Molecular Pathology (MoPath) CPT Codes for Molecular Cytogenomic Testing

In 2012 the American Medical Association (AMA) established a new set of analyte-specific molecular pathology (MoPath) codes for laboratories to use in billing. Here, we provide an overview of the new codes for molecular cytogenomic testing.

Introduction
In recent years, innovative technologies have fueled the development of new molecular pathology tests that improve our capacity to screen and diagnose diseases. As third-party payers seek to better control utilization of these tests, the methodology-based “stacking” codes that laboratories were billing presented an obstacle by preventing payers from identifying the tests being reimbursed. Consequently, in 2012 the American Medical Association (AMA) Current Procedural Terminology (CPT®) established a new set of analyte-specific molecular pathology (MoPath) codes to replace the methodology-based “stacking” codes that laboratories were previously using to bill for their tests.

Effective January 1, 2013, all laboratories must use the new MoPath codes to bill for molecular diagnostic testing as the “stacking” codes will officially be retired.

What are MoPath Codes?
MoPath codes are labels for molecular diagnostics tests that enable payers (i.e., Medicare, Medicaid, private insurance companies) to properly identify and bill for services. In 2012, the AMA CPT established a new set of analyte-specific MoPath codes to replace the methodology-based codes (CPT 83890-83914; 88384-88386) that previously allowed labs to bill different coding combinations (also known as “code stacks”) for tests evaluating the same analyte. These “stacking” codes were retired as of January 1, 2013. Labs are now required to report tests using the analyte-specific MoPath codes.

The MoPath codes are categorized into Tier 1 and Tier 2 codes:
- Tier 1 codes represent the majority of commonly performed single-analyte molecular tests.
- Tier 2 codes represent procedures that are generally performed in lower volumes than Tier 1 procedures (e.g., when the incidence of the disease being tested is rare), and correspond to nine ascending levels of technical resources and interpretive work performed by the physician or other qualified healthcare professional.

What are the MoPath Codes for Molecular Cytogenomic Testing?
There are two Tier 1 MoPath codes that may be used to report molecular cytogenomic analysis (Table 1). CPT 81228 describes the use of oligonucleotide probe hybridization to detect copy number variants (CNVs), many of which can be markers for developmental delay, congenital anomalies, mental retardation and several other diseases2.

On the other hand, CPT 81229 describes using oligonucleotide probes to detect CNVs in addition to using single nucleotide polymorphism (SNP) probes to determine zygosity status. SNP testing can detect “copy number neutral” genetic alterations such as long contiguous stretches of homozygosity (LCSH), which can be markers of abnormalities and disease2.

Please note that CPT 81228 and 81229 are mutually exclusive and cannot be billed together for the same patient encounter.

AMA CPT Clinical Vignettes
The following clinical vignettes provided by the AMA CPT describe common clinical scenarios in which each code may be billed3,4:

- **CPT 81228**: An 18-month-old male presents to his physician with unexplained developmental delay. The patient has a normal karyotype and his diagnostic evaluation is otherwise unrevealing. A sample of anticoagulated peripheral blood is submitted to the laboratory for cytogenomic constitutional (genome-wide) microarray analysis.

### Table 1: Tier 1 MoPath Codes for Molecular Cytogenomic Testing

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<thead>
<tr>
<th>CPT Code</th>
<th>Descriptor</th>
<th>Commonly Billed/Performed for</th>
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<tbody>
<tr>
<td>81228</td>
<td>Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (e.g., Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis)</td>
<td>CNV detection using oligonucleotide probes</td>
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<tr>
<td>81229</td>
<td>Interrogation of genomic regions for copy number and single nucleotide polymorphism (SNP) variants for chromosomal abnormalities</td>
<td>CNV detection using oligonucleotide probes and zygosity status determination using SNP probes</td>
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• CPT 81229: A newborn female is determined to have multiple congenital anomalies by the attending physician. The patient has a normal karyotype and her diagnostic evaluation is otherwise unrevealing. The parents indicate they are both from the same ethnic background. A sample of anticoagulated peripheral blood is submitted to the laboratory for cytogenomic constitutional (genome-wide) microarray analysis.

What are the Implications for My Laboratory?

For all claims with dates of service on or after January, 1, 2013, laboratories must use CPT 81228–81229 to bill for molecular cytogenomic analysis. It is the responsibility of each laboratory to comply with correct coding practices, and bill the specific code(s) that accurately describe(s) the services performed in each case.

References

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