

DESCRIPTION:

Squamous cell carcinoma is the second most common type of skin cancer with an estimated 700,000 new cases in the United States each year. It is estimated to cause a similar number of deaths as melanoma each year in the middle and southern United States.

The importance of including the risk factors of cutaneous squamous cell carcinoma in the pathology report is that the information allows the patient to receive appropriate treatment. The NCCN Guidelines recommend Mohs surgery or excision with intraoperative frozen section assessment for high-risk SCC because it allows for examination of the entire surgical margin. Post-operative radiotherapy is recommended for any tumor with “substantial” nerve involvement (i.e. “involvement of more than just a few small sensory nerve branches or large nerve involvement”). Radiotherapy can also be used as adjuvant therapy for high-risk tumors or as primary therapy for non-operable patients.

The most recent AJCC and NCCN Guidelines identify patients with cutaneous squamous cell carcinoma with “high-risk” factors for local recurrence or metastases. The criteria included in both are differentiation (poorly), perineural invasion and depth of tumor.

NCCN includes clinical information including location/ size (mask area of face, genitalia, feet and hands- $\geq 6\text{mm}^4$; cheek, forehead, scalp, neck, pretibia- $\geq 10\text{mm}$; trunk and extremities- $\geq 20\text{mm}$), primary vs recurrent tumor, site of prior radiotherapy/ chronic inflammation, rapidly growing tumor, or neurologic symptoms. The pathologic criteria include degree of differentiation (poorly), histologic subtype: adenoid/acantholytic/, adenosquamous, or desmoplastic; depth: thickness $\geq 2\text{mm}$ or Clark’s levels IV or V; perineural or vascular involvement.

The AJCC identifies high-risk criteria as depth/invasion $>2\text{mm}$ thickness, perineural invasion, Clark’s level $\geq \text{IV}$, anatomic location: ear or non-hair bearing lip; and differentiation (poorly or undifferentiated).

The British Association of Dermatology guidelines suggest “the histology report should include the following: histopathological subtype (for example, “acantholytic”, “desmoplastic”, “spindle”, or “verrucous spindle cell squamous cell carcinoma [SCC]”), degree of differentiation (well, moderately, poorly or un-differentiated; histological grades as described by Broders: see Appendix 2 of the original guideline document), tumour depth (thickness in mm - excluding layers of surface keratin), the level of dermal invasion (as Clark’s levels), and the presence or absence of perineural, vascular or lymphatic invasion. The margins of the excised tissue can be stained prior to tissue preparation to allow their identification histologically and comment should be made on the peripheral and deep margins of excision.”

The AJCC Guidelines do not include specific algorithms for treatment. Only “more aggressive treatment” options for higher stage tumors.

An additional benefit of including the high risk factors in the reports is to better quantify high-risk tumors with better tracking of tumors with high-risk criteria.

Histologic Differentiation

Brinkman et al. found that histologic differentiation grade of cutaneous squamous cell carcinoma is an independent prognostic factor for overall survival and metastasis. Patients with poorly differentiated cutaneous squamous cell carcinoma had an increased relative risk of developing metastatic disease of 17.0. Within 5 years, 26% of those patients developed metastatic disease, compared to 2% of the patients with well-differentiated tumors. Additionally, 2% of the patients with well-differentiated tumors died from their disease while 14% and 53% of moderately and poorly-differentiated tumors died from SCC, respectively.

Perineural Invasion

According to one study, disease-specific death was 0% in subjects with perineural invasion involving nerves less than 0.1 mm in diameter versus 32% in patients with perineural invasion involving nerves ≥ 0.1 mm. Additionally, worse survival was associated with poorly differentiated tumors and/or tumor diameter of 2 cm or greater or depth of 1 cm or greater. Another study found perineural invasion involving nerves ≥ 0.1 mm is associated with an “elevated risk of nodal metastasis and death, but this is due in part to multiple other risk factors associated with large-caliber nerve invasion.”

Depth of Invasion

Khanna et al. found only 63% of dermatopathologists report depth of invasion for squamous cell carcinomas. Westers-Attema et al. found that for 3 mm punch biopsies, depth of invasion ≥ 4 mm is missed in 83.3% of cases compared with subsequent excisional specimens. A potential reason for these findings is that biopsies often transect the base of the tumors, rendering measurement of depth less reliable. When reporting depth of invasion of SCC, the protocol should follow that of measuring a melanoma depth.

INSTRUCTIONS:

This measure is to be reported by any clinician who performs the histologic interpretation of a cutaneous tissue specimen and the diagnosis is SCC. The definitions of differentiation are those described by the AJCC. Depth is only required to be reported when the tissue is sectioned in vertical sections, as commonly done in biopsies and standard excisions. Examples where depth cannot be measured include Mohs surgical sections or other forms of intraoperative frozen specimens to evaluate deep or peripheral clearance of the tumor. Depth will be measured in the same fashion in which melanoma depth is measured.

Measure Reporting via Registry

ICD-10-CM diagnosis codes, CPT codes or HCPCS codes and patient demographics are used to identify patients who are included in the measure’s denominator. The listed numerator options are used to report the numerator of the measure.

The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

DENOMINATOR:

All skin specimens diagnosed histologically as primary invasive cutaneous squamous cell carcinoma within the reporting period.

Diagnosis Codes for Identifying Patients with Squamous Cell Carcinoma of the skin:

ICD-10 Codes	Code Description
C44.02	Squamous cell carcinoma of skin of lip
C44.121	Squamous cell carcinoma of skin of unspecified eyelid, including canthus
C44.1221	Squamous cell carcinoma of skin of right upper eyelid, including canthus
C44.1222	Squamous cell carcinoma of skin of right lower eyelid, including canthus
C44.1291	Squamous cell carcinoma of skin of left upper eyelid, including canthus
C44.1292	Squamous cell carcinoma of skin of left lower eyelid, including canthus
C44.221	Squamous cell carcinoma of skin of unspecified ear and external auricular canal
C44.222	Squamous cell carcinoma of skin of right ear and external auricular canal
C44.229	Squamous cell carcinoma of skin of left ear and external auricular canal
C44.320	Squamous cell carcinoma of skin of unspecified parts of face
C44.321	Squamous cell carcinoma of skin of nose
C44.329	Squamous cell carcinoma of skin of other parts of face
C44.42	Squamous cell carcinoma of skin of scalp and neck
C44.520	Squamous cell carcinoma of anal skin
C44.521	Squamous cell carcinoma of skin of breast
C44.529	Squamous cell carcinoma of skin of other part of trunk
C44.621	Squamous cell carcinoma of skin of unspecified upper limb, including shoulder

C44.622	Squamous cell carcinoma of skin of right upper limb, including shoulder
C44.629	Squamous cell carcinoma of skin of left upper limb, including shoulder
C44.721	Squamous cell carcinoma of skin of unspecified lower limb, including hip
C44.722	Squamous cell carcinoma of skin of right lower limb, including hip
C44.729	Squamous cell carcinoma of skin of left lower limb, including hip
C44.82	Squamous cell carcinoma of overlapping sites of skin
C44.92	Squamous cell carcinoma of skin, unspecified

NUMERATOR:

Number of skin specimens with a diagnosis of SCC for which the pathology report listed the differentiation (well, moderately, poorly or undifferentiated) of the tumor, perineural invasion involving nerves ≥ 0.1 mm, and depth of invasion.

Numerator Instructions:

Satisfactory tumor differentiation (a “well differentiated tumor”) will be achieved by including a statement that lists the Squamous Cell Carcinoma Keratoacanthoma type.

Exclusions:

All cases where the SCC features cannot be accurately determined. For all exclusions, an explanation should be provided in the biopsy report (e.g., superficial tissue sampling or fragmentation of the skin specimen).

Potential Benchmarks:

90% of reports include histologic grade, perineural invasion and depth of invasion when no exclusions apply

RATIONALE:

Squamous cell carcinoma (SCC) is the second most common type of skin cancer with an estimated 700,000 new cases in the United States each year. This measure encourages including the risk factors of cutaneous SSC in the pathology report. This information allows the patient to receive appropriate treatment. An additional benefit of including the high-risk factors in the reports is to better quantify high risk tumors with better tracking of tumors with high risk criteria.

CLINICAL RECOMMENDATION STATEMENTS:

This measure will assess the number of skin specimens with a diagnosis of SCC for which the pathology report lists the AJCC reporting criteria. This is to improve patient care through identifying the best course of treatment.

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