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**Oncology and surgery**  
**Dra. Leyre Aguado Gil**

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# STAGING SYSTEMS FOR SQUAMOUS CELL CARCINOMA

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## Original Investigation

April 2018

### Validating 4 Staging Systems for Cutaneous Squamous Cell Carcinoma Using Population-Based Data A Nested Case-Control Study

Ingrid Roscher, MD<sup>1</sup>; Ragnhild S. Falk, MSc, PhD<sup>2</sup>; Linda Vos, MSc<sup>3</sup>; [et al](#)

[□ Author Affiliations](#) | [Article Information](#)

*JAMA Dermatol.* 2018;154(4):428-434. doi:10.1001/jamadermatol.2017.6428

December 2018

### Notice of Retraction and Replacement: Roscher et al. Validating 4 Staging Systems for Cutaneous Squamous Cell Carcinoma Using Population-Based Data: A Nested Case-Control Study. *JAMA Dermatol.* 2018;154(4):428-434.

Ingrid Roscher, MD<sup>1</sup>; Ragnhild S. Falk, MSc, PhD<sup>2</sup>; Linda Vos, MSc<sup>3</sup>; [et al](#)

# STAGING SYSTEMS FOR SQUAMOUS CELL CARCINOMA

Figure 1. Overview of 4 Staging Systems for Cutaneous Squamous Cell Carcinoma

AJCC7 <sup>6a</sup>		AJCC8 <sup>7</sup>		BWH <sup>9b</sup>		Breuninger et al <sup>8</sup>	
T Stage	Risk Factors	T Stage	Risk Factors (Head and Neck Only)	T Stage	Risk Factors	Stage	Risk Factors
T1	Tumor diameter ≤2 cm with <2 high-risk factors	T1	Tumor diameter <2 cm	T1	No high-risk factors	Clinical tumor stage (cT)	Low risk: Tumor diameter ≤2 cm High risk: Tumor diameter >2 cm
T2	Tumor diameter >2 cm or tumor of any size with ≥2 high-risk factors	T2	Tumor diameter ≥2 cm and <4 cm in greatest dimension	T2a T2b	1 High-risk factor 2-3 High risk factors	Pathological tumor stage (pT)	No risk: Tumor thickness ≤2mm Low risk: Tumor thickness >2 mm and ≤6 mm High risk: Tumor thickness >6 mm
T3	Tumor with invasion of maxilla, mandibula, orbit, or temporal bone	T3	Tumor diameter ≥4 cm, or minor bone erosion, or perineural invasion, or deep invasion	T3	≥4 High-risk factors	Co-risk factors	Immunosuppression Desmoplastic type or poor differentiation Localization ear
T4	Tumor with invasion of skeleton, axial or appendicular, or perineural invasion of skull base	T4	Tumor with gross cortical bone/marrow invasion	T4	Not applicable		

AJCC indicates American Joint Committee on Cancer Staging Manual; BWH, Brigham and Women's Hospital.

<sup>a</sup> High-risk factors: tumor thickness >2 mm, Clark level IV/V, poor or undifferentiated, perineural invasion, localization at ear or lip.

<sup>b</sup> High-risk factors: Tumor diameter ≥2 cm, invasion beyond subcutaneous fat, poorly differentiated, and perineural invasion.

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Table 3. External Validation of 4 Staging Systems for Cutaneous Squamous Cell Carcinoma Presented as Discrimination and Calibration Statistics

Staging System	No.	Sensitivity, %	Specificity, %	Correctly Classified %	C Index	R <sup>2</sup>
AJCC, Seventh Edition <sup>6</sup>	178	85.6	33.3	61.8	0.59	0.04
Breuninger et al <sup>8</sup>	168	77.3	75.0	76.2	0.81	0.23
BWH <sup>9</sup>	184	68.9	76.5	72.3	0.75	0.18
AJCC, Eighth Edition <sup>7a</sup>	135	67.1	69.6	68.2	0.70	0.12

Abbreviations: AJCC, American Joint Committee on Cancer Staging Manual; BWH, Brigham and Women's Hospital.

<sup>b</sup> Sensitivity, specificity, correctly classified, concordance index (C index), and Nagelkerke R<sup>2</sup>.<sup>14</sup>

<sup>a</sup> Head and neck tumors only.

- The BWH system had the highest specificity and the second highest proportion of correctly classified tumors and C-index.
- The Breuninger system had the best results ,with high sensitivity (77.3%), specificity (75.0%), correctly classified tumors (76.2%), and C-index(0.81).

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BWH performs better than AJCC 8

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- None of them are optimal and there is a need of better staging system.
  - Based on C-statistics models wrong 20% of the time

[JAMA Dermatol.](#) 2018 Dec 1;154(12):1391-1392. doi: 10.1001/jamadermatol.2018.3940.

## **Staging Systems to Predict Metastatic Cutaneous Squamous Cell Carcinoma: Unsatisfactory for Clinical Use, but Some Less So?**

[Abraham I](#)<sup>1,2,3,4</sup>, [Curiel-Lewandrowski C](#)<sup>2,5</sup>.

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## Moving forward

- Adding molecular prognostics into the model
  - SCC does not have 1 mutation like other cancers
- Work underway analyzing mRNA expression of a 67 gene set for inclusion in prognostic models



# ANTI PD-1 IMMUNOTHERAPY IN ADVANCED CUTANEOUS SQUAMOUS CELL CARCINOMA

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The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## PD-1 Blockade with Cemiplimab in Advanced Cutaneous Squamous-Cell Carcinoma

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- 85 metastatic CSCC patients treated with cemiplimab
- 80% had prior radiation, and 55% prior systemic treatment
- 41 responded: ORR= 48%
  
- Responses are durable: 85% still responding at median 8 months follow-up
- 7% discontinued due to adverse events

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- 30% of SCC patients needing antiPD-1 are immunocompromised
  - PD1 likely without problems in hematologic disease
  - Balance risk/benefits in other immune-mediated diseases
    - Psoriasis
    - Crohn's disease
    - Rheumatoid arthritis
  - Organ transplants?

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- Organ transplants?

40-50% risk of losing transplanted organ with PD-1 treatment

[Curr Opin Oncol](#). 2019 Mar;31(2):54-64. doi: 10.1097/CCO.0000000000000505.

**Immune checkpoint blockade for organ transplant patients with advanced cancer: how far can we go?**

[De Bruyn P](#)<sup>1</sup>, [Van Gestel D](#)<sup>1</sup>, [Ost P](#)<sup>2</sup>, [Kruse V](#)<sup>3</sup>, [Brochez L](#)<sup>4</sup>, [Van Vlierberghe H](#)<sup>5</sup>, [Devresse A](#)<sup>6</sup>, [Del Marmol V](#)<sup>4</sup>, [Le Moine A](#)<sup>7</sup>, [Aspeslagh S](#)<sup>4,8,9,10</sup>.