

**Dr. Krista Vandenborne**  
**Chair, Physical Therapy**

Today we celebrate how far we've come in the past 60 years. If you look across the Health Science Center, it's the technological advances that enable us to maximize opportunities, expand our breadth of expertise, and put the patient first.

My research team takes advantage of sophisticated imaging and electronic platforms to help find a cure for Duchenne Muscular Dystrophy, or DMD. Duchenne is a degenerative disease that causes progressive muscle weakness in young boys. Most patients with DMD will lose the ability to walk around age 12, and won't live past their 20s.

It is an exciting time in the muscular dystrophy field, because many new therapeutic strategies are being developed for this life-limiting disease. Instead of relying on traditional invasive muscle biopsies or insensitive walking tests to determine drug effectiveness, our team has been developing magnetic resonance imaging techniques, or MRI, which are both noninvasive and sensitive. We can take thousands of images to carefully examine the patient's muscle health.

In DMD, the boys' muscles are rapidly replaced by fat, and over the course of just a couple of years there is no muscle left to treat. The power of quantitative imaging is remarkable, and it allows us to save critical time in drug development. This is really important as families feel the clock is ticking — boys must be able to walk to participate in a clinical trial, so the window to access treatments is constantly threatening to close.

Since DMD is a relatively rare disease, clinical trials and the imaging measurements have to be performed in a large number of specialized centers not just in the US, but internationally. Thanks to technology, we are now able to work with other imaging sites in real time. MRI images taken at a site in Milan can be processed in our laboratory and sent to my iPhone wherever I am. Within minutes, I can determine whether the MRI data look good, and give the site the go-ahead to start drug administration. This can all happen while the patient is still waiting in the waiting room.

Thanks to global connectivity we are able to serve kids across the U.S. and Europe. Our research team has expanded from 20 experts here in Gainesville, to a large network of the brightest clinicians and scientists, innovators and advocates working together — all dedicated to — if not stopping — slowing down the progression of this relentless disease.

What we do today will impact communities tomorrow, near and far. The dedication and compassion I feel and see from my team members who work tirelessly against this disease perfectly exemplifies the Gator Nation and research teams across the college.

Thank you.

