

Comparison of Chlamydia Testing Technologies

	NUCLEIC ACID AMPLIFICATION TECHNOLOGY	CELL CULTURE	DIRECT FLUORESCENT ANTIBODY (DFA)	ENZYME IMMUNOASSAY (EIA)	NUCLEIC ACID PROBE
Test Type and Brand Name	<ul style="list-style-type: none"> • <i>Ligase Chain Reaction (LCR) – LCx CT Test (Abbott)</i> • <i>Polymerase Chain Reaction (PCR) – Amplicor CT Test (Roche)</i> • <i>Transcription Mediated Amplification (TMA) – Amplified CT Assay, AMPTIMA (GenProbe)</i> • <i>Strand Displacement Amplification (SDA) - BD Probe Tec (Becton Dickinson)</i> 				<i>PACE II (GenProbe)</i>
Preferred Test	Yes	No	No	No	No
Collection Site	Male and female urine , endocervical and urethral swabs	Endocervical, urethral, rectal, conjunctival, pulmonary	Endocervical, urethral, rectal, conjunctival, nasopharyngeal	Endocervical, urethral, conjunctival	Endocervical, urethral, conjunctival
Sensitivity	90-95%	75-85%	70-75%	50-75%	65-75%
Specificity	98-100%	100%	95-99%	95-99%	95-99%
Test Advantages	<p>More sensitive. Non-invasive urine specimens in addition to genital swabs. For some of these tests:</p> <ul style="list-style-type: none"> • Refrigeration during transport not required. • Amplification control. • Single specimen for <i>Chlamydia</i> and gonorrhea 	Only test acceptable for medicolegal purposes.	Internally controlled for specimen adequacy. Refrigeration during transport not required.	Automated test. Refrigeration during transport not required.	Semi-automated. One swab for both chlamydia and gonorrhea. Refrigeration during transport not required.
Test Disadvantages	Contamination possible if specimen not handled properly in the clinic or lab. More costly.	Less sensitive. Longer turn around time. Technically difficult. Specimen transport, storage times and temperatures critical. Labor intensive. QA for specimen adequacy required.	Less sensitive. Technically difficult. Labor intensive.	Poor sensitivity. QA for specimen adequacy required. Confirmatory testing recommended.	Less sensitive. QA for specimen adequacy required. Confirmatory testing recommended. Negative gray zone testing recommended.

* Examples of current nucleic acid amplification tests are provided. Others are being developed.

Note: Sensitivity somewhat lower for urine compared to swab specimens in nucleic acid amplification technology

Sensitivity = the proportion of patients who truly have chlamydia for whom the test is positive.

Specificity = the proportion of patients who truly do not have chlamydia for whom the test is negative.

Adapted from: USPHS Region IX Infertility Prevention Project. Clinical Guidelines. San Francisco, CA: Region IX Infertility Prevention Project Advisory Committee, 1998.