



## Patient Education for Melanoma Skin Cancer

### Side Effects of Immunotherapy in Melanoma

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#### TRANSCRIPT

What about the side effects? So, you would think, “Well, if this is good at boosting the body's immune response against melanoma, what would happen if you accidentally boost the immune system too much?” And that's the problem with the side effects that can sometimes happen and then any organ in the body can get inflamed with side effects. This is a cartoon I put together for a medical journal a few years ago, showing all the different organs in the body that can get inflamed. And you may think about the suffix “itis” that means inflammation. And if you have any organ and then you add the suffix “itis” after that organ, that just means that organ is inflamed. So, pancreatitis, for example, is inflammation of the pancreas. Colitis is inflammation of the colon. Pneumonitis — “pneumo” is lung and “pneumonitis” means inflammation of lung.

Any organ in the body can get inflamed from these treatments. And it's important to tell your doctor if you're receiving immunotherapy that as you're turning on the activity of these T cells, you want to make sure that you don't turn it on too much. So tell your doctor if they're doing too much with immune therapy because it might be necessary to give temporary immune suppression to lower the immune response down a little bit if it gets too activated.

Some of the side effects can be well treated with topical treatments. And this is an example of a patient that had dermatitis or inflammation of the skin. This is a rash that a patient that I took care of had, and we had to give cream to make the rash abate, and this often can be treated with just topical hydrocortisone cream.

This is a picture of a patient that had diarrhea and colitis. This is a colonoscopy evaluation on the right, and what it might look like if you look on the inside of the colon in someone who has an inflamed colon that's caused diarrhea. And you can see there's a lot of edema and yellow mucus here. So, this often needs to be treated with steroids or other drugs to reduce diarrhea.

And we're trying to understand why some people have side effects and other people don't. It's a really interesting question. In the case of colitis, we've found that certain types of bacteria are actually associated with a protective presence for bacteria. So I don't want you to worry about all these weird names at the bottom and all these fancy graphs and things. PtC means “Progressed to Colitis,” and C-F means Colitis-Free.



And these blue dots here and red dots indicate that patients that did not have colitis from a certain type of immune therapy had a higher abundance of a certain type of bacteria called bacteroidetes. So, a lot of trials now are trying to test whether you can manipulate the bacteria in the gut to have a reduced risk of colitis. And if you get colitis, maybe there are certain ways that we can manipulate the bacteria there to help make the colitis go away. This is still an area of research, but one that's very interesting, and a good example of ways that we're trying to figure out how we can mitigate side effects and improve side effects in patients that have different kinds of symptoms from excess immune stimulation.