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Giants in Chest Medicine

Professor Nan-shan Zhong, MD



Wei-jie Guan, PhD

Professor Nan-shan Zhong was born in Nanjing in 1936. Following graduation from high school, he pursued medical studies at Peking Medical University. Due to excellent physical fitness, he became well known for his competitiveness as an athlete. The spirit of pursuing excellence has underlined his mental strengths in achieving countless breakthroughs in his career.

In 1971, he became a resident at The First Affiliated Hospital of Guangzhou Medical University. Despite hardships such as poor working conditions, he quickly made great strides in the accumulation of medical knowledge, which lent him support in pursuing future progress. In 1972, the significant national burden of chronic bronchitis prompted the central government to establish The Group for Prevention and Management of Chronic Bronchitis, which in 1979 became Guangzhou Institute of Respiratory Disease. In recognition of their achievement in investigating the effects of a Chinese herb on chronic bronchitis, Professor Zhong and colleagues were awarded the National Prize for scientific advances.



Professor Nan-shan Zhong, MD

In 1980 and 1981, he pursued further studies at the Royal Infirmary, University of Edinburgh and at St. Bartholomew's Hospital, University of London as a research fellow. Apart from his brave behavior of inhalation of carbon monoxide to achieve high blood carboxyhemoglobin concentrations, his findings on the effects of carbon monoxide on the hemoglobin dissociation curve dramatically reshaped scientists' contemporary understanding.

In 1981, he was appointed Director of the Guangzhou Institute of Respiratory Disease (which is currently called Guangzhou Institute for Respiratory Health). The development of a hand-squeezed atomizer for performing bronchial provocation tests allowed the exploration of the epidemiology of asthma and the definition of "asymptomatic asthma" (probable asthma) possible in the 1980s and 1992, respectively. The development of a corrected formula for calculating nutritional energy balance in critically ill patients has significantly improved patient health care in ICUs. In recognition of these achievements, he became an academician of the Chinese Academy of Engineering in 1996.

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ADDITIONAL INFORMATION: See video interview of Professor Zhong online at chestjournal.org.

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His brave behavior of admitting the most critically ill patients with severe acute respiratory syndrome (SARS) and challenging the authoritative opinions about the pathogens of SARS made him famous as the “Hero of China.” He successfully led his team in minimizing the mortality of SARS, resulting in the world’s lowest record of the disease. His experience was quickly adopted by the central government, leading to the ultimate success of the fight against SARS, “the war without gunfire.” Dedication, innovation, exploration, and collaboration have become the “Nan-shan spirit,” which remains the famous motto that inspires medical students and staff today.

Despite enormous achievement in his earlier career, the spirit of pursuing excellence has relentlessly inspired him to make greater strides. The establishment of the State Key Laboratory of Respiratory Disease has transformed his visions into an ideal platform for bridging the gap between basic scientific research and clinical practice. He has frequently stated that scientific research should be pursued for the improvement of people’s well-being, which has led to copious landmark translational research that has dramatically changed the way medicine should be practiced. The study finding that carbocysteine effectively reduced the annual acute exacerbation rate of COPD was awarded “Paper of the year 2008” by *The Lancet* editorial Board. Recognizing challenges of COPD management in China, he and colleagues performed the largest epidemiologic investigation on the national disease burden, highlighting that approximately 36% of patients with COPD remained asymptomatic on presentation, that biomass fuel combustion might be the main risk factor for COPD in women (particularly in rural areas), and that simple practical approaches (eg, installation of exhaust fans and replacing biomass with biogas) may significantly ameliorate the rate of lung function decline and reduce the incidence of COPD. Recently, he designed the first multicenter clinical trial proving that early intervention in COPD (eg, with tiotropium inhalation) may effectively ameliorate the decline in lung function. His comments on improving air quality to reduce the burden on chronic respiratory diseases have inspired scientists and clinicians to dedicate themselves to the prevention and management of air pollution in China.

Despite countless awards and prizes, he never ceased his progress in pursuing further research. As stated in a press release, he remains active “post-80.” One is never too old to learn, he explained. His open mind, coupled with a laudable drive and physical fitness, have lent him measurable support to pursue further achievement, which will ultimately benefit people worldwide, making him a true

Giant in Chest Medicine. Physicians and scientists worldwide can benefit considerably by standing on the shoulders of his work. We encourage all to view the interview of Professor Zhong’s words of wisdom ([Video 1](#)).

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Suggested Readings

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