

中山醫學大學附設醫院 放射腫瘤科

Radiotherapy Guideline for Oral Cavity Cancer

修訂日期

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本版與上一版的差異：

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檢閱後無異動	

RT indication

- Definitive RT/CCRT
 - Clinically inoperable status, including poor performance status(ECOG >2)/poor surgical candidate, or locally advanced inoperable stage, such as T4
- Adjuvant RT/CCRT
 - Radiotherapy alone: pT1-2 and one minor risk factor, such as perineural invasion, lymphovascular invasion, one positive lymph nodes, and close surgical margin(< 5mm)
 - CCRT : \geq T3, multiple positive lymph nodes, one major risk: ECS or positive surgical margin, two minor risk factors mentioned above

Simulation and immobilization

- CT-based simulation (preferring 1.5-3 mm slice thickness with contrast) is required.
- Patients may be simulated with a supine position
- Immobilization devices
 - Thermoplastic mask with headrest

Field design and treatment volume

- **3D-CRT/IMRT/ VMAT/ Tomotherapy/ Radixact treatment planning**
 - Gross tumor volume (GTV, PTV-H): primary gross tumor and enlarged lymph nodes; or CTV-TB: primary and nodal tumor bed
 - Clinical target volume one (CTV-1, PTV-M): depend on the tumor location; suspected subclinical spread area and involved nodal stations
 - Clinical target volume two (CTV-2, PTV-L): regional uninvolved neck lymph nodal stations at risk

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Dose prescriptions

- GTV (PTV-H): 66 to 76 Gy in 2.0 to 2.2 Gy per fraction
- CTV-TB: 60-70 Gy in 2.0 to 2.2 Gy per fraction
- CTV-1 (PTV-M): 50 to 60 Gy in 1.8 to 2.0 Gy per fraction
- CTV-2 (PTV-L): 45 to 50 Gy in 1.8 to 2.0 Gy per fraction

Constraints for organ at risk

- Spinal cord: $D_{max} < 50$ Gy
- Chiasm/optic nerves: $D_{max} < 50$ Gy
- Brainstem: $D_{max} < 60$ Gy
- Eyes (globe): $D_{mean} < 35$ Gy, $D_{max} < 54$ Gy
- Lens: $D_{max} < 7$ Gy
- Inner ear/cochlea: $D_{max} < 45$ Gy
- Parotid gland(s): $D_{mean} < 30$ Gy
- Larynx: $D_{mean} < 44$ Gy
- TMJ: $D_{max} < 70$ Gy

Reference

- NCCN Practice Guidelines in Oncology 2023
- Perez and Brady's : Principles and Practice of Radiation Oncology
- Eric K. Hansen, Handbook of Evidence-Based Radiation Oncology