Test Specific Guidelines

Pathology Testing with Mohs Micrographic Surgery

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Introduction

Pathology testing with Mohs micrographic surgery (MMS) is addressed by this guideline.

Procedures Addressed

The inclusion of any procedure code in this table is provided for informational purposes and is not a guarantee of coverage nor an indication that prior authorization is required.

Procedure addressed by this guideline	Procedure code
Immunohistochemistry, per specimen; initial single antibody stain procedure	88342
Immunohistochemistry, per specimen; each additional single antibody stain procedure (List separately in addition to code for primary procedure)	88341
Immunohistochemistry, per specimen; each multiplex antibody stain procedure	88344
Level IV - Surgical pathology, gross and microscopic examination	88305
Pathology consultation during surgery; first tissue block, with frozen section(s), single specimen	88331
Pathology consultation during surgery; each additional tissue block with frozen section(s) (List separately in addition to code for primary procedure)	88332

What Is Mohs Micrographic Surgery?

Definition

Mohs micrographic surgery is a surgical technique developed in the 1930s by Dr. Frederic Mohs to remove many types of skin cancer.[1]

It is performed by dermatologists, many of whom have completed a one or two year fellowship in Mohs surgery.[2] One of the defining, and unique, features of this technique is that the Mohs surgeon also serves the role of the pathologist, examining frozen sections of excised tissue at the time of surgery. This is in contrast to the standard excision of a skin cancer with a margin of normal appearing skin, which is then sent to a pathologist for processing and examination of slides of the fixed tissue.[2] Mohs surgery involves progressively removing thin layers of a skin cancer and examining each layer until all of the cancer has been removed.[2] This allows for microscopic evaluation of the entire surgical margin and removal of as much of the cancer as possible while minimizing the excision of the adjacent normal tissue.[1]

Basal cell carcinoma and squamous cell carcinoma are the most common types of skin cancer. Basal cell carcinoma is the most common form of human cancer, with an increasing incidence in the United States.[3] Mohs surgery is used to treat basal cell carcinoma, squamous cell carcinoma, some types of malignant melanoma, and some cases of less commonly encountered skin cancers including sebaceous carcinoma and atypical fibroxanthoma.[2]

Some of the benefits of Mohs surgery include higher cure rates for both primary and recurrent skin tumors, as well as better cosmetic and functional results due to the more precise margin evaluation and sparing of healthy tissue. This leads to the smallest possible surgical defect, which is particularly advantageous in some anatomic sites, such as the face and distal extremities.[1]

A limitation of Mohs surgery is that it can be difficult for the surgeon to achieve clear margins in tumors with an aggressive growth pattern into deeper structures such as bone or salivary glands.[4] Since the Mohs surgeon acts as the pathologist, usually examining only frozen sections, there is no independent confirmation of findings by a pathologist on permanent tissue sections, as is the standard in surgical pathology practice. There is a general opinion that in many cases, paraffin embedded sections provide superior visualization of the morphologic features of a tumor, compared to frozen sections.[5] Since paraffin embedded tissue sections and blocks are not typically processed in Mohs surgery, only frozen section slides are kept from these procedures. Therefore, tissue blocks may not be available for further evaluation, if needed.[3]

Test Information

Introduction

During a Mohs procedure, a thin layer of tissue surrounding the tumor is removed. After color coding the orientation of the tissue with dye and drawing a map of the surgical site, the tissue is cut into sections and frozen. Microscopic slides are prepared and stained from the frozen tissue blocks and examined. Successive layers of tissue are removed in this way until the entire tumor and a reasonable clear margin of tissue is excised.[1]

Guidelines and Evidence

Introduction

This section includes relevant guidelines and evidence pertaining to Mohs surgery.

American Academy of Dermatology

The American Academy of Dermatology Work Group (AAD, 2018) addressed the use of Mohs surgery for treatment of various skin cancers.[3,6]

Basal Cell Carcinoma (BCC):[3]

The Work group cited an extensive review of the literature and concluded that "the results strongly support the use of MMS for both primary and recurrent BCC at increased risk for recurrence on the basis of factors such as anatomic location and histologic growth pattern".[3] The work group noted the MMS limitation of not having a paraffin embedded block for further evaluation of high risk or unusual features or molecular testing, and recommended careful selection of BCC cases for Mohs surgery, based on the initial diagnostic biopsy findings.

"On the basis of the available data, it is the work group recommendation that MMS be indicated for the treatment of high-risk BCC (on the basis of NCCN risk stratification)."

Cutaneous Squamous Cell Carcinoma (cSCC):[6]

The AAD acknowledged the lack of prospective cohort studies or randomized clinical trials comparing Mohs micrographic surgery to other treatment methods for cutaneous squamous cell carcinoma. The work group reports extrapolation of data from a randomized clinical trial demonstrating a benefit of Mohs surgery for the treatment of primary and recurrent basal cell carcinoma of the face as reason to recommend Mohs surgery for high risk cSCC. They acknowledge that some histopathologic growth patterns of cSCC, such as spindle cell, sarcomatoid, or single cell infiltrative, may be difficult to visualize on frozen sections, limiting the effectiveness of MMS. Additionally, the work group noted the MMS limitation of not having a paraffin embedded block for further evaluation of high risk or unusual features or molecular testing. For these reasons, they recommend careful selection of cSCC cases for Mohs surgery, based on the initial diagnostic biopsy findings.

"On the basis of the best available data, the work group recommends MMS for the treatment of high-risk cSCC (on the basis of NCCN risk stratification)."

Joint Statement from AAD/ACMS/ADSA/ASMS

The American Academy of Dermatology, in collaboration with the American College of Mohs Surgery, the American Dermatologic Surgery Association, and

the American Society of Mohs Surgery, developed appropriate use criteria for Mohs micrographic surgery in 2012.[7]

These criteria were developed based on an evidence review and the clinical expertise and judgment of a panel of Mohs surgeons and non-Mohs surgeon dermatologists.[7] The goal of the resulting appropriate use criteria was to provide guidance and promote the use of MMS for clinically appropriate indications. The panel of dermatologists rated 270 clinical scenarios as appropriate, uncertain, or inappropriate for MMS, and a level of consensus resulted in a final designation. Numerous common and less common skin cancers were rated, including several subtypes of basal cell carcinoma and squamous cell carcinoma.

Through this process, it was determined that the tumor location on the body, patient characteristics, and tumor characteristics should be considered when determining if MMS is appropriate. The appropriate use criteria did not examine cost effectiveness of MMS or compare the efficacy of various treatment options, or determine a preferred treatment between different treatment modalities.[7] Malignant melanoma in-situ was included in the appropriate use criteria, however invasive melanoma was not included.[7]

National Comprehensive Cancer Network

The National Comprehensive Cancer Network (NCCN, 2022) stated the following in their Basal Cell Carcinoma clinical guideline:[8]

"MMS is the preferred surgical technique over standard excision for re-excision of local, low-risk BCC after positive margins with standard excision, as well as the primary surgical technique of choice for local, high-risk BCC because it allows for intraoperative analysis of 100% of the excision margin."

The risk factors for recurrence of basal cell carcinoma depend on the anatomic site of the tumor and include large size, poorly defined tumor borders, immunosuppression, a site of prior radiation therapy, perineural tumor involvement, and an aggressive growth pattern.

An aggressive growth pattern on pathologic examination includes infiltrative, sclerosing, morpheaform, micronodular, basosquamous, or carcinosarcomatous differentiation features in any portion of the tumor.

Low risk histologic subtypes include nodular and superficial growth patterns as well as keratotic, infundibulocystic types and fibroepithelioma of Pinkus.

The anatomic sites designated as high risk regardless of tumor size are those of the central face, eyelids, periorbital area, eyebrows, nose, lips, chin, mandible, ear, preauricular and postauricular area, temple, genitalia, hands, and feet. Tumors > 10 mm. on the cheeks, forehead, scalp, neck and pretibial area are also high risk. Tumors > 20 mm. on the trunk and extremities (excluding areas previously noted) are designated as high risk.

NCCN (2022) stated the following in their Cutaneous Squamous Cell Carcinoma clinical guideline:[9]

"MMS is the preferred surgical technique for high-risk cSCC because it allows intraoperative analysis of 100% of the excision margin."

Mohs micrographic surgery is also a recommended treatment for local, low-risk squamous cell carcinomas with positive margins after standard excision.

The risk factors for recurrence of squamous cell carcinoma depend on the anatomic site of the tumor and include large size, poorly defined tumor borders, immunosuppression, a site of prior radiation therapy or a chronic inflammatory process, rapid tumor growth, perineural, lymphatic, or vascular tumor involvement, neurologic symptoms, and an aggressive growth pattern.

An aggressive growth pattern on pathologic examination includes acantholytic (adenoid), adenosquamous (with mucin production), desmoplastic, or metaplastic (carcinosarcomatous) subtypes. Squamous cell carcinomas considered high risk for recurrence also include poorly differentiated tumors and tumors with a depth > 6.0 mm. or invasion beyond the subcutaneous fat.

Squamous cell carcinomas considered low risk for recurrence include well or moderately differentiated tumors and tumors with a depth of invasion < 6.0 mm. and not reaching beyond the subcutaneous fat.

The anatomic sites designated as high risk regardless of tumor size are those of the central face, eyelids, periorbital area, eyebrows, nose, lips, chin, mandible, ear, preauricular and postauricular area, temple, genitalia, hands, and feet. Tumors > 10 mm. on the cheeks, forehead, scalp, neck and pretibial area are also high risk. Tumors > 20 mm. on the trunk and extremities (excluding areas previously noted) are designated as high risk.

National Coding Standards

Mohs micrographic surgery is a technique to remove skin cancer, requiring one physician to act in two combined but separate and distinct roles: surgeon and pathologist. If either of these responsibilities are performed by another physician who separately reports the services, the procedure is no longer considered a Mohs procedure, and the specific MMS codes should not be billed.[5] The CPT codes used for the Mohs surgery procedure (17311-17315) are only billed for a dermatologist acting both as the surgeon and the pathologist preparing and interpreting the slides. These codes are inclusive for the work comprising these two roles, therefore only a limited and defined use of other CPT codes can be billed together with the Mohs surgical procedure codes.

In Mohs surgery, a tissue layer (termed a stage) is commonly bisected or quadrisected by the surgeon and processed in several frozen tissue blocks. The separate blocks and slides produced by dividing the tissue still comprise only one specimen for billing purposes.

The Mohs surgery procedure codes vary by body part and initial or additional stages, but each include the following description that explains what is bundled into the code: "Mohs micrographic technique, including removal of all gross tumor, surgical excision of tissue specimens, mapping, color coding of specimens, microscopic examination of specimens by the surgeon, and histopathologic preparation including routine stain(s) (eg, hematoxylin and eosin, toluidine blue)".[10] Given that the Mohs surgical procedure codes are intended to represent the entirety of the typical Mohs surgery procedure, inclusive of the pathological evaluation, additional surgical pathology codes are not generally appropriate to bill with Mohs surgery codes.

Multiple CMS Medicare Administrators have Local Coverage Determinations (LCD) and Billing and Reimbursement Local Coverage Articles (LCA) that address Mohs surgery. They generally agree that all routine pathology services are already included in the Mohs procedure codes, but also recognize that separate biopsies apart from the Mohs excision may be necessary and provide billing instruction when this is the case.[11-13]

The 2020 National Correct Coding Initiative's Policy Manual stated:[14]

"The Mohs micrographic surgery CPT codes include skin biopsy and excision services (CPT codes 11102-11107, 11600-11646, and 17260-17286) and pathology services (88300-88309, 88329-88332). Reporting these latter codes in addition to the Mohs micrographic surgery CPT codes is inappropriate. However, if a suspected skin cancer is biopsied for pathologic diagnosis prior to proceeding to Mohs micrographic surgery, the biopsy (e.g., CPT codes 11102-11107) and frozen section pathology (CPT code 88331) may be reported separately using modifier 59 or -X{SU}, or 58 to distinguish the diagnostic biopsy from the definitive Mohs surgery."

Criteria

Introduction

Requests for pathology testing with Mohs micrographic surgery are reviewed using these criteria. These criteria do not address all indications and applications of the surgical pathology codes. Please refer to other guidelines for additional procedures and indications such as Immunohistochemistry (IHC)

Mohs micrographic surgery is considered medically necessary for indications related to the anatomic site of the tumor, the histopathologic qualities or biologic behavior of the tumor, or specific patient characteristics.

The following indications are those in which Mohs surgery is considered medically necessary:

Anatomic areas where preservation of healthy tissue is important for functional or cosmetic results, or

Anatomic areas with a high risk of recurrence or that have recurred following previous treatment, or

Tumors arising in areas of prior irradiation, traumatic scar, chronic inflammatory conditions, or ulceration, or

Tumors that are large, have ill-defined borders, rapid growth, or aggressive histologic features, or

Patients who are immunosuppressed, or

Patients with genetic syndromes at high risk for skin cancer, and

Rendering provider is a qualified provider of service per the Health Plan policy.

Billing and Reimbursement Considerations

Surgical pathology procedures are generally not separately reimbursable on the same date of service as a Mohs surgery, including but not limited to the following surgical pathology codes: 88300-88309, 88329-88332, 88341-88344.

The below criteria outline acceptable indications and limitations for billing surgical pathology codes on the same date of service as Mohs surgery codes.

Tissue evaluation and consultation (88305, 88331, 88332)

Typically, diagnostic biopsy is previously performed on a skin cancer before complete removal by a Mohs surgery procedure.

Billing of codes 88305, 88331, or 88332 can be approved as a diagnostic biopsy on the same day as Mohs surgery in the following scenarios:

As a diagnostic or confirmation biopsy before Mohs surgery, if a patient presents for Mohs surgery and no prior diagnostic biopsy has been performed on the lesion planned for Mohs surgery, or if the Mohs surgeon is unable, with reasonable effort, to obtain the diagnostic biopsy report on a lesion planned for Mohs surgery. In either situation, the modifier 58, XU, or 59 should be appended as appropriate to the surgical pathology procedures, OR

If the biopsy represents tissue completely separate and unrelated to the Mohs procedure (an incidental biopsy of another lesion occurring on the same day as Mohs surgery on a different lesion), in which case the modifier XS should be appended to the surgical pathology procedures.

There should be documentation of the need for billing of 88305, 88331, or 88332 in order to determine whether criteria are met. 88331 and 88332 are billed for diagnostic biopsies performed and immediately frozen with preparation and staining of slides for microscopic examination by the Mohs surgeon, but unrelated to the Mohs surgery as described above. For any other indications, 88331 should not be billed together with a Mohs surgery procedure, since the Mohs surgery procedure code includes frozen section tissue preparation and examination. 88332 should only be approved in rare and unusual situations as an additional frozen section in one of the above

exceptions for 88331, when an additional frozen section is required for diagnosis.

Any billing of 88305, 88331, or 88332 together with a Mohs surgery procedure code should be accompanied by the documentation of findings on a pathology report and may be subject to post-service medical necessity review.

A Mohs surgeon may elect to send a specimen to a pathologist for permanent processing and examination. Since Mohs surgery requires the dermatologist to act in the dual role as the surgeon and the pathologist, this situation changes the nature of the procedure, and if 88305 is to be billed in this instance, the surgeon cannot bill a Mohs procedure code. The only other code used for the gross and microscopic examination of skin is 88304, which is billed for benign lesions of less complexity, such as skin tags and lipomas, so would not be associated with a Mohs surgery procedure.

Immunohistochemistry (88341, 88342, 88344)

Immunohistochemistry procedure codes 88341-88344 should only be used when necessary for diagnostic purposes that cannot be interpreted on routine H & E staining. However, these codes are only allowed on diagnostic biopsies meeting the above criteria for billing of 88305, 88331, and 88332.

IHC procedure codes 88341, 88342, and 88344 cannot be billed together with the Mohs procedure codes (17311-17315). This rule includes, but is not limited to, the following scenarios :

Margin evaluation in Mohs surgery sections

Detection of atypical melanocytes on frozen sections can be difficult, and is one of the reasons that treatment of some melanomas by MMS is controversial.[15] A Mohs surgeon has the option of sending tissue sections for processing and examination by a pathologist if needed for patient care. In this situation, the procedure is no longer MMS, but billed as an excision procedure, with all pathology codes billed by the examining pathologist.

Any billing of 88341, 88342, and/or 88344 should be accompanied with documentation of findings on a pathology report and may be subject to post-service medical necessity review. When medically necessary to bill immunohistochemistry codes on the same date of service as MMS, all criteria in the guideline titled *Immunohistochemistry (IHC)* apply.

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