

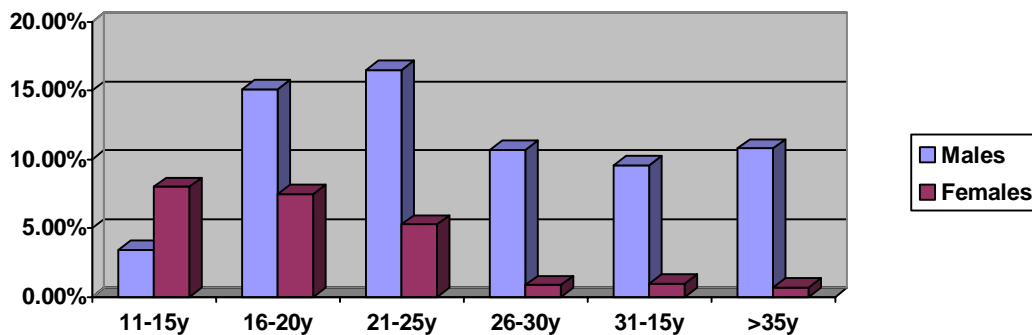
THERE ARE NO NORMAL VALUES IN MICROBIOLOGY!  
AN IMPROPERLY COLLECTED SPECIMEN MEANS UNINTERPRETABLE RESULTS!

## Epidemiology of Genital CT/GC Infections in the CHR and Implementation of TIGRIS

**1) Background:** CLS performs the majority of testing for detection of *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (GC) genital infections in the Calgary Health Region (CHR). The Provincial Laboratory of Public Health tests patients attending the Provincial Sexually Transmitted Disease Clinic in Calgary. CLS implemented nucleic acid amplification testing of all genital specimens (urethral, endocervical, vaginal and urines) in 2005 using the Gen-Probe® APTIMA® assay. This assay uses a target capture approach and transcription-mediated amplification for the *in vitro* qualitative detection and differentiation of ribosomal RNA from both CT and GC. Up until recently, CLS was using the semi-automated version of this assay. This newsletter outlines the recent review of CT and GC epidemiology in the region and describes the recent implementation of a fully automated system for CT and GC testing.

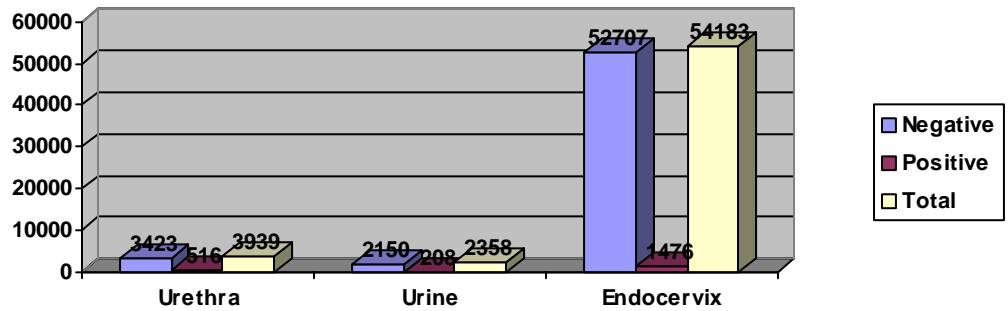
**2) Epidemiology of Genital CT/GC Infections in the CHR:** Figure 1 shows the prevalence of genital CT/GC infection in the CHR as determined by APTIMA® testing in the year immediately following implementation of this highly sensitive assay. 90% of all urine and genital specimens received for CT/GC testing are ordered on female patients whereas only 10% come from males. CT infection occurs in men 3X more frequently than GC. Men that have sex with men (MSM) have some of the highest rates of GC infection. Women have a low rate of GC infection in all age groups except for the younger age groups (i.e., <25y). Some of the highest rates of CT infection are found in adolescent females 11 to 15 years of age.

**Figure 1. Prevalence of Genital CT/GC infection in the CHR  
(Oct. 1, 2005 to Sept. 31, 2006)**



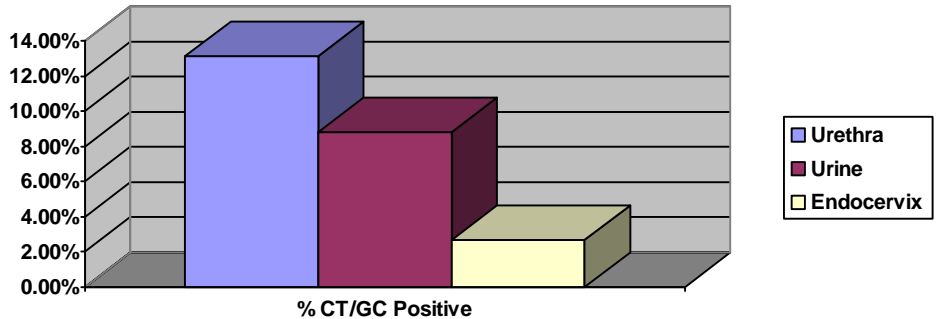
**3) Number of Genital and Urine CT/GC Tests:** Figure 2 shows the number of CT/GC specimens collected by source. The APTIMA® method can be used for testing genital specimens (i.e., urethral, endocervical, and vaginal swabs) and first-void urine samples. Since APTIMA® was implemented October 1, 2005, the overall number of tests performed annually by CLS has steadily increased.

**Figure 2. Number of Specimens for CT/GC Testing by Source**



Most women continue to have endocervical swabs submitted for CT/GC testing. As shown in Figure 3, most positive specimens are found from urethra and urine specimens.

**Figure 3. Rate of Positivity of Specimens for CT/GC Testing by Source**



**4. Implementation of TIGRIS® DTS™ System:** CLS implemented this instrument for the absolute automation of our high volume genital/urine CT/GC testing service as of February, 2008. This instrument automates all phases of the APTIMA® assay from sample preparation, amplification and detection. This instrument allows more efficient testing of our daily high samples volume (~400 specimens/day) and saves valuable technologist time due to its hands-free operation. A planned future interface of the TIGRIS® DTS™ System to our laboratory information system will allow immediate reporting of results from the instrument.

**IF YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT HOW THE LABORATORY WORKS, PLEASE CALL US AT 770-3215 (Sandra Corbett, Manager, Microbiology) or 770-3762 (Dr. Dan Gregson, Division Head, Microbiology)**