

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hospitalized with severe flu in the ICU. And that's a problem because historically these kinds of flus are very deadly,...

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more than half of people have died in the past, and it's not clear why that's different now.

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So, the risk is generally characterized now by the CDC and others as low to the average human, but the sort of existential risk of an outbreak to me...

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is high. So, what can we do?



CLL SOCIETY

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What you can do is avoid birds. So alive or dead birds, try not to interact with them. If you have a parakeet in your cage you've had for 20 years, that's different,..

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than a bird, a crow you found on your doorstep.

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Also, don't drink raw milk, regardless of what might be...

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stated by government officials. Do get your flu shot. It's unlikely,..

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and including certainly people with CLL, to prevent an infection per se, but it might reduce severity. There's some cross-reactivity between...

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H1N1 that's in the vaccine, the swine flu,,,

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flu strain and H5N1. They share that part. So, there's probably some benefit.

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If you're sick or you're exposed to someone who you know is diagnosed with bird flu or was suspected, early treatments recommended,..

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for example, Tamiflu.

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You really should be talking to an infectious disease doctor about how to manage this if this were truly happening because there's some tricks we might try to do...

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to improve the likelihood that the antivirals work, like combining drugs.

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There are other emerging threats, and I know we're kind of running out of time here, but you're familiar, I think, with the mpox or monkeypox...

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CLL SOCIETY

pandemic that swept through the US a couple of years ago.

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This is sort of sporadically happening still in the United States,...

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it's mostly relevant for people with particularly high risk sexual activity,...

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men who have sex with men or exchange sex for payment...

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or someone who had a sort of known exposure. There are vaccines that do work reasonably well...

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and are safe to be given in people with CLL. Unfortunately, antiviral therapy does not work very well.

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The other "M" threat I want to talk about is measles, unfortunately.

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It's an extremely contagious disease that some of you may have had in youth.

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There have been almost 300 cases in the United States in the last year, which is an increase, mostly in children and mostly in the outbreak setting. And things that we can do is make sure that...

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people around you are being appropriately vaccinated, including children.

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Notably, you likely can't get...

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an MMR vaccine safely, you'd have to talk to your doctors about that.

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And medicines like IVIG and rituximab interfere with these vaccines.

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CLL SOCIETY

Really, you just want to, similar to other things, prevention is the best type of treatment.

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IVIG can be given to people who are known to be infected or exposed to measles, so that's something you'd have to talk to your doctor about. I think the risk of this is low.

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But if you know there's an outbreak near you...

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that's on the news, that's something to be thinking about.

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All right, the last slide, I believe is about...

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certain drugs you might be taking and certain...

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infections that you might be at higher risk for.

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The first I'll talk about are steroids commonly given to people with CLL. And the rule of thumb here is that essentially they raise the risk of almost any infection, a bacteria infection, a virus infection, a fungus infection.

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And it's a higher risk if you're on a higher dose, particularly when you get above...

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20, 30, 40 milligrams of prednisone.

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What I like to do for people on higher doses of steroids is to give a medicine like acyclovir or Valtrex...

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to prevent things like shingles, in particular.

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It works very well and the drug is very safe. And certain times we give drugs like bactrim to prevent certain opportunistic pneumonias...



CLL SOCIETY

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which are uncommon but can be a problem.

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The second group of drugs are these anti-CD20 medicines I mentioned, like rituximab. The highest risk for these things are viral infections and recurrent sort of sinus infections and pneumonias...

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because this also interferes with the antibodies that we typically use to fight off those viruses or...

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or bacteria, I also give Valtrex or acyclovir as prevention.

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IVIG, this is often when people will start to need IVIG for hypogammaglobulinemia.

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It's also just really important that you've had your hepatitis B shots because this is a high risk for hepatitis B...

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problems. And then the last group is these BTK inhibitors that I mentioned, like the Imbruvicas and Calquence and things...

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the somewhat uncommon but more likely if taking BTK...

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i inhibitors are fungal infections like molds.

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And they can be severe and so...

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we need to be aware of that if we're taking care of a person taking these drugs. And some people are put on antifungal drugs if you have a...

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history of having had a mold problem or you have some higher risk features. If you're taking this plus you're taking chemotherapy or plus you're taking steroids, these risks would...



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be increased.

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And again, we don't have enough time to really talk about bone marrow transplantation, but the first couple of years after bone marrow transplantation are going to be the highest risk for basically all these things.

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All right, so with that whirlwind, thank you for your attention. I want to do a brief summary, which is...

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just making sure everyone knows it is respiratory infection season. RSV now, flu shortly, and COVID, a little bit harder to predict, but probably in the next month.

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There are risks for serious infections that relate to your age, your medical conditions, and your immunosuppression. We talked about some of the specific drugs here and how their combination would...

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be a highest risk situation.

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Basically of everything I talked about, prevention is the best treatment for these things. So we have drugs, we have antiviral drugs when you get treated, but really vaccines are the most important thing.

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Vaccine immunity is lower in people with CLL, but it's imperfect, but it's important.

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And the time to get vaccinated is now for any of the things I just mentioned. If you're eligible and you haven't gotten these shots, you should be getting it.

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And you can complement these with IVIG if you meet the criteria that I mentioned and your doctor thinks that it's appropriate.

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There are several emerging threats that I am worried about, most particularly H5N1,...



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and this just reinforces the importance of vaccines and having an expert treatment team like an infectious disease doctor who's familiar with cancer patients...

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if this ends up coming up...

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which I hope it does not, but...

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better safe than sorry.

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All right, so with that, I want to thank my colleagues at Johns Hopkins. I work in our Transplant Research Center...

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running kind of our epidemiology side of things...

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And then of relevance to this talk, is I also run a study called the Emerging Pathogens of Concern in Immunocompromised Persons, or EPOC study...

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at Hopkins, and this is our study team. If you're interested in knowing more about that,...

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here's our website. We basically study the vaccines...

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that were in people who were not included in trials, such as people with CLL.

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All right, well, thanks for your attention and I'm looking forward to taking your questions.

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Dr. Werbel, thanks so much for that incredible...

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presentation. I mean, there was so much covered in that and so much important material...



CLL SOCIETY

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and I'm deeply appreciative of that. And I'm deeply appreciative of that last sentence...

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that you were studying vaccines in people who don't get studied in...

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vaccines. We were excluded from the original COVID trials in an effort to get them over the finish line quicker.

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If you could just comment on that general area of...

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how we respond. I know you touched on this...

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but how different vaccines are, because there's a lot of data-free zones here, isn't there, in terms of how well we do. And the early data suggests it's not so great.

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So, if you could just comment on that area and how patients and clinicians might work together to improve understanding of how vaccines...

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work in the immunocompromised.

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Thanks, Dr. Koffman, and thanks for the invitation again to speak.

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Yeah, you know,...

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there is a knowledge gap,...

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we have these general senses...

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the degree to which people respond to vaccines or don't, depending on their...



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immune status, so to speak, their immune system. But I think what's honestly one of the biggest takeaways is that it's not like a monolith. There are significant differences among people depending upon...

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a lot of the factors that we've talked about, including age, ..

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the type of cancer somebody might have and whether or not you're on therapy and what that therapy is.

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It's pretty safe to say that on balance for most like typical vaccines, the immune response is going to be lower...

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but it's going to be something.

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And so that's one of these key takeaways that the vaccines, are vaccines, all these vaccines are going to be important. They're likely to reduce the likelihood in particular, of getting severely ill,

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many of the things we talked about.

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But the ability to create these high levels of like antibody, for example, those neutralizing antibodies that block you from being infected, period, ..

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that's hard to achieve for a lot of people with CLL, particularly because of the medicines and...

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the combination. And there's a need, you know, and as we actually had a separate conversation about, there's a significant interest...

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to have dedicated trials in people with CLL or other immunocompromising conditions because...



CLL SOCIETY

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we're getting to the point here where enough is a little bit of enough, where you know we got to have like gold standard information on people...

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and from then, we can really be prepared for what's the best regimen to improve immunity,..

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doing vaccines more frequently or higher doses,..

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you know, et cetera.

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So let me follow up on the vaccines because there's a ton of questions on that. And you made an interesting statement, which, and...

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which was, don't worry about the IVIG dosing. Like if I just got my IVIG, I thought, I better not get my vaccine because...

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the body's lazy if it already has some antibodies, it's not going to make more. But you're saying that I can get them...

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close to each other, it really doesn't matter.

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Yeah, you know, I mean, certainly for these...

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longstanding inactivated vaccines like the flu shot...

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there is data that shows that there is data that shows that...

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you can get the vaccine close to IVIG.

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For live vaccines or live attenuated vaccines, like the older shingles shot,..



CLL SOCIETY

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MMR, those shots, you can't get them anywhere near IVIG because of the reasons you just said.

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There was a bit of a grey zone with mRNA vaccines, they weren't studied very well,..

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and for a time we were pretty...

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clear that it was not recommended to get IVIG surrounding them.

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The guidance has changed to say that it can be done,..

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you know uh, so I think...

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in even if there wasn't amazing...

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precise data on that it was more that,..

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these vaccines are important.

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Even if there's like a gray zone here, the benefits of getting them and not also interfering with the other thing that's keeping you kind of...

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stable and healthy,..

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you know, it's not worth...

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switching all these things around for this sort of uncertainty.

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CLL SOCIETY

So let's push a little bit more on that, in the era where we had good pre-exposure prophylaxis,..

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they often recommended trying to get vaccinated before you got Evusheld and I wonder if the same stuff...

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Is true with Pemgarda. I know that the company that makes that has another product in development that's supposed to...

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you know, stay more ahead of this.

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What do you advise your patients in terms of that?

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Yeah, I guess I don't want to talk out of both sides of my mouth here, but maybe a little bit of a difference is when you're giving a high dose of a monoclonal antibody...

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that's specifically designed...

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for a particular bug, so to speak,..

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that might, particularly in the first few days, lead to some...

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reduction of sort of being exposed to this...

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antigen, the foreign particle.

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But it shouldn't have any impact on...

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a different vaccine, for example.

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CLL SOCIETY

So we do, you know, and it's in the packaging as well to recommend spacing things by like two weeks or so.

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Get your vaccine and then you can get your antibody two weeks after that, for example.

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So I think we do tend to kind of still say that. But again, it shouldn't interfere with...

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a vaccine that's not the exact product we're talking about, like your RSV vaccine and your...

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Pemgarda or whatever.

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And talk to me a little bit about one of the decisions a lot of us have to make as we're in treatment...

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and these vaccines aren't going to work as well for us. And especially if we're on treatments...

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with monoclonal antibodies which stick around for months and months after in studies from...

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LLS have shown that you just don't respond the same even a year after for some people...

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with rituximab or obinutuzumab.

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So the timing of the vaccine, especially, I mean, it's kind of a no-brainer to me. You get the flu shot because it's flu time and some benefit is better than none.

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But some of the shots like RSV is a one-off shot or the pneumonia shots you can't, aren't annual shots.



CLL SOCIETY

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So should we wait on those or I mean,...

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how do you work that out with your patients? And I'm sure consultation with the hematologist too, but it's,...

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these are difficult decisions for patients about you only get one shot at the RSV vaccine, at least as of now. Should you wait till you're off treatment or just get it and that's it?

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What do you tell people?

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That's a really good question,...

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I'm going to pass the buck a little that it's case by case.

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Okay.

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If the drug you're talking about, like rituximab is critical to keeping...

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lymphoma under control, et cetera. You don't want to mess with that cycle your six cycles of

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R-CHOP or these, you know, type of things,...

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you know that, that takes precedence.

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There are these ideals where it's an ideal to wait like, let's say six months, after a dose of rituximab to achieve like maximal antibody protection from a...

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vaccination. That's the ideal. And to then again, lag the next dose by about two weeks after you've...



CLL SOCIETY

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received the vaccine. That's the ideal. But life doesn't always line up...

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perfectly. If someone's a very high risk person for getting a severe disease,..

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let's call it, let's say like RSV, you know, a person, 75 year old person with...

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bad asthma, CLL on rituximab, you know, obinutuzumab or venetoclax and whatever it may be,...

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you know, being in advance of the RSV season and getting your vaccine

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is going to be just what we're going to say to do. Even though we just have to be aware that...

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there's going to likely be a ceiling on the level of at least antibody production.

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The nice part, I will say, is that, as I said, vaccines...

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produce immunity in several ways,

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things like T cell immunity...

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aren't really that affected by rituximab. It's a B cell drug, an antibody drug. And in other...

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like people with MS, it's been shown that you can have pretty good T cell responses against something like COVID, even though you've received...

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rituximab and don't have great antibodies.



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Case-by-case.

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I don't understand how,..

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you don't have B cells how you present, but I guess other cells can present the antigen
it's,..

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it's complicated. A couple other questions on the timing of the vaccines.

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One is, what about...

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we had these childhood vaccines. Some of us had the childhood illnesses. Are we
protected into some of the treatments we have wiped out the protections?

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It's not very common, but some of us have had transplants. Some of us had CAR-T
therapy. A lot of us have had antibodies.

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Do we need to get our childhood vaccines again? I know this is an area, again, that
seems to be changing the approach to this.

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What do you recommend in those cases?

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Yeah, I mean, I think the general rule of thumb, and it is complex with bone marrow
transplants, is that with...

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allogeneic bone marrow transplants that are completely ablative,..

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whole body radiation and high doses of chemotherapy...

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CLL SOCIETY

you...

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and in somebody else's immune system, not your own, which is the only way it's done in CLL.

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Yes.

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We still consider people as...

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we can't bank on the immune system of the donor.

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Therefore, you should be revaccinated as if you haven't had vaccines and CAR_T would be similar.

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Um, you know,..

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I believe that there is some residual immunity...

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from your donor, but...

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need, you know, this whole concept of priming and then boosting that up, you know, still needs to be...

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given like you still are going to need some oomph...

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to the cells that are taking time to totally reconstitute, it takes...

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oftentimes like two...

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CLL SOCIETY

for the whole immune system to really get back. And that's presuming you don't have issues like...

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graft versus host disease requiring high doses of steroids or obviously relapse of disease so...

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better safe than sorry on that one too. We say really just restart that...

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even though there may be some residual immunity from your donor.

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Let's boost that up.

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But the drugs like obinutuzumab, rituximab, the BTKis, venetoclax, they don't affect the childhood immunity or the immunity you've had from getting the illnesses. I mean, they affect your ability to fight it when you've got it, but you'll still...

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have that immunity preserved or do you need to get revaccinated? Because almost all of us have had some of that if we're not treatment naive. Yeah,..

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right, I guess...

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an example of that, let's say, would be something like...

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the hepatitis b problem.

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It's a little bit different, but like hepatitis B, if you have an infection with hepatitis B and your body makes antibodies, it kind of locks it all away.

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And then you get something like rituximab, the risk of that reactivating is very high.

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CLL SOCIETY

So even though you had some immunity, it can be explicitly depleted by something like rituximab. And you can lose things...

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in the blood like your measles antibody.

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But it's not likely in that latter case...

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unlike hepatitis B, it's not likely that your immunity to measles has been totally evaporated.

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It is possible that, you know, the totally sterilizing...

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beautiful immunity from the...

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series is decreased.

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And that is one of the reasons why people will be on things like IVIG, which contains lots of antibody against measles,...

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for example. So it's one of these things where there will be a decrease in that...

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original childhood immunity but not, uh, immunity,...

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total elimination.

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So...

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like for polio stuff like that, you know, like you don't get, you know,...

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that's not gone.



CLL SOCIETY

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Yeah.

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There's a lot of questions about IVIG and let's start with just base. Does it matter whether it's subcutaneous or IVIG or do they both provide similar protection?

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Yeah, and the docs who prescribe this can help tune it to like the right dose for the right person at the right frequency, but they should be equally effective...

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as long as you're sort of following up their...

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effect.

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And you did cover this a little bit, but for some, other some questions about...

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the difference like immunoglobulin is a...

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passive immunity whereas vaccines are an active immunity. So just remind us how IVIG works compared to a vaccine. I know you covered this a little bit, but there were some questions about it.

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Yeah, I mean, as sort of noted, the IVIG is just antibody and it's a pooled product donated by healthy donors...

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so it's the most effective at...

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preventing infections for very common things:..

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common bacterial or viral infections that all of us who could potentially be a blood donor have had...



CLL SOCIETY

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10 times in their life. Like I've probably had RSV 10 times in my life or six times in my life.

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And if I donate my antibody, it's pooled with many different donors,..

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you get that immunity passively.

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It will rise up, particularly if you dose it appropriately to a level that hopefully...

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reduces your risk of getting infected in the first place by, let's say RSV or flu...

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or even these bacterial pneumonias.

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The problem is there's waning in that...

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and that's the need for repeat dosing...

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and they're not perfect. You know, there's variation between the batches of IVIG and...

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there's variation in the different strains of things that are circulating, like COVID, as we talked about. So the defenses can be breached even if you're taking IVIG. Hopefully less will get through the fences because some are kind of gummed up by the antibody that...

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you've received. And then you're reliant upon the rest of your immune system...

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which tends to take a couple of days to kick in.

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So, the T cell immunity...



CLL SOCIETY

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generation of your own antibodies from your stored memory...

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to kind of clean up the mess, prevent dissemination of an infection...

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from like a cold to a pneumonia,...

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that's kind of how they would work together.

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In the IVIG, I always tell people it's usually a year old, so it's not on top of the latest flu or the latest COVID variant and stuff like that because it takes...

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a long time to process it.

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It's pooled from thousands and thousands of donors and I'm,...

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but it's always a little bit out of date.

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A common question is about sinuses. Sinus infections seem to be a real problem.

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Nobody dies of them, but they sure make people miserable.

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Any advice on how to avoid them, how to treat them? Chronic sinusitis seems to be a big issue...

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in CLL, are there any tips you have for people, any ways to prevent them or treat them when they get them other than

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what we've talked about?

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Yeah, you know, when I think of sinus infections, I think of two components:..



CLL SOCIETY

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One, maybe the one maybe,..

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more simple one is structural. Obviously, we're all different in here.

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There are people who are going to be more predisposed depending on their anatomy.

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That part, I am not that expert in and that's an ENT problem, so to speak.

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So let's put that.

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I always say the Lord in his wisdom put the drain in the roof in our sinuses. It's just they're poorly designed.

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You know, and nobody,...

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they're more designed to keep your head light. Honestly, that's the historical...

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That's right.

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background.

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Yeah.

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But anyway, that's the part that you can't fix that easily, but should be evaluated if you have recurrent sinus infections. But then the cause of these tend to tend to be a virus.

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And then occasionally, you'll have a bacterial sort of super infection on top of that while your body has spent time kind of trying to fight off the virus that caused the sinus infection.



CLL SOCIETY

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Classic for that would be you have this sinus type symptoms for seven to 10 days.

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They kind of got better and then they acutely worsened. You have worsening pain,..

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Fever, potentially greenish drainage, that sort of second phase might suggest a bacterial infection.

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As mentioned in the IVIG part of the talk,..

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people with a current sinus infection should be screened for hypogammaglobulinemia...

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in addition to the structural stuff. And that's where IVIG is one of the indications. Like if you look at the NCCN guidelines, cancer guidelines for CLL,..

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there's a whole, there's a line in there that talks about recurrent infections, particularly in the context of total IgG antibody in the blood less than...

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somewhere in the four to 600 range,..

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that's a reason to consider IVIG to reduce that.

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Otherwise, it's um,..

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you know, just like any infection prevention, if they tend to be caused by viruses, things we do to reduce viruses would...

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likely reduce the downstream problems like sinus infection. So, washing your hands and

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wearing a mask, etc.



CLL SOCIETY

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And what about the saline irrigations and things like that?

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Although I'm not an ENT, sterile washes and things, particularly again with people who have the structural problems, the anatomy problems...

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can be helpful. If you don't have those structural problems, the issue is probably not...

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going to necessarily be fixed by...

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sinus rinses. It's more fixing your...

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immune system, so to speak, or lifting that up.

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So I'm going to leave respiratory for a minute and ask about some GI issues.

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Norovirus, both acute and chronic.

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Yeah.

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Are there any tips on that, ways to get rid of a chronic norovirus infection?

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Remind the people who don't know what a norovirus is and why that is a risk for CLL patients.

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Yeah, it is. Norovirus is very annoying.

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It's a virus that is commonly known as like the cruise ship virus when you see 500 people on a cruise ship throwing up and having diarrhea, it's usually from norovirus. It's very contagious.



CLL SOCIETY

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It circulates year-round with some spikes in the summer and some in the winter.

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It is one of those things by the way, for which hand sanitizer is not that great.

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So that's one of the handwashing viruses, similar to the common cold,...

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spread through drops and stuff like that.

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In terms of...

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so, that's the general prevention side of things and the epidemiology.

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Fixing norovirus, we do not have great...

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therapies so I'll just say that there have been multiple trials looking at different things and how to fix that...

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and they're not great. Some will use things like IVIG because again, most of us have had norovirus a bunch of times.

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The issue is that when you get IVIG,...

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injected or intravenous, it doesn't necessarily get into the gut that well, the gut lining. So, some people in severe protracted cases, like we've done this,...

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can occasionally get what they call enteral IG like a...

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nose tube and that that puts...



CLL SOCIETY

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the antibody in the gut. That's for very refractory cases.

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And the issue with norovirus is that it can be up and down.

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People can have diarrhea for a few weeks and it goes away and...

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you know it's hard to diagnose. So those are some options that again require...

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GI doctors and infectious disease doctors.

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There is technically an antibiotic that is used...

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called nitazoxanide or Alinia, I believe.

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Uncertain how well it works, we do sometimes use it,...

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it's available. It's used for intestinal parasites also.

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So that is an option, but the data are a little bit, uh,...

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weak.

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Here's one that I've never seen as a family doc, but maybe you have intestinal spirochetosis,...

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is a gastric infection common in CLL.

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Tell us.



CLL SOCIETY

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I don't think, it's very not very common in the United States. It is common in immigrant populations. It's actually a demographic thing.

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Spirochetes are just a kind of bacteria.

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Lyme disease that's caused by spirochetes, syphilis is caused by a spirochete. They're kind of like, tricky.

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Intestinal spirochetosis is something you can make on a colonoscopy biopsy.

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It's more common in sub-Saharan Africa, certain parts of Asia.

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It's usually asymptomatic and doesn't cause an issue but...

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we're talking about people with different immune systems and the potential that it could contribute to...

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GI upset is possible.

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Seems a little bit complicated, again, this is like a GI doctor or ID doctor issue. Sometimes people give like penicillin a la...

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syphilis or doxycycline a la Lyme disease.

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So while we're on the gut, the microbiome, which seems to be the really hot item, is there any...

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things that's different in a CLL patient in terms of their microbiome, anything we can do to ensure a healthy microbiome? Is there enough attention, too much attention being paid to this?



CLL SOCIETY

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The CLL Society is actually doing research where we're funding a research project on the microbiome in CLL.

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Yeah, and I wouldn't call myself a microbiome...

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expert. I think...

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it's one of these things that's probably integrated with a lot of...

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diseases, but the integration is very hard to parse out...

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And I think right now we're kind of a little bit more at, and I don't want to be offensive, but let's just say...

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the promise and reality are not at the same spot right now like,..

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we have a lot of things we wanted you to like look at the microbiome or potentially enhance it but...

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the bedside version of how we can do that has not really been realized. I will say things like...

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there's a question, I think, in the chat about like kefir and certain yogurts and things like that.

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Those are one of the few things that we know...

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can help with certain things like antibiotic associated diarrheas.

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We just have to be a little bit careful if you have a very low immune system,..



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certain things like probiotics can occasionally cause real disease.

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The classic being like lactobacillus, ..

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something you've probably seen on the, lactobacillus is like in these dietary supplements, and so...

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people with really low immune systems, we tend to not recommend they take high doses of the...

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probiotics because the probiotics, ..

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certain strains of them, can be a lot. They're alive and they could cause issues so that's a question to run by your doctors for sure.

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Sorry, I don't have too much more on the microbiome.

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All right. Urinary tract infections is that...

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It seems to me I've seen that a lot in CLL. Any thoughts on that?

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I know that as a family doc, I sometimes prescribe prophylaxis if they're related to...

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sexual activity and stuff like that. And I know men with prostatism can get...

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more urinary tract issues. Any thoughts on that? Is that a problem you see as an ID doc with CLL?

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CLL SOCIETY

Yeah, well, I certainly see UTI problems in general a lot. It's not a classic association with CLL because the lymphocyte compartment of your immune system tends to not be the thing you need to control...

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UTIs., that's more the...

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other infection fighting cells. If you are on something like steroids, the risks goes up because the risk for everything goes up if you're on steroids.

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Additionally,..

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diabetes, particularly if you have poor diabetes control, that is a risk factor for recurrent UTIs.

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I do, though, I don't necessarily think about CLL with too much of a different...

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patch than I do for the average person...

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with UTIs, it's usually these other factors, like I mentioned, diabetes, post-menopause,

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sometimes sexual practice and occasionally, again, anatomy because that definitely can vary.

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Airplane flights, the whole issue, and you and I spent some time talking about this before, is how do you strike the balance?

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They have things that they want to go to, but airplane flights can be dangerous or has that overstated the danger on those?

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What do you recommend for your CLL patients? Let's be specific,..

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CLL SOCIETY

who want to fly because there's a family wedding on the other coast...

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or they haven't taken a vacation because of COVID. Is it safe for them to go to an airport? Is it safe for them to go...

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on a plane? Is it safe for them to eat at a restaurant? Talk to us a little bit about that and maybe spend a little time about making it as safe as possible, especially on the plane.

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Yeah, you know, if you think back to that,..

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that's your graphic I made with the red...

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you know, lines and stuff,..

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you know, a person can...

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hopefully have a, be empowered to have a sense of what their individual risk is going to be for something like COVID or another virus infection based upon how you map out.

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Someone who's 75 with...

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very bad heart failure or kidney disease...

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who has CLL and is on rituximab and...

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ibrutinib and highly, you know, very treatment experienced...

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that is a person who's more likely to get infections and they,..

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if you get infections, they are more likely to be serious.



CLL SOCIETY

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That said, you know, we only live once, right? So, I mean, if there are things that are situationally important, then it becomes this matter of risk tolerance. You need to first know your own risk...

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and then think about your tolerance relative to whatever event or travel you want to do.

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You know, we rarely tell...

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anybody like you can't travel.

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I think we tend to give recommendations that are like in very highly...

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immune suppressed...

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parts of your life, like the first couple of months after a bone marrow transplant,...

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not a great time to travel because it's your

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small, you're just more vulnerable unless it's something really critical.

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And, you know, particularly in those situations, your vaccine immunity and stuff is just not going to...

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get you there. But for average people who are kind of at their steady state in life,...

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things that are important are important. And what you can do is optimize things like the passive or...

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CLL SOCIETY

active immunoprophylaxis to be at least two to four weeks before some event you're going to do and when you...

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go through airports and airplanes, actually, I think the biggest risk times are

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are some of the like densely packed groups when you're waiting in line to go through customs or whatever...

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when airplanes are actually not in the air.

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So, when you're planning or deplaning, those are higher risk. When you're in the air, the air is circulating, to be honest, and unless you're sitting...

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And it's going through HEPA filters and it's the takeoff and the landing that are the risk to your life and to infections.

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Yes, exactly right. So, I mean, I do recommend you wear masks for sure for those sort of high risk points. And then in between, it's really a risk tolerance...

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Thing. Generally worth it because masks are annoying but...

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there are worse things in life, you know, and who wants to get a cold, right?

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Now, CLL is a very heterogeneous disease and some of us are in active surveillance or what we used to call watch and wait all our time. Others are in deep remissions and others are on active therapy.

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So I tell patients they're immune compromised no matter where they are, regardless of their treatment. It's just a degree...

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of how immune compromised there are. Is there any granularity...



CLL SOCIETY

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you want to add to that in terms of where patients are at? I push people,..

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the minute you're diagnosed, catch up on your vaccines because your immunity is going to be worse in a year from now than it is now in all likelihood.

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Talk to us about, because there's a lot of questions, about how immunocompromised am I. Also, this is an immunologist question about testing for immunity.

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And there are some things the immunologists do or are there things that...

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you recommend that patient consider or do they really make a difference?

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Yes, these are good and complicated questions. They're individualized.

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I agree with you,..

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the combination of like...

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active CLL, meaning you either have...

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very high lymphocyte counts or very high CLL counts and with lower...

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blood counts of the other blood counts.

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In particular, that plus getting treatments continuously are going to be the higher risk states.

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Obviously, that's even higher if you start having bone marrow transplants in the first couple years after that or CAR-T therapy.



CLL SOCIETY

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So that's kind of that sliding scale...

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from the watchful waiting or ...

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with sort of low disease activity tests, you start going up in the different stages and...

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you know,...

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that is something that your hematologist should be...

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able to tell you where you are on that spectrum.

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I do and when I see patients and I look at their medical charts, I mean, you can...

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there are some lab tests that are helpful for quantifying some of that.

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We talked about some of them. You can get total immunoglobulin levels.

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If you haven't had that done, a little trick is if you look at your...

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liver test, if you ever get that, and you just subtract the albumin from your total protein...

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the rest is mostly immunoglobulin. If that's less than two,...

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I'm like, you're probably hypergammaglobulinemic. That's like an inside thing.

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Yep.

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You could always just test that though. Also, the lymphocyte count itself...



CLL SOCIETY

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That's part of most chemistry panels. We did a chem 20 or whatever. It's there, yeah.

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Right. It's there. You know, obviously you have your white cell counts. If your neutrophil count is low,..

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less than a thousand, particularly less than 500,..

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that's going to be a high risk state for several infections. And for lymphocyte counts, obviously it's a little bit difficult to interpret with CLL...

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sometimes, but people can send like...

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CD4 counts like these T cell subtyping. And I look at that as like this part of this...

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picture of someone's immune system. How much antibody can they produce, how good are their infection fighting cells? How many T cells are available?

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And you can kind of, at least, put people in like low, medium, high risk states...

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particularly informed by a blood doctor who's like, okay, your CLL is this active. We put you on these medicines,..

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you're in the red zone with respect to these certain...

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diseases. And this is definitely a really big sliding scale that requires...

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people to be expert in CLL.

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And you can do like we do with HIV patients, CD4 counts, CD8 counts, and ratios.



CLL SOCIETY

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Okay.

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The other thing that I. Go ahead.

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I was going to say, and also, as I think someone mentioned in the chat, and I mentioned in the talk, people do sometimes check for like...

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flu antibody or after you get a vaccine as a marker of how kind of reactive your immune system is. If those are very kind of mute,..

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don't really go up with a vaccine,..

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that means you're pretty immunocompromised. They should go up.

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And what we know, for example, with the COVID vaccine is that most people, I was talking to a doctor from Australia, do eventually respond...

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to the COVID vaccine, never as robust.

01:17:58.000 --> 01:18:04.000

But we're not going to get there with one shot or two shots. It's often multiple shots and that's why...

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the twice a year recommendation.

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What he said, at least in Australia, maybe they have different blood in Australia, 80% of people were getting...

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adequate antibody response, but it took multiple doses...

01:18:17.000 --> 01:18:18.000



CLL SOCIETY

of the vaccine to get there.

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Yeah, that's about right. And there always is going to be a subset of probably five to 10% of people who really...

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struggle and that's usually people who are taking...

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rituximab or obinutuzumab, ..

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recent bone marrow transplant, those like very sort of intense...

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periods.

01:18:34.000 --> 01:18:36.000

And we know those people do have T cell response.

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Yep.

01:18:37.000 --> 01:18:40.000

At least some of them do have the T cell response.

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And one of the other things that I've seen done is if you're going to get a vaccine like n pneumonia vaccine, which is...

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like Prevnar 20, which covers 20 different subtypes of pneumonia, ..

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you can then test your antibodies before and after and see how they go up...

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and that can be extremely helpful because it's not just how many soldiers you have, it's how good they are at fighting, you know, how weaponized they are.

01:19:04.000 --> 01:19:10.000



CLL SOCIETY

Some specific questions I'm going to put you on the spot on. Is there a preference for an immune compromised...

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patient in terms of which...

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RSV vaccine to get? And you did mention there's a couple preferred...

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flu vaccines adjuvant versus the high dose?

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Help us understand when we're...

01:19:24.000 --> 01:19:28.000
choosing because we don't know which vaccine should we get.

01:19:28.000 --> 01:19:33.000
Right. You know, and the party line always has to be whatever vaccine is available and you're willing to get,...

01:19:33.000 --> 01:19:38.000
you should get. But if you have the option of time and you know,...

01:19:38.000 --> 01:19:43.000
you're selecting among them, there may be some differences in immune response...

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for people who are heavily immunocompromised.

01:19:47.000 --> 01:19:49.000
For flu, we just talked about...

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particularly older persons, higher dose or adjuvanted flu vaccines do increase...

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immune response. That's true. That's why they're recommended for older people.

01:19:58.000 --> 01:20:04.000
Being able to get those if you're someone under 65 is complicated, there's insurance issues...



CLL SOCIETY

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and you usually need like a doctor's note and stuff like that so...

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I can't, you know, I can't...

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recommend that per se. It's not what the CDC recommends, but some people do do that.

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Additionally, and it was one of these questions just speaking about flu,..

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there are some...

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populations for whom their data to get a second flu shot if you're, let's say a...

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48-year-old lung transplant recipient,..

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there have been data that show if you get a second flu shot like three months later, the risk of flu in the second part of the season is lower. It is a booster...

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but that also runs into insurance issues...

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and needs notes and stuff. And so, these are not things that are recommended by the CDC, but there are data for that.

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In terms of RSV, as I mentioned, the data on immunocompromised people is very scant.

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I happened to run a study that studies this in...

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immunocompromised populations so I have some inside knowledge of this and...



CLL SOCIETY

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I will say in our hands, we feel that an adjuvanted vaccine,...

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similar to the flu vaccine is probably more likely to at least get high levels of antibody.

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So, the GSK vaccine does have an adjuvant. The Pfizer vaccine does not.

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And the mRNA vaccine is like a different technology for which there's almost no information...

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in immunocompromised people. I have only a few people in my study who've gotten that and I don't have an idea.

01:21:26.000 --> 01:21:33.000

So in our hands, we have tended to recommend the GSK vaccine.

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It does cause some more reactions,...

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you know, because it's like an adjuvant...

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so it's kind of some personal preference there.

01:21:40.000 --> 01:21:43.000

But I'll go back to the first thing I said, which is...

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they're all likely to be beneficial.

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Whatever one you're comfortable with, is the one you should get.

01:21:48.000 --> 01:21:51.000

And then in terms of COVID shots,...

01:21:51.000 --> 01:21:58.000



CLL SOCIETY

there's a little bit more information. I mean, in our hands and in other studies, the Moderna vaccine does seem to increase...

01:21:58.000 --> 01:22:02.000

antibody levels at least a little more than the Pfizer vaccine.

01:22:02.000 --> 01:22:06.000

It's probably because there's a bit of a higher dose in there...

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but that tends to only really be seen when people are in the highest immunocompromised state.

01:22:14.000 --> 01:22:18.000

In terms of the Novavax vaccine, there's very scant information.

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We're just getting our own info together on that. It is adjuvanted, which would make you think maybe there's a potential to lead to better immune responses...

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but there's almost no information that would support that. And in fact, most of the information in healthy people...

01:22:33.000 --> 01:22:39.000

shows that antibody levels tend to be a little bit lower than the mRNA vaccines, particularly the Moderna vaccine,..

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just in head-to-head studies in healthy populations. So, the jury is definitely out.

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There do tend to be fewer side effects with the Novavax vaccine...

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for reasons that are probably just related to not having the mRNA,..

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the lipid thing that's in the mRNA.

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But, it's not clear that that corresponds to how well they work.



CLL SOCIETY

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Talk about most of us with CLL are older and have other things...

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happening to us and sometimes other things in our body like dental implants or cochlear implants or...

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total joint replacements, anything special about that in terms of infection management?

01:23:21.000 --> 01:23:24.000

If there is a cochlear implant, a dental implant,...

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a knee or hip that's replaced...

01:23:26.000 --> 01:23:29.000

that you think about as an ID doc?

01:23:29.000 --> 01:23:35.000

I will say that most guidelines do not recommend changing what you do...

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vis-a-vis dental work for joint replacements, particularly if they're not new.

01:23:40.000 --> 01:23:47.000

Like brand new. Brand new, we can talk about it.

01:23:47.000 --> 01:23:52.000

The cochlear implant thing is very interesting. I've not actually run into that issue, but that is a concern to me.

01:23:52.000 --> 01:23:57.000

Cochlear implants are associated with higher risks of invasive strep infections in particular.

01:23:57.000 --> 01:24:01.000

They go in the area in the ear canal and things that...

01:24:01.000 --> 01:24:03.000

are colonized with these streps that we all have that can,...

01:24:03.000 --> 01:24:07.000



CLL SOCIETY

cause pneumonia and sometimes can cause things like meningitis...

01:24:07.000 --> 01:24:11.000

or serious like brain infections. The combination of that with someone with CLL...

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is high risk for that.

01:24:14.000 --> 01:24:19.000

Definitely optimizing vaccination, testing the IgG antibodies to see if you need IVIG,..

01:24:19.000 --> 01:24:25.000

and in rare cases, people actually do prophylaxis. And I would have to see somebody's individual...

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situation to the side about prophylaxis with a drug like amoxicillin...

01:24:28.000 --> 01:24:32.000

against strep for people with a cochlear implant. So that's actually a very...

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important situation to discuss with your...

01:24:34.000 --> 01:24:38.000

Doctor, that intersection.

01:24:38.000 --> 01:24:43.000

So if we're having, if we're sick,...

01:24:43.000 --> 01:24:51.000

who do we call? Do we call with an infection? Do we call you? Do we need an infectious disease? Do we call our hematologist?

01:24:51.000 --> 01:25:00.000

And where do you fit in in the care? I don't think most of us have an infectious disease doc on our team.

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And I think of you mostly in the hospital setting, and I'm sure that's...

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a characterization that isn't completely accurate but...



CLL SOCIETY

01:25:09.000 --> 01:25:13.000

help us understand what we do now. I got the flu. I'm coughing and I've...

01:25:13.000 --> 01:25:19.000

got my Tamiflu, but I'm not getting better you know who's my next call to?

01:25:19.000 --> 01:25:22.000

Yeah, I think in the vast majority of cases of the...

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people on the call, infectious disease doctors are not going to be involved in your care.

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They may not be available. There's some states where there are barely any infectious disease doctors, you know. It really depends on your health center and where you live.

01:25:35.000 --> 01:25:40.000

It's only when things get complicated. Yes, typically if you end up in the hospital or repeated sort of...

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courses of therapy for something that don't...

01:25:42.000 --> 01:25:45.000

seem to be helping.

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The best case scenario is that either a primary care doctor or your primary...

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blood cancer team, uh are uh,...

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on the speed dial for you if you need them...

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and that they're educated and empowered,

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potentially informed by a colleague who's an infectious disease doctor about what to do for most of these scenarios. Like at Hopkins, we develop...



CLL SOCIETY

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protocols, let's say that we give to all the transplant...

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nurses and things for what do we do in the setting of RSV or what do we do in the setting of flu? Just kind of like spread that knowledge and understand that 95% of the problems are going to be channeled through...

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doctors or nurse teams who know you best.

01:26:24.000 --> 01:26:26.000

So, um,...

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you know, there aren't that many infectious disease doctors and...

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can't be everywhere at once and many,...

01:26:33.000 --> 01:26:39.000

like I said, 95% of the time, your team should be able to sort of manage these things, particularly if they have reference materials...

01:26:39.000 --> 01:26:42.000

that are, you know, up to speed.

01:26:42.000 --> 01:26:47.000

Could you give us that back of the napkin, you caused a lot of excitement about this way to...

01:26:47.000 --> 01:26:50.000

rough calculation of IgG with total protein.

01:26:50.000 --> 01:26:54.000

Oh, yes. You know, that's like me as I look through patient charts,...

01:26:54.000 --> 01:26:56.000

if you haven't had it tested,...

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you know, which you just should to be honest if like...



CLL SOCIETY

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that's part of what your concerns are because it's an...

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inexpensive test done by like every lab. But if you have the albumin on your, um,..

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chem panel, chemistry panel, and you have the total protein on your chemistry panel,...

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you just subtract the albumin from the total protein. The rest of that is usually...

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immunoglobulin. And so albumin...

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tends to be like, you know, three and a half to five or so in total protein tends to be...

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you know, five and a half to...

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seven and a half, it can depend on a person...

01:27:36.000 --> 01:27:41.000

and so if that ends up being less than two, that tends to be associated with hypogammaglobulinemia.

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But you should just check it. You don't have to do your own math. Also, there are some chem panels that'll say something called like globulin.

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They'll just calculate it for you. And you can just look at that. You don't have to do your calculation, but it'll be almost exactly the same as...

01:27:53.000 --> 01:27:56.000

that little...

01:27:56.000 --> 01:28:02.000

chem panel trick.

01:28:02.000 --> 01:28:03.000



Yeah, yeah.

01:28:03.000 --> 01:28:05.000

Right. But the test is a really inexpensive, simple test. And it also tells your IgA, IgM, and IgG.

01:28:05.000 --> 01:28:07.000

Right.

01:28:07.000 --> 01:28:08.000

Right,..

01:28:08.000 --> 01:28:13.000

which are important and may qualify you if you've had recurrent infections to get the supplement.

01:28:13.000 --> 01:28:24.000

There's a lot of questions about Lyme's disease and if that's been treated. Is it more of a risk in CLL? Any comments on that?

01:28:24.000 --> 01:28:32.000

You know, I've never seen that to my, I mean, maybe there's one out there, like a study of Lyme disease in people with CLL, and maybe there's a Google of one.

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It is not one of these infections that I necessarily think are...

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more common or dramatically worse in people with CLL...

01:28:39.000 --> 01:28:43.000

per se. To be honest, the biggest risk factor for Lyme disease is an exposure thing.

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I, you know, I grew up in sort of...

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suburban New York, and I'm sure I've had Lyme disease. And if you tested me, I would have antibodies positive for having been exposed to Lyme.

01:28:55.000 --> 01:29:01.000

It's not something that we really think like reactivates necessarily when your immune system goes.



CLL SOCIETY

01:29:01.000 --> 01:29:03.000

It's just...

01:29:03.000 --> 01:29:05.000

an exposure thing and I wouldn't...

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go hunting probably,..

01:29:07.000 --> 01:29:10.000

no pun intended, I meant more like looking for it...

01:29:10.000 --> 01:29:19.000

as the cause of problems, unless you're someone who's got very high exposure risk.

01:29:19.000 --> 01:29:20.000

Yeah.

01:29:20.000 --> 01:29:21.000

You use the word adjuvant several times, but I know you...

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explained it a little bit, but could you re-explain it, please?

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Yeah, so...

01:29:26.000 --> 01:29:31.000

there are these, I'll tell you almost like a story about it.

01:29:31.000 --> 01:29:39.000

Adjuvants are a type of immune stimulator, an immune booster, and there are many kinds.

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Some of the vaccines that people get that are particularly, that cause like particularly arm reactions, for example, tend to have adjuvants in them like...

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the shingles shot, if anyone's had that.

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CLL SOCIETY

About one out of 10 people have a pretty sore arm or pretty red arm, and that's because of the adjuvant. It tends to be some sort of chemical that is broadly reactive in most people.

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And some of the classic stories are that they're like these trees in the Amazon that someone like, rub against and their arm swells up hugely. And so people have like found the tree bark and sap from that,..

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found the chemical structure of it and created it as an adjuvant...

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that will recruit immune cells to the site of something like an infection kind of...

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alarm your immune system to this...

01:30:19.000 --> 01:30:22.000

otherwise harmless you know, uh, piece of...

01:30:22.000 --> 01:30:26.000

flu shot, you know, and then that kind of is almost like a...

01:30:26.000 --> 01:30:28.000

off-target effect in a way to...

01:30:28.000 --> 01:30:32.000

recruit parts of your immune system to be like, hey, I remember flu. I'm going to make some...

01:30:32.000 --> 01:30:36.000

flu immunity now.

01:30:36.000 --> 01:30:37.000

So...

01:30:37.000 --> 01:30:40.000

So adjuvant, that's one strategy to improve immune response.

01:30:40.000 --> 01:30:44.000

So, we seem we answer one question, we get more on this just...



CLL SOCIETY

01:30:44.000 --> 01:30:53.000

somebody who's going to have a total joint replacement, anything special, somebody who's going to have a valve replaced or a pacemaker or anything special about those?

01:30:53.000 --> 01:30:55.000

In someone who has CLL?

01:30:55.000 --> 01:30:57.000

Oh, yeah, these are CLL patients.

01:30:57.000 --> 01:31:02.000

Yeah, you know, it's going to be case by case. I think if you're people who are on a lot of steroids in particular,...

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that's a high risk for having a surgical site infection.

01:31:06.000 --> 01:31:11.000

And, you know, as we know, steroids can sometimes cause bone problems and then you need to get a joint replacement so...

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those are situations where you have to be,

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the surgical team needs to be aware of that and...

01:31:18.000 --> 01:31:25.000

understand that there may be a higher risk of getting a bacterial infection around the operative site.

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We don't tend to do much different apart from trying to lower the steroid dose if we can...

01:31:30.000 --> 01:31:33.000

around the surgery to kind of let wound healing improve.

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There's some other drugs like sirolimus,..

01:31:36.000 --> 01:31:42.000



CLL SOCIETY

Rapamun, that people take after bone marrow transplant that are also associated with poor wound healing.

01:31:42.000 --> 01:31:46.000

So those are other high risk situations. But CLL, again, is sort of a baseline problem is...

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the bacterial issues or skin issues tend to be a little bit lower...

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with the exception of very significant hypogammaglobulinemia. So IVIG can help a little with that.

01:31:59.000 --> 01:32:06.000

So let me run through a couple things here because we're coming in. I'm going to ask you in a minute here just to kind of summarize or any takeaway points you have.

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There was a couple questions specifically on CLL. Didn't CLL cause hair loss and some of the treatments can, but it's rare.

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The CLL usually does not cause hair loss.

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Does taking iron prevent you from getting anemia with CLL? Not unless you're iron deficient. It's not going to prevent it. Most of the anemia in CLL,...

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the CLL itself can either crowd out the bone marrow or suppress the activity

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of the healthy cells so anemia is common. There's also autoimmune conditions.

01:32:35.000 --> 01:32:42.000

So you have to know what kind of anemia, and there are many different kinds of anemia. An iron deficiency anemia,...

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if you have that, then it's not the CLL and you want to see if they're, you know, in younger women, that can be menstrual, but in the people...

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CLL SOCIETY

older, we worry about GI bleeding, colon cancer, peptic ulcer disease. There's all kinds of things,..

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that's not a trivial diagnosis in iron deficiency anemia needs to be figured out why you're iron deficient. It can be diet, but that's...

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pretty rare. People ask the difference between IgA, IgM, and IgG. They're different...

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antibodies, the only one we can replace is IgG, and that's in the immune globulin...

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and it's the workhorse to really oversimplify. The IgA is on the mucosal membranes...

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so it lines the ENT track, but also the gut tract. And the IgM is kind of the fast acting bigger antibody. I mean, that's incredibly oversimplifying it.

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D and E, which are beyond the scope of...

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getting into this, but the only one we can place is IgG.

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I think...

01:33:45.000 --> 01:33:51.000

we have a lot more questions. Skin infections, they are more common in CLL.

01:33:51.000 --> 01:33:57.000

All infections are more common in CLL. That's the bottom line. Eye infections are more common.

01:33:57.000 --> 01:34:02.000

I did want to ask you one question before you do the summary.

01:34:02.000 --> 01:34:11.000

Gardening. And if you're on a BTKi and you're working in the dirt and fungal and these things aren't a pathogen and...



CLL SOCIETY

01:34:11.000 --> 01:34:20.000

your partner can be digging up the garden. Should we be masking when we're working in the garden, especially if we're on a BTKi or something else like that? That's a question.

01:34:20.000 --> 01:34:21.000

Okay.

01:34:21.000 --> 01:34:28.000

It's a great question. It hasn't been like directly studied, but I think of it a little bit like, again, people who are very soon after an organ transplant.

01:34:28.000 --> 01:34:35.000

Usually after the first three months or so, I do recommend wearing gloves in consideration of a mask if you're doing things like...

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renovations, gardening, you're like a big woodworker, stuff like that.

01:34:40.000 --> 01:34:44.000

The likelihood of these infections is generally relatively low...

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but they are increased...

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In the use of things like the BTK inhibitors, high doses of steroids,...

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in early after stem cell transplant. So those are situations where I do recommend that,...

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if it doesn't cramp your style too much.

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So...

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any takeaway thoughts in a couple minutes here of what you think that's really important for patients to know.

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Yes. I mean, I think one, and we talked about this before too is...



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to your point, almost all of these infection things are going to be higher,..

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on balance, if you have a diagnosis of CLL, but it's a sliding scale

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depending on how immunosuppressed you are. There are some things we can do, right? We can...

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get vaccinations, we can make sure our friends and family are vaccinated,..

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IVIG if we need. And then all those things I mentioned that are not...

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drugs but reduce risk like...

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washing your hands and wearing a mask in these high risk situations.

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That said, again, we only have...

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one life. And we really want to, I would really want to emphasize that...

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despite increased risks, this doesn't mean never leave your house, right? If you never leave your house, you're probably not going to get an infection, but your quality of life is not going to be great. So, it's more about making smart choices...

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to reduce your risk, both in terms of...

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these interventions we talked about as well as situationally you know,..

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particularly at high levels of respiratory virus circulation,..



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if you know you're very immunosuppressed...

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that's just not particularly a great combination to be doing things that are going to be like big groups of people. If you have to do it because it's a really important thing, it's a funeral,..

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well, it's a wedding, it's a you know, a...

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Pilgrimage, you know,..

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boost yourself up before that, wear a mask,..

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wash your hands and the risks will be lower. It's just going to be higher than if you sat in your...

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chair in your living room.

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It's all a balance, risk-benefit, missing a family event, something is worth taking the risk.

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We didn't get to all the questions, but we have a way. Thank you for great questions. Dr. Werbel, thank you for making this...

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really a great...

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I think, very granular and impactful...

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kind of presentation. If we didn't get to your questions,..

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email us at Ask the Expert address after this event.



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01:37:01.000 --> 01:37:06.000

And we'll share that email address in these closing slides.

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We do want to thank our,..

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our generous donors who made this program possible.

01:37:12.000 --> 01:37:23.000

Big thanks to everyone for joining us. Dr. Werbel, just really great. I want to have you back and I want to interview you about some of this research that you've been doing.

01:37:23.000 --> 01:37:29.000

Please complete our event survey. It's really important to us. It really helps us.

01:37:29.000 --> 01:37:34.000

We listen to your feedback. We read it. We review it as a team and we make changes based on it.

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This event was recorded. It'll be available on our website with the slide deck and a written transcript. People asked about that.

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Usually takes about a week. Your questions, asktheexpert@cllsociety.org, all one word, [asktheexpert](mailto:asktheexpert@cllsociety.org) at CLLSociety.org. You can see it there.

01:37:52.000 --> 01:38:05.000

Join us for our next webinar, which will be from ASH 2024. And there's a ton of great stuff there. Dr. Nitin Jain is doing it with us. I'll be one of the speakers there. That's on January 9th.

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And finally, this is the season of giving. Please remember the CLL Society. We're a nonprofit. Any donation is fully tax deductible.

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We're invested in your long life. If you can invest in the long life of the CLL Society,..

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by supporting our work, we'd be so grateful!



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Stay strong. We are all in this together. Thank you for your attention.