



Episode 7: What are Duke researchers doing to better understand Alzheimer's and other brain diseases, and what is being developed to prevent and treat these conditions?

**Narrator:**

**Hi and welcome to Viewpoint with Dean Mary Klotman from the Duke University School of Medicine. Alzheimer's affects nearly 6 million people. It's a devastating disease and little progress has been made in efforts to understand and treat it. We asked Dean Klotman, what are Duke researchers doing to better understand Alzheimer's and other brain diseases, and what is being developed to prevent and treat these conditions?**

**Dean Klotman:**

So, the Translating Duke Health Neuroscience Initiative is really focused on this concept of resilience and repair. The idea is that if you look at a chronic disease at the end of the disease, you're seeing the effects of years of damage even before there were symptoms. But if you start just looking at the basic biology of a damaged cell, no matter what the cause, you might really start to uncover the events that start early.

So conceptually, this approach is stepping back and really saying what is the basic science of repair when a cell is damaged? And resilience—which means when a cell is stressed— how well does it respond? That's really basic biology. It's basic neurobiology, but if there are signals derived from that basic biology, then those could become clues to really doing more translational research. Or you might discover a biomarker that could be used to detect a disease like dementia even before it develops symptoms. Now the underpinning of all the Translating Duke Health Initiatives is the concept that these are going to be multidisciplinary approaches. So it's not just going to be neurobiology, but the neurobiology will inform clinical research.

For instance, we know that there are a number of genetic mutations that have been identified in clinical research. Those mutations might inform the neurobiologist. The neurobiologist might find a clue that the clinical investigators can go and use in their research. So we really go from the continuum of basic science, translational science, clinical investigation and that's really the team approach to one of these major challenges.

**Narrator:**

**Viewpoint is a production of the Duke University School of Medicine. Tune in each month for Dean Mary Klotman's thoughts and ideas about important and timely topics and issues related to medical education, science and discovery, and patient care.**

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