The impact of surgical innovation on reducing death and suffering from prostate cancer

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In 1970 radical prostatectomies were rarely performed because the complications of surgery seemed worse than the disease: impotence, incontinence, severe bleeding. To reduce these complications, I embarked upon investigations of the periprostatic anatomy using the operating room as an anatomy laboratory and quickly discovered the anatomy of the dorsal vein complex, making it possible to perform a safer and better cancer operation. Next, in a chance meeting with Pieter J. Donker at the University of Leiden on February 13, 1981, we discovered the course on the cavernous nerves in a still-born male infant. In the operating room, it became clear that it was possible to use the capsular arteries and veins of the prostate to identify the microscopic cavernous nerves in the adult male pelvis. This led to the first purposeful nerve-sparing radical prostatectomy on April 26, 1982. Over the following 29 years, anatomical discoveries by many individuals have led to improvements in surgical technique that have improved cancer control and quality of life. With the marked reduction in blood loss, the 30-day mortality from radical prostatectomy decreased 10-fold, from 2% to 0.2%, and by the mid 1990s 35% of men with localized prostate cancer in the U.S. underwent surgery. The improved popularity of radical prostatectomy is closely linked to the dramatic decrease in prostate cancer deaths during the last decade. However, one could argue that the most important impact has been on research in prostate cancer. Up until the early 1980s research was stalled because there was little or no tissue for scientific investigation other than small needle biopsy specimens. However, once radical prostatectomy became widely available we have been able to perform biochemical and genetic studies into the molecular pathogenesis of the disease that were heretofore impossible. Someday I hope that this information will lead to innovative approaches for prevention and treatment of this disease.

Dr. Walsh is best known for his 30 years as the Professor and Director of the Brady Urological Institute and for developing "the anatomic approach to radical prostatectomy". He is on the editorial board of the New England Journal of Medicine and a member of the Institute of Medicine of the National Academy of Sciences. In 1996, he received the Charles F. Kettering Medal from the General Motors Cancer Research Foundation and in 2007 honored as the National Physician of the Year for Clinical Excellence and received the King Faisal International Prize in Medicine. He has served as the president of both the American Association of Genitourinary Surgeons and the Clinical Society of Genitourinary Surgeons.