

# Working Toward a Cure for Ovarian Cancer

## IN THE LAB. IN THE RACE. IN NORTHEAST OHIO



**Dr. Analisa DiFeo**

Growing up, Dr. Analisa DiFeo, PhD, noticed an innate curiosity inside herself. She constantly wanted to know and discover more about the world. Her favorite question was always, “Why?”

For Dr. DiFeo, every day is a chance to put this boundless curiosity into action. As a Principal Investigator for DiFeo Laboratory and Professor of Ovarian Cancer Research at Case Western Reserve University (CWRU), she works towards a cure for ovarian cancer through research and advocacy.

After earning her PhD in cancer biology from the Icahn School of Medicine at Mt. Sinai, there was one particular “why” question that drove Dr. DiFeo’s career path forward. Why, she wondered, was ovarian cancer receiving so little funding? “What really struck me was the lack of research at that time that was being done in the field,” DiFeo said. Two of her family members had been diagnosed, joining the more than 22,000 women who are diagnosed annually in the US.

Dr. DiFeo was motivated by the need she saw in her own family for better treatment. “If you actually look at the ratio of mortality versus incidence, ovarian ranks third out of all cancers,” DiFeo said. “So obviously there is a need to do research in this cancer.”

DiFeo Lab, in cooperation with the Case Comprehensive Cancer Center, is part of a regional, multi-hospital effort to bring top-notch resources together for researching ovarian cancer. Today, Dr. DiFeo and her team are focused on investigating disease progression in mice. “We are trying to find genetic factors that predict whether the patient will respond to chemo, but also factors that will diagnose ovarian cancer earlier,” DiFeo said.

In her nearly five years at CWRU, Dr. DiFeo has been a part of remarkable growth in the field. “When I came here in 2012, I was pretty much the only one working in ovarian cancer. Now we have about 11 cancer research labs in Northeast Ohio working in ovarian cancer,” DiFeo said. “There’s very few places that have a strong program such as this, so it’s been great to build a program in the area.”

This strong sense of collaboration has led to new projects like a gynecological tumor bio-bank at DiFeo Lab. “We put patients’ tumors into mice. Essentially, we try to generate a mouse avatar for every patient that comes in. So now, we have about 320 samples collected, and about 44 mice avatars corresponding to those samples,” DiFeo said. “It goes to show that if you form a good team, which was very easy to do in Northeast Ohio, you can make things happen.”

Patient support and outreach is what brings all of Dr. DiFeo’s work full circle. Her involvement with OutRun Ovarian Cancer (OROC) is one such example. Every August, OROC holds a 5K run and walk in downtown Cleveland, complete with celebrations and ceremonies at the Rock & Roll Hall of Fame and Museum. In 2016, Dr. DiFeo was the race’s keynote

### Signs and Symptoms of Ovarian Cancer May Include:

- Abdominal pressure, bloating or discomfort, feeling “full”
- Constipation, diarrhea/changes in bowel function
- Frequent urination/changes in bladder patterns
  - Nausea, indigestion and/or gas
  - Abnormal bleeding
  - Shortness of breath
  - Unusual fatigue/backaches
- Unexpected weight gain, increased abdominal circumference
  - Unexpected weight loss

*Symptoms may be experienced by women at some point in their lives, and usually do not indicate ovarian cancer. However, if symptoms persist for three weeks or more with no diagnosable cause, contact your doctor and ask about ovarian cancer.*

speaker, where she offered words of hope to over 100 ovarian cancer survivors and their families. “I like to team up with organizations like OROC, because they are out there showing patients and survivors that they have a team behind them,” DiFeo said. “The mission of OROC is truly the same as the mission of our lab.”

This year’s 14th Annual OROC 5K Run/Walk and Family Fun Run was held on August 5th. To date, OROC, which is volunteer-driven, has now donated more than \$1,000,000 toward ovarian cancer research, awareness and education in Northeast Ohio.

In the day-to-day demands of parenting three children, teaching, mentoring and so much more, it could be easy to lose focus or burn out. But the women fighting ovarian cancer constantly bring DiFeo right back to her mission. “What helps me push forward and keep going, is talking with patients,” DiFeo said. “We make it a point to involve patients in our research. Not only by collecting samples, but going into the community and telling them what we’re doing. I’ll go to survivor groups and speak about research, and I see how strong these women are that are fighting the battle.”

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**14th Annual 5K Run/Walk**  
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