

# Michael Tolentino MD

## A VISIONARY ENTREPRENEUR

## TRANSFORMING MEDICINE

In the world of biotechnology and medical research, there are those who follow established paths, and then there are visionaries who forge new frontiers. Michael Tolentino, a name synonymous with innovation and groundbreaking discoveries, falls into the latter category. From his early days as a child immersed in his father's pioneering work at Harvard Medical School to his current role as the founder of multiple cutting-edge companies, Tolentino's journey has been nothing short of remarkable.

### Early Beginnings and Immersion in Research:

Growing up with a father, Felipe Tolentino MD, who was a prominent figure in the field of retinal surgery, Michael's destiny seemed clear from a young age. He vividly recalls his father's words, "Son, when you grow up, you will cure blindness and cancer." Little did he know that these words would set the course for a lifelong quest to tackle some of the most pressing medical challenges of our time.

His journey began in the laboratories of Harvard Medical School, where he started conducting biotech research at the tender age of 10. By the time he graduated from high school, he had already made significant strides in various areas, including retinal detachments, diabetic retinopathy, macular degeneration, and more. This early exposure not only ignited his passion for medical research but also instilled in him a unique approach to problem-solving

– one that involved asking the right questions and finding technology to address real-world issues.

*"Passion, focus, imagination, and courage are the qualities essential for entrepreneurs."*

*-Michael Tolentino*

### The Quest to Control Inflammation:

One central question drove Michael's relentless pursuit: "How to control inflammation?" He believed that the answer to this question held the key to curing blinding diseases and cancer. During his college and medical school years, he dove headfirst into the pathobiology of cancer and retinal degenerations. His scientific journey led him to work with pioneers at institutions like Harvard, Brown, UMass, and the NIH.

### The Genentech Connection and the Anti-VEGF Revolution:

Michael's path took a significant turn when he collaborated with Genentech, a biotech giant. His research elucidated the role of Vascular Endothelial Growth Factor (VEGF) in blinding conditions like macular degeneration and diabetic retinopathy. His groundbreaking work with Genentech led to the development of FDA-approved drugs like Lucentis and Avastin, setting the stage for the anti-VEGF revolution.



### The Entrepreneurial Bug Bites:

Seeing his research translate into efficacious and commercially successful treatments ignited Michael's entrepreneurial spirit. He joined the faculty of gene therapy and molecular therapeutics at the University of Pennsylvania, where he delved into viral and non-viral gene therapy, stem cells, mRNA/DNA delivery, and nucleotide therapeutics.

Michael's inventive spirit bore fruit when he co-founded Acuity Pharmaceuticals, which took his invention, Bevasiranib, into successful human clinical trials. This success eventually led to the formation

of publicly traded OPKO Health. Beyond eye-related research, he made significant contributions to cancer modeling, contributing to the mechanistic understanding of drugs like Keytruda and Tecentriq.

With a comprehensive understanding of inflammatory regulation by sugars, Michael co-founded Aviceda Therapeutics, Aviceda Glycotech, and Avdarna Biosciences. These companies are poised to prevent blindness, treat solid tumors, and deliver mRNA or silence genes in cells beyond the liver, respectively by utilizing the sugar code to hack into the immune system.

For Michael, the motivation to continue despite challenges comes from the heartfelt gratitude of his patients whose vision he has preserved with his innovative drugs. Every day, he witnesses the impact of his work firsthand, fueling his determination to push boundaries and overcome obstacles.

*“When a problem is too difficult, complex, or unsolvable, then you have a problem worth solving and starting a business.”*

*-Michael Tolentino*

### **A Unique Approach to Inflammation Control:**

What sets Aviceda Therapeutics apart from others in the industry is its approach to inflammatory modulation. While many in the field focus on destroying inflammatory missiles (cytokines) after they've been launched, Michael's technology deciphers the sugar code that stops the missiles from launching. This unique approach therapeutically modulates the immune system, but does not compromise immunity and promotes cellular health.

Michael firmly believes that technology is the lifeblood of innovation and leverages it extensively in all aspects of his business and research.

Throughout his entrepreneurial journey, Michael learned that when a problem seems too difficult or complex to solve, it's often the most worthwhile endeavor to pursue.

For Michael, the key to work-life balance is doing what he loves. When your passion aligns with your work, burnout becomes a foreign concept.

In the words of Michael Tolentino, “Never give up, never surrender.” He emphasizes the importance of perseverance in the face of challenges.

Passion, focus, imagination, and courage are the qualities Michael believes are essential for entrepreneurs.

### **Approaching Risk:**

In terms of risk-taking, Michael emphasizes minimizing risks in drug development while embracing the inherent risks of technological innovation. Building a team of experts helps mitigate these risks and leads to substantial rewards.

One recent milestone for Michael's company includes the completion of a 30-patient enrollment in a pivotal Phase II/III trial called SIGLEC, achieved in record time and the first therapeutic of this class of immune regulating sugar mimetic nanoparticles to enter human clinical trials.

Michael's long-term vision is to evolve his companies into pharmaceutical giants akin to Genentech and to be the companies that leads the glycomic revolution

### **Giving Back to the Community:**

Through the Tolentino Eye Research Foundation and collaborations with organizations like the Ophthalmological Foundation of the Philippines, Michael remains committed to supporting social causes and reducing blindness in underserved communities.

Michael Tolentino's entrepreneurial journey is a testament to unwavering determination, innovation, and a relentless pursuit of answers to complex medical challenges. His work has already transformed lives and holds the promise of even greater impact in the future. As an entrepreneur, innovator, and humanitarian, Michael Tolentino is a true visionary shaping the future of medicine.

*“Never give up, never surrender.”*  
*-Michael Tolentino*