Medical Policy

BlueCross BlueShield of Kansas
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Title: Identification of Microorganisms Using Nucleic Acid Probes

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DESCRIPTION

Until recently, identification of microorganisms depended either on culture of body fluids or tissues or identification of antigens, using a variety of techniques including direct fluorescent antibody technique and qualitative or quantitative immunoassays. These techniques are problematic when the microorganism exists in very small numbers or is technically difficult to culture. Indirect identification of microorganisms by immunoassays for specific antibodies reactive with the microorganism is limited by difficulties in distinguishing between past exposure and current infection; although to some extent IgM versus IgG antibodies can be helpful. Response to treatment is typically assessed according to the patient's clinical response or by rising titers of specific antibodies and falling antigen titers.

Recently, the availability of nucleic acid probes has permitted the rapid direct identification of microorganisms' DNA or RNA. Amplification techniques, including but not limited to the polymerase chain reaction (PCR), results in exponential increases in copy numbers of a targeted strand of microorganism-specific DNA. After amplification, target DNA can be readily detected using a variety of techniques. The amplified product can also be quantified to give an assessment of how many microorganisms are present. Quantification of the amount of nucleic acids permits serial assessments of response to treatment; the most common clinical application of quantification is the serial measurement of HIV RNA (called viral load), which serves as a prognostic factor.

Until 1998, these nucleic acid probe techniques were coded using nonspecific CPT codes describing the multiple steps in the laboratory process. However, in 1998, the CPT codes were revised to include a series of new codes that describe the direct probe technique, amplified probe technique, and quantification for 22 different microorganisms. These series of CPT codes were introduced as a group; however, at present, probe technologies and clinical applications for some microorganisms are either not widely disseminated or are used primarily for research purposes. In addition, CPT codes have been added for additional microorganisms, such as *Staphylococcus aureus*.

POLICY

The status of nucleic acid identification using direct probe, amplified probe, or quantification for microorganisms is summarized as follows:

Microorganism	Direct Probe	Amplified Probe	Quantification
Bartonella henselae or quintana	87470 (inv)	87471 (inv)	87472 (inv)
Borrelia burgdorferi	87475 (inv)	87476 (inv)	87477 (inv)
Candida species	87480 (med nec)	87481 (inv)	87482 (inv)
Chlamydia pneumoniae	87485 (inv)	87486 (inv)	87487 (inv)
Chlamydia trachomatis	87490 (med nec)	87491 (med nec)	87492 (inv)
Cytomegalovirus	87495 (med nec)	87496 (med nec)	87497 (med nec)
Enterovirus		87498 (inv)	
Gardnerella vaginalis	87510 (med nec)	87511 (inv)	87512 (inv)
Hepatitis B	87515 (med nec)	87516 (med nec)	87517 (med nec)
Hepatitis C	87520 (med nec)	87521 (med nec)	87522 (med nec)
Hepatitis G	87525 (inv)	87526 (inv)	87527 (inv)
Herpes simplex virus	87528 (med nec)	87529 (med nec)	87530 (inv)
Herpes virus-6	87531 (inv)	87532 (inv)	87533 (inv)
HIV-1	87534 (med nec)	87535 (med nec)	87536 (med nec)
HIV-2	87537 (med nec)	87538 (med nec)	87539 (med nec)
Legionella pneumophila	87540 (inv)	87541 (inv)	87542 (inv)
Mycobacterium species	87550 (med nec)	87551 (inv)	87552 (inv)
Mycobacterium tuberculosis	87555 (med nec)	87556 (med nec)	87557 (inv)
Mycobacterium avium intracellulare	87560 (med nec)	87561 (inv)	87562 (inv)
Neisseria gonorrhoeae	87590 (med nec)	87591 (med nec)	87592 (inv)
Papillomavirus	87620 (med nec)	87621 (med nec)	87622 (inv)
Staphylococcus aureus		87640 (med nec)	
Staphylococcus aureus, methicillin resistant		87641 (med nec)	
Streptococcus group A*	87650 (med nec)	87651 (inv)	87652 (inv)
Streptococcus group B		87653 (med nec)	
Vancomycin resistance (e.g., enterococcus vanA, vanB)		87500 (med nec)	

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CPT/HCPCS

See Policy section.

CPT codes 87797, 87798, and 87799 describe the use of direct probe, amplified probe, and quantification, respectively, for infectious agents not otherwise specified. It should be noted that the technique for quantification includes both amplification and direct probes; therefore, simultaneous coding for both quantification with either amplification or direct probes, is not warranted.

DIAGNOSIS

010.0-018.9	Tuberculosis (code range)
030.0-030.9	Other bacterial diseases; Leprosy (code range)
031.0-031.9	Other bacterial diseases; Diseases due to other mycobacteria (code range)
054.0-054.9	Viral diseases accompanied by Exanthem; Herpes simplex (code range)
070.20-070.33	Other diseases due to viruses and chlamydiae; Viral hepatitis B (code range)
070.41	Acute or unspecified hepatitis C with hepatic coma
070.44	Chronic hepatitis C with hepatic coma
070.51	Acute or unspecified hepatitis C without mention of hepatic coma
070.54	Chronic hepatitis C without mention of hepatic coma
078.5	Cytomegaloviral disease
079.88	Other specified chlamydial infection
079.89	Other specified viral infections (includes papillomavirus)
079.98	Unspecified chlamydial infection
098.0-098.89	Gonococcal infections (code range)
482.84	Legionnaires' disease
771.1	Congenital cytomegalovirus infection
771.2	Other congenital infections (includes herpes simplex, tuberculosis)
V08	Human immunodeficiency virus (HIV) asymptomatic
V28.6	Antenatal screening for Streptococcus B

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