So, these slides look simple, but they contain a lot of information. The first one is 'oligo metastasis'. This refers to a patient that is diagnosed with cancer that has spread outside of the lung but is limited to certain sites. These patients typically receive radiation therapy.

Then we have 'oligo progression' and 'oligo recurrence'. 'Oligo progression' is when the cancer grows in very limited sites, perhaps here in the shoulder or here in the leg. We usually treat it with local therapy, as indicated by these small symbols which mostly represent radiation. This allows us to control those sites of disease that are growing, while the rest of the disease is under control.

This is very different than 'widely metastatic progressive disease'. In the pictures, you can see that 'oligo progression' involves one or two sites growing, while 'blank disease progression' involves multiple sites. We still use radiation to treat some of these symptomatic lesions.

Here's a good example of a patient that had 'oligo disease progression', shown in red. These tend to be very painful, causing discomfort with each deep breath or when trying to sleep on their side. The patient remained on targeted therapy, but we were able to treat that problematic spot with radiation. These patients remained on targeted therapy for a year after we treated these lesions. So, it's a bridge between “We know that cancer developed resistance mechanisms. Let's try to treat the sites they are growing to get the most benefit we can for the targeted therapy.”

These concepts of 'oligo progression' continue to be studied. There's more information about 'oligo metastasis', which refers to patients getting diagnosed with stage four cancer, but the disease only appears in certain sites outside of the chest.
So, this is a study that's been conducted in Canada. It focuses on patients who have 'oligo progression' — one to five lesions. We have a limit, and these lesions are less than five centimeters and are found in less than three organs, such as the bone, liver, or adrenal glands. The adrenal glands are the glands situated on top of the kidneys.

Patients are then categorized based on whether they have a 'driver mutation' or not, and they're randomized. This means that some receive the standard treatment—we switch their therapy—while others receive directed therapy targeted at those sites where the disease is growing. This study is still ongoing, as you can see. It was recently published, providing updates on the progress as of March of this year.

So, what do we use to treat these disease sites that are growing? There are several local therapies. What is the difference between a local therapy and a systemic therapy? Well, local therapy treats the disease where it is — at that specific spot; it doesn't treat the disease everywhere in the body. That's what we use for 'oligo progression'. The number one method used is radiation, particularly what we know as 'pinpoint radiation' or 'SBRT' — stereotactic radiation. I call it 'pinpoint' because it allows us to treat a lesion without all the extra radiation side effects in the area surrounding that tumor. It tends to be very effective. It ranges from one fraction to 10 fractions. By 'fractions', we mean the number of treatments.

Another option, which is less commonly used, is surgery. We remove the 'seeds' that's growing that are causing us trouble. Surgery is less common because it requires more from the patients — lung surgeries require long recovery time.

We also have 'ablation'. Ablation uses a laser, or in common parlance, 'very cold energy', to burn the tumor that's causing us trouble. They typically use needles, as you can see in this picture, to reach the lesion and apply very cold therapy, known as 'cryotherapy', or use very warm therapy. There's a type of laser called 'RFA' — Radiofrequency Ablation.

These are mostly local therapies. They do not treat the cancer at other sites, besides the site that is being directly targeted.