

Surgical Margin Distance and Oncological Outcomes in Oral Cavity Squamous Cell Carcinoma: Comparing Close and Clear Resection Margins

A retrospective cohort study

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BACKGROUND

- The Royal College of Pathologists’ 5-mm “clear” threshold rests on consensus, not prospective outcome data.
- A close margin often prompts adjuvant radiotherapy; most margin studies are confounded by adjuvant therapy and node-positive disease.

Objective: to compare oncological outcomes of close (2 to <5 mm) and clear (≥5 mm) margins in early-stage, node-negative OCSCC treated by surgery alone.

METHODS

- **Design:** retrospective cohort, SKMCH&RC; surgery 2014–2022, follow-up to May 2026.
- **Inclusion:** age ≥18 y; SCC of tongue, buccal mucosa or lip; pT1–T2 pN0 (AJCC 8th); surgery alone.
- **Exclusion:** margins ≤1 mm, pN+, pT3–T4, M1, recurrent disease, incomplete records.
- **End points:** DFS and OS (primary); DSS and local recurrence (secondary).
- **Analysis:** Kaplan–Meier, log-rank, multivariable Cox; SPSS v23.

PATIENT SELECTION



Excluded: 692 non-target subsites; 600 for adjuvant/neoadjuvant CRT, positive margin, pN1+ or pT3–T4, or loss to follow-up.

Close margin
2 to <5 mm · n = 63

Clear margin
≥5 mm · n = 39

RESULTS

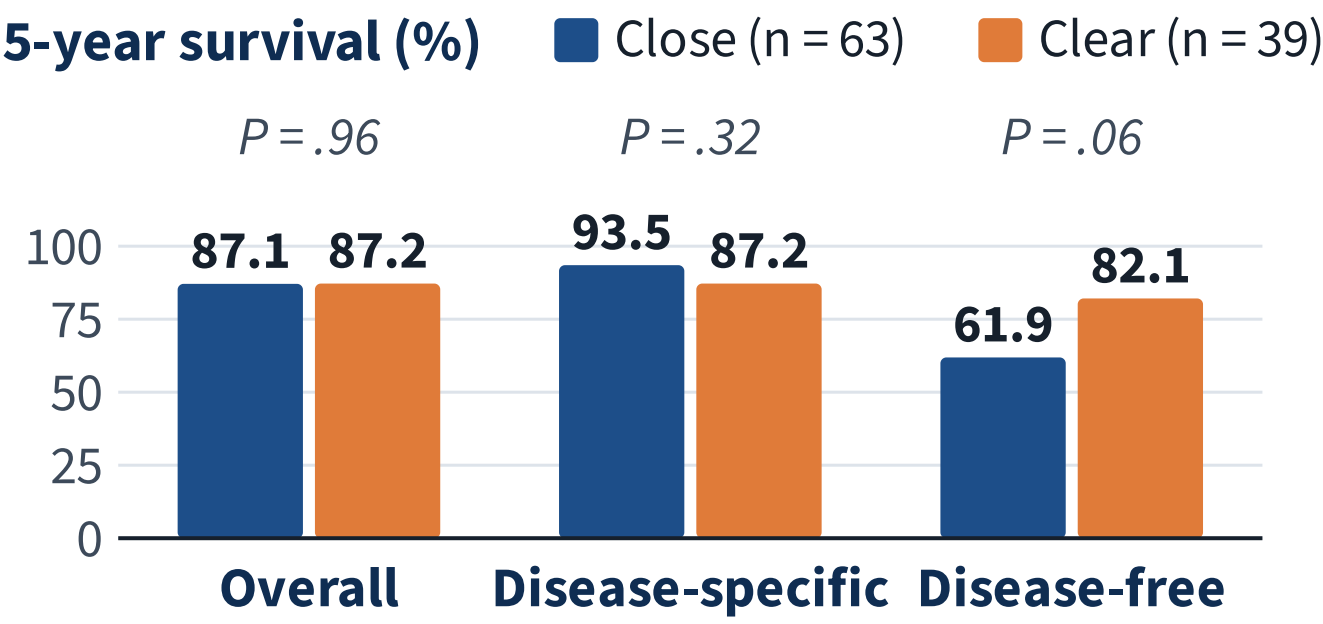
102
patients

55.4
mean age, y

77.5%
tongue

83.3%
pT1

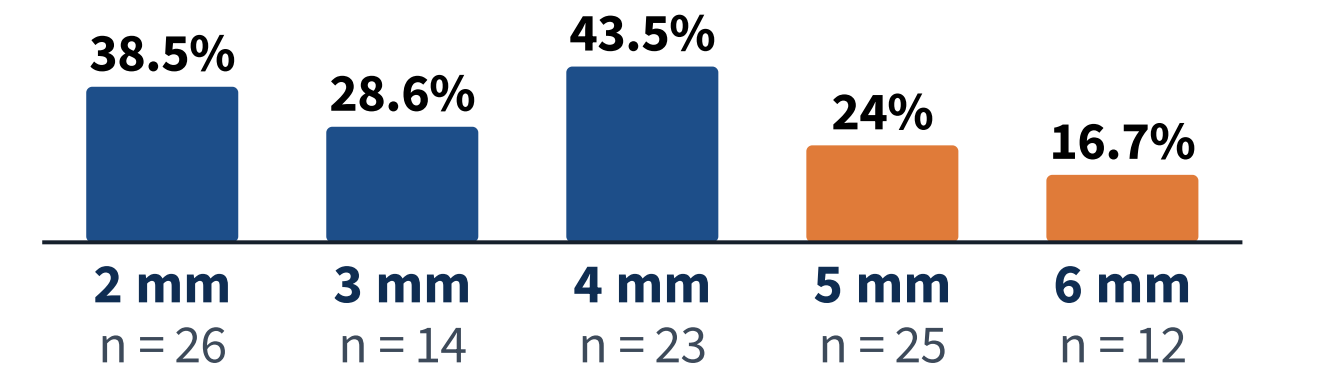
Groups comparable except subsite (buccal mucosa 23.8% vs 2.6%, P = .02).



Oncological events

Outcome	Close	Clear	P
Local recurrence	20/63 (31.7%)	7/38 (18.4%)	.17
All-cause death	8/63 (12.7%)	5/39 (12.8%)	>.99
Cancer death	4/63 (6.3%)	5/39 (12.8%)	.30

DFS event rate by exact margin distance



No gradient across 2–9 mm (all end points χ^2 P ≥ .55).

Multivariable Cox — close vs clear margin
DFS: adjusted HR 2.16 (95% CI 0.93–5.03), P = .07
OS: adjusted HR 1.19 (95% CI 0.38–3.72), P = .77

CONCLUSION

In pT1–T2 N0 OCSCC treated by surgery alone, close margins (2 to <5 mm) gave overall and disease-specific survival comparable to clear margins, and margin status was not an independent predictor of outcome. Disease-free survival was numerically lower with close margins (61.9% vs 82.1%; P = .06), so equivalence cannot be concluded; larger prospective studies are needed before de-escalation.

Limitations: retrospective, single centre; few events (32 DFS, 13 deaths).