



Graduate/Professional

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Who is Barb Goodman? From Research to Education

Barbara Jane Eason Goodman was born in Hanover, NH. Her family moved to North Carolina when she was little and she grew up there. Even as a child, she was always interested in pets and learning about all sorts of things. In fact, she was pre-medicine from the time she was in third grade all through college. She got her first chemistry set in 6th grade. She got a microscope and telescope in 7th grade but really liked the chemistry set better than the others!

Barb took many science classes because she knew science would be necessary for her professional career and also because she just liked science. She tried to take as much science and math as possible in high school.

When it came time for Barb to go to college, she chose to go to Duke University in North Carolina. She chose it because she knew that it was a very good school academically and that it trained both premedical students and science majors well. In addition, it was close to home and also was affiliated with the Methodist Church to which she belongs.

Choosing Physiology over Medicine

During college, Barb was still sure she would become either a doctor or a veterinarian. That meant lots more science classes. After getting a chemistry degree in 1972, Barb tried for 4 years to get into veterinary school. She first stayed in the South, going to Jacksonville State University in Jacksonville, AL for 2 years, and then moving to Auburn University in Auburn, AL for a year.

While at those schools, she took a lot of biology courses. It was then that she took her first physiology class. It was that class that made her sure that she was much more interested in finding out WHY THINGS HAPPEN than in being a doctor or veterinarian. That was when she changed her mind and decided to become a physiologist. She had to decide which school to go to for her training to be a physiologist. Finally, she ended up going far north to the University of Minnesota to get her degree. Once again, she was sure she knew what she wanted to do with her life. She would be a college teacher and to do research like her adviser, Dr. Doug Wangensteen. He was a great teacher, friend, and researcher and provided her with a wonderful role model.

After finishing her Ph.D. degree in 1981, Dr. Goodman went to the University of California in Los Angeles to do her postdoctoral research. In 1983, she started working there as an Assistant Researcher Professor in the Department of Medicine and as an Assistant Clinical Professor in the School of Nursing. A couple years later she began applying for faculty positions around the country where she could have her own lab.

Dr. Goodman was hired by the University of South Dakota School of Medicine. She began her career there doing research on the lungs. Specifically she studied sodium and water transport in the lungs. In addition, she taught physiology to undergraduate and medical students. She was also responsible for teaching graduate students the fundamentals of teaching.

Changing Career Paths Again

As Dr. Goodman worked in the job she'd wanted for years, she found out that she liked teaching and working with students of all ages to help them become excited about science in addition to doing research. That reminded her that in high school she had vowed that if she ever did become a teacher, she would be a good teacher like her high school biology teacher Ms. Hubbard.

Dr. Goodman wanted to learn more about working in science education and so she began volunteering with APS in its many activities with

teachers and students at a variety of grade levels. She worked for many years with APS and became very well known by other physiologists. As a result, she first was asked to serve on the Education Committee and then to be its Chair. In that position she helped to expand the educational activities of APS into new avenues.

Dr. Goodman is now a full professor of physiology at the Sanford School of Medicine of the University of South Dakota. In her current position she spends 50% of her time as Director of the SD Biomedical Research Infrastructure Network program for all of South Dakota (building biomedical research throughout SD through partnerships with predominantly undergraduate institutions and tribal colleges), 30% as a teacher of students from future elementary teachers to graduate and medical students, and 20% for scholarship in teaching and explaining physiological concepts to others.

Away From Work

Now that her children are all grown up and moved out of the house, Dr. Goodman and her husband (a math teacher) have time to travel and see new places. She has been to South America and the Galapagos Islands to see the wonderful birds and animals. She has also been to New Zealand to attend an international meeting for physiology educators and to Alaska on a cruise with lots of natural history and wildlife.

She has lots of animals of her own and loves to take care of her horses, dogs, fish, and cats. She is very active in her church and helps out doing anything they need her to do. She also likes to read books. She is currently reading lots of different mysteries.

Dr. Goodman travels to many meetings. She enjoys being in charge of programs and activities for a variety of groups. As a result, she is currently President of the Community Day Care Center in her town. She also volunteers as scientist-in-residence for the local school district. Her latest role is to write grants asking for money from various places to help support different educational programs. In all she does, she tries to make sure that other people have

opportunities for improvement (more money, more education, more support).

Advice for Graduate Students

Don't forget to learn how to teach while you are learning specific areas of physiology. You need to understand and use the big picture approach to physiology.

Recent Publications

1. Goodman, Barbara E. Transport of Small Molecules Across Cell Membranes: Water Channels and Urea Transporters. [*Advan. Physiol. Educ.* 26:146-157, 2002.](#)
2. Goodman, B.E., D.S. Martin, and J.L. Williams. Teaching Human Cardiovascular and Respiratory Physiology with the Station Method. [*Advan. Physiol. Educ.* 26: 50-56, 2002.](#)
3. Goodman, B.E. Evolution of a Partnership to Improve K-16 Science Education. [*Advan. Physiol. Educ.* 26:168-173, 2002.](#)
4. Goodman, Barbara E. and William H. Percy. CFTR in Cystic Fibrosis and Cholera: From Membrane Transport to Clinical Practice. [*Advances in Physiology Education* 29: 75-82, 2005.](#)
5. Goodman, Barbara E. Membrane Transport in Cystic Fibrosis. [*US Respiratory Disease* 2006: 44-45, July 2006.](#)
6. Goodman, Barbara E. Channels active in the excitability of nerves and skeletal muscles across the neuromuscular junction: basic function and pathophysiology. [*Advances in Physiology Education* 32:127-135, 2008.](#)
7. Goodman, Barbara E. Pulmonary and Renal Pressure-Flow Relationships: What Should Be Taught? [*Advan. Physiol. Educ.* 25:15-28, 2001.](#)
8. Goodman, B.E. and S. Schempp. Physiology of Exercise, An Inquiry-Based Science Module for Middle School Students, American Physiological Society, 1999.



(available on the APS web site at
www.phunweek.org/pdfs/E-PhysOfExercise_MS.pdf)

