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THE AUTOIMMUNE EPIDEMIC

Bodies Gone Haywire in a World Out of
Balance—and the Cutting-Edge Science
that Promises Hope

A Touchstone Book
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FOREWORD

by Douglas Kerr, MD, PhD

As a faculty neurologist and neuroscientist at the Johns Hopkins Hospital in Baltimore Maryland, I have spent the last decade evaluating and treating patients with autoimmune disorders of the nervous system. I founded and continue to direct the Johns Hopkins Transverse Myelitis (TM) Center, the only center in the world dedicated to developing new therapies for this paralyzing autoimmune disorder. Increasingly, I see that more and more patients are being felled by this devastating disorder. Infants as young as five months old can get TM and some are left permanently paralyzed and dependent upon a ventilator to breathe. But this is supposed to be a rare disorder, reportedly affecting only one in a million people. Prior to the 1950s, there were a grand total of four cases reported in the medical literature. Currently, my colleagues at the Johns Hopkins Hospital and I hear about or treat hundreds of new cases every year. In the multiple sclerosis clinic, where I also see patients, the number of cases likewise continues to climb.

Autoimmune diseases have not always been this common. The prevalence of autoimmune diseases like systemic lupus erythematosus or lupus, multiple sclerosis, and type 1 diabetes is on the rise. In some cases, autoimmune diseases are three times more com-

the eighth leading cause of death among women, shortening the average patient's lifespan by fifteen years. Not surprisingly, the economic burden is staggering: autoimmune diseases represent a yearly health-care burden of more than \$120 billion, compared to the yearly health-care burden of \$70 billion for direct medical costs for cancer.

To underscore these numbers, consider: while 2.2 million women are living with breast cancer and 7.2 million women have coronary disease, an estimated 9.8 million women are afflicted with one of the seven more common autoimmune diseases: lupus, scleroderma, rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease, Sjögren's, or type 1 diabetes, almost all of which can lead to potentially fatal complications. Or, slice these statistics another way: while one in sixty-nine women below the age of fifty will be diagnosed with breast cancer, according to estimates, as many as one in nine women of childbearing years will be diagnosed with an autoimmune illness, which strike three times as many women as men—and most often strike patients in their prime. According to the National Institutes of Health, autoimmune disease affects far more patients than the 9 million Americans who have cancer and the 16 million with coronary disease.

"THE WESTERN DISEASE": A RISING EPIDEMIC

Even as autoimmune diseases remain underrecognized and under-addressed, the number of patients afflicted with these illnesses has been steadily growing. Yet few of today's practicing physicians are aware of the escalating tsunami of epidemiological evidence that now concerns top scientists at every major research institute around the world: evidence that autoimmune diseases such as lupus, MS, scleroderma, and many others are on the rise and have been for the past four decades in industrialized countries around the world:

- Mayo Clinic researchers report that the incidence of lupus has nearly tripled in the United States over the past four decades.

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Their findings are all the more alarming when you consider that their research has been conducted among a primarily white population at a time when many researchers believe lupus rates are rising most significantly among African Americans.

- Over the past fifty years multiple sclerosis rates have tripled in Finland, corroborating data reported in Scotland, England, the Netherlands, Denmark, and Sweden, where rates of MS have been rising at nearly 3 percent a year. Multiple sclerosis rates in Norway have risen 30 percent since 1963, echoing trends in Germany, Italy, and Greece, where MS rates have doubled over the past thirty to forty years.
- Rates of autoimmune thyroiditis have risen steadily over the past several decades.
- Rates of type 1 diabetes are perhaps the most telling. Data over the past forty years show that type 1 diabetes, a disease in which immune cells attack the insulin-producing beta cells in the pancreas, has increased fivefold. The story regarding childhood-onset type 1 diabetes is more disturbing. Studies show that the number of children with type 1 diabetes is skyrocketing, with rates increasing 6 percent a year in children four and under and 4 percent in children aged ten to fourteen.
- Rates of numerous other autoimmune diseases—scleroderma, Crohn's disease, autoimmune Addison's disease, and polymyositis—show the same alarming pattern.

As with all epidemiological research, it can be more art than science to tease out what percentage of these rising rates is the result of more people being diagnosed with a disease because physicians are more aware of it, versus the increase from a genuine rise in the number of people falling ill. Yet the researchers behind these epidemiological studies hold that something more than an improved ability among doctors to diagnose autoimmune diseases is driving these numbers upward.