Exploring the Basic Mechanisms that Contribute to Development of Lung Fibrosis

Dr. Sonye Danoff: We're here in Nashville, at the Pulmonary Fibrosis Foundation meeting. We had a really interesting session, trying to look at the basic mechanisms that cause lung fibrosis. What'd you think about that session?

Dr. Timothy Whelan: It was a really interesting session, because these researchers are trying to get to the basic mechanisms of cell repair, and the interactions of those cells, and how this can lead to fibrosis. In particular, they're using animal models. Unfortunately, we do not have a great animal model to replicate idiopathic pulmonary fibrosis, but we do have several different models that are fibrosis models. What we can learn from these is how the cells interact with each other, and what types of mechanisms they use for cell repair. And these are potential things for us to target in the future with medications. How about you, what'd you take away from the sessions?

Dr. Sonye Danoff: I thought that the use of animal models was really impressive. You can really get at a lot of the details of the pathways that are affected in pulmonary fibrosis. There was a great talk about ER stress, and how that might be involved, and the interaction between the environment, that being hypoxia and ER stress, in the development of pulmonary fibrosis. There was also a really interesting talk about an animal model of telomere shortening, which was really notable for the fact that not only does this animal model develop fibrosis in response to some of the standard stimuli, like bleomycin, but it actually develops it with age. And so, that seems to have some of the same features that we see in humans. But I think that there were some really important points made about the limitations of animal models.

Dr. Timothy Whelan: Absolutely. These animal models are so important for hypothesis generation, and figuring out the mechanisms that may lead to fibrosis. But in order for us to find a cure, we're absolutely going to have to move these into human studies, to be able to come up with ways that we can truly, effectively treat our patients.