

Virginia Delaney-Black '73, M.D., M.P.H.: Intensive caring

By Jon Douglas

Please don't put me with the babies!" pleaded Virginia Delaney-Black, M.D., when she learned she had to do a pediatrics rotation during her internship at Dartmouth. "I don't have any experience with babies, and I don't know how to handle them!" But Delaney-Black soon discovered she loved working with newborns. Convinced that she had found her calling, she petitioned to switch her residency from internal medicine to pediatrics.

Now, more than three decades later, Delaney-Black is still working with babies. As a clinician, she treats newborns at Detroit's Hutzel Women's Hospital and at Children's Hospital of Michigan. As a teacher, she's a tenured professor in the pediatrics department at Wayne State University. And as a researcher, she studies how prenatal cocaine and alcohol exposure later affects children and teenagers. Her most important research finding is that the effect

of prenatal cocaine use appears to be gender specific. Six- and seven-year-old boys exposed to cocaine before they were born tend to have more behavioral problems, such as acting out inappropriately, than do girls of a similar age. And children exposed to higher levels of the drug during gestation exhibit more pronounced effects.

Delaney-Black's research is observational and so provides a foundation for understanding what interventions may be most appropriate. While her studies have not looked at the effects of potential interventions, caring for patients—no matter what their ailments are—is at the heart of her role as a physician.

Next to her office computer is a picture of an adolescent boy named Sean, whom she treated in the intensive care unit nearly a decade ago. The infant was on a heart bypass machine because he had pulmonary hypertension, and Delaney-Black was afraid he wasn't going to survive. But she half-joked to hide her anxiety: "I told the mother that Sean was giving me gray hair," she recalls, "and I didn't have time to go to the hairdresser." But Sean pulled through, and Delaney-Black says he's now a handsome young man who's doing well in school. For Delaney-Black, this picture symbolizes the idea that although she works in a specialty in which losing a patient is especially heartbreaking, good things happen, too. The memory of caring for Sean—an experience that Delaney-Black says touched her forever—reminds her of why she wanted to become a physician in the first place.

Delaney-Black grew up in Framingham, Mass. A child of the Sputnik generation—so named for the Soviet satellite that was launched in 1957—she was swept up in the excitement about science and technology. She didn't want to be an astronaut. But between sixth grade and high school she decided to become a physician. She channeled

her zeal for science by twice entering the National Science Fair, with a project on the sexual development of guppies. Her project won first prize during her senior year.

After graduating, she decided to attend an all-female college with a good reputation for guiding women interested in medicine—Mount Holyoke in South Hadley, Mass. Then she enrolled in Dartmouth Medical School—a bold choice for someone who considers herself to be risk-averse. Delaney-Black felt uncomfortable at DMS, even though it was similar in scale to Mount Holyoke. A "quiet, introverted" person, she describes her medical school years as a "rough time," during which she had trouble studying and concentrating.

She felt a financial pinch as well. She didn't have a car—and thus couldn't visit friends still at Mount Holyoke—and, she recalls, "I didn't spend extra money on movies, and making a

long-distance phone call was something I had to think about."

She also felt isolated at Dartmouth. She was used to the all-female environment of Mount Holyoke, but at DMS she was one of only half a dozen women in her class. And there was only a smattering of women elsewhere on campus. This was during the early 1970s, when Dartmouth was debating the merits of the undergraduate program becoming coeducational, and many people expressed negative feelings about having women on campus. Delaney-Black recalls one student she encountered at the Hanover Co-op food store, who said, "I'd rather be dead than have co-eds at Dartmouth!" Her sense that women were unwelcome in Hanover was exacerbated by campus ferment over the Vietnam War. Delaney-Black recalls that some of her male colleagues resented women being accepted to medical school in place of men who might otherwise be drafted to fight in Vietnam. Furthermore, they feared that the women might "waste" their education by having children instead of practicing medicine.

Yet those sentiments only strengthened Delaney-Black's determination to finish her degree, and she received her M.D. from DMS in 1973. "If there's anything I'm going to do, I'm not going to drop out," she says. "I'm going to work twice as hard."

Although Delaney-Black remembers that she "anchored the bottom half of [her] class pretty well" in medical school, she excelled during her pediatric residency and fellowship in neonatal-perinatal medicine, both of which she completed at Dartmouth-Hitchcock Medical Center. She also has fond memories of cross-country skiing with fellow residents on Sunday afternoons and having dinner at her Cornish, N.H., home with them afterwards.

Meanwhile, at DHMC, she was honing her skills as a clinician under the mentorship of neonatologist George Little, M.D. Delaney-Black recalls a baby named Diana, who at just 1,070 grams (about 2.3

"Ginny has the compassion and skills, and a real drive to make sure the right things are done for her patients," says neonatologist George Little, one of her DMS mentors.

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pounds), wasn't expected to survive. "Dr. Little sat by the mother's bedside and said they hadn't ever had a child survive at that weight," Delaney-Black says. But Diana did live.

"Ginny has the compassion and skills, and a real drive to make sure the right things are done for her patients," says Little. "And she does it in a way that wears well in an academic clinical environment."

Today, it's much more likely that a baby like Diana will survive. There are more treatment options, better ventilators and monitors, and different antibiotics. But even so, Delaney-Black says that it's always hard when a newborn doesn't pull through. "I don't know how anyone can prepare you for the idea that a child might not survive," she says. A psychologist colleague at Wayne State once told her that the day a child's death gets easy for her to accept is the day she should turn in her stethoscope.

After leaving the Upper Valley in 1977, Delaney-Black did a second fellowship in neonatal-perinatal medicine, at the University of Colorado, and subsequently became an assistant professor of pediatrics there. Then, in 1980, she moved to Detroit to join the department of pediatrics at Wayne State, Hutzel Hospital, and Children's Hospital of Michigan. Toward the end of the 1980s, she decided to shift her primary focus from patient care to research. She recognized that drug and alcohol use during pregnancy was a major epidemic in Detroit and elsewhere, so she sought a grant from the National Institutes of Health to fund a study on prenatal exposure to cocaine. Later, she received nearly \$2 million from the National Institute on Drug Abuse for a long-term project investigating prenatal exposure to both cocaine and alcohol. And since receiving her master's in public health from Harvard in 1998, she's continued to focus her research on children who were subjected to drugs and alcohol in the womb.

Initially, Delaney-Black reported the outcomes of prenatal cocaine exposure on six- and seven-year-olds. But recently, she's been collecting data on the effects of prenatal exposure on 13-year-old adolescents. After controlling for factors such as the child's home environment, the mother's use of alcohol, and the family's contact with violence, Delaney-Black has found that the effects of prenatal drug use in 13-year-olds are similar to those in six- or seven-year-olds. Greater exposure leads to more pronounced problems in behavior, motor skills, and cognitive skills such as abstract thinking—especially in boys. Still,



Ginny Delaney-Black wanted nothing to do with babies as an intern, but she's now a pediatrician noted for her research into the effects of prenatal exposure to cocaine.

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girls who were persistently subjected to cocaine in the womb do display some cognitive effects related to speech and language development. Delaney-Black was surprised at first that gender plays such a significant role. But she says her work confirms previous animal studies suggesting that gender plays a role in the effects of cocaine exposure.

Delaney-Black has also found that even low levels of prenatal alcohol exposure have deleterious effects. She recently documented that mothers who have just one cocktail a week during pregnancy are three times more likely than mothers who don't

drink at all to have children with behavioral problems. Recently, she has been studying how exposure to violence affects children's behavioral and cognitive outcomes. She is also investigating outcomes related to fetal exposure to environmental toxins.

"She's done some of the hallmark studies in outcomes research," says Little, who considers Delaney-Black a close friend and colleague. "She's an individual who's exactly what you'd hope an active pediatrician would be. She's done great research and has been involved in numerous academic and clinical endeavors."

It's difficult to schedule a meeting with Delaney-Black, but as she rattles off all the activities she's involved in, it's easy to see why. In addition to spending four to six weeks a year attending in the neonatal intensive care unit, she sees patients enrolled in her research projects a half-day each week, teaches an undergraduate course in medical ethics at Wayne State, chairs one of the university's pediatric human investigation committees, and holds a half-time position as the associate director of the Children's Research Center of Michigan. There, she writes research grants and consults on ethical questions, such as protecting research patients' privacy rights. "I'm not done with half of the things on my to-do list for today," laughs Delaney-Black—at a little after 4:00 p.m. "I don't know how to say no."

Fortunately, she keeps herself balanced with numerous interests outside medicine. Photography is one of her current passions, and she'll commute to Richmond, Va., this summer to take a class using her fancy new digital camera. (Her husband, whom she met on vacation in Maine in 1999, is a psychologist in Richmond.) She'll also find time to visit her son from her first marriage. He's a commodities

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ter job of taking care of people at risk for cancer or people who have cancer.”

The next step in that process, Israel says, will be an exploration, in collaboration with other researchers at Dartmouth, into nanotechnology. “How nanotechnology will actually fit into cancer is still an area of active investigation,” he says. “The idea . . . is that you utilize manufactured things that are very small in order to go places and do things that larger things couldn’t do. These particles can be anything from simply a homogenous particle of, let’s say, iron to something very complex like an entire machine.” Nanoparticles might one day, for example, circulate in the bloodstream and deliver chemotherapy directly to tumors.

In the meantime, Israel continues to deal with the day-to-day excitement and challenge of running an enterprise that is “mega” rather than “nano” in scale. Norris Cotton now has 282 physicians and scientists, 365 other staff, 276 funded research projects, 148 clinical trials, and more. Its leader feels, he says, like he’s gotten “on a fast-moving wave . . . it’s been a great ride.” ■

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broker in the Chicago area, and she considers him her “number-one source of pride.”

Delaney-Black shows no signs of slowing down, even though she and her husband are planning to build a retirement home in Boothbay Harbor, Maine. As she looks toward the future, she hopes to renew her association with DMS, which honored her as a notable alumna in a 1997-98 exhibit, “200 Years of Alumni Achievements.” In fact, she and Little have discussed ideas for a joint research project. “I’d like to keep my finger in the pot somewhere, and Dartmouth’s a good place to do that,” she says.

Given her tireless work ethic, Delaney-Black doesn’t expect she’ll ever stop working; she hopes even at age 80 to still be doing research or participating on committees. She’s thinking about patients like Sean and Diana when she considers her legacy as a doctor. When asked how she’d like to be remembered, Delaney-Black has a simple answer: “As somebody who cared.” ■

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