

## Meniscus coding in ICD-10 vs ICD-9: A missed opportunity to utilize coding granularity

Katie M Zehner, BS<sup>1</sup>, Justin R Zhu, BA<sup>1</sup>, Jonathan N Grauer, MD<sup>1</sup>  
Yale Department of Orthopaedics and Rehabilitation, New Haven, CT  
[katie.zehner@yale.edu](mailto:katie.zehner@yale.edu)

**Disclosures:** Katie M Zehner (Arons-Millard Student Research Fund at Yale University School of Medicine), Jonathan N Grauer (Editor-in-Chief of North American Spine Society Journal. Board North American Spine Society)

**INTRODUCTION:** In 2015, the United States transitioned from the International Classification of Diseases (ICD)-9 system to the ICD-10, increasing available codes from fewer than 14,000 to about 68,000. These changes were made to increase the granularity of coding for clinical, research, and administrative purposes. However, prior studies in other areas (such as spine) have found systems not to take advantage of the specificity afforded by ICD-10. This has not been evaluated for diagnoses relevant to sports medicine such as meniscal pathology.

**METHODS:** Patients presenting with a meniscal diagnosis between 2010 and October 2021 were identified from the PearlDiver M157 database. ICD codes utilized, year of encounter, physician specialty (orthopaedic, primary care, other), and patient demographic factors were extracted. The number of codes utilized for >1% of patients was tallied and compared across years and subspecialties.

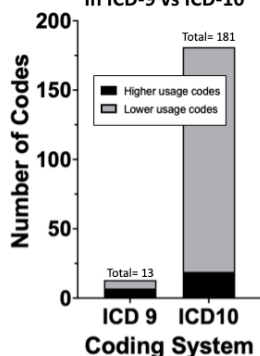
**RESULTS SECTION:** For ICD-9 coding, there were 13 codes for meniscal pathology, of which 7 (53.5%) of codes were use more than 1% of the time (Figure 1), accounting for 93.4% of diagnosed patients. For ICD-10 coding, there were 181 codes for meniscal pathology of which 21 (10.5%) were used more than 1% of the time (Figure 1). In assessing potential learning curve for ICD-10, this was then assessed by year, but there was not greater use of granularity of ICD-10 between 2015 and 2020 (Figure 2).

When evaluating ICD 10 codes used, 70% were considered “nonspecific” based on the definition of containing “unspecified” or “other” in the code description. When evaluating the specialty of the coding provider, there were no difference detected in the distribution of higher utilization code frequencies relative to all providers (primary care:  $p = 0.3291$ , ortho:  $p = 0.8186$ , other:  $p = 0.8186$ ).

**DISCUSSION:** Coding can be more granular in ICD-10 as compared to ICD-9, but the range of codes is poorly utilized in actual practice. This has not improved in the years since the introduction of ICD-10 and not different between provider specialties.

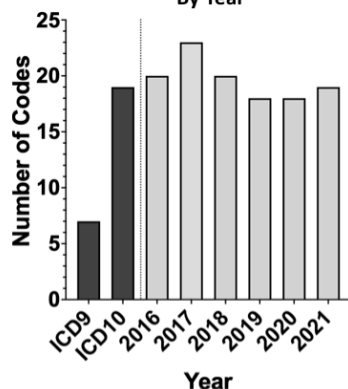
**SIGNIFICANCE/CLINICAL RELEVANCE:** While there has been some improvement in coding specificity of meniscal pathologies with the transition to ICD-10, incentivization is necessary to encourage utilization of the full range of codes to take advantage of all that it offers.

**Code Availability and Utilization  
In ICD-9 vs ICD-10**



**Figure 1.** Number of high and low usage codes for meniscal pathologies in ICD-9 and ICD-10. High usage codes defined as codes used for >1% of meniscal diagnoses and low usage codes defined as codes used for less than or equal to 1% of meniscal diagnoses.

**Number of Higher Usage (>1%) Codes  
By Year**



**Figure 2.** Number of higher usage codes, defined as codes used for >1% of meniscal diagnoses, by year since ICD-10 implementation.