

Curved Air

A Biography of Sickle Cell Anemia and the Quest to Cure the First Molecular Disease

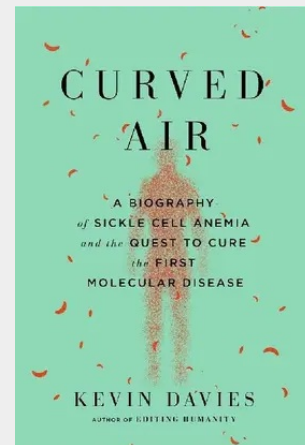
How sickle cell anemia led the quest to edit the human genome while patients endured decades of racial discrimination and medical neglect. In December 1904, Walter Clement Noel, a dental student from Grenada, was admitted to a Chicago hospital with fever, jaundiced eyes, and leg ulcers. When doctors examined his blood under a microscope, they were puzzled by his sickle-shaped cells. His case became enshrined in the annals of medicine as the first report of sickle cell anemia, a life-threatening disease that starves the body's organs of oxygen, causing excruciating pain. In *Curved Air*, Kevin Davies chronicles the story of sickle cell anemia from its ancient origins in Sub-Saharan Africa to its surprising role in the success of human genome editing, revealing how one of the world's most famous genetic diseases was also among its most neglected. Scientists discovered the molecular anomaly responsible for the disease over 75 years ago. Yet for decades, patients, many of them Black, suffered in silence, denied urgent care by a healthcare system quick to dismiss them as drug seekers. It was only in 2023, after researchers in the US and Europe partnered with biotech companies, that hope arrived in the approval of a revolutionary gene editing therapy: CRISPR. Giving voice to the sickle cell pioneers, including Victoria Gray, who bravely became the first volunteer to have her blood cells engineered, *Curved Air* is at once a story of failure and breakthroughs, heartbreak and hope. It is also a celebration of the scientists, physicians, and, above all, the patients who are finally catching a glimpse of the cure they have waited generations to see.

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In *Curved Air*, Kevin Davies chronicles the story of sickle cell anemia from its ancient origins in Sub-Saharan Africa to its central role in the development of human genome editing, revealing how one of the world's most famous genetic diseases became its most neglected. Sickle cell anemia was the first disease to be attributed to a molecular anomaly and the first to be diagnosed prenatally with DNA testing. Yet for decades, patients, many of whom are Black, were denied lifesaving care by health providers quick to dismiss them as drug seekers. It was only after a group of researchers in the US and Europe partnered with biotech companies, physicians, and their patients that hope arrived in the form of a revolutionary gene-editing therapy: CRISPR.

A story of failure and breakthroughs, heartbreak and hope, *Curved Air* is a celebration of the scientists, physicians, and patients who are finally catching a glimpse of the cure they've waited generations to see.



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