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**TALK RADIO**  
Dave Iverson in the studios of KQED in San Francisco, CA.

# In the Family

For PBS *Frontline*'s Dave Iverson, the struggle with Parkinson's disease is a familiar one.

BY TODD FARLEY

Over the last 30 years Dave Iverson has written and supervised production of more than 25 documentaries airing on PBS, including *Kids and Divorce: For Better or Worse*, the Emmy award winning *30 Second Candidate*, and the 2009 *Frontline* film, *My Father, My Brother, and Me*. While *My Father, My Brother, and Me* (available at [PBS.org](http://PBS.org)) explains how Parkinson's disease has affected Iverson's family, there was a time the award-winning producer knew very little about the disorder. In fact, when he first heard in 1971 that his 60-year-old father William had been diagnosed with Parkinson's, Iverson says he was "clueless" about the condition.

"To tell you the truth," Iverson recalls of his 22-year-old self, "I had no idea what that diagnosis meant."

What it means is that certain nerve cells (neurons) in the brain die or are impaired. The failure of these nerve cells to produce the chemical dopamine interferes with the basal ganglia's ability to modulate motor function. Located deep within the brain, the basal ganglia contains large masses of nerve cells that help start and control movement.

## WHAT IS PARKINSON'S DISEASE?

"Parkinson's is a neurodegenerative disorder that causes problems predominantly with the neurotransmitter dopamine," says Anna DePold Hohler, M.D., assistant professor of neurology at Boston University



**FATHER AND SON**  
Iverson with his dad,  
William, in 1949.

Medical Center. "Everybody can have a different clinical picture, although most people with Parkinson's do have some type of tremor, stiffness, slowness, or walking difficulties."

The "motor deficits" that define Parkinson's include tremor, trouble with walking (which manifests itself as slowness or a shuffling gait), problems with balance, and a stooped posture. Other difficulties can include cardiovascular problems, constipation, and troubles with mood or sleep. As the disease progresses, it often leads to cognitive difficulties as well.

Iverson began to learn about Parkinson's after his father's initial diagnosis, but he was pleased to see that the symptoms seemed manageable. "I was hugely reassured when I first saw him," Iverson says. "He seemed to be doing great."

## According to Dr. Hohler, treatment can have a **big impact** on slowing the progression of the disease.

Iverson was further pleased to hear from his father's doctor that the disease was not hereditary. "I remember my dad's neurologist saying 'It's not familial, not genetic. Your brothers and you don't have to worry about this.'"

Such good news was temporary. By the early 1990s the health of Iverson's father was beginning to decline. Ultimately he lost his ability to speak. As William had spent a lifetime working in radio and as a professor, this loss of the spoken word was, according to his son, "grievous." Equally troubling was the fact Iverson's 48-year-old brother was also diagnosed with Parkinson's, raising grave doubts about claims that the disease was not hereditary.

### WHO IS AT RISK?

Although the exact cause of Parkinson's disease has never been fully identified, certain risk factors have been. "A lot of persuasive studies are pointing towards environmental factors," Iverson says. "Pesticides in particular."

Michael J. Zigmond, Ph.D., professor of neurology at the Pittsburgh Institute for Neurodegenerative Diseases, believes Parkinson's results from a combination of risk factors including genetics, environmental toxins like pesticides, and what he calls the "toxic lifestyle" of the modern world (poor diet, too much stress, not enough exercise, social isolation). "Investigators in the field generally agree people with Parkinson's may have a genetic risk factor that makes them more susceptible to environmental toxins," Dr. Zigmond speculates. "To that risk I would add the variable of lifestyle."

Of the genetic link to Parkinson's there is no longer any question. "Now it's unequivocal," says Matthew Farrer, Ph.D., professor of molecular neuroscience at the Mayo Clinic in Jacksonville, FL. "There's no doubt that genetics is a major player in risk of Parkinson's disease. There are mutations in at least three genes that clearly increase the risk of getting the disease."

With his father and brother having been diagnosed with Parkinson's, the disease was never far from Iverson's mind. "When I first experienced symptoms, Parkinson's crossed my mind instantly," he recalls. "I thought, 'Is this going to be my turn?'"

Though not officially diagnosed with Parkinson's disease until 2004, Iverson first noticed what he called his "odd collection of

symptoms" in the summer of 2002. He was in his mid-50s at the time, and he describes his first experiences as "a kind of quivery, tingling sensation in both my left leg and left

arm, more of an internal tremor than anything visible." Iverson also noticed a slight trembling sensation in the index finger of his left hand. The symptoms, he says, were "very, very minor," but his family's experiences prompted him to get it checked out.

"My antenna was up from the get-go," he says. "I went in to see my doctor much earlier than most people would have."

As there is no definitive medical test to identify Parkinson's disease in a patient, it is often difficult to diagnose. "Today, diagnosis is all observational," Iverson says. "It's based on a neurologist putting you through a variety of tests to determine what's going on in terms of dexterity, rigidity, and balance."

The fact that Iverson's case was slow-advancing, with few symptoms, made it particularly difficult to diagnose. Even with Iverson's family history, both his internist and his neurologist were careful not to jump to conclusions. His internist, however, ultimately made the unsettling diagnosis.

"I remember him looking at me and saying, 'Well, I think it's quite likely you have Parkinson's,'" Iverson recalls. Despite his knowledge of the disease and his early suspicion that he was suffering from it, hearing the diagnosis still stunned Iverson. "Even though the sentence had been playing around in my

head, to hear it spoken out loud ... it took me back."

### TREATMENTS FOR PARKINSON'S

While there is currently no cure for Parkinson's disease, there are treatments available. "There are a number of different medications that can all help in improving people's symptoms," Dr. Hohler says. "Motor symptoms in particular."

Parkinson's treatment was revolutionized approximately 30 years ago with the introduction of levodopa (L-dopa). Levodopa is transformed in the brain into dopamine, which helps to reduce tremors, rigidity, and slowness. "Clinicians find that nothing has ever been as effective as L-dopa. Unfortunately, drug-induced complications develop in most people within six to eight years," says Dr. Zigmond.

Because side effects can include dyskinesia (excessive, involuntary movements), and because continued use of L-dopa may

**DOCUMENTARIAN**  
Iverson and co-producer  
Kathy Bissen won an  
Emmy for PBS in 1999.



“As I say at the end of *My Father, My Brother, and Me*, ‘Yes, the disease is progressive, but so is science.’”

reduce its effectiveness, researchers continue to seek new therapies for Parkinson’s disease. “One could argue the more important objective research is moving towards is the development of drugs that are neuroprotective,” Dr. Zigmond says—that is, medications that may delay or reverse the disease’s progression. “We believe that exercise is likely such a ‘drug.’”

In terms of his treatment, Iverson realizes how lucky he’s been. He takes only one pill a day (a one milligram dose of rasagaline) and he adheres to a strict workout schedule. “I joined a gym the day after I was diagnosed,” Iverson says, “It helps me in every way, physically and emotionally.”

The rasagaline may be doing more than treating his symptoms. A 2009 study in the *New England Journal of Medicine* indicates that the medication may have neuroprotective effects. The study’s author notes the drug seems to be “disease modifying.” In other words, rasagaline might slow the progression of the underlying disease process. Additionally, Iverson’s continued dedication to his exercise regimen may provide more than just cardiovascular help: Some research suggests it can help prevent or slow the progression of Parkinson’s.

A recent report from Harvard’s School of Public Health showed that people who exercised vigorously over many years were 60 percent less likely to get Parkinson’s disease. Dr. Zigmond’s work in Pittsburgh has reached the same conclusions. “Exercise increases trophic factors in the brain,” Dr. Zigmond says. Trophic factors are proteins that promote the function, growth, and survival of brain cells. “And trophic factors stimulate the defenses of many types of neurons, including dopamine neurons,” Dr. Zigmond explains. “Then, when a toxin comes along, the dopamine neurons are less vulnerable.”

Almost five years after being diagnosed with Parkinson’s disease, Iverson’s symptoms have remained minor. “The only obvious thing about me is that my left arm doesn’t swing,” he says. Iverson also cites a slight tremor in his left hand, stiffness on his left side, and, when he’s feeling particularly tired, a small shuffle in his walk. But he knows how fortunate he’s been that his symptoms remain modest, and he recognizes that the disease can be “hugely debilitating” for people.

In particular, Iverson feels grateful that the disease hasn’t impaired his cognitive abilities. “It’s one thing not to be able to type with your left hand,” he says, “but it’s another thing not to be

confident in your ability to think.”

According to Dr. Hohler, treatment can have a big impact on the quality of life. “Parkinson’s disease itself, if well managed by medication and other therapies, shouldn’t significantly decrease people’s life spans, provided their care is optimized,” she explains. That is a belief Iverson shares, and he hopes his disease will continue to progress slowly. Amidst his optimism, however, is a kind of hyper-vigilance at spotting possible symptoms of the disease.

“Every time you forget something, or you can’t find the right word, you wonder,” Iverson says. “But you can’t become too obsessive. Maybe what I’m experiencing is just what people experience at my point in life.”

## HOLDING STEADY WITH PARKINSON’S

Though cautious about how his optimism might come across to other people with Parkinson’s, Iverson believes that living with the disease has had a positive impact on his life. “It’s allowed me to focus more on what counts, to look at the value of each day,” he says. In addition, his family’s experiences with the disease led him to create *My Father, My Brother, and Me*.

“I was able to do something that seems to have resonated with people, and it’s relevant for societal and scientific

reasons,” he says proudly. Today Iverson works as a speaker for various Parkinson’s-affiliated groups. He has spoken at a dozen regional conferences, mainly for the American Parkinson’s Disease Association, and is on the patient advisory board of the Michael J. Fox Foundation. He says that his involvement with these organizations has been “an amazing opportunity.”

“I know this sounds cliché, but if you can hold on to hope, if you can believe in that, only good things can happen,” Iverson concludes. “As I say at the end of the film, ‘Yes, the disease is progressive, but so is science.’”

The neurologist who treated Iverson’s father said that there was no genetic cause for Parkinson’s. He also said that exercise had no therapeutic benefits for patients. But today, both of those beliefs have been proven false. As Iverson knows, science continues to progress in its understanding of the causes of and treatments for Parkinson’s. With any luck, science may one day find its cure.



**FATHER HIMSELF** Iverson with his daughter Lana and his mother, Adelaide.