

RONALD WEINSTEIN, M.D.

Interviewed by: Blake Gibson and Ted Lin

Dr. Ronald Weinstein, a pathologist specializing in pathology telemedicine, graduated with an MD from Tufts University School of Medicine in 1965. After being awarded a research fellowship under the tutelage of Dr. Stanley Bullivant at the Massachusetts General Hospital (MGH) in his second year of medical school, Dr. Weinstein completed his internship and residency at MGH in 1966 under Dr. Benjamin Castleman. He has since been named Harriet Blair Borland Chairman and Professor of Pathology at Rush Medical College in Chicago, and, in 1990 he came to the University of Arizona as Head of Pathology, stepping down this past June.

Dr. Weinstein's involvement in research began in college as a challenge from his father to work toward a Nobel Laureate. While making buffer solutions at a lab in Woods Hole, Massachusetts, Dr. Weinstein was taken under the wing of Nobel Laureate Dr. Albert Szent-Györgyi in his Marine Biological Laboratory after mistaking the doctor for a janitor and asking him to take out some trash. Since then, Dr. Weinstein went on to complete a post-sophomore year fellowship in biophysics at MGH, held the title of Director of the Mixer Laboratory throughout his residency, and was the youngest MD NIH-funded researcher at MGH at the time.

Dr. Weinstein's current research involves studying the molecular basis for multi-drug resistance of tumor cells mediated by P glycoprotein, as well as working in the field of telepathology. He is widely regarded as the "father of telepathology," and currently runs the award-winning Arizona Telemedicine Program.

Dr. Weinstein's background in pathology has directly influenced his research interests. He became specifically interested in studying tumor metastasis mechanisms. His first paper in this field demonstrated the pathogenesis of tumor budding in colon cancer (1991). He has also

studied multi-drug resistance 1 (MDR-1) gene expression upregulation in tumor capillaries.

Without hesitation, if he could go back in time, he would still choose pathology. Dr. Weinstein initially intended to be a basic scientist, but ultimately fell in love with pathology during his residency training.

In regards to misconceptions medical students may have about pathology, Dr. Weinstein states that it's a difficult question because he doesn't believe students have any conceptions, period. He believes that in being integrated throughout the organ-based curriculum, medical students do not have the same ideas about what pathology entails compared to when it was taught as a separate course. To him, Dr. Weinstein sees the field of pathology as the bridge between the basic and clinical sciences.

One of Dr. Weinstein's most memorable moments of his illustrious career took place during his third year of medical school occurred when he needed money to propose to his (now) wife who he met after transferring to Tufts medical school in order to keep his research job at MGH where he had access to the top electromicroscopy laboratory in the world. While on the wards at Boston City Hospital for his internal medicine rotation, he encountered a woman with terminal leukemia. At the time, in 1964, it was not yet known that a virus could cause leukemia. Dr. Weinstein made a deal with the chief resident, and set out to discover the first human leukemia virus. After his patient passed away, he took a blood sample to MGH, where he discovered viruses budding from cell membranes. Dr. Weinstein printed his findings to present at morning rounds the following day, pronouncing that his patient had died from virus-induced leukemia. From there he was taken under the guidance of Dr. Maloney and attended sponsored trips to Washington D.C. for NIH-funded research.

In response to how medical students can become involved in pathology or telemedicine research, Dr. Weinstein advises students to go to an institution that places an emphasis on research and has a lot of federal grants, such as an epicenter for a field. However, he states that the most important thing is that students first find an area of research that they have a passion and interest they are dying to pursue. Dr. Weinstein's greatest piece of advice, if he had an opportunity to do it all over again, is to be the father of a field. After reading a 35-cent book on telemedicine at Rush University with no information about telepathology, Dr. Weinstein told himself he would invent telepathology, and has since pioneered the field with great success.

Dr. Weinstein with his larger-than-life 7-foot cutout addressing his life-long "height envy" issues.

Photo courtesy of Ronald Weinstein

