Performance of Self-collected penile swabs for the detection of *Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, and Mycoplasma genitalium* 



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### **Disclosures**

 I have received funding for research grants and have been a lecturer for Becton Dickinson, Gen-Probe/Hologic, Abbott Molecular Diagnostics, Siemens Health Care Diagnostics, Sekisui, and Cepheid

## **Background**

- Clinician-collected urethral swabs are used for culture of gonorrhea (NG) in males and for detection of chlamydia (CT) and NG by NAATs
- We hypothesized self-collected penile-meatal swabs would perform as well as urethral swabs for detection of CT, NG, trichomonas (TV) and mycoplasma (MG) and that they would be acceptable to males

Dize et al. STI 2013

### Methods

- Men having urethral swabs obtained for NG culture in the STD clinic volunteered to collect penile-meatal swabs
- Urethral swabs and paired penile-meatal swabs were placed into separate transport media for testing by NAATS
- NAATs were performed for CT, NG, TV, and MG for urethral and penile-meatal swab pairs
- Acceptability questionnaires were given
- Gram Stain & culture results for GC determined

#### Results Race: 93.6% Black Symptoms: 62.5% Symptomatic 8.4% Age (years) 17-20 21-30 48.8% 31-40 16.2% 41-50 9.3% >50 15.8% PN last 90 days: 50% 38% 2-4 5-9 3.4% Condom Use: 13% Never:

### Results

#### Of 203 paired urethral/penile-meatal swabs:

- CT: 32 penile positive (15.8%)31 urethral positive (15.3%)
- NG: 29 penile positives (14.3%)27 urethral positives (13.3%)
- TV: 23 penile positives (11.3%)20 urethral positives (9.9%)
- MG: 24 penile were positive (11.8%)29 urethral were positive (14.3%)

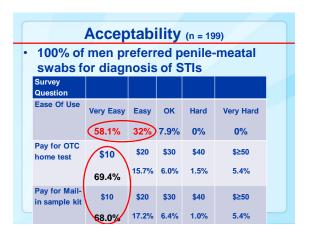
Results					
Table 1. Chlar	nydia trachol	matis,			
	Urethral Positive	Urethral Negative			
Penile					
Positive	30	2			
Penile					
Negative	1	170			
Sensitivity:	96.8%				
Specificity:	98.8%				
PPV:	93.8%				
NPV:	99.4%				

	Results		
Table 2. Neiss	seria gonorrh	oeae	
	Urethral Positive	Urethral Negative	
Penile Positive	27	2	
Penile Negative	0	174	
Sensitivity: PPV:	100% Spec 93.1% NPV	ificity: 98.9% : 100%	
		positives, 25 were positive by cultur	re.

Results				
Table 3. <i>Trich</i> o	omonas vagi	inalis		
	Urethral Positive	Urethral Negative		
Penile				
Positive	17	6		
Penile	3	177		
Negative		177		
Sensitivity:	85.0%			
Specificity: PPV:	96.8% 73.9%			
NPV:	98.3%			

Results			
Table 4. <i>Mycol</i>	plasma genit	talium	
	Urethral Positive	Urethral Negative	
Penile Positive	23	1	
Penile Negative	6	173	
Sensitivity: Specificity: PPV: NPV:	79.3% 99.4% 95.3% 96.6%		

	Results
•	There were no significantly statistica differences in accuracy between self-collected penile swabs and clinician-collected urethral swabs for NAATs
•	p=0.625 for CT p=0.248 for NG p=0.344 for TV
•	p=0.070 for MG



### **Conclusions**

- Penile-meatal swabs appeared to be as accurate as urethral swabs for CT, NG, TV and MG detection
- Preference for self-collection over urethral swabs was 100%
- Such self-collected swabs could expedite express visits in STD clinics
- They show promise as a method of utilizing one sample for multiple STIs

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