

BRUCE So standard chemotherapy continues to have, and probably will for a long time, have a big role in treating
BROCKSTEIN: different types of cancer. But the landscape has really changed in terms of which cancers require chemotherapy and which cancers can be treated in the first line setting or second line setting alone or with immunotherapy.

So for example, let's start with melanoma. Standard chemotherapy never worked very well for melanoma. It was really very palliative with minimal benefit. So at this point, very few patients receive chemotherapy for melanoma, although we still will use melanoma chemotherapy for melanoma in a situation when the patient continues to get worse and immunotherapy has just not worked, which is about half the time, or a little bit more than half the time.

So most patients are well enough to get to chemotherapy, and some really don't get to the point of chemotherapy. But that's really a secondary treatment. In other cancers, for example, forms of breast cancer like triple negative breast cancer, chemotherapy continues to be the predominant type of treatment, and immunotherapy remains kind of in the background, having shown less success, although beginning to show some benefit in certain forms of advanced triple negative breast cancer.

And other cancers sit in between, where the first line treatment may be chemotherapy, but the FDA-approved second line treatment may be immunotherapy, although ongoing trials may shift that as we've seen with some of the other cancers.