What I'm going to specifically talk about for the next 20 minutes or so is with these new effective treatments, can we use systemic therapy drug treatment before, after, or even instead of surgery? And if so, should it be immune treatments? Or should it be BRAF-targeted treatments? So, what I'm going to talk about is, how do we sequence the treatment. Does it make a difference if we use drugs before surgery versus after? And I'm going to show you that I think it makes a big difference.

But first, I have to talk a little bit about how we choose to use drug treatment. What choice do we make when we have all these different treatments? So let's think of it this way: If we have a patient with Stage IV disease, metastatic melanoma — not a patient who would normally be a candidate for surgery, someone who needs drug treatment because the tumors are too widespread for surgery. Well, we could give them one drug, multiple drugs, immune therapy, targeted therapy. We might have a lot of choices.

Today, I think it's fair to say if we knew a patient would have a good response to the single-agent, anti-PD-1 drugs like nivolumab or pembrolizumab, that would be the best treatment for that patient because the least side effects, the least toxicity come from single-agent treatment, not combination immunotherapy. So, the more concerned we are about toxicity, the more likely we are to choose just one drug.

This is true for immune therapy. I want to be clear, for BRAF targeted therapy, we actually can get less side effects when we combine drugs and better results. So, it's a little different. But all of our data, so far, is showing that if you've got a choice between targeted therapy and immune therapy for Stage IV melanoma or unresectable tumors, use immune therapy first and use the targeted therapy as a backup.

So that's the premise for Stage IV disease. Now, obviously, there are good reasons to use combinations and take that higher toxicity. And in widespread diseases, the main reasons we use the combination of ipi and nivo are for brain metastases when they need drug treatment, or eye melanoma.
because it's so much less sensitive to immune therapy than for skin melanomas, and maybe for the really aggressive melanomas that are really causing a lot of problems.
But how do we define that? How do we know when that is? And when do we use immune therapy and targeted therapy? Those are difficult. I'm not gonna go into details. I'm just trying to give a broad outline.

What's in the middle? So, we got the really straightforward cases, the really complicated cases. What about the average person? Well, right now, today, for any previously untreated Stage IV melanoma patient who isn't too frail for the combination of immune drugs, and whose melanoma isn't so extensive that ipi-nivo is needed, it looks like the newest combination, the nivo-rela combination looks like the winning choice to start with, as I said, even if there's a BRAF mutation. Not 100% agreed upon across the whole world, but that's largely the consensus. It's more effective than nivo alone, it's not as many side effects as ipi-nivo. For most people, this is going to be the right choice.

On the other hand, previously untreated Stage IV melanoma is becoming an endangered species. What do I mean by that? I wish it was endangered because no one was getting metastatic melanoma. But what's happening is we're using treatments earlier and earlier. We're using treatments before Stage IV: In Stage III, and sometimes even Stage II. We're using treatments currently after surgery in what we call the adjuvant setting or adjuvant therapy.