

## REFERENCES

1. World Health Organization. Global prevalence and incidence of selected curable sexually transmitted infections. 2001; Available from: [http://www.who.int/hiv/pub/sti/who\\_hiv\\_aids\\_2001.02.pdf](http://www.who.int/hiv/pub/sti/who_hiv_aids_2001.02.pdf)
2. Lawung R. Random amplification of polymorphic DNA-polymerase chain reaction (RAPD-PCR) Antibiogram and random amplification of polymorphic dna-polymerase chain reaction (RAPD-PCR) as an epidemiological marker of gonorrhea. 31<sup>st</sup> Congress on Science and Technology of Thailand at Suranaree University of Technology. 2005; Available from: [http://www.scisoc.or.th/stt/31/sec\\_g/paper/stt3\\_1\\_G0032.pdf](http://www.scisoc.or.th/stt/31/sec_g/paper/stt3_1_G0032.pdf)
3. Promping C. Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* by using in-house multiplex single-tube nested polymerase chain reaction. Chiangmai: Chiangmai University; 2006.
4. Johnson RE, Newhall WJ, Papp JR, Knapp JS, Black CM, Gift TL, et al. Screening tests to detect *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections. 2002. MMWR Recomm Rep. 2002; 51(RR-15):1-38
5. Bowden FJ, Tabrizi SN, Garland SM, Fairley CK. Infectious diseases. 6: Sexually transmitted infections: new diagnostic approaches and treatments. The Medical journal of Australia. 2002 Jun 3;176(11):551-7.
6. Crotchfelt KA, Welsh LE, DeBonville D, Rosenstraus M, Quinn TC. Detection of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* in genitourinary specimens from men and women by a coamplification PCR assay. Journal of clinical microbiology. 1997;35(6):1536-40.
7. Mahony JB, Luinstra KE, Tyndall M, Sellors JW, Krepel J, Chernesky M. Multiplex PCR for detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in Genitourinary specimens. Journal of clinical microbiology. 1995;33(11):3049-53.
8. Fredlund H, Falk L, Jurstrand M, Unemo M. Molecular genetic methods for diagnosis and characterisation of *Chlamydia trachomatis* and

- Neisseria gonorrhoeae*: impact on epidemiological surveillance and interventions. Apmis. 2004;112(11-12):771-84.
9. Locksmith GJ. New diagnostic tests for gonorrhea and chlamydia. Medical Update for Psychiatrists. 1998;3(5):153-8.
  10. Mariani SM. Molecular diagnosis of common STDs. Highlights from the annual meeting of the American society of clinical pathology; September 18-21, 2003; New Orleans, Louisiana 2003; Available from: [http://www.medscape.com/viewarticle/463308\\_3](http://www.medscape.com/viewarticle/463308_3)
  11. Holland CA. FDA-cleared/approved molecular diagnostics tests. 2006 ; Available from: [http://www.amp.org/FDATable/FDATable\\_Jan06.doc](http://www.amp.org/FDATable/FDATable_Jan06.doc).
  12. Elizabeth E. Culler AMC, and Frederick S. Nolte. Reproducibility of Positive Test Results in the BDProbeTec ET System for Detection of Chlamydia trachomatis and *Neisseria gonorrhoeae*. Journal of clinical microbiology. 2003 23 May 2003;41(8):p. 3911-4.
  13. Mary Beth Baker. *C. trachomatis* and *N. gonorrhoeae* Testing by APTIMA Combo 2 PAML Offers APTIMA™Combo 2 Assay. 2005; Available from: <http://www.paml.com/Files/TestUpdates/APTIMA%20Combo%202%20revised%2011-05.pdf>.
  14. California STD/HIV Prevention Training Center. Sexually Transmitted Chlamydial Infections: Continuing Education for Primary Care Clinicians. 2002; Available from: [http://www.stdhivtraining.net/pdf/Chlamydia\\_Screen.pdf](http://www.stdhivtraining.net/pdf/Chlamydia_Screen.pdf).
  15. Whiley DM, Sloots TP. Comparison of three in-house multiplex PCR assays for the detection of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* using real-time and conventional detection methodologies. Pathology. 2005;37(5):364-70.
  16. Hunt M. Real Time PCR 2006; Available from: <http://pathmicro.med.sc.edu/pcr/pcr-home.htm>
  17. International PB. Real-Time PCR. 2006; Available from: [http://www.premierbiosoft.com/tech\\_notes/real\\_time\\_PCR.html](http://www.premierbiosoft.com/tech_notes/real_time_PCR.html)
  18. Australasian chapter of sexual health medicine. Sexually transmitted infection testing guideline for men who have sex with men. 2005; Available

- from:<http://www.racp.edu.au/download.cfm?DownloadFile=3E495D9E-B50C-17D1-6B5B03581553D216>.
19. Benn PD, Rooney G, Carder C, Brown M, Stevenson SR, Copas A, et al. *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infection and the sexual behaviour of men who have sex with men. Sexually transmitted infections. 2007;83(2):106-12.
  20. Wild Iris Medical Education. STDs Affecting the Reproductive System. 2006; Available from: [http://www.nursingceu.com/courses/\\_179/index\\_nceu.html](http://www.nursingceu.com/courses/_179/index_nceu.html)
  21. Lindback E. Mechanisms of resistance to ciprofloxacin in *Neisseria gonorrhoeae*. Stockholm: Karolinska University; 2006.
  22. Murray P, Rosenthal K, Kobayashi G and Pfaller M. Medical microbiology. USA: A harcourt health science company 2002.
  23. Nelson M. Uncomplicated male gonorrhea a review. California medicine. 1973;118(1):10-3.
  24. Poolman JT. Netherlands Society for Microbiology, Medical Section and Netherlands Association of Laboratory Physicians Joint Meeting at Rotterdam on 10 November 1983. Antonie van Leeuwenhoek 1985;51:415-33.
  25. Edwards JL, Apicella MA. The molecular mechanisms used by *Neisseria gonorrhoeae* to initiate infection differ between men and women. Clinical microbiology reviews. 2004;17(4):965-81, table of contents.
  26. Morse SA. Neisseria, Moraxella, Kingella and Eikenella. 1994; Available from: <http://www.gsbs.utmb.edu/microbook/ch014.htm>
  27. Lutwick LI. Gonococcal Infections. 2007; Available from: <http://www.emedicine.com/med/fulltopic/topic922.htm#section~Authors andEditors>
  28. Kenneth Todar University of Wisconsin-Madison Department of Bacteriology. The Pathogenic Neisseriae. 2004; Available from: <http://www.textbookofbacteriology.net/neisseria.html>
  29. McKnew DL, Lynn F, Zenilman JM and Bash MC. Porin Variation among Clinical Isolates of *Neisseria gonorrhoeae* over a 10-Year Period,

- as Determined by Por Variable Region Typing. *The Journal of Infectious Diseases.* 2003;1213–22.
30. Feavers IM, Maiden MC. A gonococcal porA pseudogene: implications for understanding the evolution and pathogenicity of *Neisseria gonorrhoeae*. *Molecular microbiology.* 1998;30(3):647-56.
  31. Whiley DM, *et al.* Evidence that the gonococcal porA pseudogene is present in a broad range of *Neisseria gonorrhoeae* strains; suitability as a diagnostic target. *Pathology.* 2006;38(5):445–8.
  32. Heckels JZJaJE. A novel porA-based real-time PCR for detection of meningococcal carriage. *Medical Microbiology.* 2005;54:463-6.
  33. Naumann M, Rudel T, Meyer TF. Host cell interactions and signalling with *Neisseria gonorrhoeae*. *Current Opinion in Microbiology.* 1999;2(1):62-70.
  34. Ram S, Cullinane M, Blom AM, Gulati S, McQuillen DP, Monks BG, et al. Binding of C4b-binding protein to porin: a molecular mechanism of serum resistance of *Neisseria gonorrhoeae*. *The Journal of experimental medicine.* 2001 Feb 5;193(3):281-95.
  35. Blom AM, Rytkönen A, Vasquez P, Lindahl G, Dahlbäck B and Jonsson AB. A Novel Interaction Between Type IV Pili of *Neisseria gonorrhoeae* and the Human Complement Regulator C4b-Binding Protein. *The Journal of Immunology.* 2001;166:6352-60.
  36. Gilligan PH, Smiley ML and Shapiro DS. *Neisseria gonorrhoeae* ("The Gonococcus") Gonorrhea *Medical Microbiology and Infectious Diseases* (2nd ed) New York: Harper and Row 1999:9-12.
  37. Song W, Ma L, Chen R, Stein DC. Role of lipooligosaccharide in Opa-independent invasion of *Neisseria gonorrhoeae* into human epithelial cells. *The Journal of experimental medicine.* 2000 Mar 20;191(6):949-60.
  38. Yen C, Genco CA, Rock JP and More SA. Physiology and Metabolism of *Neisseria gonorrhoeae* and *Neisseria meningitidis*: Implications for Pathogenesis. *Clinical Microbiology Reviews.* 1989;2:p. S35-S40.

39. Wood SG, Burton J. Synthetic peptide substrates for the immunoglobulin A1 protease from *Neisseria gonorrhoeae* (type 2). *Infection and immunity*. 1991;59(5):1818-22.
40. Unemo M. *Neisseria gonorrhoeae* epidemiology, laboratory diagnosis in accordance with international recommendations, and antibiotic resistance. 2004; Available from: <http://www.medsci.uu.se/klinbakt/Stigup/Publications/ARTICLES/article%20archive/015A>
41. Center of Disease Control. STD surveillance 2006, Nation profile, Gonorhea. 2006; Available from: <http://www.cdc.gov/STD/stats/gonorrhea.htm>
42. Center of Disease Control. National Profile STD Surveillance 2005. 2005; Available from: <http://www.cdc.gov/std/stats05/natprointro.htm>
43. Marrazzo JM. Infections Due to *Neisseria*: Infections Caused by *Neisseria gonorrhoeae*. 2006; Available from: <http://www.medscape.com/viewarticle/534790>
44. Ray K, Bala M, Kumari S, Narain JP. Antimicrobial resistance of *Neisseria gonorrhoeae* in selected World Health Organization Southeast Asia Region countries: an overview. *Sexually transmitted diseases*. 2005 Mar;32(3):178-84.
45. Hanenberg RS, Rojanapithayakorn W, Kunasol P and Sokal DC. Impact of Thailand's HIV control programme as indicated by the decline of sexually transmitted diseases. 1994; Available from: <http://www.popline.org/docs/10052>.
46. Cluster of sexually transmitted disease ATBaetd, Department of Disease Control Ministry of Public Health. STD report. 2007; Available from: [http://www3.easywebtime.com/aids\\_stis/statvd1.htm](http://www3.easywebtime.com/aids_stis/statvd1.htm)
47. Hammerschlag MR. Sexually Transmitted Diseases and Child Sexual Abuse. 2008; Available from: [http://www.ncjrs.gov/pdffiles/stdan\\_dab.pdf](http://www.ncjrs.gov/pdffiles/stdan_dab.pdf)
48. Puberty101. Gonorrhea/Clap. 2002; Available from: [http://www.puberty101.com/h\\_std\\_gonorrhea.shtml](http://www.puberty101.com/h_std_gonorrhea.shtml)

49. Cluster of sexually transmitted disease, office of AIDS T.B. and sexually transmitted disease, Department of Disease Control Ministry of Public Health. Gonorrhea. 2007; Available from: [http://depts.washington.edu/nnptc/core\\_training/clinical/PDF/Gonorrhea2007.pdf](http://depts.washington.edu/nnptc/core_training/clinical/PDF/Gonorrhea2007.pdf)
50. Greenwood D, Slack R, Peutherer J. Medcal Microbiology a guide to microbial infections: pathogenesis, immunity, laboratory diagnosis and control. 15<sup>th</sup> ed. Hong kong: Long man Asia Ltd. 1997.
51. Koneman E, Allen S, Janda W, Schreckenberger P, Winn W. Introduction to diagnostic microbiology UAS: J. B. Lippincott Company 1994.
52. WordPress. The clinical manifestations of gonorrhea. 2007; Available from: <http://mechanicalintroduced.com>
53. Hamlyn E, Taylor C. Sexually transmitted proctitis. Postgraduate medical journal. 2006;82(973):733-6.
54. Jeffrey D, Klausner RKaCK. Etiology of Clinical Proctitis among Men who have sex with men. 2004; Available from: <http://www.journals.uchicago.edu/doi/pdf/10.1086/380838>
55. Hill CS. Direct nucleic acid diagnostic tests for bacterial infectious diseases: streptococcal pharyngitis, pulmonary tuberculosis, vaginitis, chlamydial and gonococcal infections. 2004; Available from: [http://findarticles.com/p/articles/mi\\_m3230/is\\_1\\_36/ai\\_n6065799](http://findarticles.com/p/articles/mi_m3230/is_1_36/ai_n6065799)
56. Whiley DM, Tapsall JW, Sloots TP. Nucleic acid amplification testing for *Neisseria gonorrhoeae*: an ongoing challenge. J Mol Diagn. 2006;8(1):3-15.
57. Miller KE. Diagnosis and treatment of *Neisseria gonorrhoeae* infections. American family physician. 2006;73(10):1779-84.
58. Oriel JD, Ridgway GL. Genital infection by *chlamydia trachomatis*. London: Edward Arnold 1982.
59. Bavoil PM, Hsia R, Ojcius DM. Closing in on Chlamydia and its intracellular bag of tricks. Microbiology (Reading, England). 2000;146 (Pt 11):2723-31.

60. Stephens RS, Kalman S, Lammel C, Fan J, Marathe R, Aravind L, et al. Genome sequence of an obligate intracellular pathogen of humans: *Chlamydia trachomatis*. *Science* (New York, NY. 1998;23;282(5389):754-9.
61. Farenzena A, Comanducci M, Donati M, Ratti G, Cevenini R. Characterization of a new isolate of *Chlamydia trachomatis* which lacks the common plasmid and has properties of biovar trachoma. *Infection and immunity*. 1997;65(7):2965-9.
62. Rosanna W. Peeling DM, Herring A and Hook EW. The biology and pathogenesis of *Chlamydia trachomatis*. 2008; Available from: [http://www.nature.com/nrmicro/journal/v4/n12\\_supp/box/nrmicro1569\\_BX2.html](http://www.nature.com/nrmicro/journal/v4/n12_supp/box/nrmicro1569_BX2.html)
63. Miyashita N, Matsumoto, A., Fukano, H., Niki, Y. and Matsushima, T. The 7.5-kb common plasmid is unrelated to the drug susceptibility of *Chlamydia trachomatis*. *Journal of Infection and Chemotherapy*. 2001;7:113-6.
64. Hueck CJ. Type III protein secretion systems in bacterial pathogens of animals and plants. *Microbiology and Molecular Biology Reviews* 1998;6:379-433.
65. Sturm-Ramirez K, Brumblay H, Diop K, Gueye-Ndiaye A, Sankale JL, Thior I, et al. Molecular epidemiology of genital *Chlamydia trachomatis* infection in high-risk women in Senegal, West Africa. *Journal of clinical microbiology*. 2000;38(1):138-45.
66. Department of Health Family Planning Program. Medical Overview. 2007; Available from: [http://www.health.state.nmus/phd/fp/medical\\_overview.htm](http://www.health.state.nmus/phd/fp/medical_overview.htm)
67. Grieshaber NA, Fischer, E. R., Mead, D. J., Dooley, C. A. and Hackstadt, T. Chlamydial histone-DNA interactions are disrupted by a metabolite in the methylerythritol phosphate pathway of isoprenoid biosynthesis. *Proceedings of the National Academy of Sciences of the USA*. 2004(101):7451-6.

68. Bannantine JP, Griffiths RS, Viratyosin W, Brown WJ, Rockey DD. A secondary structure motif predictive of protein localization to the chlamydial inclusion membrane. *Cellular microbiology*. 2000; 2(1) :35-47.
69. Paavonen J, Puolakkainen, M., Paukku, M. and Sintonen, H. Cost-benefit analysis of first-void urine *Chlamydia trachomatis* screening program. *Obstetrics and Gynecology* 1998;92:292-8.
70. STD-CME. Chlamydial Infections Biology. 2006; Available from: <http://www.bu.edu/cme/std/references.htm>.
71. Malek M and Malik F. Economic implications of *Chlamydia trachomatis*. In: International handbook of Chlamydia In: Moss T, ed. International handbook of Chlamydia Haslemere UK: Euromed Publications Ltd 2001:97 - 113.
72. Patrick J Horner MS. National Guideline on the Management of Non gonococcal Urethritis. 2007 from: [http://www.bashh.org/guidelines/2002/ngu\\_0901c.pdf](http://www.bashh.org/guidelines/2002/ngu_0901c.pdf)
73. Center of Disease Control. Recommendations for the prevention and management of *Chlamydia trachomatis* infections, 1993. Centers for Disease Control and Prevention. MMWR Recomm Rep 1993 Aug 6 (cited 42 RR-12); 1-39). Available from: [http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list\\_uids=8145704](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=8145704)
74. Peipert JF. Clinical practice. Genital *Chlamydial infections*. The New England journal of medicine. 2003;349(25):2424-30.
75. Gaydos CA, Howell MR, Pare B, Clark KL, Ellis DA, Hendrix, RM, Gaydos JC, McKee KT. Jr. and Quinn TC. *Chlamydia trachomatis* infections in female military recruits. *New England Journal of Medicine* 1998;339:739 - 44.
76. Mechanical Introduced. NGU Chlamydia infection transmission and pop. 2008; Available from: <http://mechanicalintroduced.com/ngu-chlamydia-infection-transmission-pop/>

77. Morre SA, Rozendaal L, van Valkengoed IG, Boeke AJ, van Voorst Vader PC, Schirm J, et al. Urogenital Chlamydia trachomatis serovars in men and women with a symptomatic or asymptomatic infection: an association with clinical manifestations? *Journal of clinical microbiology*. 2000;38(6):2292-6.
78. Burstein GR and Zenilman JM. Nongonococcal urethritis a new paradigm. *Clinical Infectious Diseases* 1999;28:66 - 73.
79. Bowden FJ. Reappraising the value of urine leukocyte esterase testing in the age of nucleic acid amplification. *Sexually Transmitted Diseases* 1998;25:322-6.
80. Dale A WJ, Forster G, Daniels D and Brook G. Approach to men with urethritis and urologic complications of sexually transmitted diseases. *Medical Clinics of North America* 2001;74:1543-57.
81. Stefanow Z, et al. Role of *Chlamydia trachomatis* in epididymitis. Part I: Direct and serologic diagnosis. *Medical Science Monitor* 2000;6:1113 - 8.
82. Ostaszewska I, et al. Role of *Chlamydia trachomatis* in epididymitis. Part II: Clinical diagnosis. *Medical Science Monitor* 2000;6:1119 - 21.
83. Ochsendorf R, et al. *Chlamydia trachomatis* and male infertility: chlamydia-IgA antibodies in seminal plasma are *C. trachomatis* specific and associated with an inflammatory response. *Journal of the European Academy of Dermatology and Venereology* 1999 12:143 - 52.
84. Mutlu B, Mutlu N and Yucesoy G. The incidence of *Chlamydia trachomatis* in women with urethral syndrome. *International Journal of Clinical Practice* 2001;55:525 - 6.
85. Ramirez S, et al. Molecular epidemiology of genital *Chlamydia trachomatis* infection in high-risk women in Senegal, West Africa. *Journal of clinical microbiology*. 2000;38(1):138-45.
86. Sellors J, Howard M, Pickard L, Jang D, Mahony J. and Chernsky M. Chlamydial cervicitis: testing the practice guidelines for presumptive diagnosis. . *Canadian Medical Association Journal* 1998 158:41 - 6.

87. Eschenbach Wa. Sexually Transmitted Diseases. 3<sup>rd</sup> ed. New York : McGraw-Hill 1999.
88. Ross J. European guideline for the management of pelvic inflammatory disease and perihepatitis. International Journal of STD and AIDS 2001; 12 (Suppl 3):84 - 7.
89. Hanada H, Ikeda-Dantsuji Y, Naito M. and Nagayama A. Infection of human fibroblast-like synovial cells with *Chlamydia trachomatis* results in persistent infection and interleukin-6 production. Microbial Pathogenesis 2003;34:57 - 63.
90. Gerard HC, Branigan PJ, Schumacher HR. Jr. and Hudson AP. Synovial *Chlamydia trachomatis* in patients with reactive arthritis/Reiter's syndrome are viable but show aberrant gene expression. Journal of Rheumatology 1998; 25:734 - 42.
91. Isobe K, Aoki K, Itoh N, Ohno S, Takashima I. and Hashimoto N. Serotyping of *Chlamydia trachomatis* from inclusion conjunctivitis by polymerase chain reaction and restriction fragment length polymorphism analysis. Japanese Journal of Ophthalmology 1996 40( 279 - 285).
92. Papagrigoriadis S and Rennie JA. Lymphogranuloma venereum as a cause of rectal strictures. Postgraduate medical journal. 1998; 74(168 - 169).
93. Lynch CM, Felder TL, Schwandt RA and Shashy R. Lymphogranuloma venereum presenting as a rectovaginal fistula. Infectious Diseases in Obstetrics and Gynecology 1999;7:199 - 201.
94. Bauwens JE, Lampe MF, Suchland RJ, Wong K and Stamm WE. Infection with *Chlamydia trachomatis* lymphogranuloma venereum serovar L1 in homosexual men with proctitis: molecular analysis of an unusual case cluster. Clinical Infectious Diseases 1995;20:576 - 81.
95. Shariat H, Young M and Abedin M. An interesting case presentation: a possible new route for perinatal acquisition of Chlamydia. Journal of Perinatology 1992;12:300 - 2.
96. Zhang WH, Wu YY and Fan SR. A prospective study of maternal-infant transmission of *Chlamydia trachomatis*. Chung Hua Yen Ko Tsa Chih 1994;30: 357 - 9.

97. Herieka E and Dhar J. Acute neonatal respiratory failure and *Chlamydia trachomatis*. Sexually transmitted infections. 2001;77:135 - 6.
98. Stary A. Diagnosis of genital *Chlamydia trachomatis* infections. In: Proceedings of the Fourth Meeting of the European Society for Chlamydia Research: published Esculapio, Bologna. 2000.
99. Loeffelholz MJ, Jirsa SJ, Teske RK and Woods JN. Effect of endocervical specimen adequacy on ligase chain reaction detection of *Chlamydia trachomatis*. Journal of clinical microbiology. 2001; 39:3838 - 41.
100. Smith DW, Tapsall JW, Lum G. Guidelines for the use and interpretation of nucleic acid detection tests for *Neisseria gonorrhoeae* in Australia: a position paper on behalf of the Public Health Laboratory Network. Communicable diseases intelligence. 2005;29(4):358-65.
101. Uyeda CT, Welbor P, Ellison-Birang N, Shunk K. and Tsiaouse B. Rapid diagnosis of Chlamydial infections with the MicroTrak direct test. Journal of clinical microbiology. 1984;20 948-50.
102. Taylor RD, Thomas BJ and Osborn MF. Evaluation of enzyme immunoassay (Chlamydiazyme)for detecting *Chlamydia trachomatis* in genital tract specimens. Journal of Clinical Pathology 1987;40:194 - 9.
103. Newhall WJ, Johnson RE, DeLisle S, Fine D, Hadgu A, Matsuda B, Osmond D, Campbell J. and Stamm WE. Head-to-head evaluation of five chlamydia tests relative to a quality-assured culture standard. Journal of clinical microbiology. 1999;37 681-5.
104. Okadome A, Notomi T, Nomura S. and Nagayama A. Reactivity of a dual amplified chlamydia immunoassay with different serovars of *Chlamydia trachomatis*. International Journal of STD and AIDS 2000;10 460-3.
105. Stary A, Kopp W, Zahel B, Muller I, Nerad S, Storch M. Rapid diagnosis of *Chlamydia trachomatis* with a nucleic acid probe in male and female patients. Dermatology 1994;188 300-804.
106. Wylie JL, Moses S, Babcock R, Jolly A, Giercke S and Hammond G. Comparative evaluation of chlamydiazyme, PACE 2, and AMP-CT

- assays for detection of *Chlamydia trachomatis* in endocervical specimens. *Journal of clinical microbiology*. 1998;36:3488 - 91.
107. Ostergaard L. Diagnosis of urogenital *C. trachomatis* infection by use of DNA amplification. *Acta Pathologica Microbiologica Scandinavica (APMIS)* 1999;89:5 - 36.
  108. Van der Pol B, Quinn TC, Gaydos CA, Crotchfelt K, Schachter J, Moncada J, Jungkind D, Martin DH, Turner B, Peyton C and Jones RB. Multicenter evaluation of the AMPLICOR and automated COBAS AMPLICOR CT/NG tests for detection of *Chlamydia trachomatis*. *Journal of clinical microbiology*. 2000;38:1105-12.
  109. Cheng H, Macaluso M, Vermund SH and Hook EW. 3<sup>rd</sup> Relative accuracy of nucleic acid amplification tests and culture in detecting Chlamydia in asymptomatic men. . *Journal of clinical microbiology*. 2001 39; 3927 - 37.
  110. Zhang W, Cohenford M, Lentrichia B, Isenberg HD, Simson E, Li H, Yi J. and Zhang DY. Detection of *Chlamydia trachomatis* by isothermal ramification amplification method: a feasibility study. *Journal of clinical microbiology*. 2002;40:128 - 32.
  111. Little MC, et al. Strand displacement amplification and homogeneous real-time detection incorporated in a second-generation DNA probe system, BDProbe TecET. *Clinical Chemistry* 1999;45:777 - 84.
  112. McCartney RA, Walker J. and Scouler A. Detection of *Chlamydia trachomatis* in genitourinary medicine clinic attendees: comparison of strand displacement amplification and the ligase chain reaction. *British Journal of Biomedical Science* 2001;58 235 - 8.
  113. Goessens WH, Mouton JW, van der Meijden WI, Deelen S, van Rijsoort-Vos T. H, Lemmens-den Toom N, Verbrugh HA and Verkooyen RP. Comparison of three commercially available amplification assays, AMP CT, LCx, and COBAS AMPLICOR, for detection of *Chlamydia trachomatis* in first-void urine. . *Journal of clinical microbiology*. 1997;35:2628 - 33.

114. Mahony J, Chong S, Jang D, Luinstra K, Faught M, Dalby D, Sellors J. and Chernesky M. Urine specimens from pregnant and non-pregnant women inhibitory to amplification of *Chlamydia trachomatis* nucleic acid by PCR, ligase chain reaction, and transcription-mediated amplification: identification of urinary substances associated with inhibition and removal of inhibitory activity. Journal of clinical microbiology. 1998;36:3122 - 6.
115. Martin D, Hook EIII, Ferrero D, Willis D, Schachter J, Weissfeld A, Gaydos C and Quinn T. Comparison of three nucleic acid amplification tests (NAATS) and *N. gonorrhoeae* (GC) culture for the detection of *C. trachomatis* (CT) and GC using a rotating standard. Berlin, Germany; 2001.
116. Higuchi R DG, Walsh PS, and Griffith R. Simultaneous amplification and detection of specific DNA sequences. Bio/Technology 1992;10:413-7.
117. Bakaletz LO, G. J. White, J. C. Post, and G. D. Ehrlich. . Blinded multiplex PCR analyses of middle ear and nasopharyngeal fluid from chinchilla models of single- and mixed-pathogen-induced otitis media. . Clin Diagn Lab Immunol. 1998; 5:219-24.
118. Edwards MC, Gibbs RA. Multiplex PCR: advantages, development, and applications. PCR methods and applications. 1994;3(4):S65-75.
119. Livak KJ, Flood SJ, Marmaro J, Giusti W and Deetz K. Oligonucleotides with fluorescent dyes at opposite ends provide a quenched probe system useful for detecting PCR product and nucleic acid hybridization. PCR methods and applications. 1995;4:357-62.
120. Purves et al. Life: The Science of Biology. USA: Freeman and Company 2001.
121. Dorak MT. Real-Time PCR (Advanced Methods Series). Oxford: Taylor & Francis 2006.
122. Fockler HR, Dollinger CG, and Watson R. Kinetic PCR: Real time monitoring of DNA amplification reactions. Biotechnology 1993.;11:1026-30.

123. Piatak M, Luk, KC, Williams B and Lifson, JD. Quantitative competitive polymerase chain reaction for accurate quantitation of HIV DNA and RNA species. *BioTechniques* 1993;14:70-80.
124. Van Dyck ME, Pattyn S, Van Damme L and Laga M. Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* by Enzyme Immunoassay, Culture, and Three Nucleic Acid Amplification Tests. *Journal of Clinical Microbiology*. 2001;39(5):1751-6
125. Boel CH, van Herk CM, Berretty PJ, Onland GH, van den Brule AJ. Evaluation of conventional and real-time PCR assays using two targets for confirmation of results of the COBAS AMPLICOR *Chlamydia trachomatis/Neisseria gonorrhoeae* test for detection of *Neisseria gonorrhoeae* in clinical samples. *Journal of clinical microbiology*. 2005;43(5):2231-5.
126. Whiley DM, LeCornec GM, Mackay IM, Siebert DJ, Sloots TP. A real-time PCR assay for the detection of *Neisseria gonorrhoeae* by LightCycler. *Diagnostic microbiology and infectious disease*. 2002 ;42(2):85-9.
127. Hjelmevoll SO, Olsen ME, Sollid JU, Haaheim H, Unemo M, Skogen V. A fast real-time polymerase chain reaction method for sensitive and specific detection of the *Neisseria gonorrhoeae* porA pseudogene. *J Mol Diagn*. 2006;8(5):574-81.
128. Geraats-Peters CW, Brouwers M, Schneeberger PM, van der Zanden AG, Bruisten SM, Weers-Pothoff G, et al. Specific and sensitive detection of *Neisseria gonorrhoeae* in clinical specimens by real-time PCR. *Journal of clinical microbiology*. 2005;43(11):5653-9.
129. Miller N, Hernandez SG, and Clea TJ RY. Evaluation of Gen-Probe Amplified *Mycobacterium Tuberculosis* Diect Test and PCR for direct detection of *Mycobacterium tuberculosis* in clinical specimens. *J. Clin Microbiol* 1994;32:393-7.
130. Gaydos CA, Quinn TC, Willis D, Weissfeld A, Hook EW, Martin DH, Ferrero DV, and Schachter J. Performance of the APTIMA Combo 2 assay for detection of *Chlamydia trachomatis* and *Neisseria*

*gonorrhoeae* in female urine and endocervical swab specimens. J Clin Microbiol. 2003;41:304-9.

131. Lisa A. Cosentino DVL, Hillier SL. Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* by Strand Displacement Amplification and Relevance of the Amplification Control for Use with Vaginal Swab Specimens. JOURNAL OF CLINICAL MICROBIOLOGY,. 2003 6 May 2003;41(8):3592–6.
132. Farrell DJ. Evaluation of AMPLICOR *Neisseria gonorrhoeae* PCR Using cppB Nested PCR and 16S rRNA PCR. Journal of clinical mycrobiology. 1999;37(2):386–90.
133. Roche. FastStart Universal Probe Master (ROX). Package insert 2007. 2007; Available from: <http://www.roche-applied-science.com/pack-insert4673409a.pdf>
133. Schachter J, Hook EW, Martin DH, Willis D, Fine P, Fuller D, et al. Confirming positive results of nucleic acid amplification tests (NAATs) for *Chlamydia trachomatis*: all NAATs are not created equal. Journal of clinical microbiology. 2005;43(3):1372-3.
134. Sugunendran H, Birley HDL, Mallinson H, Abbott M and Tong CYW. Sexually Transmitted Infections. 2001; 77: 423-6
135. Phipps W, Stanley H, Kohn R, Stansell J. and Klausner JD. Syphilis, Chlamydia, and Gonorrhea Screening in HIV-Infected Patients in Primary Care, San Francisco, California, 2003. AIDS Patient Care and STDs. 2005;19(8):495-8.
136. Specialty Laboratories. *Chlamydia trachomatis* and *Neisseria gonorrhoeae* for symptomatic and asymptomatic patients. 2002; Available from: [http://www.specialtylabs.com/education/download\\_PDF/TN\\_1121.pdf](http://www.specialtylabs.com/education/download_PDF/TN_1121.pdf).
137. Zhang J, et al. *Neisseria gonorrhoeae* Enhances Infection of Dendritic Cells by HIV Type 1. The Journal of Immunology. 2005;174: 7995–8002.

138. Lin JS. et al. Transmission of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* among Men with Urethritis and Their Female Sex Partners. *Journal of infection disease.* 1998;178(6): 1707-12.
139. Lyss SB, et al. *Chlamydia trachomatis* among Patients Infected with and Treated for *Neisseria gonorrhoeae* in Sexually Transmitted Disease Clinics in the United States. *Annals of Internal Medicine.* 2003; 139(3): 178-185.
140. Homick K, Myers JB, Garringer LA, Amsterdam D and Zimmerman SJ. Correlation of Three Commercial Nucleic Acid Amplification Techniques and Conventional Assays for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in Female Endocervical Swab and Urine Specimens. *100<sup>th</sup> General Meeting of the American Society for Microbiology.* Los Angeles: American Society for Microbiology 2000.
141. Whiley DM, et al. A new confirmatory *Neisseria gonorrhoeae* real-time PCR assay targeting the porA pseudogene. *Eur J Clin Microbiol Infect Dis.* 2004; 23: 705-10.
142. Jaton K, Bille J and Greub G. A novel real-time PCR to detect *Chlamydia trachomatis* in first-void urine or genital swabs. *Journal of Medical Microbiology.* 2006; 55: 1667-74.
143. Unemo M, Norlen O, Fredlund H. The porA pseudogene of *Neisseria gonorrhoeae* low level of genetic polymorphism and a few, mainly identical, inactivating mutations. *Apmis.* 2005;113(6):410-9.
144. Sefers S, Webster DC, Stratton C and Tang YW. Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* from Endocervical Swabs: A Comparative Evaluation of Three Commercial Kits. *General Meeting of the American Society for Microbiology:* American Society for Microbiology 2005.
145. Tabrizi SN, Chen S, Cohenford MA, Lentrichia BB, Coffman E, Shultz T, et al. Evaluation of real time polymerase chain reaction assays for confirmation of *Neisseria gonorrhoeae* in clinical samples tested positive in the Roche Cobas Amplicor assay. *Sexually transmitted infections.* 2004;80(1):68-71.

146. Roche. COBAS AMPLICOR CT/NGTest for *Neisseria gonorrhoeae* package insert 2004.
147. Farrell DJ. Evaluation of AMPLICOR *Neisseria gonorrhoeae* PCR using cppB nested PCR and 16S rRNA PCR. *Journal of clinical microbiology*. 1999 Feb;37(2):386-90.
148. Van Der Pol B, Martin DH, Schachter J, Quinn TC, Gaydos CA, Jones RB, et al. Enhancing the specificity of the COBAS AMPLICOR CT/NG test for *Neisseria gonorrhoeae* by retesting specimens with equivocal results. *Journal of clinical microbiology*. 2001;39(9):3092-8.
149. Erbelding EJ, Stanton D, Quinn TC, Rompalo A. Behavioral and biologic evidence of persistent high-risk behavior in an HIV primary care population. *AIDS (London, England)*. 2000;14(3):297-301.

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