Carol L. Shields, MD

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1. What do you feel are some of the most promising developments in ocular oncology?

There have been several promising developments in melanoma and retinoblastoma diagnosis and treatment. One of the most important developments in the field of ocular melanoma in the past 10 years is the identification of clinical risk factors that help us detect melanomas when they are small. In the old days, we used to wait until a tumor grew or wait until it was medium-sized to treat it. Now we have risk factors that predict which lesion is actually going to evolve into a melanoma. We also have better imaging methods, such as autofluorescence, optical coherence tomography (OCT), and ultrasound. These imaging methods are incredible in their ability to detect orange pigment (hyperautofluorescence) and subretinal fluid. Through genetic testing we can test tumors to prognosticate whether they are likely to metastasize. Regarding melanoma therapy, there are new radiation plaque designs with custom-fit plaques to protect the macula and more secure tumor consolidation with thermotherapy. I hope in the future we will be able to find some promising systemic therapies for melanoma.

As for retinoblastoma, there are some outstanding therapies available. For example, we now have excellent chemotherapy regimens that have drastically changed how we manage retinoblastoma. In the past, we irradiated the eyes of children with retinoblastoma; now we give them chemotherapy and avoid the consequences of radiation, such as cataract, retinopathy, dry eye, and local second cancers. There are still useful forms of radiation, such as plaque radiation therapy, which is generally used for small to medium retinoblastomas. Perhaps one of the most exciting innovations for retinoblastoma therapy is intra-arterial chemotherapy. With this therapy, we perform super-selective injections of chemotherapy directly into the artery that feeds the eye with retinoblastoma. This can lead to tumor cure within 1 or 2 months. Although we have made significant headway in the past decade in both melanoma and retinoblastoma, I believe we still have much more ground to cover.

2. What are some ways that you manage the emotional stress that comes from working with children with retinoblastoma?

I am dealing with a life-threatening malignancy that can possibly blind a child. It can be emotionally stressful to know that every move I make counts toward saving a child's life. I manage this stress in three ways. First, with confidence. I tell families that we know the appropriate therapeutic moves to make and we know we can win. I remind my patients and myself of the top treatment priority—to save the child's life. It is a bonus if we can save the child's eye and vision. In 50% of cases, however, we are fortunate to give the child excellent vision. Second, I am always aware of the dignity of the patient and their family. It does not matter if the family is without funds or insurance, or if they are royalty. I keep in mind that these are real people living real lives, and I must honor them. Third, I feel so lucky that I have seven happy and healthy children. I feel that because I am so lucky I owe this to society. I am willing to take on the stress; I can handle it.

In spite of the stress, the nicest thing that comes from an interaction with a family is their comments. After we get their child through the first few rounds of chemotherapy, I usually receive kind words from them, like "Thank you for saving the life of my child, " or "Thank you for being there when we needed you." These comments make all of the work worth it for my staff and me.

3. What is your involvement in providing care for international patients from South America, Europe, Asia, Australia, and Africa?

Our biggest involvement is through active intervention. We train fellows so that they can return to their countries to treat patients with the methods and therapies that we have in the United States. In my 25-year career, I have witnessed health care significantly improve in many countries. For example, I watched India transform from giving intermediate care to retinoblastoma patients to world-class care because of the fellowship training that we and others have provided to Indian physicians. I have seen it happen in China

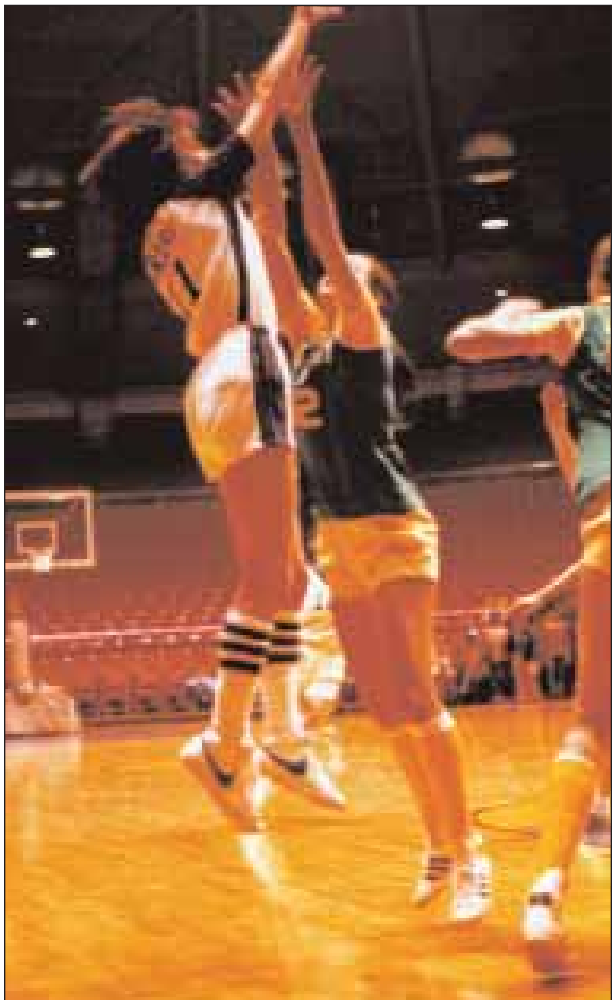
and Japan, too. I truly enjoy working with international fellows. A more passive way that we help countries improve their care is through publications. We write review articles with the hope that they will serve as teaching resources for people who do not have proper training. Additionally, we provide approximately 30 to 50 e-mail consults per week. Ophthalmologists from all over the world will send in a picture of a case and ask for help. In some cases we can help out, make a diagnostic or therapeutic suggestion, or find an experienced local center for these patients. In some instances we ask that the patient travel to Philadelphia for an examination by our team. Other times, the disease is far advanced and we can only help with palliative answers like, "Let's keep the patient comfortable."

4. What advice would you offer the new generation of ocular oncologists?

Interestingly, a few years ago ocular oncology was not even a subspecialty. Now, more ophthalmologists are getting involved with this interesting field. The first piece of advice that I offer the new generation of ocular oncologists is: Do a worthwhile fellowship where you experience solid training, examine many patients, develop a reasonable differential diagnosis, and practice surgical techniques. There is no substitute for good fellowship training. Second, collaborate with those in your medical practice as well as your local and national colleagues. Get involved in national and international studies; we need more collaborative work to improve patient therapies. Collaborate with basic researchers and listen to their ideas, as they may hold the key to a cure. Third, new ocular oncologists must explore better melanoma and retinoblastoma therapies with fewer side effects, and they should institute better screening methods for early detection of cancer in children and adults. There has been interest in screening young children for retinoblastoma as well as other pediatric ocular conditions.

5. What is the most memorable moment of your basketball career at the University of Notre Dame ?

I was on the first women's varsity basketball team at the University of Notre Dame (Notre Dame, Indiana). My most memorable event was my first game as a varsity player. Running out on the court in a Notre Dame jersey was positively thrilling. The most memorable game I played was against Marquette University (Milwaukee, Wisconsin) in my junior year. That was my highest scoring game—28 points. I will admit that I was a mediocre foul shooter. But no one could defend my determined drives. Give me a brick wall and I could find a hole in it to reach the hoop. My game was fast and spontaneous, with steals, fast breaks, and drives, and a lot of teamwork. I credit my five brothers for my success. I grew up playing street ball with them and their friends, so I learned how to "pick and roll," "fake and break," and use my elbows and hips against my opponent.



Carol L. Shields, MD, (left, in white) on the basketball court.

I still play basketball at home. About 2 or 3 years ago, I decided to play a pick-up game with my sons, who are in college now, and their friends. All of the boys were admirable athletes, mostly 5'10" or bigger. My eldest son was the captain, and his first pick for his team was his mom. That was a moment that I won't forget. It is amazing how many life lessons we learn from playing sports—lessons that carry over into our family, personal, and professional lives. You learn that life is all about team play. You learn that it is OK to lose and that there will always be another game. You also learn that is OK to win, but you must realize that it is not your win, but your team's. ■