



Peer Profile: Carol Shields, MD

An experience in the emergency room more than 30 years ago first got Carol Shields interested in ocular oncology. A young patient approached Shields, then a first-year resident, with blurred vision. Shields initially thought the patient might have just misplaced her contact lenses. But when Shields dilated the patient's eyes, "I saw a shocking finding," she says. "She had a large melanoma in her eye, and total retinal detachment." There was relatively little that oncologists could do at the time, and the patient had to have her eye removed to save her life. The experience convinced Shields to specialize in ocular oncology. "I thought it was a really powerful subspecialty," Shields says. "We're not just dealing with vision, we're dealing with a patient's life, and for me that was meaningful."

During her long and distinguished career, Shields has made numerous contributions to the field of ocular oncology, especially in the treatment and diagnosis of intraocular tumors. She has published hundreds of research articles and textbook chapters and has received numerous awards, including the American Academy of Ophthalmology Life Achievement Honor Award and the Donders Medal for excellence in ophthalmology. Shields is quick to credit her colleagues for their role in her achievements: "There's always a team of us working together." Shields is now co-director of the Ocular Oncology Service at Wills Eye Hospital, along with her husband, Jerry Shields, MD, with whom she has frequently collaborated and co-authored many research articles.

When Shields started her career in ocular oncology, "the field was relatively new," she says. There were few oncology centers, and many eye cancers were treated by local ophthalmologists, who had no recourse but to remove the eye. "I think we've done a whole lot in the past 3 decades," Shields says. She notes that the collaborative nature of ocular oncology has been particularly helpful in advancing the field: "We all share what we're doing and

what we're learning, and we move fast by listening to each other." She adds, "We know how important it is to understand our specialty well, because it can make a difference in a patient's life."

One area of research on which Shields has focused is the diagnosis of melanomas.¹⁻³ "I think early detection of melanoma has been one of our biggest contributions," she says. "I've spent a lot of my time helping to identify melanoma at an early point using simple, straightforward clinical features that every doctor can detect." As a result,

doctors are now able to detect tumors when they're just a few millimeters in thickness, and patients can begin treatment much earlier than before. "The earlier you detect it, the better off the patient is."

Shields has also worked extensively on retinoblastoma, and has helped develop new treatments^{4,5}: "We now give chemotherapy through intravenous and intra-arterial routes, and I think these 2 routes have been monumental in retinoblastoma care." Doctors have gone from having to remove an eye with retinoblastoma to being able

to treat it with chemotherapy. About half of the patients have good vision after treatment. "Over the past 30 some years, we have taken giant steps forward," Shields says. She and her colleagues continue to refine retinoblastoma treatments, with a prospective trial currently underway. In addition to her work on melanomas and retinoblastoma, Shields has also adapted new imaging techniques for diagnosis of ocular cancers, and has made many contributions to our understanding of conjunctival tumors.⁶⁻⁹

Throughout her career, Shields' patients have driven her research, she says. "Every patient's a little bit of a challenge, and it makes you want to read more, or want to explore more, or want to figure out why that happened," Shields notes. "I'm constantly learning, even to this day, and every day I see 10-20 new things I haven't seen before, and I say



Dr. Carol Shields having fun with her fellows while examining small children with retinoblastoma in the operating room. Photo credit: Roger Barone, Wills Eye Hospital.

121 ‘wow, isn’t that interesting,’” she says. “It’s been an
122 exciting career, and I’m not done yet.”

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