

PROSTATE CANCER BIOPSY EFFECTIVE BUT LACKS PRACTICE STANDARDS
First large study of complications after transrectal ultrasound guided prostate biopsy shows significant rise in hospital admission rates, and more infection related cases.

Toronto (February 9, 2010) - In the first, long-term study of its kind, Sunnybrook researchers provide compelling evidence to support much-needed practice standards in transrectal ultrasound guided prostate biopsy.

The 10-year, Canadian population-based study of serious complication rates requiring hospital admission after transrectal ultrasound guided prostate biopsy reports a significant four-fold increase in hospital admission rates over the study period, with over 70 per cent of cases caused by infection. The findings from this study, which is the largest conducted to-date, are published today in *The Journal of Urology*.

Transrectal ultrasound guided prostate biopsy is the most common method to confirm a prostate cancer diagnosis by obtaining tissue from the prostate gland using a small probe and echoes of ultrasound waves to form a picture through the wall of the rectum. The procedure is not standardized despite the test's diagnostic effectiveness.

"Data from this study add critical momentum for the development of standards to make transrectal ultrasound guided prostate biopsy as safe as possible for patients," says Dr. Robert Nam, lead investigator and urologic oncologist, Genitourinary Cancer Care team, Sunnybrook's Odette Cancer Centre.

The researchers suggest possible factors in the increase of complications including non-standardized practice of antibiotic prophylaxis, inconsistent use of mechanical bowel preparation, and increasing rates of bacterial resistance to antibiotics. Sunnybrook has developed a comprehensive approach to preventing complications after transrectal ultrasound guided prostate biopsy procedures, for every patient.

In 2009, Winston Chi, age 67 developed an *Escherichia coli* (E. coli) infection after a second biopsy. Despite rigorous preparation with bowel cleansing and prophylactic antibiotics both times, he became infected with an antibiotic-resistant strain of the bacteria and required admission to hospital. The second biopsy based on the Prostate Cancer Risk Calculator despite a negative first result was worthwhile for Winston. The repeat biopsy detected aggressive prostate cancer and he received early surgical treatment at Sunnybrook. Today he is both infection-free, and cancer-free with his PSA (Prostate Specific Antigen) level at zero. "For me, the biopsies were important to catch the cancer, but now I also think more about safety and standards – that this is also important to help reduce infection and avoid resistant situations like mine," says Winston.

"Next steps in our research is full chart reviews to confirm findings and to identify any key trends and compare them to a control group of patients, to help inform the development of practice standards," says Dr. Nam, Associate Professor, Department of Surgery, University of Toronto.

The study involved 75,190 men who underwent a transrectal ultrasound guided prostate biopsy in Ontario, Canada between 1996 and 2005. The researchers focused their analyses on 41,682 men with no diagnosis of prostate cancer to separate the diagnosis of prostate cancer from biopsy related complications which may have been simultaneously in question at the time of hospital admission. Of the non-prostate cancer group, 781 were admitted to

hospital within 30 days of biopsy: 1.0% in 1996 but steadily rising to 4.1% in 2005. Of this group, 71.6 per cent or 556 were admitted for infection related complications.

Prostate cancer is the most common cancer in Canadian men. In 2009, an estimated 25,500 Canadian men were diagnosed with prostate cancer.

-30-

Media Contact:
Natalie Chung-Sayers
416.480.4040