



# CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Mohs' Micrographic Surgery**

**Effective Date ..... 6/15/2010**  
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**Coverage Policy Number ..... 0116**

## Table of Contents

Coverage Policy .....	1
General Background .....	2
Coding/Billing Information .....	5
References .....	6
Policy History.....	10

## Hyperlink to Related Coverage Policies

Malignant Melanoma Surveillance Technologies  
 Photodynamic Therapy for Dermatologic Conditions  
 Scar Revision

### INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

## Coverage Policy

**CIGNA covers Mohs' micrographic surgery (MMS) as medically necessary for ANY of the following indications:**

- Basal cell carcinoma, squamous cell carcinoma, or acanthoma when any **ONE** of the following is met:
  - The tumor has high risk for local recurrence (e.g., ill-defined borders, incomplete removal, irradiation therapy, history of recurrence, large size).
  - The tumor is located in areas of important tissue preservation (e.g., face, ears, hands, feet, genitalia).
  - The tumor demonstrates rapid growth or aggressive behavior.
  - The individual is immunocompromised.
  - The tumor is associated with high risk of metastasis (e.g., Bowen's disease, discoid lupus erythematosus, and lichen sclerosus).
  - The tumor is of long-standing duration.
- Xeroderma pigmentosum and other genodermatoses
- Primary, cutaneous malignant melanoma requiring narrow surgical margins for adequate excision (e.g., when anatomical or technical problems make wide-area excision difficult, or prevent preservation of vital tissue, such as when lesions are on the head, neck, hands, and feet).

- Other tumors or lesions with ill-defined clinical margins and subclinical extension that is identifiable microscopically.

**CIGNA covers reconstructive surgery following a Mohs' micrographic procedure as medically necessary to close a surgical defect resulting from the Mohs' procedure.**

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## General Background

Mohs' micrographic surgery (MMS) is a microscope-guided surgical procedure performed for the removal of tissue, including certain cutaneous neoplasms. During the procedure, thin horizontal layers of tissue are excised in staged procedures. After excision, each layer of tissue is microscopically examined by the surgeon for tumor invasion. All the margins of the tumor specimen are color-coded, mapped, frozen, and then examined under the microscope by the surgeon in order to determine whether residual tumor remains. If there is residual tumor, the location of any remaining tumor cells is marked on the map and the procedure is then repeated. The goal of the surgery is to remove the neoplasm while providing maximum preservation to the surrounding tissue. Several factors are evaluated when MMS is considered as a treatment, such as general medical history, risk factors, the histology associated with the lesion, and individual patient characteristics. While this procedure is most commonly used for the treatment of basal cell carcinomas and squamous cell carcinomas, it is not indicated for the treatment of all skin neoplasms.

According to the American Academy of Dermatology (AAD) Guidelines of Care for Mohs' Micrographic Surgery (AAD, 1995), MMS is used to treat various forms of skin neoplasm, including basal cell carcinoma, squamous cell carcinoma and, in some cases, melanoma. The use of MMS for melanoma is controversial because of the reliance of MMS on frozen sections; the presence of melanocytes often cannot be interpreted by frozen section (Lee and Swanson, 2003; Langley, et al., 2003). Moreover, melanocytic variability in tissue margins has been described in the literature (Barlow et al., 2007), and it has been reported that histologic changes seen at the periphery of melanoma in situ and the baseline features of sun-damaged skin often blend, making it difficult to distinguish one from another. Adequate excision is the essential element in the removal of a primary lesion to ensure an accurate diagnosis and that treatment is sufficient. Nonetheless, there is some data to support the efficacy of MMS in the treatment of cutaneous melanoma (AAD, 1995), particularly to conserve tissue for cutaneous melanomas that are present on the head and neck (Bricca, et al., 2005) in addition to the hands and feet (Zitelli, et al., 1997).

MMS is indicated for treatment of tumors that have a high risk of recurrence including, but not limited to, those that have ill-defined borders, have a history of incomplete removal, previous irradiation therapy, have a history of recurrence, are of large size (> 1 cm on the face, > 2 cm on the trunk) or are located in areas such as the periorbital and canthal regions, nasofacial regions, the postauricular sulcus and central third of the face. The MMS procedure is frequently used to treat tumors that occur where there is a need for important tissue preservation, such as the nasal tip, lips, eyelids, hands, feet, and genitalia. Some tissue types are associated with high risk of metastasis, including those arising from Bowen's disease, discoid lupus erythematosus, and lichen sclerosus. MMS may also be used to treat less common malignancies including, but not limited to, acanthomas, microcystic adnexal carcinoma, and dermatofibrosarcoma protuberans. Tumors that are known to exhibit rapid growth and aggressive behavior should be routinely considered for MMS. Certain genodermatoses (skin condition of genetic origin) can also be successfully treated with MMS, including xeroderma pigmentosum. Tumors that display aggressive behavior may include: morpheaform, keratinizing, metatypical, infiltrating, contiguous tumors (e.g., basal cell carcinoma [BCC] and squamous cell carcinoma [SCC]), multicentric, deep tissue or bone involvement, and perineural or perivascular involvement. In addition, immunosuppressed patients tend to develop more aggressive tumors with higher recurrence rates. Overall, several high-risk tumors may be successfully treated with MMS.

According to the AAD Guidelines of Care for Mohs' Micrographic Surgery (AAD, 1995), "MMS for the removal of complex or ill-defined skin cancer requires a single physician to act in two separate but integrated roles: surgeon and pathologist. Furthermore, if either of these responsibilities is delegated to another physician who reports his or her service separately, this is a variation from the traditional definition of MMS." Separation of duties may result in loss of precision and anatomic orientation, often corresponding with lower cure rates and greater

amounts of normal tissue loss (Cummings, 1998). The accuracy of clinical pathology is difficult to duplicate when there is a separate pathologist and surgeon.

Mohs' micrographic surgery is the current official name for this surgery, although historically it was designated as chemosurgery. It is also referred to as fixed tissue technique, fresh tissue technique, microscopically-controlled surgery, Mohs' histographic surgery, Mohs' technique, Mohs' surgery, and marginal controlled excision. There are currently two methods of performing MMS: fresh tissue technique and fixed tissue technique.

### **Fresh Tissue Technique**

After induction of local anesthesia, the visible tumor is removed. Thin layers of tissue are excised in an elliptical-shaped manner surrounding the tumor, and histological examination is performed. If residual cancer is seen, additional surgery is carried out for further removal. The procedure is continued until all cancer is removed, preserving normal surrounding tissue. In most instances, repair or reconstruction of the wound is necessary for healing.

### **Fixed Tissue Technique**

Fixed tissue technique is used in less than 5% of cases. The major difference between this technique and fresh tissue technique is the application of 40% zinc chloride paste after tumor debulking with a curette. This eliminates the need for local anesthetic and creates a blood-free surgical field. The area is then covered with an occlusive dressing, and the paste is allowed to penetrate the wound for 6–24 hours. After fixation, the same procedure is followed as for fresh tissue technique. After the tissue is examined histologically, additional fixative is applied for another 6–24 hours to the areas with residual tumor. The residual tumor is removed in successive layers until a tumor-free plane is achieved. The final layer of fixed tissue is allowed to separate naturally, with healing by way of granulation and epithelialization or delayed reconstruction (Drake, et al., 1995; Shriner, et al., 1998).

### **Literature Review**

**Basal Cell Carcinoma/Squamous Cell Carcinoma:** The effectiveness of MMS in the treatment of certain types of skin cancer has been demonstrated through published clinical studies, and is supported in reviews and medical textbooks. The overall five-year disease-free recurrence rates for primary BCCs treated with MMS approach 99%, and rates for recurrent BCC are 96%. Other treatment modalities fare less well by comparison: surgical excision, 89.9% and 82.6%, respectively; curettage and electrodesiccation, 92.3% and 60.0%; and radiotherapy, 91.3% and 90.2% (Shriner, et al., 1998). The disease-free recurrence rates for primary SCCs treated with MMS range from 94–99% versus less than 90% for all other modalities. Treatment of locally recurrent SCCs with MMS provides disease-free recurrence rates of 90% versus 76% for non-MMS therapies (Pagett, Hendrix, 2001). MMS surgery has a higher disease-free recurrence rate when compared to surgical excision, electrodesiccation and radiotherapy. In comparison to surgical excision, the results of a randomized trial indicate MMS resulted in a smaller mean defect diameter and for higher-risk BCCs was a tissue sparing treatment (Muller, et al 2008).

**Melanoma:** Evidence in the literature regarding the use of Mohs' surgery in the management of primary melanoma is controversial and primarily in the form of published reviews and case series, but some evidence has shown that Mohs' surgery is considered a viable treatment option. The indications have been expanded to include histologic margin evaluation for treatment of melanoma in some cases. Surgical excision is the treatment of choice for localized malignant melanoma. Advantages of Mohs' surgery are that 100% of the surgical margin can be examined and the maximal amount of surgical tissue is conserved, making the procedure an effective treatment modality, particularly where it is necessary to preserve tissue.

In a prospective study, Zitelli and associates (1997) analyzed patients with primary cutaneous melanoma who were treated with MMS, fresh-tissue technique (n=535 patients with 553 primary melanomas). Evaluation at five years indicated complete follow-up for 99.5% of the patients. The five-year Kaplan-Meier melanoma mortality, metastasis and local recurrence rates were compared to historical control cases. The metastasis rates and five-year survival rates were equivalent to or better than previously documented controls treated by standard wide-margin surgery.

Bricca and colleagues (2005) conducted a prospective case series consisting of 625 patients with primary cutaneous melanoma or melanoma in situ of the head and neck treated with MMS technique. Follow-up was

conducted biannually for the majority of cases with invasive melanoma, and annually for patients with melanoma in situ. The mean follow-up for the group was 58 months. The results of their study suggest that MMS achieved five-year local recurrence rates, metastasis rates, and disease-specific survival rates comparable to or better than historical controls after Breslow thickness stratification. The size of the surgical margin required for complete excision was significantly related to tumor thickness but not tumor size or specific location.

Dawn et al. (2006) conducted a systematic review evaluating the use of Mohs' surgery and various other treatments for melanoma in situ (MIS) and reported that Mohs' surgery remains the treatment of choice for all clinically ill-defined MIS, particularly in sun-exposed areas, whether classified as MIS or lentigo maligna.

McKenna and colleagues (2006) conducted a review evaluating the clinical features, histopathology and various treatments for lentigo maligna, a subtype of melanoma in situ that develops on sun-damaged skin. In the authors opinion standard excision using 5 mm margins is insufficient in many cases, and recurrence rates with standard excision ranges from 8 to 20%. Mohs' surgery and staged excision may offer improved margin control and lower recurrence rates.

Although the results are limited to a single practice and cannot be generalized, Walling et al. (2007) reported the results of a comparative study consisting of a retrospective chart review comparing recurrence rates for lentigo maligna and lentigo maligna melanoma for two different surgical techniques. The surgical treatments took place over a period of 16 years and consisted of MMS (n=18) and staged excision (n=41). Three recurrences occurred in the staged excision group (7.3%) and six recurrences occurred in the MMS group (33%) with mean follow-up time of 95 months and 117.5 months respectively (P<0.025).

Bene et al. (2008) published the results of a prospective study evaluating if margins determined to be clear by Mohs' surgery were clear by subsequent paraffin-embedded sections (gold standard for determining margins) and to compare cure rate with available data for Mohs' standard excision. A total of 167 patients with MIS participated in the study and were treated by Mohs' with subsequent evaluation over a period of 12 years. Overall, the authors reported of 167 cases of MIS, eight cases had a positive margin on paraffin-embedded sections after margins on Mohs' frozen sections were called "clear", resulting in a 95.1% clearance rate. After one re-excision all eight tumors had clear margins on paraffin-embedded sections. Cure rates reported for mean follow-up of 50 months and of 63 months were 98.6% and 98.2% respectively.

The American Melanoma Foundation (2006) and the American Cancer Society (2007) do provide information indicating Mohs' surgery may be considered as a treatment option for melanoma.

### **Surgical Reconstruction**

The surgical defect created by MMS may be larger than anticipated, and repair or reconstruction may be performed at the time of the initial surgery although for some cases it may be delayed. Several options available for repairs include secondary intention, primary or partial closure, and repair with a flap or skin graft. Most wounds do not require repair and heal spontaneously. Consideration should be given to the possibility of obscuring cancer recurrence beneath the tissue repair, hence delayed definitive repairs should be considered for tumors that are high risk for recurrence. Typically, reconstruction is performed to preserve functional capabilities and to improve physical appearance. Some cases may require advanced reconstructive techniques for complex defects. Boyle et al. (2008) investigated clinical predictors of advanced reconstruction following Mohs' surgery and found patients age, skin tumor location and past history of extensive reconstruction of skin tumor to be independent predictors of the need for reconstruction. Patients who require advanced reconstruction after MMS were generally younger, were more likely to have a past reconstruction, and had a tumor involving periocular or nasal tissues.

### **Professional Societies/Organizations**

The American Academy of Dermatology (AAD) published Guidelines of Care for Mohs' Micrographic Surgery in 1995. According to the AAD guidelines, "The goal of MMS is complete tumor removal with maximal preservation of normal tissue. Basal cell carcinomas and squamous cell carcinomas are the two most common neoplasms for which MMS is utilized. There are multiple well-accepted surgical and nonsurgical approaches for the treatment of cutaneous neoplasms and skin cancers. Certain tumors, by virtue of their characteristics, may require a more precise level of treatment. MMS offers high cure rates for malignant skin tumors with maximum preservation of surrounding normal tissue. Several considerations pertaining to the feasibility and relevance of MMS include

evaluation of each of the lesions being treated, the history associated with the lesion(s), general medical history, risk factors, and other individual patient considerations. MMS is not indicated in the treatment of all skin tumors.”

The American College of Mohs’ Micrographic Surgery and Cutaneous Oncology (ACMMSCO) has established requirements for the training of physicians in MMS. According to ACMMSCO, “The cure rate for MMS is the highest of all treatments for skin cancer—up to 99%, even if other forms of treatment have failed. This procedure, the most exact and precise method of tumor removal minimizes the chance of regrowth and lessens the potential for scarring or disfigurement.”

**Summary**

Mohs’ micrographic surgery (MMS) is primarily used for the treatment of basal cell carcinoma and squamous cell carcinoma; however, in some cases, it may also be considered as a treatment option for melanoma (i.e., primary cutaneous melanoma). MMS has been proven to be highly effective for the treatment of certain types of skin cancer, minimizes tumor recurrence rates, preserves function, reduces the size of surgical defects, and lessens the risk for potential scarring or disfigurement. The intended goal of Mohs’ micrographic surgery is to remove the neoplasm while providing maximum preservation to the surrounding tissue.

**Coding/Billing Information**

**Note:** This list of codes may not be all-inclusive.

**Covered when medically necessary:**

17311	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), head, neck, hands, feet, genitalia, or any location with surgery directly involving muscle, cartilage, bone, tendon, major nerves, or vessels; first stage, up to 5 tissue blocks
17312	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), head, neck, hands, feet, genitalia, or any location with surgery directly involving muscle, cartilage, bone, tendon, major nerves, or vessels; each additional stage after the first stage, up to 5 tissue blocks (List separately in addition to code for primary procedure)
17313	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), of the trunk, arms, or legs; first stage, up to 5 tissue blocks
17314	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), of the trunk, arms, or legs; each additional stage after the first stage, up to 5 tissue blocks (List separately in addition to code for primary procedure)
17315	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), each additional block after the first 5 tissue blocks, any stage (List separately in addition to code for primary procedure)
	Multiple/Varied reconstructive surgery codes

ICD-9-CM Diagnosis Codes	Description
172.0	Malignant melanoma of skin of lip
172.1	Malignant melanoma of skin of eyelid, including canthus
172.2	Malignant melanoma of skin of ear and external auditory canal
172.3	Malignant melanoma of skin of other and unspecified parts of face
172.4	Malignant melanoma of skin of scalp and neck
172.5	Malignant melanoma of skin of trunk, except scrotum
172.6	Malignant melanoma of skin of upper limb, including shoulder
172.7	Malignant melanoma of skin of lower limb, including hip
172.8	Malignant melanoma of other specified sites of skin
172.9	Melanoma of skin, site unspecified
173.0	Other malignant neoplasm of skin of lip
173.1	Other malignant neoplasm of skin of eyelid, including canthus
173.2	Other malignant neoplasm of skin of ear and external auditory canal
173.3	Other malignant neoplasm of skin of other and unspecified parts of face
173.4	Other malignant neoplasm of scalp and skin of neck
173.5	Other malignant neoplasm of skin of trunk, except scrotum
173.6	Other malignant neoplasm of skin of upper limb, including shoulder
173.7	Other malignant neoplasm of skin of lower limb, including hip
173.8	Other malignant neoplasm of other specified sites of skin
173.9	Other malignant neoplasm of skin, site unspecified
216.0	Benign neoplasm of skin of lip
216.1	Benign neoplasm of eyelid, including canthus
216.2	Benign neoplasm of ear and external auditory canal
216.3	Benign neoplasm of skin of other and unspecified parts of face
216.4	Benign neoplasm of scalp and skin of neck
216.5	Benign neoplasm of skin of trunk, except scrotum
216.6	Benign neoplasm of skin of upper limb, including shoulder
216.7	Benign neoplasm of skin of lower limb, including hip
216.8	Benign neoplasm of other specified sites of skin
216.9	Benign neoplasm of skin, site unspecified
232.0	Carcinoma in situ of skin of lip
232.1	Carcinoma in situ of eyelid, including canthus
232.2	Carcinoma in situ of skin of ear and external auditory canal
232.3	Carcinoma in situ of skin of other and unspecified parts of face
232.4	Carcinoma in situ of scalp and skin of neck
232.5	Carcinoma in situ of skin of trunk, except scrotum
232.6	Carcinoma in situ of skin of upper limb, including shoulder
232.7	Carcinoma in situ of skin of lower limb, including hip
232.8	Carcinoma in situ of other specified sites of skin
232.9	Carcinoma in situ of skin, site unspecified
757.33	Congenital pigmentary anomalies of skin

\*Current Procedural Terminology (CPT®) © 2010 American Medical Association: Chicago, IL.

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## Policy History

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<u>Pre-Merger Organizations</u>	<u>Last Review Date</u>	<u>Policy Number</u>	<u>Title</u>
CIGNA HealthCare	6/15/2008	0116	Mohs' Micrographic Surgery

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