Profiles in Pulmonary Hypertension

Emmanuel Weitzenblum, MD, Pioneer in Right Heart Catheterization



Emmanuel Weitzenblum, director of the Pulmonology Service and Pulmonary Hemodynamics Laboratory in University Hospital of Strasbourg until 2005, developed and applied right heart catheterization for better understanding of the natural history of several types of chronic respiratory failures for more than 35 years. He dedicated his career to the knowledge of pulmonary circulation of patients with chronic lung diseases.

Emmanuel Weitzenblum, MD

Weitzenblum graduated from the University Medical School of Strasbourg, France in 1969 as a pulmonologist. He successively held the position of *Chef de Clinique*, chest physician of the University Hospital of Strasbourg, Professor of Respiratory Medicine, and is currently Consultant Professor. He is recognized locally and internationally for his work on respiratory medicine. Weitzenblum published more than 200 research papers and received several medical awards.

Since the beginning of his chief residency in 1967, Weitzenblum has focused on the pulmonary circulation. Initially, he considered right heart catheterization as a tool for better understanding gas exchange abnormalities in patients with different types of chronic lung diseases. Thereafter, he oriented his research to the mechanical impact of lung diseases on pulmonary circulation, changes of pulmonary artery pressure during muscular exercise, and the effect of long-term oxygen therapy on pulmonary hypertension.¹⁻³ To test his hypotheses, from 1967 to 1985 he performed right heart catheterizations mainly with Grandjean small-diameter floated catheters and measured cardiac output according to the Fick's equation using a Fleish closed-circuit spirometer. He frequently says and writes that these small-diameter floated catheters are well adapted for investigating pulmonary hypertension of patients with chronic lung diseases. In 1972 he published for the first time in an international journal a study devoted to the pulmonary hemodynamic changes during muscular exercise in chronic bronchitis.¹ This was the beginning of an outstanding contribution to the knowledge of pulmonary hypertension in chronic lung diseases.

When Weitzenblum began to publish in the most renowned international medical journals of respiratory medicine, he was only 33 years old, a feat at that time for a French pulmonologist.^{1,4,5} He was soon and is still recog-

nized as a top clinical researcher in his field and was appointed, at the age of 38, adviser to the World Health Organization for collaborative study on chronic respiratory diseases leading to pulmonary hypertension. Due to his persistence and scientific precision, he was able to publish results from large series' of patients with chronic obstructive pulmonary disease, which have been frequently quoted in the medical literature for more than 20 years.³⁻⁶ He demonstrated that pulmonary hypertension is usually mild to moderate in patients in a stable state of the disease, but can increase dramatically during exercise, sleep, and acute exacerbations.⁷ He also confirmed that the level of pulmonary artery pressure is a prognostic factor in chronic obstructive pulmonary disease^{5,8} and that the progression of pulmonary hypertension is as a mean slow^{4,6,9} and can be reversed by long-term oxygen therapy.³ During the 1980's and '90's Weitzenblum was also co-author of important papers regarding the effects of sleep apneas and hypopneas on pulmonary hypertension.^{10,11} the variability of pulmonary vascular response to acute hypoxia,¹² and the effect of nocturnal oxygen therapy in COPD patients with mild hypoxemia.¹³ In the Proceedings of the 4th World Symposium on Pulmonary Hypertension published in 2009,¹⁴ Weitzenblum is quoted 4 times as a first author in the chapter devoted to nonpulmonary arterial hypertension pulmonary hypertension.

Weitzenblum has been working since 1983 as associate editor or editorial board member of several medical journals. He was also chairman of important international working groups. In spite of his extensive scientific work, he maintained an important clinical activity and still continues to see patients regularly.

When I first met him in 1989, I was amazed by his teaching skill. In an era of molecular biology and immunology, he could convince me and many pulmonologists of my generation to study the pathophysiology of respiratory failure. The first work that I performed under his supervision was to collect and analyze data of the large series of patients with sleep apnea syndrome investigated in Strasbourg from 1983 to 1991.¹⁵⁻¹⁷ I remember his being scheduled to see patients, organizing internal meetings, coming back from the medical school, writing original and review papers, and also spending time with me and other fellows on research projects. I still wonder how he could perform all these activities simultaneously. In more recent years, he was always open-minded to new projects¹⁸⁻²¹ and spent most of his time devoted to the research that guided and helped younger colleagues like me progress in the understanding of pulmonary hypertension. Finally, he is an exceedingly nice person who genuinely cares for his circle and colleagues.-Contributed by Ari Chaouat, MD

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Following the *Path to a Cure:* One Step at a Time

In February 2010, Pulmonary Hypertension Association (PHA) Scientific Leadership Council members Drs Ray Benza and Robert Frantz are taking their commitment to finding a cure for PH to the top of Mount Kilimanjaro. They are embarking on a journey to increase global awareness of PH by climbing Africa's highest mountain—all the way to the 19,330-foot summit!

To reach their ultimate goal, raising \$100,000 to support PHA's cutting-edge research programs and patient and family services, Drs Benza and Frantz are calling on you, their colleagues, to participate in this monumental effort.

Please consider donating to the *Path to a Cure* and join your colleagues around the world in the effort to make PH a preventable and curable disease. By doing so you will also help us achieve the Actelion Path to a Cure Matching Fund of \$50,000. To make a gift, or link to information on planning a Unity Walk in your community, go to www.firstgiving.com/pathtoacure. To learn more, contact Greg Gershuny at Greg@PHAssociation.org.





Dr Benza and friends achieved their first summit in 2007 with a climb in the Grand Tetons in Wyoming.