亞東紀念醫院

頭頸癌臨床指引

(Head and Neck Cancer Clinical Practice Guideline)

優良
照顧品質

完整
治療團隊

新穎
檢查與治療

創新
教學方式

豐富
研究成果

民眾首選的醫學中心

頭頸癌醫療照顧多專科團隊

HNC multidisciplinary team , FEMH

頭頸癌臨床指引
(cancer of the Head and Neck)

一、本共識依下列參考資料修改版本：

1. NCCN Clinical Practice Guidelines in Oncology- Head and Neck cancer V.2 2024
2. 國家衛生研究院癌症共識手冊
3. AJCC第八版
4. Bradley, PJ, MacLennan, K, Brakenhoff, RH, Leemans, CR. Status of primary tumour surgical margins in squamous head and neck cancer: prognostic implications. Curr Opin Otolaryngol Head Neck Surg 2007; 15:74.
5. Vermorken JB, Remenar E, van Herpen C, Gorlia T, Mesia R, Degardin M, Stewart JS, Jelic S, Betka J, Preiss JH, et al. Cisplatin, fluorouracil, and docetaxel in unresectable head and neck cancer. N Engl J Med. 2007 Oct 25; 357(17):1695-704

簡介

本院為新北市唯一的醫學中心，肩負頭頸癌的診治責任。頭頸癌醫療照顧由多專科團隊負責各項頭頸癌診斷及全方位的治療。在疾病照顧方面主要是由耳鼻喉頭頸外科、口腔顎面外科、腫瘤暨血液科、放射腫瘤科、放射診斷/影像醫學科各主治醫師為核心醫療團隊成員，結合整形外科、牙科、肝膽腸胃科、核子醫學科、病理科、復健科、精神科、家庭醫學科安寧療護、護理師、腫瘤個案管理師、藥師、營養師、腫瘤心理師、社工師、語言治療師、復健治療師及靈性關懷人員的專才，加上家庭醫學科協助戒菸、戒檳、癌症篩檢及三高預防，彼此合作凝聚共識，提供良好醫療服務及完善醫療照護。

為了持續提升頭頸癌的診治品質，特訂定本指引，並定期檢視更新。

頭頸癌醫療照顧多專科團隊
HNC multidisciplinary team , FEMH

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2023/12/14修訂

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醫務副院長－癌委會

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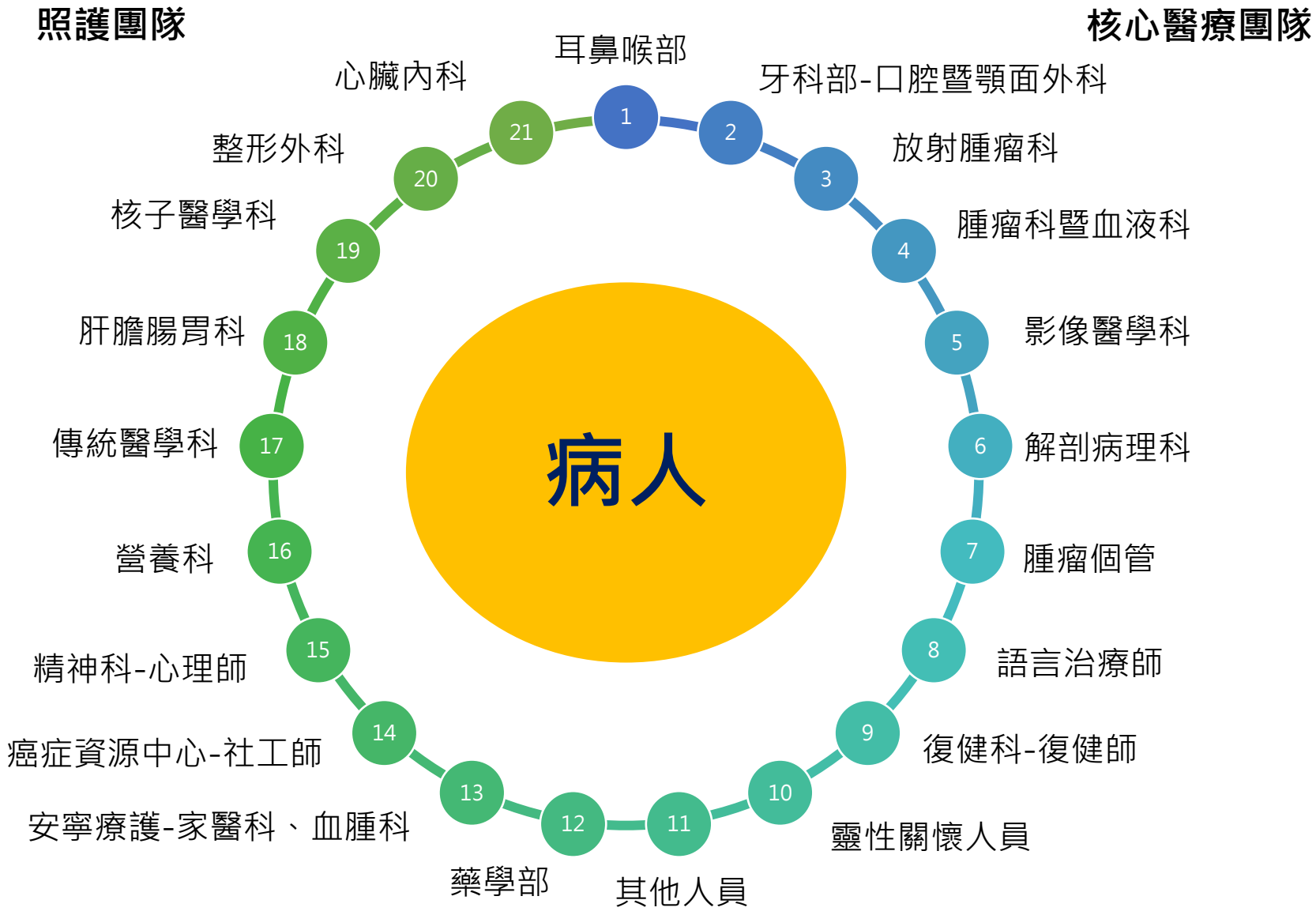
病人為中心之治療團隊


照護團隊
核心醫療團隊
病人
1 耳鼻喉部
2 牙科部-口腔暨顎面外科
3 放射腫瘤科
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10 靈性關懷人員
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14 癌症資源中心-社工師
15 精神科-心理師
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20 整形外科
21 心臟內科

頭頸癌團隊成員合照

Buccal mucosa, floor of mouth, anterior tongue, alveolar ridge, retromolar trigone, hard palate,Lip

Work-up

◆ **Indicated**

- History & Physical examination
- Biopsy
- Chest x-ray or chest CT[1]
- Head and Neck CT or MRI (optional in early cancer)

◆ **Optional**

- ➤Dental evaluation, Panoramic radiography
- ➤Abdominal / Neck Sonography
- ➤Esophagogastroduodenoscopy
- ➤Whole body bone scan
- ➤PET-CT(Advanced stage)
- ➤Nutrition, speech and swallowing evaluation/therapy
- ➤Video fluoroscopic swallowing study
- ➤Smoking cessation counseling
- ➤Multidisciplinary consultation (CardioOncology)
- ➤Preanesthesia studies
- ➤Fertility/reproductive counseling
- ➤Screening for hepatitis B

CLINICAL STAGING

T1-2, N0 → See Treatment of Primary and Neck (Ora-2)

T3N0;
T1-3,N1-3
T4a,N0-3 → See Treatment of Primary and Neck (Oral-3)

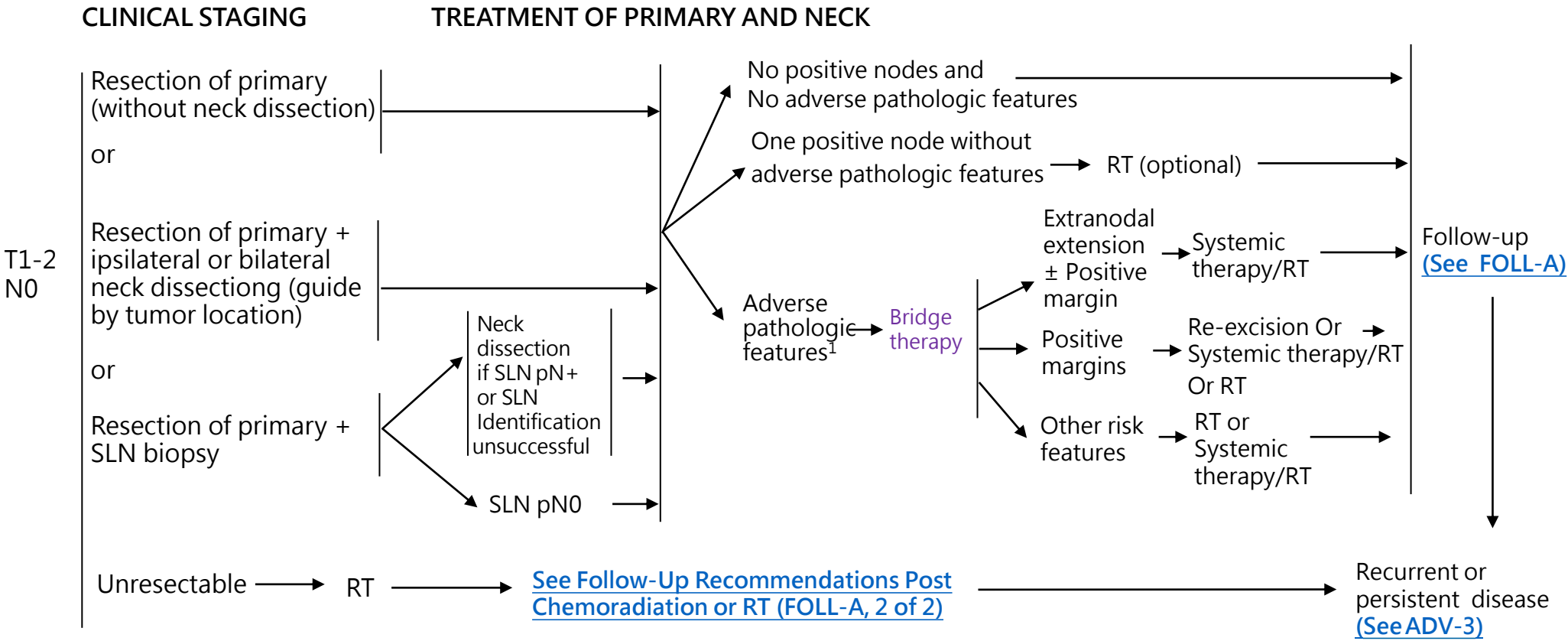
T4b, N0-3
or
unresectable nodal disease
Or
Unfit for surgery → See Treatment of Very Advanced Head and Neck Cancer (ADV-1)

Metastatic (M1) disease initial presentation → See Treatment of Very Advanced Head and Neck Cancer (ADV-2)

1. Chest CT should be considered for patients at high risk for thoracic metastases.

頭頸癌臨床指引 (cancer of the Oral cavity)

Buccal mucosa, floor of mouth, anterior tongue, alveolar ridge, retromolar trigone, hard palate,Lip



[1]Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period.
- Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引
(cancer of the Oral cavity)

Head and Neck Cancer Clinical Guidelines in Oncology,FEMH-V.1.2024

Buccal mucosa, floor of mouth, anterior tongue, alveolar ridge, retromolar trigone, hard palate,Lip

CLINICAL STAGING | **TREATMENT OF PRIMARY AND NECK** | **ADJUVANT TREATMENT** | **FOLLOW-UP**

T3N0;
T1-3,N1-3
T4a,N0-3

→ Resectable → Surgery → Resection of primary ± ipsilateral,or bilateral neck dissection

- No adverse features [1] → RT (optional) →
- Adverse features[1] → Bridge therapy
  - Extranodal extension ± positive margin → Systemic therapy/RT
  - Positive margin → Systemic therapy/RT or Re-resection and consider RT if negative margins
  - Other risk features → RT or Systemic therapy/RT

RT or Observation

→ Follow-up (See FOLL-A,1of 2)

→ Recurrent or persistent disease (See ADV-3)

Selected patients who decline or are unfit for surgery → Very Advanced Head and Neck Cancer (ADV-1)

T4b → 詳見(ADV-1) M1 → 詳見(ADV-2)

[1]·Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period.
- Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引 (cancer of the oropharynx)

Base of tongue/tonsil/posterior pharyngeal wall/soft palate

Work-up

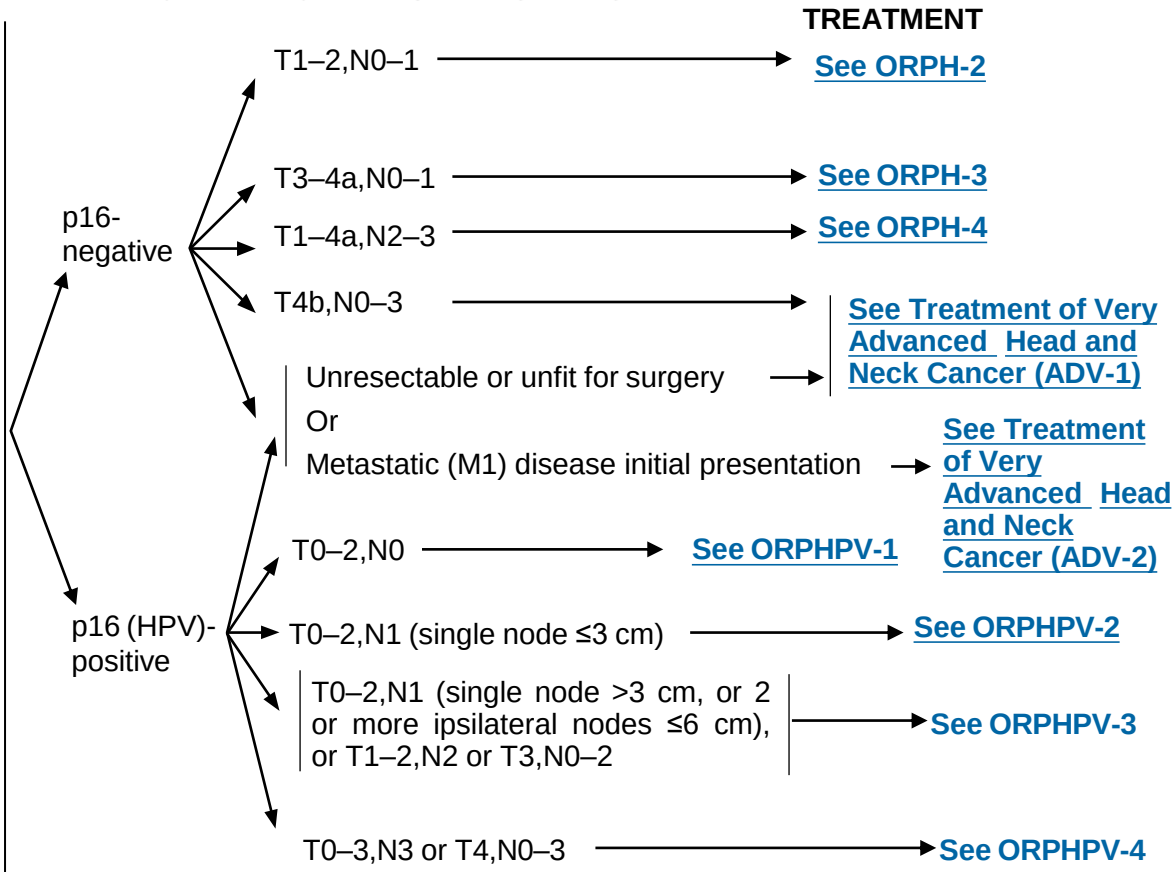
◆ **Indicated**

- History & Physical examination
- Biopsy
- Tumor human papillomavirus(HPV) testing or p16 immunohistochemistry (IHC)
- Chest x-ray or chest CT[1]
- Head and Neck CT or MRI (optional in early cancer)

◆ **Optional**

➤Dental evaluation, Panoramic radiography
➤Abdominal / Neck Sonography
➤Esophagogastroduodenoscopy
➤Whole body bone scan
➤PET-CT(Advanced stage)
➤Nutrition, speech and swallowing evaluation/therapy
➤Video fluoroscopic swallowing study
➤Smoking cessation counseling
➤Multidisciplinary consultation (CardioOncology)
➤Preanesthesia studies
➤Fertility/reproductive counseling
➤Screening for hepatitis B

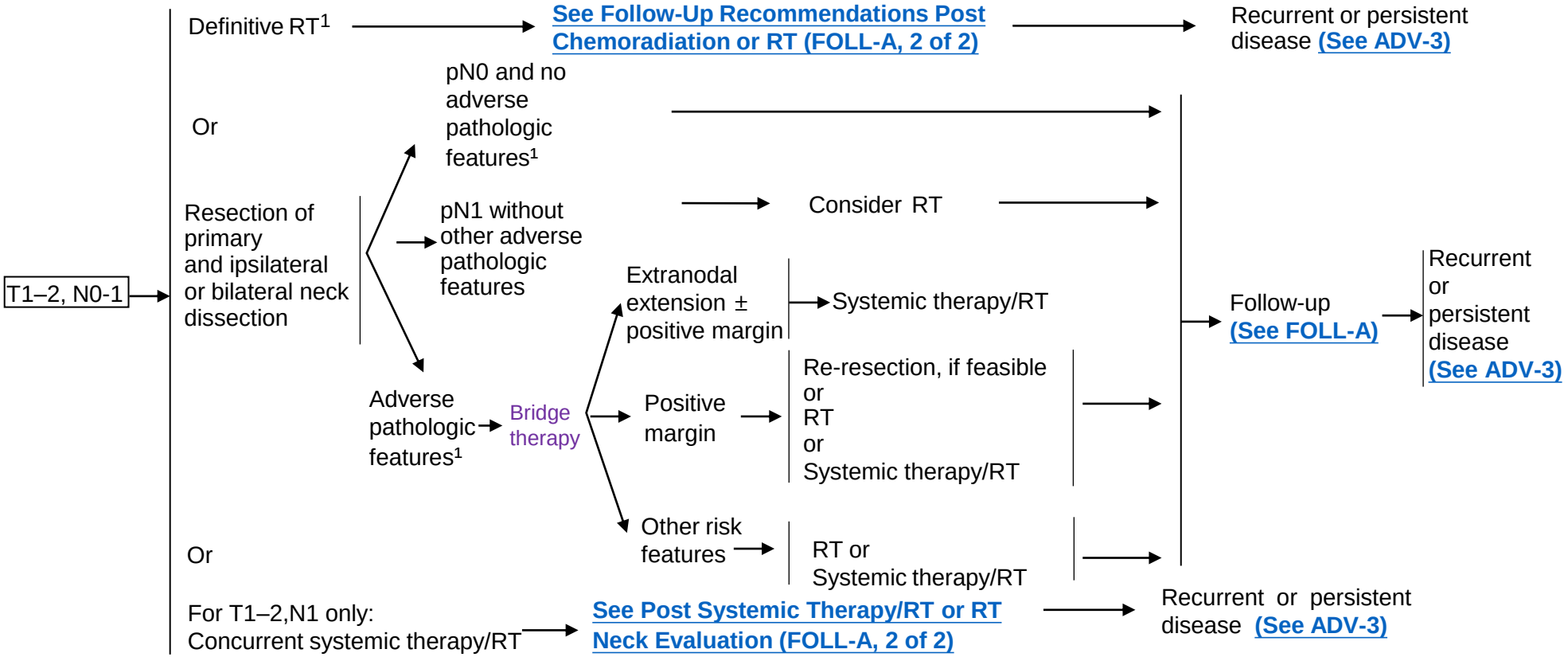
CLINICAL STAGING



1. Chest CT should be considered for patients at high risk for thoracic metastases.

Base of tongue/tonsil/posterior pharyngeal wall/soft palate

CLINICAL **TREATMENT OF PRIMARY AND NECK** **ADJUVANT TREATMENT** **STAGING**



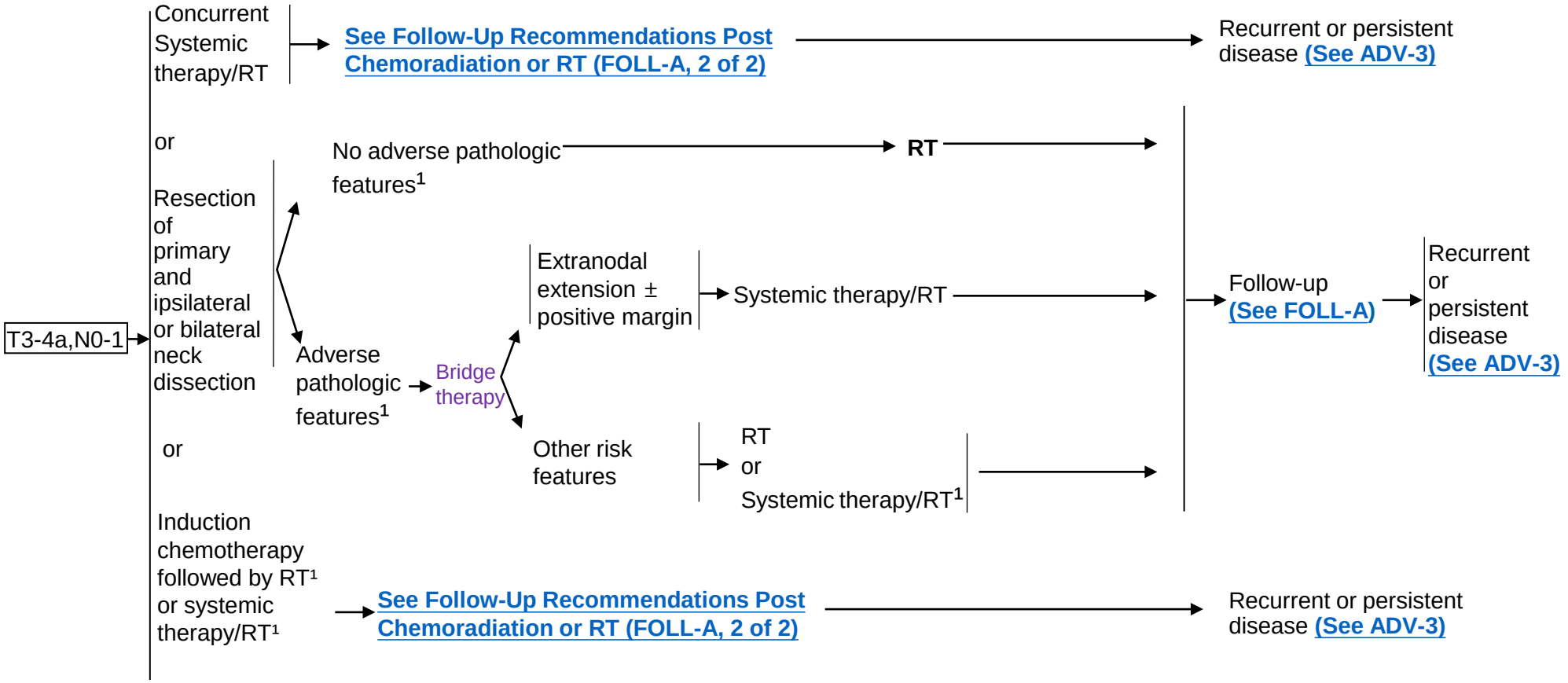
1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

2.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引 (cancer of the oropharynx)

Base of tongue/tonsil/posterior pharyngeal wall/soft palate



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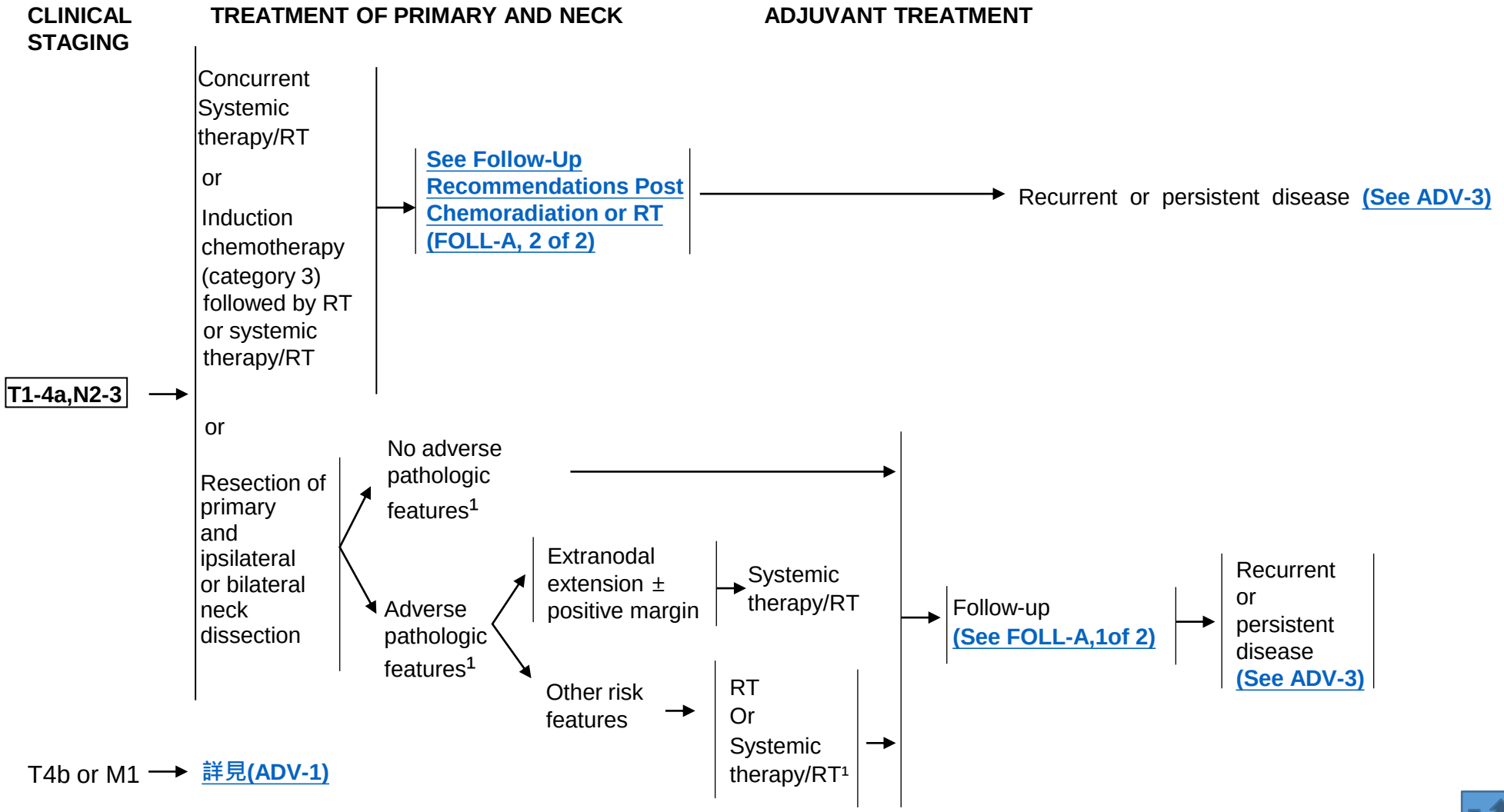
2.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引 (cancer of the oropharynx)

p16-negative

Base of tongue/tonsil/posterior pharyngeal wall/soft palate



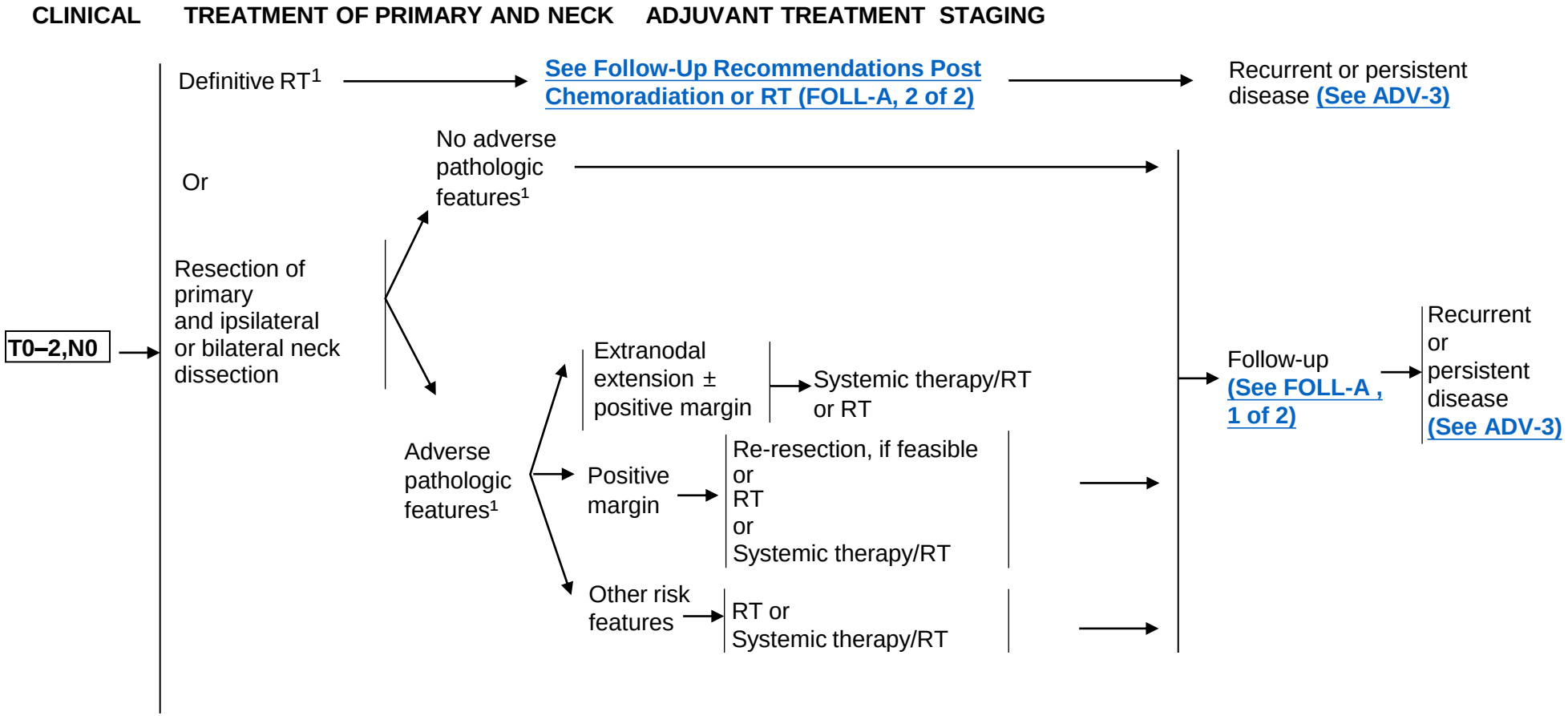
1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

2.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

p16[HPV]-positive (cancer of the oropharynx)

Base of tongue/tonsil/posterior pharyngeal wall/soft palate

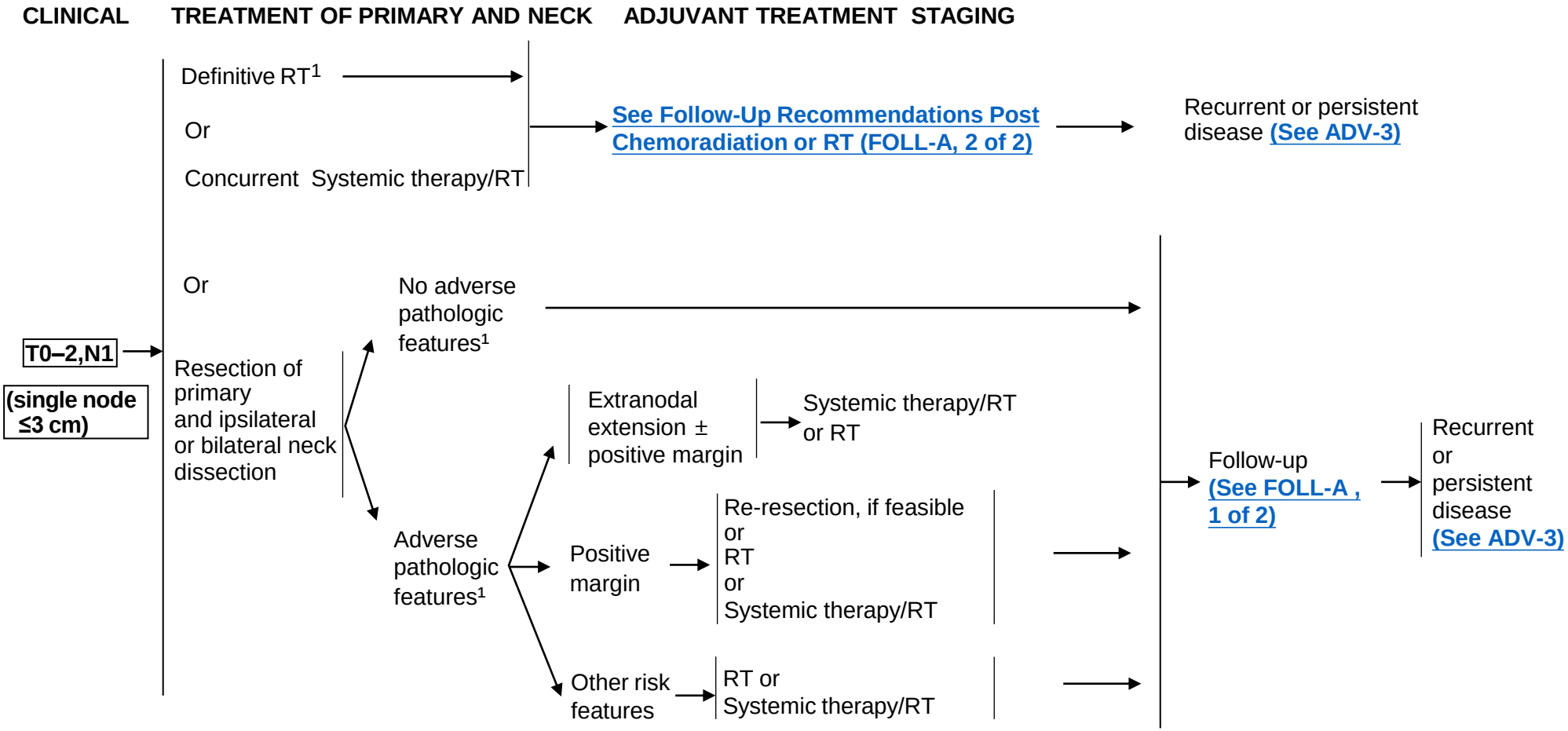


1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

頭頸癌臨床指引 p16[HPV]-positive (cancer of the oropharynx)

Base of tongue/tonsil/posterior pharyngeal wall/soft palate



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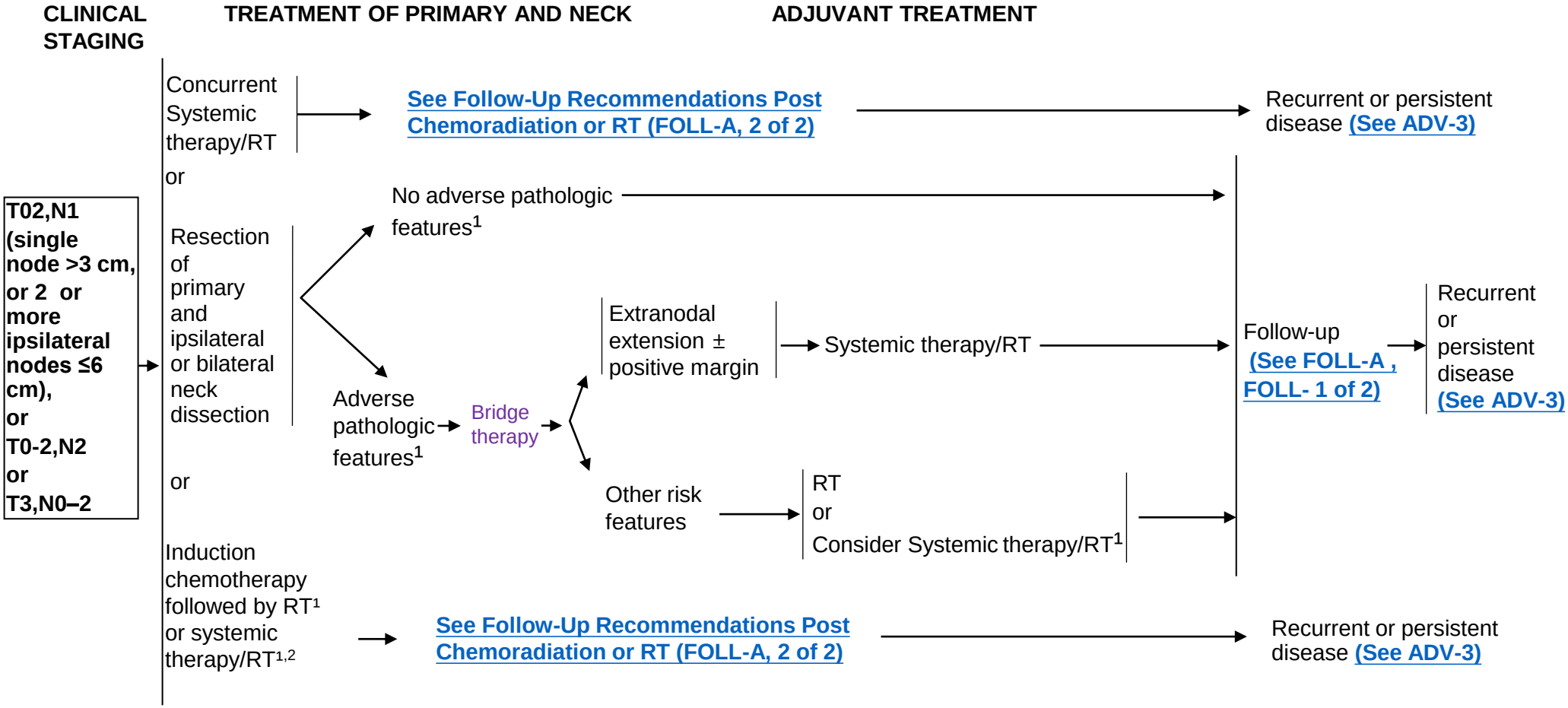
2.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引

p16[HPV]-positive (cancer of the oropharynx)

Base of tongue/tonsil/posterior pharyngeal wall/soft palate



1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

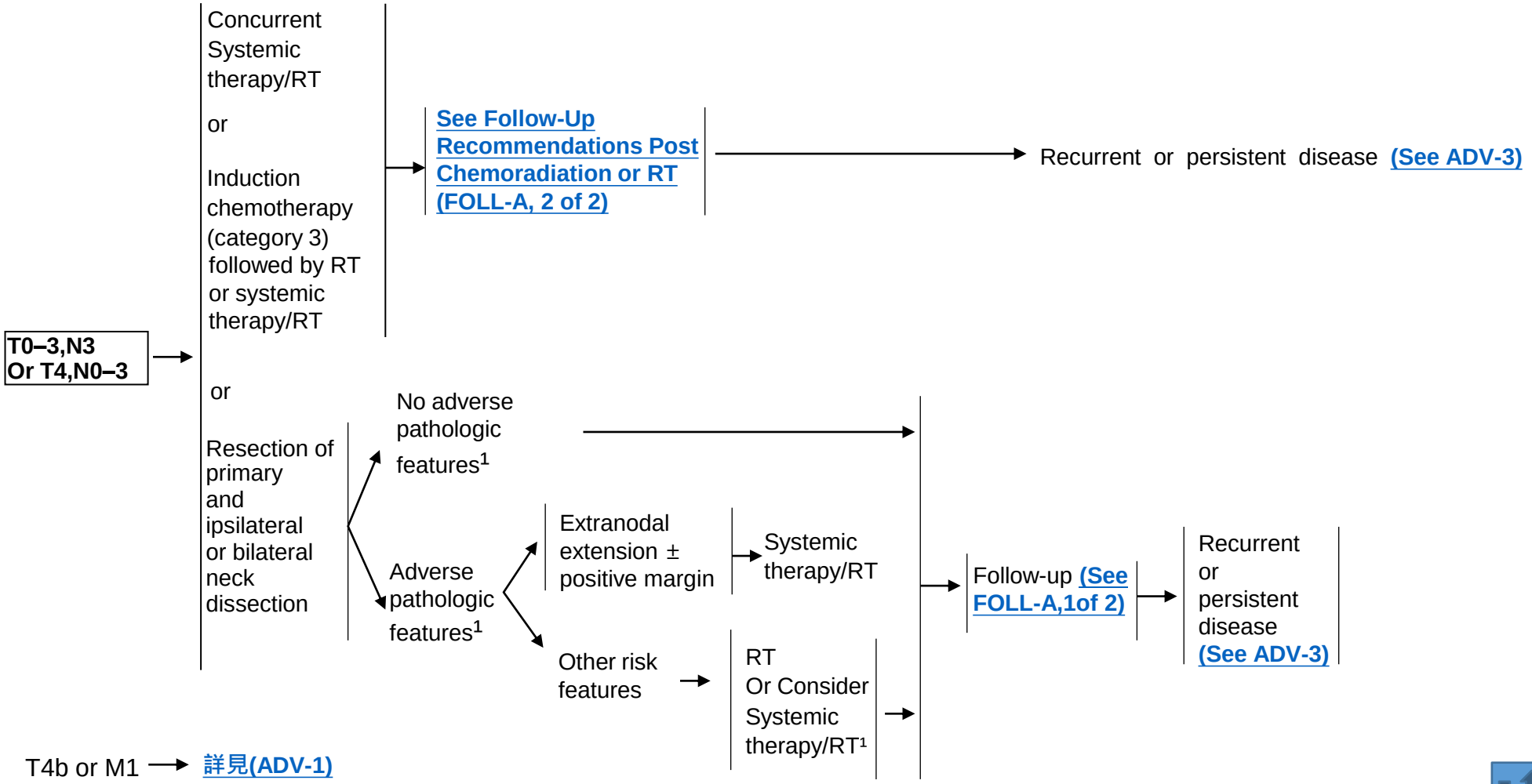
2.Surgical intervention may be an option for select patients with disease that does not respond to induction chemotherapy

3.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT

頭頸癌臨床指引 (cancer of the oropharynx)

p16[HPV]-positive

Base of tongue/tonsil/posterior pharyngeal wall/soft palate



T4b or M1 → 詳見(ADV-1)

1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

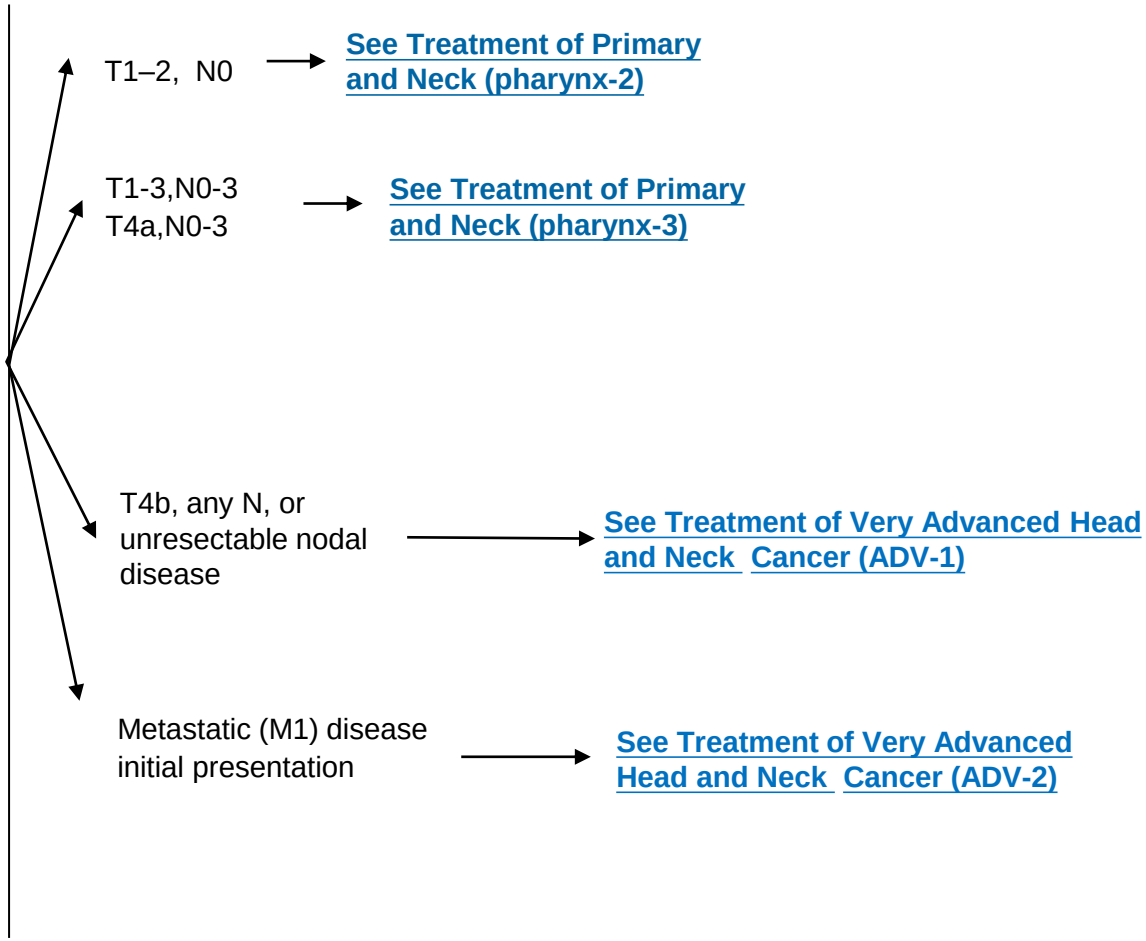
Work-up

◆ **Indicated**

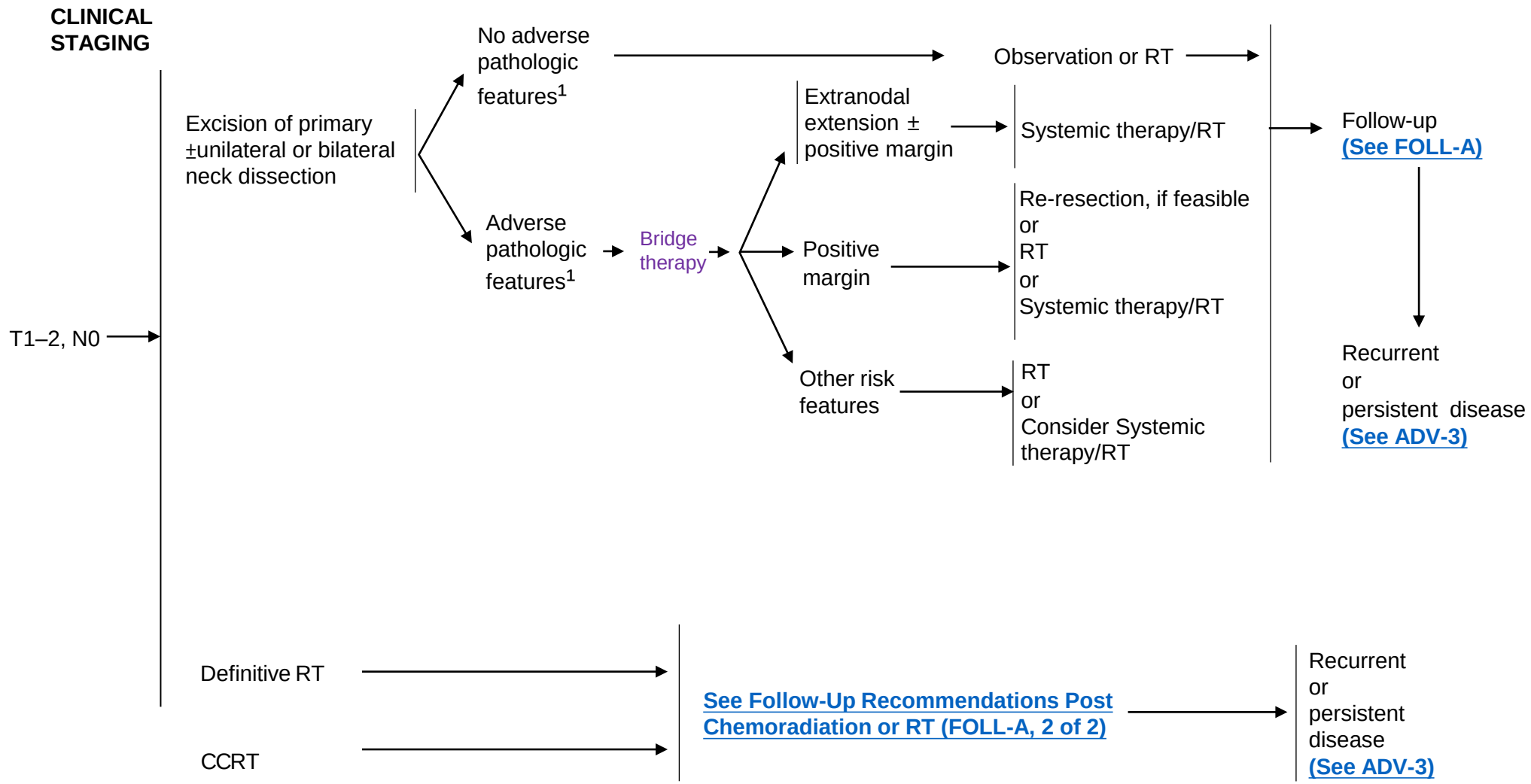
- History & Physical examination
- Biopsy
- Chest x-ray or chest CT[1]
- Head and Neck CT or MRI(optional in early cancer)

◆ **Optional**

➤Dental evaluation, Panoramic radiography
➤Abdominal / Neck Sonography
➤Esophagogastroduodenoscopy
➤Whole body bone scan
➤PET-CT(Advanced stage)
➤Nutrition, speech and swallowing evaluation/therapy
➤Video fluoroscopic swallowing study
➤Smoking cessation counseling
➤Multidisciplinary consultation (CardioOncology)
➤Preanesthesia studies
➤Fertility/reproductive counseling
➤Screening for hepatitis B



1. Chest CT should be considered for patients at high risk for thoracic metastases.



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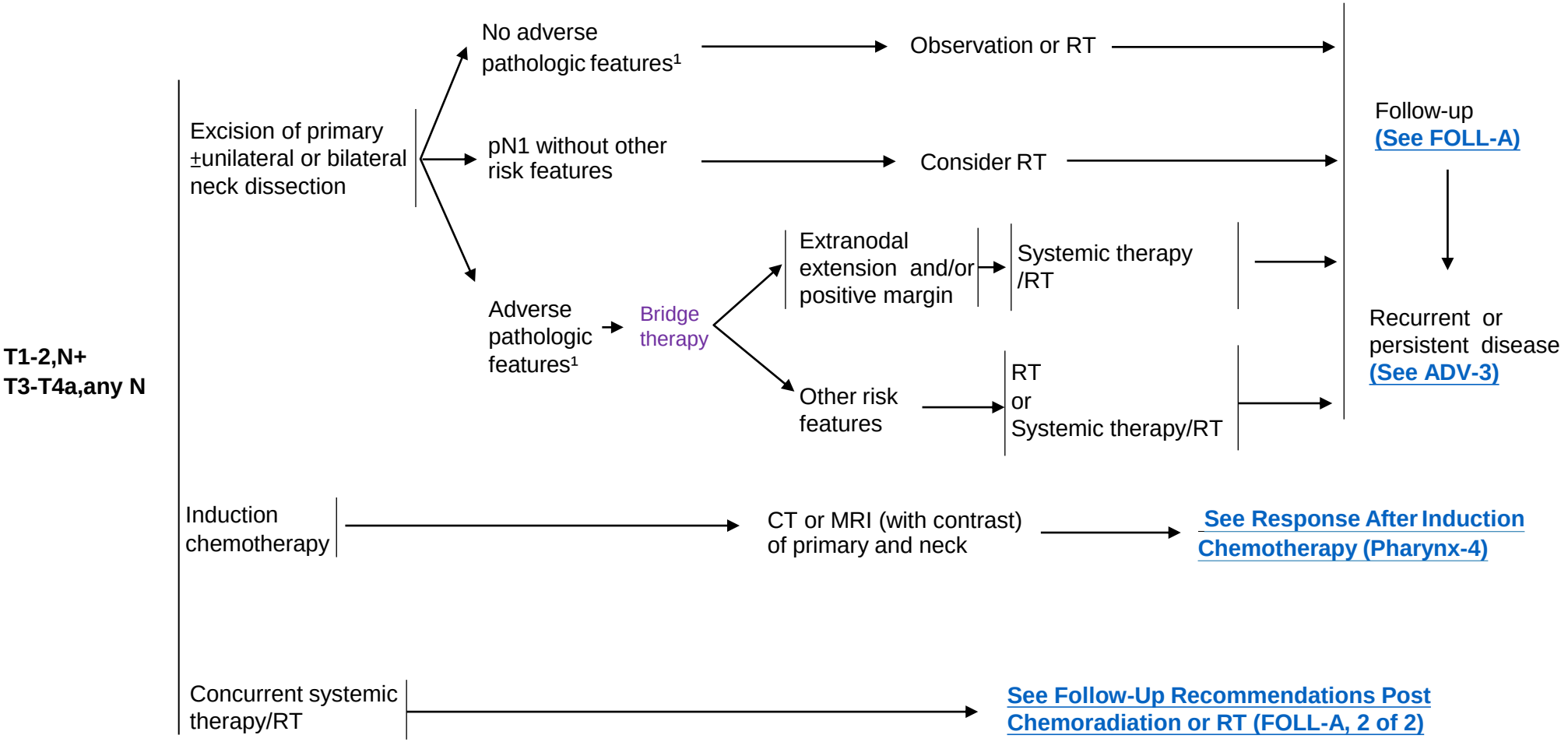
- Chemotherapy can be given for disease control during pre-RT or OP period

2.Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT



T4b or M1 → 詳見(ADV-1)

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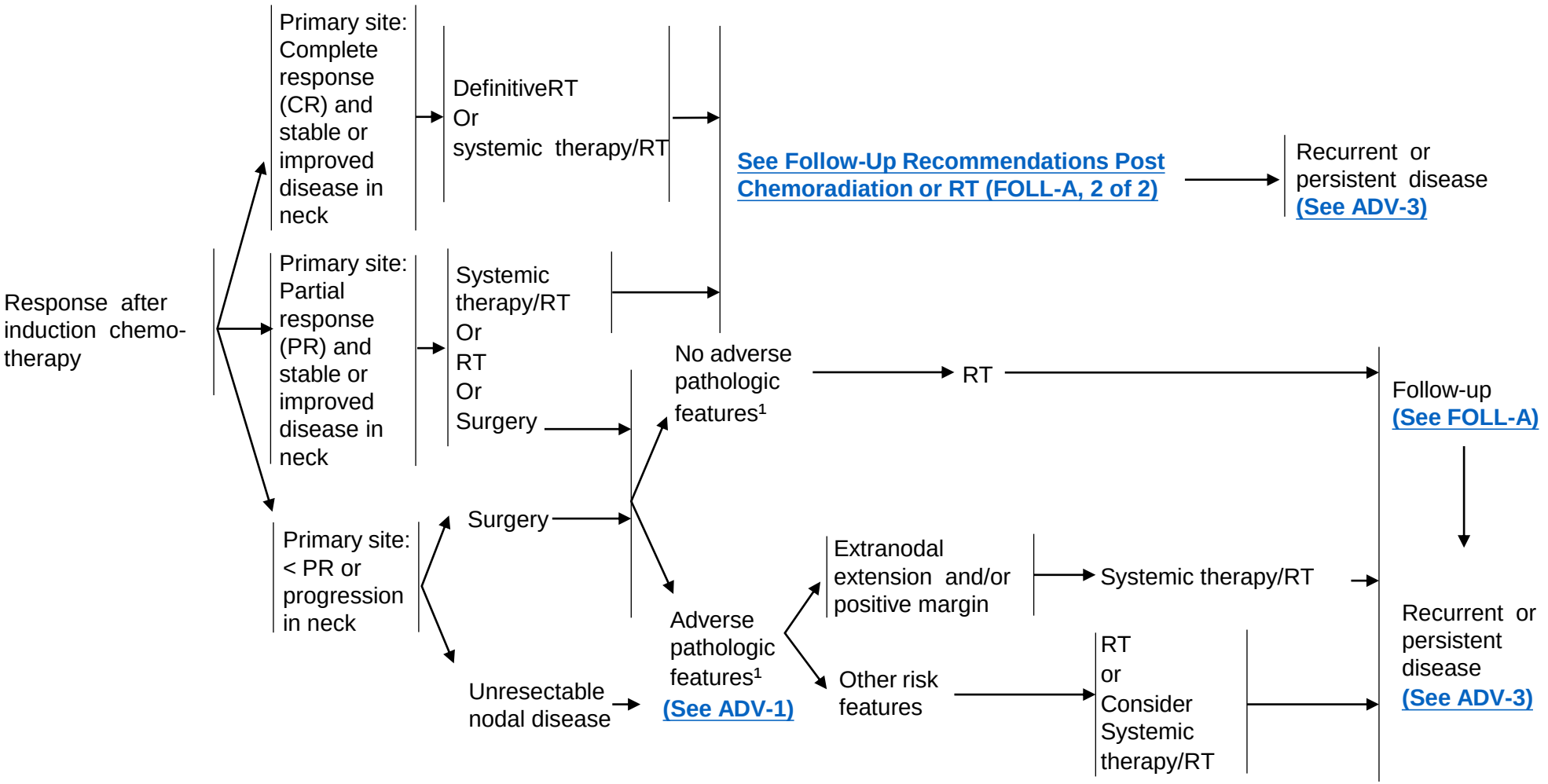


1.Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion

- Chemotherapy can be given for disease control during pre-RT or OP period

Work-up

◆ **Indicated**

- History & Physical examination
- Biopsy
- Chest x-ray or chest CT[1]
- Head and Neck CT or MRI (optional in early cancer)

◆ **Optional**

➤ **Epstein-Barr virus (EBV)/DNA testing**
➤Dental evaluation, Panoramic radiography
➤Abdominal / Neck Sonography
➤Whole body bone scan
➤PET-CT(Advanced stage)
➤Nutrition, speech and swallowing valuation/therapy
➤Video fluoroscopic swallowing study
➤ Ophthalmologic and endocrine evaluation
➤ Multidisciplinary consultation
(CardioOncology)
➤ Preanesthesia studies
➤ Fertility/reproductive counseling
➤ Screening for hepatitis B

M0 → **See Naso-2**

M1 → **See Naso-3**

1. Chest CT should be considered for patients at high risk for thoracic metastases.

頭頸癌臨床指引 (cancer of the nasopharynx)

CLINICAL STAGING | **TREATMENT OF PRIMARY AND NECK**

T1, N0, M0 → Definitive RT to nasopharynx and elective RT to neck → See post Systemic Therapy/RT or RT Neck Evaluation(FOLL-A, 2 of 2)

T2, N0, M0 → Definitive RT± concurrent systemic therapyk if high-risk features

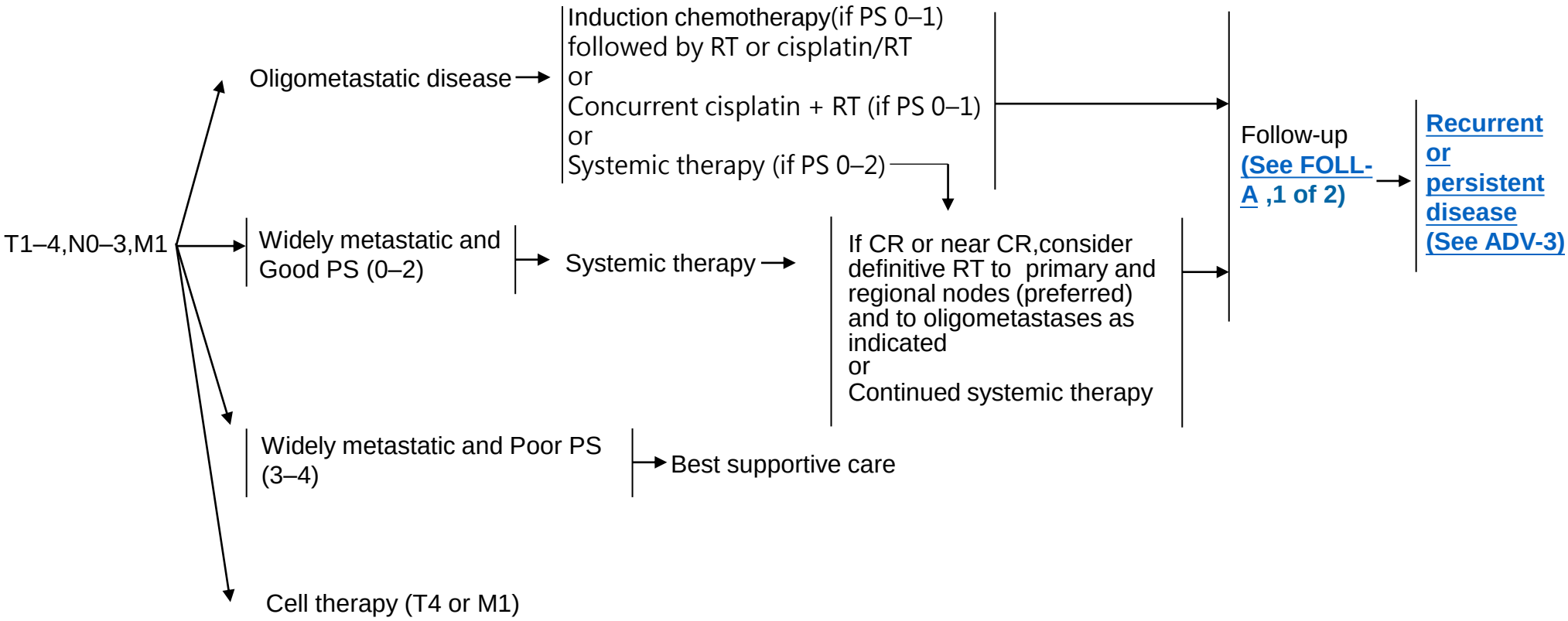
T0(EBV+)–2,N1,M0 or T3,N0,M0 → Concurrent systemic therapy/RT
• Consider induction or adjuvant chemotherapyk if high-risk featuresl → See post Systemic Therapy/RT or RT Neck Evaluation(FOLL-A, 2 of 2)

T3–4,N1–3,M0 or Any T,N2–3,M0 → Concurrent Systemic therapy/RT followed by adjuvant chemotherapy
Or
Concurrent Systemic therapy/RT
or
Induction chemtherapy followed by chemo/RT
Or
Cell therapy (T4) → See post Systemic Therapy/RT or RT Neck Evaluation(FOLL-A, 2 of 2)

Recurrent or persistent disease (See ADV-3)

- Chemotherapy can be given for disease control during pre-RT or OP period
- l High risk features include bulky tumor volume, high serum EBV DNA copy number.

頭頸癌臨床指引 (cancer of the nasopharynx)



- Chemotherapy can be given for disease control during pre-RT or OP period
- l High risk features include bulky tumor volume, high serum EBV DNA copy number.

Work-up

◆ **Indicated**

- History & Physical examination
- Biopsy
- Chest x-ray or chest CT[1]
- Head and Neck CT or MRI(optional in early cancer)

◆ **Optional**

➤Dental evaluation, Panoramic radiography
➤Abdominal / Neck Sonography
➤Whole body bone scan
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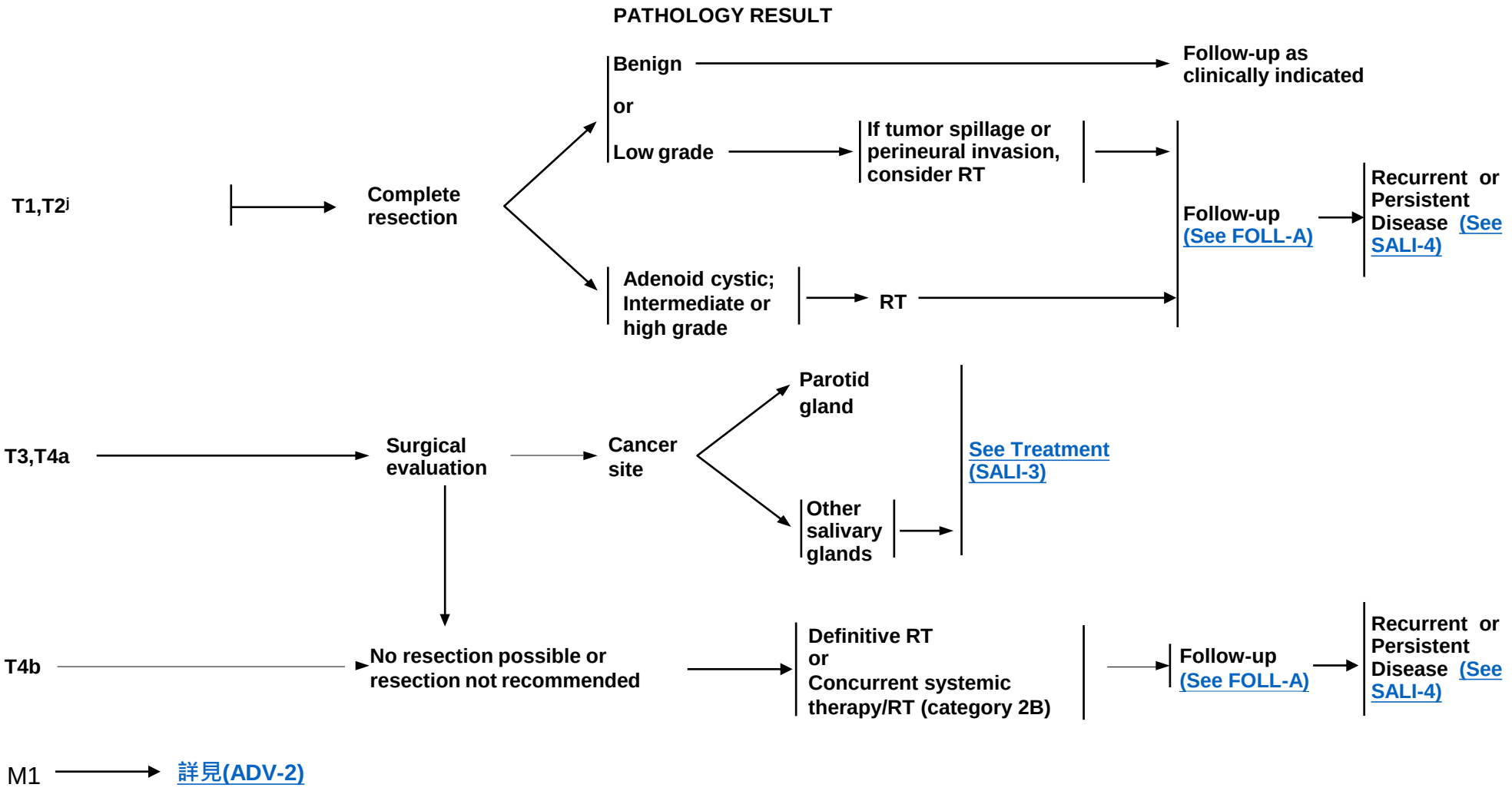
➤ Multidisciplinary consultation (CardioOncology)
➤ Preanesthesia studies
➤ Fertility/reproductive counseling
➤ Screening for hepatitis B

CLINICAL STAGING

→ Salivary Gland → See Treatment of Primary and Neck (Sali-2)

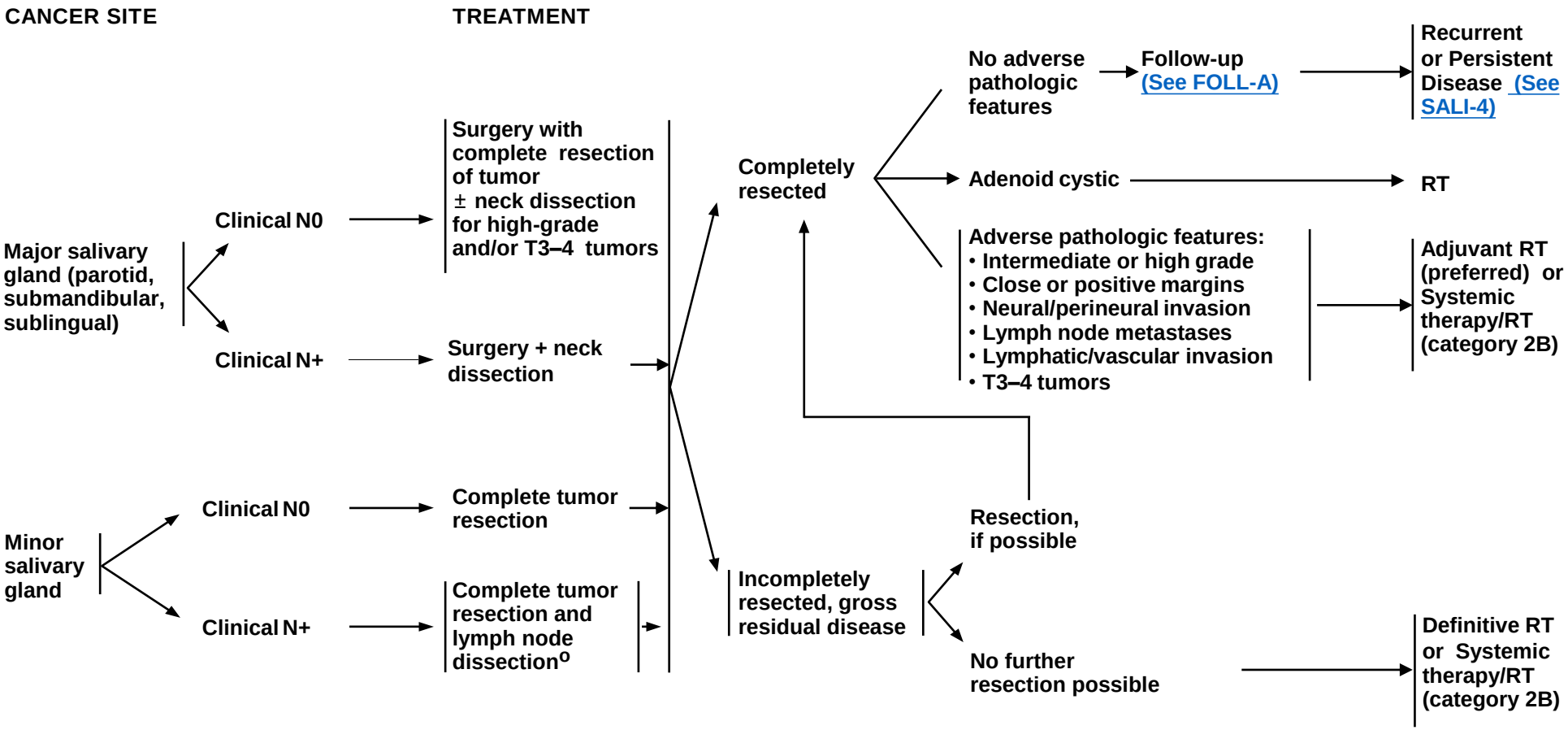
1. Chest CT should be considered for patients at high risk for thoracic metastases.

頭頸癌臨床指引
(cancer of the salivary gland)

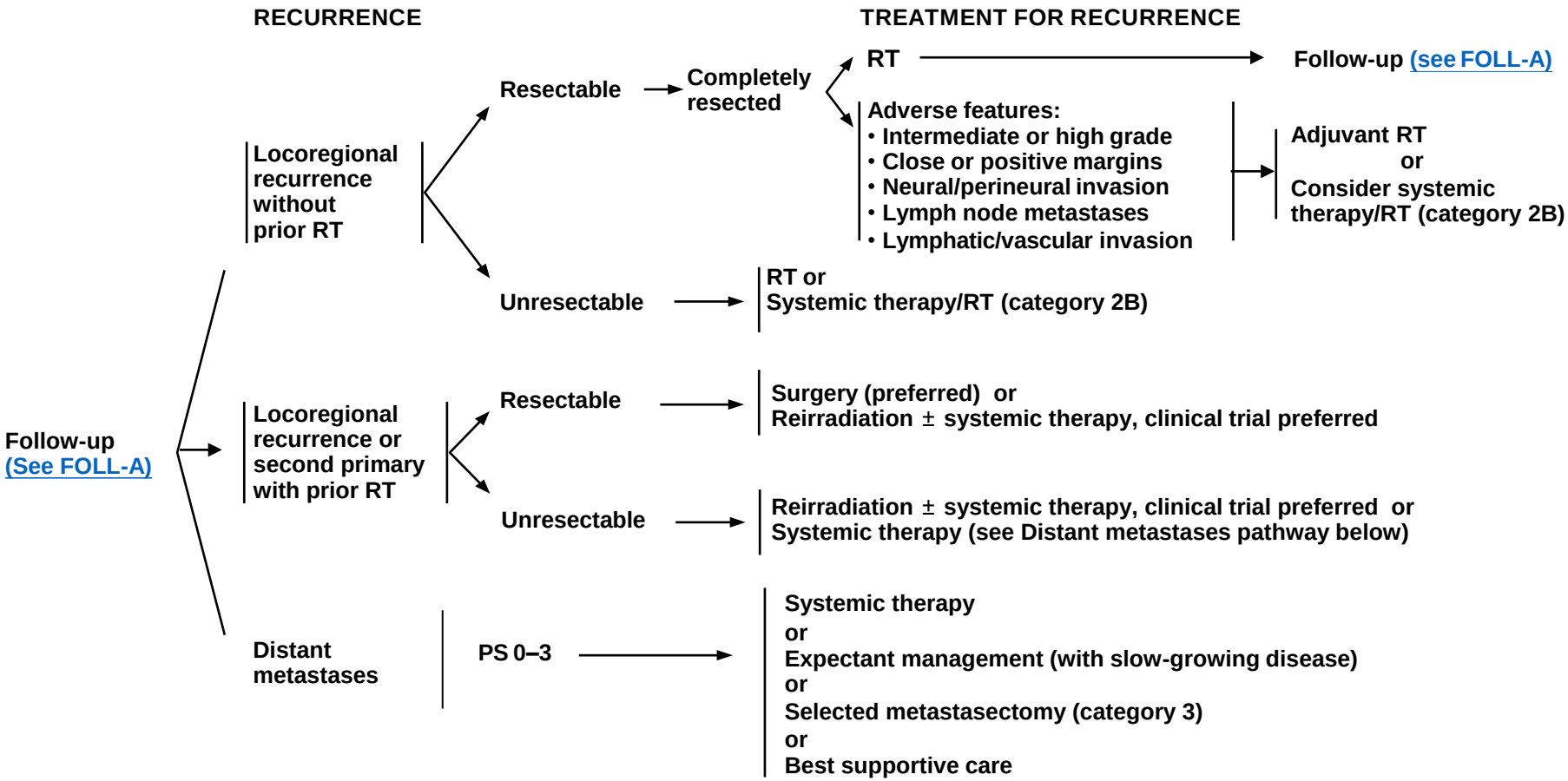


- [j] If incidental N+ disease is present go to SALI-3.
- Chemotherapy can be given for disease control during pre-RT or OP period

頭頸癌臨床指引 (cancer of the salivary gland)



- [i]If incidental N+ disease is present go to SALI-3.
- Chemotherapy can be given for disease control during pre-RT or OP period



PS = Performance Status (ECOG)

- If incidental N+ disease is present go to SALI-3.
- Chemotherapy can be given for disease control during pre-RT or OP period

- **Physical exam:**
  (including local check-up)

➤Year 1, every 1 -3mo
➤Year 2, every 2-6 mo
➤Year 3-5, every 4-8 mo
➤ >5 yrs, every 12 mo

- RT to the skull basec: • AM cortisol, growth hormone (GH), free T4, prolactin, insulin-like growth factor 2 (IGF-2), luteinizing hormone (LH), follicle-stimulating hormone (FSH), serum adrenocorticotropic hormone (ACTH), TSH, and total and bioavailable testosterone levels annually to evaluate panhypopituitarism following every 12 mo

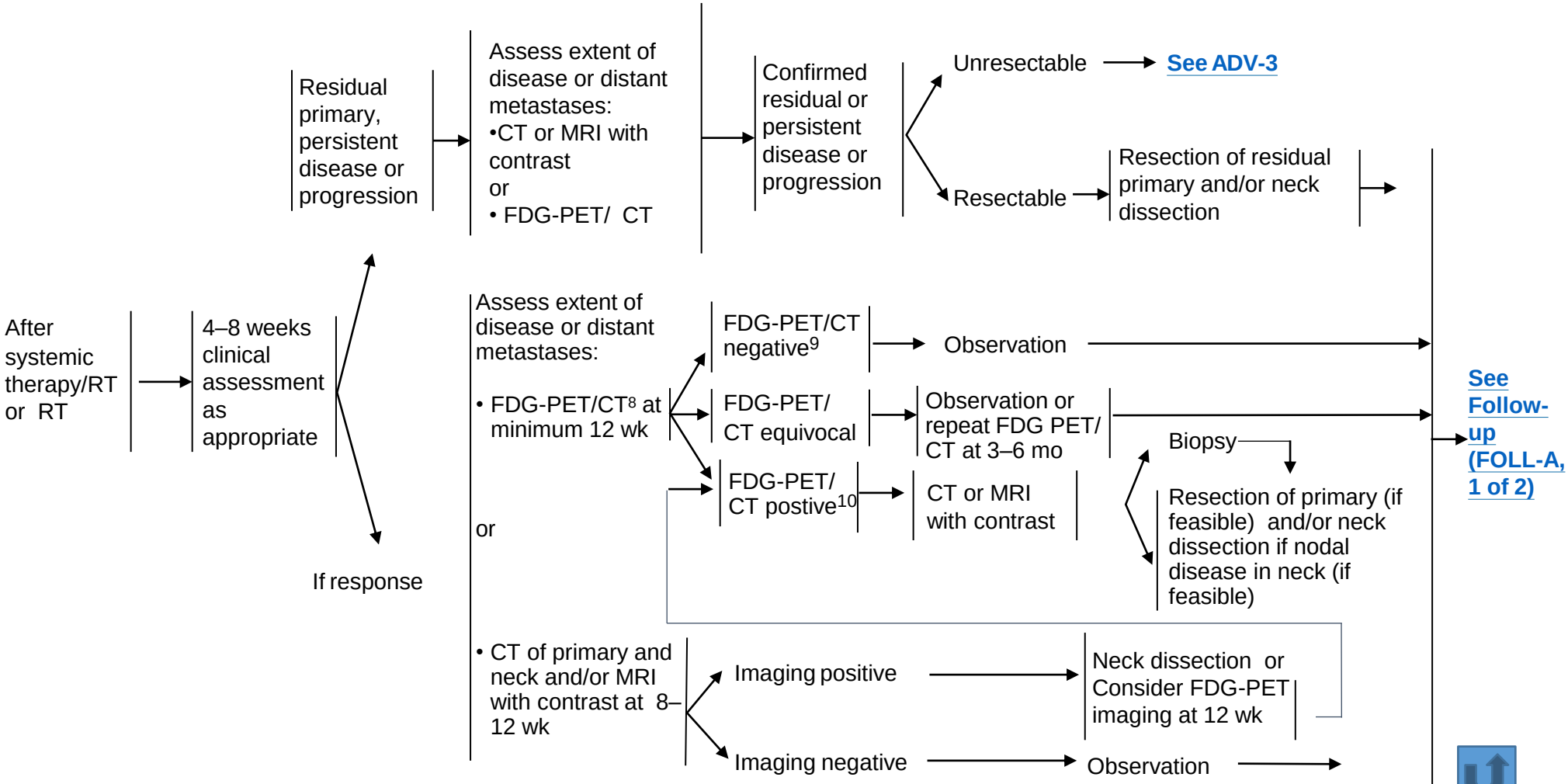
- **Imaging:**

➤ Chest imaging as clinically indicated for patients with smoking history
➤ Post-treatment, consider repeating pre-treatment baseline imaging of primary (and neck, if treated) within 6 mo of treatment
➤ Further reimaging as indicated based on worrisome or equivocal signs/symptoms, smoking history, and areas inaccessible to clinical examination.
➤ Routine annual imaging (repeat use of pretreatment imaging modality) may be indicated in areas difficult to visualize on exam.

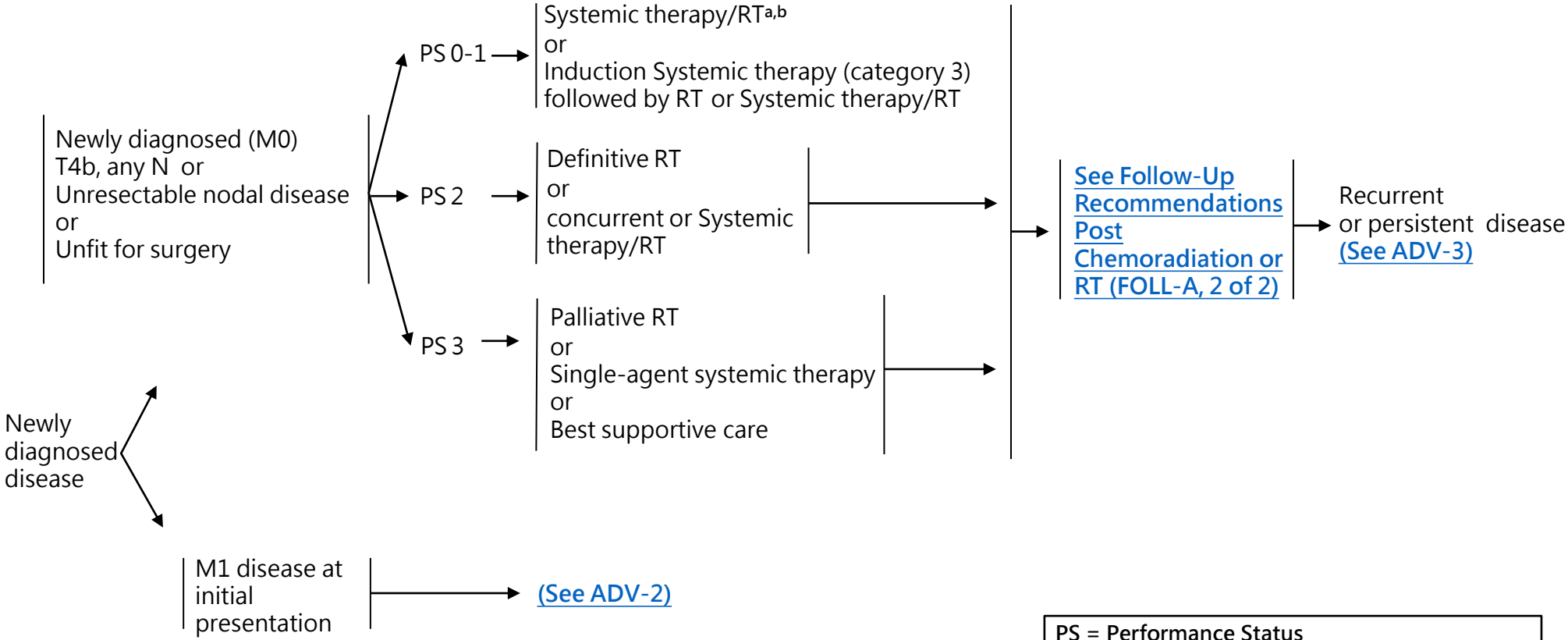
- Thyroid-stimulating hormone (TSH) every 6–12 mo if neck irradiated.
- Dental evaluation for oral cavity and sites exposed to significant intraoral radiation treatment.
- Consider EBV DNA monitoring for nasopharyngeal cancer .
- Supportive care and rehabilitation:

➤ Speech/hearing and swallowing evaluation and rehabilitation as clinically indicated.
➤ Nutritional evaluation and rehabilitation as clinically indicated until nutritional status is stabilized.
➤ Ongoing surveillance for depression
➤ Smoking cessation and alcohol counseling as clinically indicated.
➤ Lymphedema evaluation and rehabilitation, as clinically indicated

FOLLOW-UP RECOMMENDATIONS
POST CHEMORADIATION OR RT NECK EVALUATION



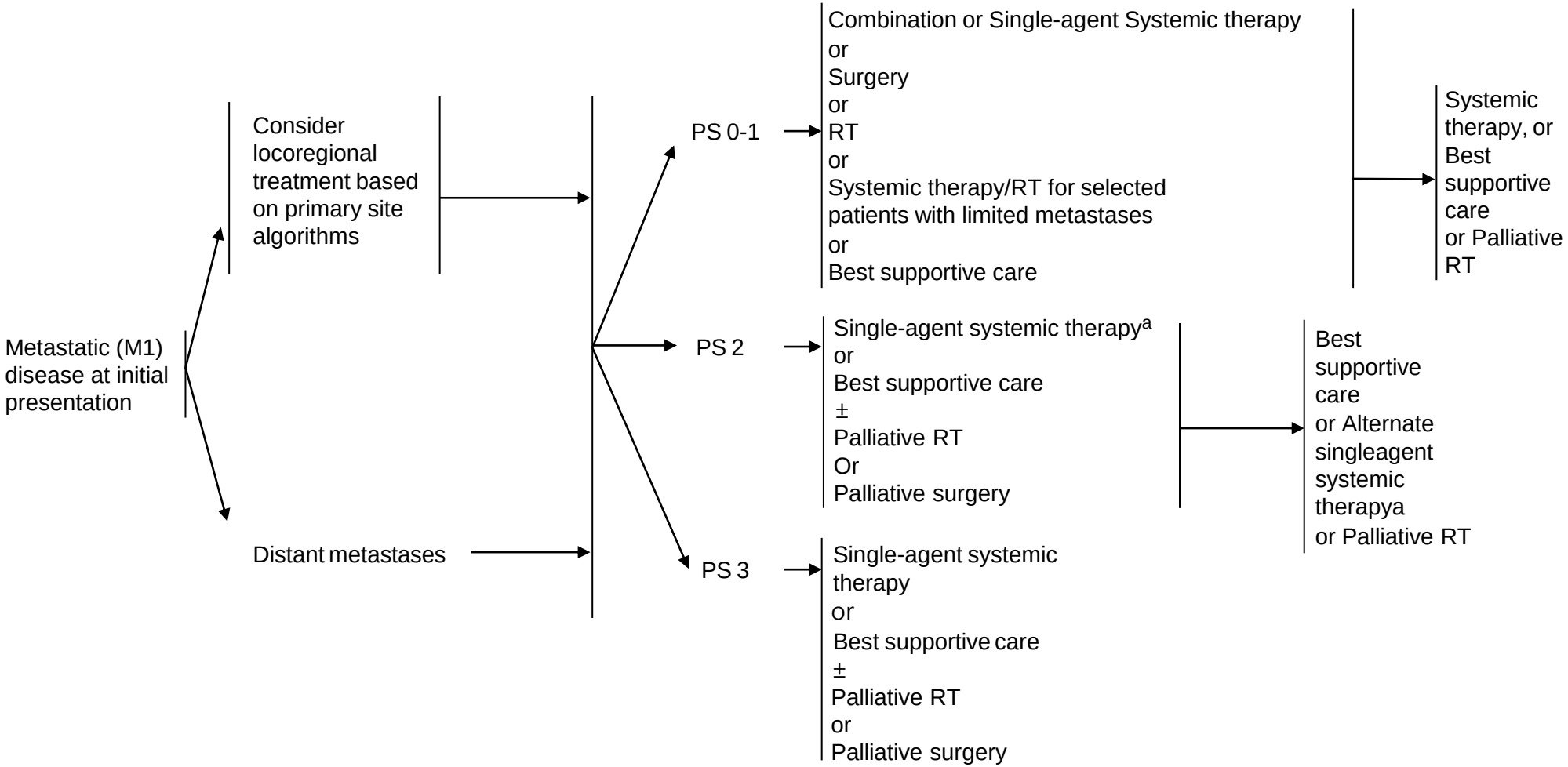
[8]If a FDG-PET/CT is performed and negative for suspicion of persistent cancer, further cross-sectional imaging is optional.
[9]PET negative = No or low-grade uptake, felt not suspicious for disease.
[10]PET positive = PET suspicious for disease.



[a]When using concurrent systemic therapy/RT, the preferred agent is cisplatin (category 1). See Principles of Systemic Therapy (CHEM-A).

- Chemotherapy can be given for disease control during pre-RT or OP period.

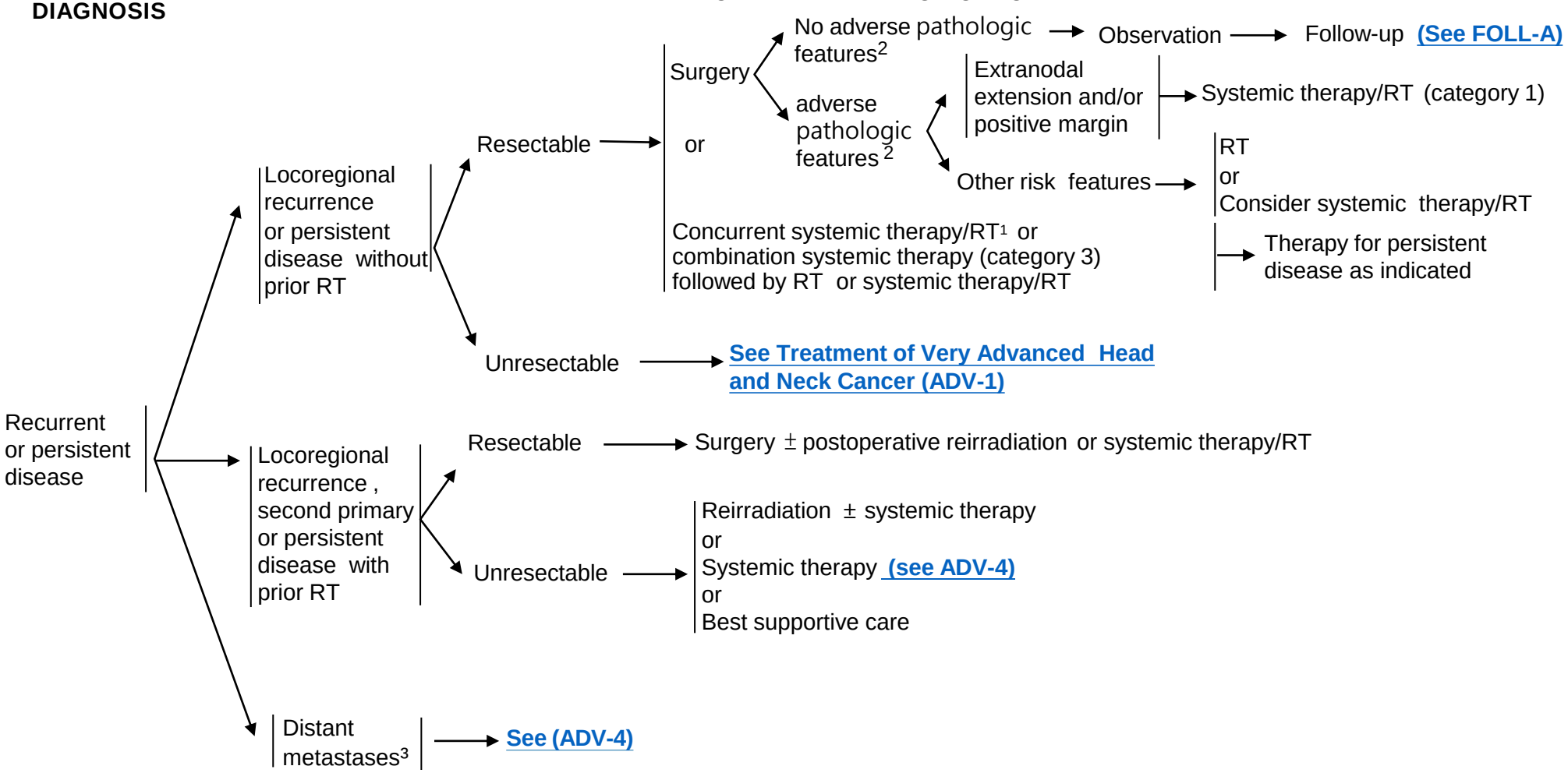
[b]For unresectable or metastatic disease where there is a plan for systemic therapy, a core biopsy would allow for ancillary immune-genomic testing



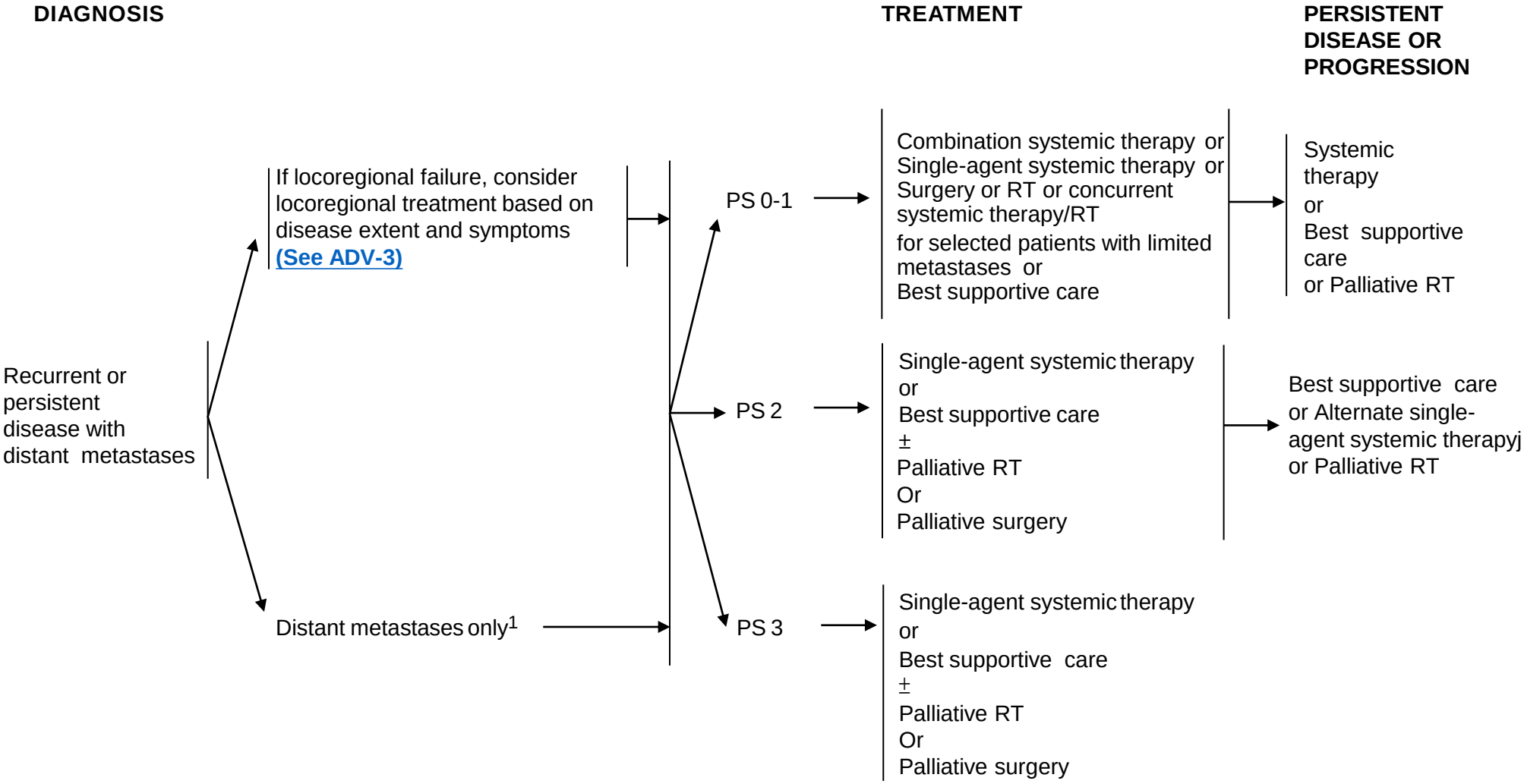
[a]When using concurrnt systemic therapy/RT, the preferred agent is cisplatin (category 1).

TREATMENT OF HEAD AND NECK CANCE

DIAGNOSIS



1. When using concurrent systemic therapy/RT, the preferred agent is cisplatin (category 1).
2. Adverse pathologic features: extranodal extension, positive margins, close margins , pT3 or pT4 primary, N2 or N3 nodal disease, perineural invasion, vascular invasion, lymphatic invasion
3. Consider palliative RT as clinically indicated (eg, bone metastases).



1.Consider palliative RT as clinically indicated (eg, bone metastases)

Table 1
American Joint Committee on Cancer (AJCC)
TNM Staging Classification for the Oral Cavity (including mucosa of lip) (8th ed., 2017)
(Nonepithelial tumors such as those of lymphoid tissue, soft tissue, bone, and cartilage, mucosal melanoma, and cutaneous squamous cell carcinoma of the vermilion lip are not included)

Primary Tumor (T)

TX	Primary tumor cannot be assessed Carcinoma *in situ*
Tis	Tumor ≤2 cm with depth of invasion (DOI)* ≤5 mm
T 1	Tumor ≤2 cm, with DOI* >5 mm
T2	*or* tumor >2 cm and ≤4 cm, with DOI* ≤10 mm
T3	Tumor >2 cm and ≤4 cm, with DOI* >10 mm *or* tumor >4 cm, with DOI* ≤10 mm
T4	Moderately advanced or very advanced local disease
	T4a Moderately advanced local disease Tumor >4 cm, with DOI* >10 mm *or* tumor invades adjacent structures only (eg, through cortical bone of the mandible or maxilla, or involves the maxillary sinus or skin of the face) Note: Superficial erosion of bone/tooth socket (alone) by a gingival primary is not sufficient to classify a tumor as T4.
	T4b Very advanced local disease Tumor invades masticator space, pterygoid plates, or skull base and/or encases the internal carotid artery

*DOI is depth of invasion and *not* tumor thickness.

Regional Lymph Nodes (N)

Clinical N (cN)

N X	Regional lymph nodes cannot be assessed No regional lymph node
N 0	metastasis
N1	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension ENE(–)
N2	Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension, and ENE(–)
	N2a Metastasis in a single ipsilateral lymph node larger than 3 cm but not larger than 6 cm in greatest dimension, and ENE(–)
	N2b Metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension, and ENE(–)
	N2c Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension, and ENE(–)
N3	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−); *or* metastasis in any node(s) and clinically overt ENE(+)
	N3a Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b Metastasis in any node(s) and clinically overt ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L). Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 1 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging Classification for the Oral Cavity (including mucosa of lip) (8th ed., 2017)

(Nonepithelial tumors such as those of lymphoid tissue, soft tissue, bone, and cartilage, mucosal melanoma, and cutaneous squamous cell carcinoma of the vermilion lip are not included)

Regional Lymph Nodes (N)

Pathological N (pN)

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(–)
N2		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+); *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension, ENE(−)
	N2a	Metastasis in single ipsilateral node 3 cm or smaller in greatest dimension, and ENE(+); *or* a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–)
	N2b	Metastases in multiple ipsilateral node(s), none larger than 6 cm in greatest dimension and ENE(−)
	N2c	Metastases in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension, and ENE(–)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−); *or* metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes any with ENE(+); *or* a single contralateral node of any size and ENE (+)
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b	Metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes any with ENE(+); *or* a single contralateral node of any size and ENE (+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L).
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

Distant Metastasis (M)

M0	No distant metastasis
M1	Distant metastasis

Histologic Grade (G)

G X	Cannot be assessed Well
G 1	differentiated Moderately
G 2	differentiated Poorly
G3	differentiated

Prognostic Stage Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T1,T2	N1	M0
	T3	N0,N1	M0
Stage IVA	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N0,N1,N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 2

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Nasopharynx (8th ed., 2017)

(The following types of cancer are not included: Mucosal melanoma, lymphoma, sarcoma of the soft tissue, bone and cartilage.)

Primary Tumor (T)

TX Primary tumor cannot be assessed

T0 No tumor identified, but EBV-positive cervical node(s) involvement

Tis Carcinoma *in situ*

T1 Tumor confined to nasopharynx, or extension to oropharynx and/or nasal cavity without parapharyngeal involvement

T2 Tumor with extension to parapharyngeal space, and/or adjacent soft tissue involvement (medial pterygoid, lateral pterygoid, prevertebral muscles)

T3 Tumor with infiltration of bony structures at skull base, cervical vertebra, pterygoid structures, and/or paranasal sinuses

T4 Tumor with intracranial extension, involvement of cranial nerves, hypopharynx, orbit, parotid gland, and/ or extensive soft tissue infiltration beyond the lateral surface of the lateral pterygoid muscle

Regional Lymph Nodes (N)

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastasis

N1 Unilateral metastasis in cervical lymph node(s) and/or unilateral or bilateral metastasis in retropharyngeal lymph node(s), 6 cm or smaller in greatest dimension, above the caudal border of cricoid cartilage

N2 Bilateral metastasis in cervical lymph node(s), 6 cm or smaller in greatest dimension, above the caudal border of cricoid cartilage

N3 Unilateral or bilateral metastasis in cervical lymph node(s), larger than 6 cm in greatest dimension, and/or extension below the caudal border of cricoid cartilage

Distant Metastasis (M)

M0 No distant metastasis

M1 Distant metastasis

Histologic Grade (G)

A grading system is not used for NPCs.

Anatomic Stage/Prognostic Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T0,T1	N1	M0
	T2	N0,N1	M0
Stage III	T0,T1,T2	N2	M0
	T3	N0,N1,N2	M0
Stage IVA	T4	N0,N1,N2	M0
	Any T	N3	M0
Stage IVB	Any T	Any N	M1

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 3

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Oropharynx (p16-) and Hypopharynx (8th ed., 2017)

(Not included: P16-positive (p16+) oropharyngeal cancers and nasopharyngeal cancer)

Oropharynx (p16-)

TX		Primary tumor cannot be assessed Carcinoma *in situ*
Tis		Tumor 2 cm or smaller in greatest dimension
T 1		Tumor larger than 2 cm but not larger than 4 cm in greatest dimension
T2		
T3		Tumor larger than 4 cm in greatest dimension or extension to lingual surface of epiglottis
T4		Moderately advanced or very advanced local disease
	T4a	Moderately advanced local disease Tumor invades the larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, or mandible*
	T4b	Very advanced local disease Tumor invades lateral pterygoid muscle, pterygoid plates, lateral nasopharynx, or skull base or encases carotid artery

**Hypopharynx*

TX	Primary tumor cannot be assessed Carcinoma *in situ*
Tis	Tumor limited to one subsite of hypopharynx and/or 2 cm or smaller in greatest dimension
T1	
T2	Tumor invades more than one subsite of hypopharynx or an adjacent site, or measures larger than 2 cm but not larger than 4 cm in greatest dimension without fixation of hemilarynx
T3	Tumor larger than 4 cm in greatest dimension or with fixation of hemilarynx or extension to esophageal mucosa Moderately advanced or very advanced local disease T4a
T4	Moderately advanced local disease Tumor invades thyroid/cricoid cartilage, hyoid bone, thyroid gland, esophageal muscle or central compartment soft tissue* T4b Very advanced local disease Tumor invades prevertebral fascia, encases carotid artery, or involves mediastinal structures

**Note:* Mucosal extension to lingual surface of epiglottis from primary tumors of the base of the tongue and vallecula does not constitute invasion of the larynx.

**Note:* Central compartment soft tissue includes prelaryngeal strap muscles and subcutaneous fat.

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

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Table 3 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Oropharynx (p16-) and Hypopharynx (8th ed., 2017)

(Not included: P16-positive (p16+) oropharyngeal cancers and nasopharyngeal cancer)

Regional Lymph Nodes (N)

Clinical N (cN) - Oropharynx (p16-) and Hypopharynx

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(−)
N2		Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−)
	N2a	Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−)
	N2b	Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(−)
	N2c	Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−); *or* metastasis in any node(s) and clinically overt ENE(+)
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b	Metastasis in any node(s) and clinically overt ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L).
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

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Table 3 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Oropharynx (p16-) and Hypopharynx (8th ed., 2017)

(Not included: P16-positive (p16+) oropharyngeal cancers and nasopharyngeal cancer)

Regional Lymph Nodes (N):

Pathological N (pN) - Oropharynx (p16-) and Hypopharynx

N X	Regional lymph nodes cannot be assessed No regional lymph node metastasis
N 0	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension
N1	and ENE(−)
N2	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+); *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(−)
	N2a Metastasis in single ipsilateral node 3 cm or smaller in greatest dimension and ENE(+); *or* a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−)
	N2b Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(−)
	N2c Metastases in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(−)
N3	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−); *or* in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes, any with ENE(+); *or* a single contralateral node of any size and ENE(+)
	N3a Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b Metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes, any with ENE(+) *or* a single contralateral node of any size and ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L).
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

Distant Metastasis (M) M0
No distant metastasis M1
Distant metastasis

Histologic Grade (G)

GX Grade cannot be assessed
G1 Well differentiated
G2 Moderately differentiated
G3 Poorly differentiated
G4 Undifferentiated

Prognostic Stage Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N0,N1,N2	M0
Stage IVB	T4b	Any N	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 4

American Joint Committee on Cancer (AJCC)

TNM Staging System for HPV-Mediated (p16+) Oropharyngeal Cancer (8th ed., 2017)

(Not including: P16-negative (p16-) cancers of the oropharynx)

Primary Tumor (T)

T0 No primary identified

T1 Tumor 2 cm or smaller in greatest dimension

T2 Tumor larger than 2 cm but not larger than 4 cm in greatest dimension

T3 Tumor larger than 4 cm in greatest dimension or extension to lingual surface of epiglottis

T4 Moderately advanced local disease

Tumor invades the larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, or mandible or beyond*

Mucosal extension to lingual surface of epiglottis from primary tumors of the base of the tongue and vallecula does not constitute invasion of the larynx.

Regional Lymph Nodes (N) Clinical N (cN)

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastasis

N1 One or more ipsilateral lymph nodes, none larger than 6 cm **N2** Contralateral or bilateral lymph nodes, none larger than 6 cm **N3** Lymph node(s) larger than 6 cm

Pathological N (pN)

NX Regional lymph nodes cannot be assessed

pN0 No regional lymph node metastasis **pN1** Metastasis in 4 or fewer lymph nodes **pN2** Metastasis in more than 4 lymph nodes

Distant Metastasis (M) **M0** No distant metastasis **M1** Distant metastasis

Histologic Grade (G)

No grading system exists for HPV-mediated oropharyngeal tumors

Prognostic Stage Groups

Clinical

Stage I	T0,T1,T2	N0,N1	M0
Stage II	T0,T1,T2	N2	M0
Stage III	T3	N0,N1,N2 N3	M 0
	T0,T1,T2,T3	N0,N1,N2,N3	M 0
Stage IV	T4	Any N	M 0
	Any T		M1

Pathological

Stage I	T0,T1,T2	N0,N1	M0
Stage II	T0,T1,T2	N2	M0
	T3,T4	N0,N1	M0
Stage III	T3,T4	N2	M0
Stage IV	Any T	Any N	M1

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 5

American Joint Committee on Cancer (AJCC) TNM Staging System for the Larynx (8th ed., 2017)

(Nonepithelial tumors such as those of lymphoid tissue, soft tissue, bone and cartilage, and mucosal melanoma of the lip and oral cavity are not included)

Primary Tumor (T)

TX Primary tumor cannot be assessed

Tis Carcinoma *in situ*

Supraglottis

T1 Tumor limited to one subsite of supraglottis with normal vocal cord mobility

T2 Tumor invades mucosa of more than one adjacent subsite of supraglottis or glottis or region outside the supraglottis (eg, mucosa of base of tongue, vallecula, medial wall of pyriform sinus) without fixation of the larynx

T3 Tumor limited to larynx with vocal cord fixation and/ or invades any of the following: postcricoid area, preepiglottic space, paraglottic space, and/or inner cortex of thyroid cartilage

T4 Moderately advanced or very advanced T4a Moderately advanced local disease

Tumor invades through the outer cortex of the thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)

T4b Very advanced local disease

Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Glottis

T1 Tumor limited to the vocal cord(s) (may involve anterior or posterior commissure) with normal mobility

T1a Tumor limited to one vocal cord

T1b Tumor involves both vocal cords

T2 Tumor extends to supraglottis and/or subglottis, and/or with impaired vocal cord mobility

T3 Tumor limited to the larynx with vocal cord fixation and/or invasion of paraglottic space and/or inner cortex of the thyroid cartilage Moderately advanced or very advanced

T4 T4a Moderately advanced local disease

Tumor invades through the outer cortex of the thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, cricoid cartilage, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)

T4b Very advanced local disease

Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Subglottis

T 1 Tumor limited to the subglottis

T 2 Tumor extends to vocal cord(s) with normal or impaired mobility

T3 Tumor limited to larynx with vocal cord fixation and/or inner cortex of the thyroid cartilage

T4 Moderately advanced or very advanced

T4a Moderately advanced local disease

Tumor invades cricoid or thyroid cartilage and/or invades tissues beyond the larynx (eg, trachea, soft tissues of neck including deep extrinsic muscles of the tongue, strap muscles, thyroid, or esophagus)

T4b Very advanced local disease

Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 5 — Continued

American Joint Committee on Cancer (AJCC) TNM Staging System for the Larynx (8th ed., 2017)

(Nonepithelial tumors such as those of lymphoid tissue, soft tissue, bone, and cartilage are not included)

Regional Lymph Nodes (N) Clinical N (cN)

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension ENE(–)
N2	Metastasis in a single ipsilateral node, larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–); *or* metastasis in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–)
N2a	Metastasis in a single ipsilateral lymph node, larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–)
N2b	Metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–)
N2c	Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–)
N3	Metastasis in a lymph node, larger than 6 cm in greatest dimension and ENE(–); *or* metastasis in any lymph node(s) with clinically overt ENE(+)
N3a	Metastasis in a lymph node, larger than 6 cm in greatest dimension and ENE(−)
N3b	Metastasis in any lymph node(s) with clinically overt ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L)
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+)

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
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Table 5 — Continued

American Joint Committee on Cancer (AJCC) TNM Staging System for the Larynx (8th ed., 2017)

(Nonepithelial tumors such as those of lymphoid tissue, soft tissue, bone, and cartilage are not included)

Pathological N (pN)

N X Regional lymph nodes cannot be assessed No regional lymph node metastasis

N 0 Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension ENE(–)

N 1 Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+);

N2 *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−);
or metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(−)

N2a Metastasis in a single ipsilateral node, 3 cm or smaller in greatest dimension and ENE(+); *or* metastasis in a single ipsilateral node, larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−)

N2b Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(−)

N2c Metastases in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(−)

N3 Metastasis in a lymph node, larger than 6 cm in greatest dimension and ENE(−);
or metastasis in a single ipsilateral node, larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral lymph nodes and any with ENE(+); *or* a single contralateral node of any size and ENE(+)

N3a Metastasis in a lymph node, larger than 6 cm in greatest dimension and ENE(−)

N3b Metastasis in a single ipsilateral node, larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral lymph nodes any with ENE(+); or a single contralateral node of any size and ENE(+)

**Note:* A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L)

Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+)

Distant Metastasis (M) M0

No distant metastasis

M1 Distant metastasis

Histologic Grade (G)

GX Grade cannot be assessed

G1 Well differentiated

G2 Moderately differentiated

G3 Poorly differentiated

Prognostic Stage Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N0,N1,N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 6

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Nasal Cavity and Paranasal Sinuses (8th ed., 2017)

(Mucosal melanoma of the nasal cavity and paranasal sinuses are not included)

Primary Tumor (T)

TX Primary tumor cannot be assessed

Tis Carcinoma *in situ*

Maxillary Sinus

T1 Tumor limited to maxillary sinus mucosa with no erosion or destruction of bone

T2 Tumor causing bone erosion or destruction including extension into the hard palate and/or middle nasal meatus, except extension to posterior wall of maxillary sinus and pterygoid plates

T3 Tumor invades any of the following: bone of the posterior wall of maxillary sinus, subcutaneous tissues, floor or medial wall of orbit, pterygoid fossa, ethmoid sinuses

T4 Moderately advanced or very advanced local disease T4a Moderately advanced local disease

Tumor invades anterior orbital contents, skin of cheek, pterygoid plates, infratemporal fossa, cribriform plate, sphenoid or frontal sinuses

T4b Very advanced local disease

Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than maxillary division of trigeminal nerve (V2), nasopharynx, or clivus

Nasal Cavity and Ethmoid Sinus

T1 Tumor restricted to any one subsite, with or without bony invasion

T2 Tumor invading two subsites in a single region or extending to involve an adjacent region within the nasoethmoidal complex, with or without bony invasion

T3 Tumor extends to invade the medial wall or floor of the orbit, maxillary sinus, palate, or cribriform plate

T4 Moderately advanced or very advanced local disease T4a Moderately advanced local disease

Tumor invades any of the following: anterior orbital contents, skin of nose or cheek, minimal extension to anterior cranial fossa, pterygoid plates, sphenoid or frontal sinuses

T4b Very advanced local disease

Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V2), nasopharynx, or clivus

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
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Table 6 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Nasal Cavity and Paranasal Sinuses (8th ed., 2017)

(Mucosal melanoma of the nasal cavity and paranasal sinuses are not included)

Regional Lymph Nodes (N) Clinical N (cN)

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(–)
N2		Metastasis in a single ipsilateral lymph node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–)
	N2a	Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–)
	N2b	Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(–)
	N2c	Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(–)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(–); *or* metastasis in any node(s) with clinically overt ENE(+)
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(–)
	N3b	Metastasis in any node(s) with clinically overt ENE (ENE_c)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L).
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
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Table 6 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Nasal Cavity and Paranasal Sinuses (8th ed., 2017)

(Mucosal melanoma of the nasal cavity and paranasal sinuses are not included)

Regional Lymph Nodes (N) Pathological N (pN)

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(–)
N2		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+); *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(–); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(–);
	N2a	Metastasis in single ipsilateral node 3 cm or less in greatest dimension and ENE(+); or a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−)
	N2b	Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(–)
	N2c	Metastases in bilateral or contralateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(–)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−); *or* in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes, any with ENE(+); *or* a single contralateral node of any size and ENE(+)
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(–)
	N3b	Metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral or bilateral nodes, any with ENE(+); *or* a single contralateral node of any size and ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L).
Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

2024 NCCN

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團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 6 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for the Nasal Cavity and Paranasal Sinuses (8th ed., 2017)

(Mucosal melanoma of the nasal cavity and paranasal sinuses are not included)

Prognostic Stage Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T1	N1	M0
	T2	N1	M0
	T3	N0, N1	M0
Stage IVA	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N0,N1,N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Distant Metastasis (M)

M0 No distant metastasis (no pathologic M0; use clinical M to complete stage group)

M1 Distant metastasis

Histologic Grade (G)

GX Grade cannot be assessed

G1 Well differentiated

G2 Moderately differentiated

G3 Poorly differentiated

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
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- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 7

American Joint Committee on Cancer (AJCC)

TNM Staging System for Cervical Lymph Nodes and Unknown Primary Tumors of the Head and Neck (8th ed., 2017)

(Squamous cell carcinoma and salivary gland carcinoma of all head and neck sites *except* HPV-related oropharynx cancer, nasopharynx cancer, melanoma, thyroid carcinoma, and sarcoma. Staging of the patient who presents with an occult primary tumor and EBV-unrelated and HPV-unrelated metastatic cervical lymphadenopathy is also included.)

Regional Lymph Nodes (N)

Clinical N (cN): For patients who are treated with primary nonsurgical treatment without a cervical lymph node dissection.

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(-)
N2		Metastasis in a single ipsilateral lymph node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-); *or* metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension, ENE(-)
	N2a	Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-)
	N2b	Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(-)
	N2c	Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-); *or* metastasis in any node(s) with clinically overt ENE(+) (ENE_c)[2]
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b	Metastasis in any node(s) with clinically overt ENE(+) (ENE_c)[2]

[1]Midline nodes are considered ipsilateral nodes.

[2]ENE_c is defined as invasion of skin, infiltration of musculature, dense tethering or fixation to adjacent structures, or cranial nerve, brachial plexus, sympathetic trunk, or phrenic nerve invasion with dysfunction.

Note: A designation of “U” or “L” may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L). Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).`

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 7 — Continued

American Joint Committee on Cancer (AJCC)

TNM Staging System for Cervical Lymph Nodes and Unknown Primary Tumors of the Head and Neck (8th ed., 2017)

(Squamous cell carcinoma and salivary gland carcinoma of all head and neck sites *except* HPV-related oropharynx cancer, nasopharynx cancer, melanoma, thyroid carcinoma, and sarcoma. Staging of the patient who presents with an occult primary tumor and EBV-unrelated and HPV-unrelated metastatic cervical lymphadenopathy is also included.)

Regional Lymph Nodes (N)

Pathological N (pN): For patients who are treated surgically with a cervical lymph node dissection.

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(-)
N2		Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+); *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-); *or* metastases in multiple ipsilateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(-); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-)
	N2a	Metastasis in a single ipsilateral node 3 cm or less in greatest dimension and ENE(+); *or* a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-)
	N2b	Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(-)
	N2c	Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-)
N3		Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-); *or* metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral nodes any size and ENE(+) in any node; *or* a single contralateral node of any size and ENE(+)
	N3a	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b	Metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral nodes any size and ENE(+) in any node; *or* a single contralateral node of any size and ENE(+)

Anatomic Stage/Prognostic Groups

Stage III	T0	N1	M0
Stage IVA	T0	N2	M0
Stage IVB	T0	N3	M0
Stage IVC	T0	Any N	M1

[1]Midline nodes are considered ipsilateral nodes.

[2]ENE detected on histopathologic examination is designated as ENE$_{mi}$ (microscopic ENE ≤ 2 mm) or ENE$_{ma}$ (major ENE > 2 mm). Both ENE$_{mi}$ and ENE$_{ma}$ qualify as ENE(+) for definition of pN.

Note: A designation of “U” or “L” may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L). Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+).

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
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Table 8
American Joint Committee on Cancer (AJCC)
TNM Staging System for the Major Salivary Glands (8th ed., 2017)
(Parotid, submandibular, and sublingual)

Primary Tumor (T)

TX	Primary tumor cannot be assessed No evidence of
T0	primary tumor Carcinoma *in situ*
Tis	Tumor 2 cm or smaller in greatest dimension without
T1	extraparenchymal extension*
T2	Tumor larger than 2 cm but not larger than 4 cm in greatest dimension without extraparenchymal extension*
T3	Tumor larger than 4 cm and/or tumor having extraparenchymal extension*
T4	Moderately advanced or very advanced disease T4a Moderately advanced disease Tumor invades skin, mandible, ear canal, and/or facial nerve T4b Very advanced disease Tumor invades skull base and/or pterygoid plates and/or encases carotid artery

Note: Extraparenchymal extension is clinical or macroscopic evidence of invasion of soft tissues. Microscopic evidence alone does not constitute extraparenchymal extension for classification purposes.

Regional Lymph Nodes (N)

Clinical N (cN)

N X	Regional lymph nodes cannot be assessed No regional lymph node
N 0	metastasis
N1	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(-)
N2	Metastasis in a single ipsilateral lymph node, larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-); *or* metastases in multiple ipsilateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(-); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-) N2a Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-) N2b Metastases in multiple ipsilateral nodes, none larger than 6 cm in greatest dimension and ENE(-) N2c Metastases in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-)
N3	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-); *or* metastasis in any node(s) with clinically overt ENE(+) N3a Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−) N3b Metastases in any node(s) with clinically overt ENE(+)

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L). Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+)

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 8 — Continued

American Joint Committee on Cancer (AJCC)
TNM Staging System for the Major Salivary Glands (8th ed., 2017)

(Parotid, submandibular, and sublingual)

Regional Lymph Nodes (N) Pathological N (pN)

N X	Regional lymph nodes cannot be assessed No regional lymph node metastasis
N 0	Metastasis in a single ipsilateral lymph node, 3 cm or less smaller in greatest dimension
N1	and ENE(-)
N2	Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension and ENE(+); *or* larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(−); *or* metastases in multiple ipsilateral lymph node(s), none larger than 6 cm in greatest dimension and ENE(−); *or* in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(−)
	N2a Metastasis in a single ipsilateral lymph node 3 cm or smaller in greatest dimension and ENE(+) *or* a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-)
	N2b Metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-)
	N2c Metastases in bilateral or contralateral lymph node(s), none more than 6 cm in greatest dimension and ENE(-)
N3	Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-); *or* in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral nodes any with ENE(+); *or* a single contralateral node of any size and ENE(+)
	N3a Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(−)
	N3b Metastasis in a single ipsilateral node larger than 3 cm in greatest dimension and ENE(+); *or* multiple ipsilateral, contralateral, or bilateral nodes any with ENE(+); *or* a single contralateral node of any size and ENE(+)

Distant Metastasis (M)

M0	No distant metastasis
M1	Distant metastasis

Anatomic Stage/Prognostic Groups

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T0,T1,T2,T3	N1	M0
Stage IVA	T0	N2	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N0,N1,N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Note: A designation of "U" or "L" may be used for any N category to indicate metastasis above the lower border of the cricoid (U) or below the lower border of the cricoid (L). Similarly, clinical and pathological ENE should be recorded as ENE(−) or ENE(+)

2024 NCCN

At this time there is no universal definition for what constitutes a clear/close margin.

- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

Table 9
American Joint Committee on Cancer (AJCC)
TNM Staging System for Mucosal Melanoma of the Head and Neck (8th ed., 2017)

Primary Tumor (T)

T3 Tumors limited to the mucosa and immediately underlying soft tissue, regardless of thickness or greatest dimension; for example, polypoid nasal disease, pigmented or nonpigmented lesions of the oral cavity, pharynx, or larynx

T4 Moderately advanced or very advanced

T4a Moderately advanced disease
Tumor involving deep soft tissue, cartilage, bone, or overlying skin

T4b Very advanced disease
Tumor involving brain, dura, skull base, lower cranial nerves (IX, X, XI, XII), masticator space, carotid artery, prevertebral space, or mediastinal structures

Regional Lymph Nodes (N)

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastases

N1 Regional lymph node metastases present

Distant Metastasis (M) **M0** No distant metastasis **M1** Distant metastasis

Histologic Grade (G)

There is no recommended histologic grading system at this time.

Prognostic Stage Groups

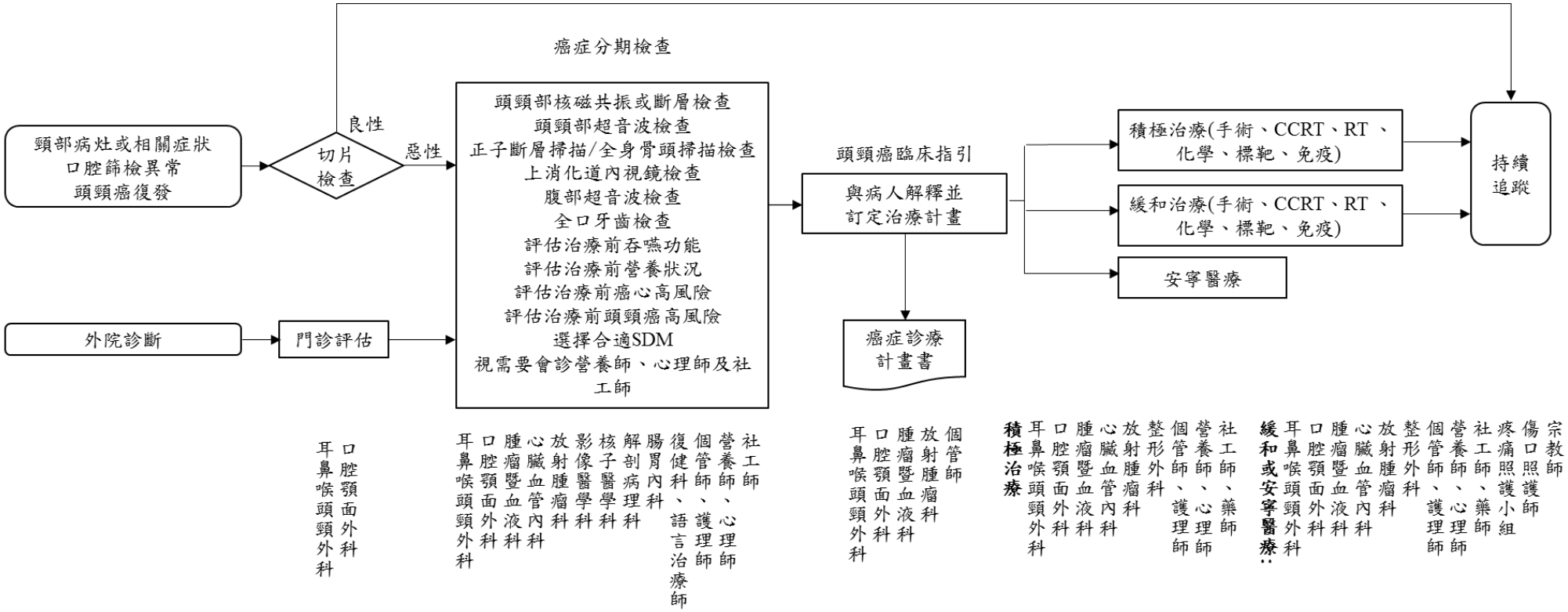
Currently, there is no clear ability to determine prognosis based on histologic differences.

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
- p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
- Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
- Glottic cancers, a 1- to 2-mm margin is considered adequate
- In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable

團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

頭頸癌臨床指引 (cancer of the Head and Neck)

頭頸癌病人治療指引



頭頸癌根治性放射治療指引

根治性**未開刀頭頸癌**之放射治療療程規劃

<table>
<tr><th>同步整合加量放射治療
(Simultaneous integrated boost, SIB)</th><th colspan="2">二~三段階放射治療
(Sequential)</th></tr>
<tr><td rowspan="3">CTV_H：2~2.2 Gy/fx, to 69.3~72.6 Gy
CTV_M：1.8 Gy/fx, to 59.4~63 Gy
CTV_L：1.6~1.8 Gy/fx, to 50.4~56 Gy
照射次數：32~35次，每日1次。每周5次。</td><td colspan="2">段階一第(Phase 1)
照射範圍：CTV_H+CTV_M+CTV_L
量劑方處：44~50 Gy
數次射照：22~25次，每日1次。</td></tr>
<tr><td>段階二第(Phase 2)
照射範圍：CTV_H
累積劑量：66~72 Gy</td><td>段階二第(Phase 2)
照射範圍：CTV_H+CTV_M
累積量劑：54~60 Gy</td></tr>
<tr><td></td><td>段階三第(Phase 3)
照射範圍：CTV_H
累積量劑：66~72 Gy</td></tr>
</table>

積體靶床臨*(clinical target volume, CTV)：腫瘤及其可能侵犯之範圍。
依照風險的高低可以分為 CTV_H、CTV_M及CTV_L。

手術切除後頭頸癌之放射治療療程規劃

<table>
<tr><th>同步整合加量放射治療
(Simultaneous integrated boost, SIB)</th><th colspan="2">二~三段階放射治療
(Sequential)</th></tr>
<tr><td rowspan="3">CTV_H：2~2.2 Gy/fx, to 60~66 Gy
CTV_M：1.8 Gy/fx, to 54~59.4 Gy
CTV_L：1.6~1.8 Gy/fx, to 50.4~56 Gy
照射次數：30~33次，每日1次。每周5次。</td><td colspan="2">段階一第(Phase 1)
照射範圍：CTV_H+CTV_M+CTV_L
量劑方處：44~50 Gy
數次射照：22~25次，每日1次。</td></tr>
<tr><td>段階二第(Phase 2)
照射範圍：CTV_H
累積劑量：60~66 Gy</td><td>段階二第(Phase 2)
照射範圍：CTV_H+CTV_M
累積量劑：54~60 Gy</td></tr>
<tr><td>段階三第(Phase 3)
照射範圍：CTV_H
累積量劑：60~66 Gy</td></tr>
<tr><td colspan="3">手術後若有殘餘腫瘤或轉移性頸部淋巴結 ，則應加強照射劑量至70~74Gy。</td></tr>
</table>

積體靶床臨*(clinical target volume, CTV)：腫瘤及其可能侵犯之範圍。
依照風險的高低可以分為 CTV_H、CTV_M及CTV_L。

頭頸癌根治性放射治療指引:危急器官(organs at risk)及劑量限制表

No.	官器急危	建議制限量劑
1	幹腦	量劑高最< 64 Gy (point dose < 1cc)
2	叉交經神視、經神視	最高劑量< 54 Gy或1%的體積不超過60 Gy
3	顳葉	最高劑量< 60 Gy或1%的體積不超過65 Gy
4	脊髓	量劑高最< 54 Gy
5	中耳與內耳	量劑均平< 50 Gy
6	眼球	量劑均平< 35 Gy
7	眼球水晶體	於小量盡量劑高最12 Gy
8	腺腮	量劑均平< 26 Gy
9	節關頷下顳、骨頷下	量劑高最< 70Gy或1 cc的體積過超不75 Gy
10	口腔	於低量盡量劑均平50 Gy
11	帶聲	量劑均平< 45 Gy
12	食道	於低量盡量劑均平35 Gy
13	腺狀甲	30Gy的體積於低量盡62.5%
14	臂神經叢	最高量劑< 66 Gy

*如果靶體積與危急器官之劑量限制有抵觸，原則上以重要性較高之 危急器官為主要考慮，但最終決定由主治醫師作出判斷。

頭頸癌高危險群病人及高風險之臨床醫療照護，標準作業程序目錄

高風險定義

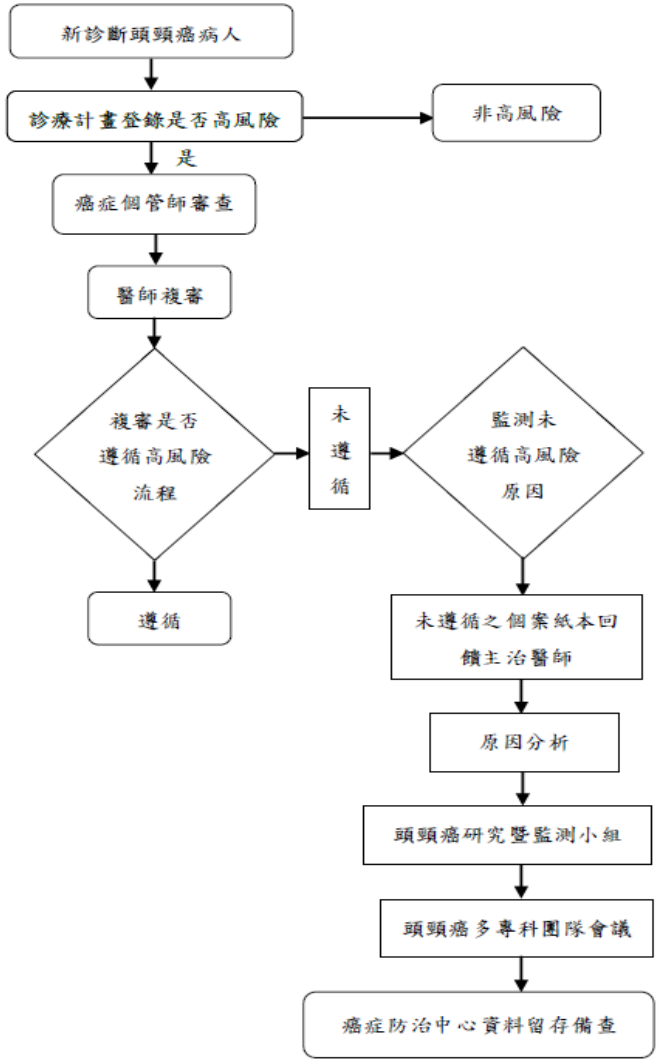
頭頸癌治療以手術、放射線治療、化學治療為主。或因區域位置可探性不同，或因功能保存等因素而有不同治療首選。以下列出之高風險因子，可能在治療前因風險過高導致治療計畫由較侵入性的手術轉為放射線和化學合併治療，或是在治療前因風險過高建議必須先進行侵入性手術，或是在最後的安寧緩和階段可能導致病人死亡等。

1. 全身性系統性疾病：心肺功能不全（Unstable angina、recent myocardial infarction、decompensated heart failure、COPD FEV1 < 50%）、肝腎功能不全（Ccr <30、cirrhosis child C）、中風後performance status差（ECOG 3-4）
2. 年齡>70歲且有虛弱症(ECOG3-4)的病人
3. 長期服用免疫抑制劑
4. 凝血功能不全：liver cirrhosis導致血小板不足、PT、APTT prolonged等
5. 腫瘤因素導致潛在性呼吸道壓迫：tongue、tongue base、mouth floor、 hypopharynx、larynx等位於中線位置腫瘤，太大(T4b)有可能造成慢性呼吸道壓迫，嚴重的頸部轉移(N3b)也有呼吸道壓迫風險，另外病人若是有嚴重張口受限導致插管困難，以上皆是建議進行預防性氣管切開術之適應症。
6. 腫瘤因素導致潛在性出血風險：腫瘤侵犯血管造成出血，或是過於靠近大血管（tumor engage common carotid artery, T4b）。
7. 營養狀況:

- Cachexia/Severe weight loss:BWL >5% in one month、BWL >10% in two to six month
- 吞嚥攝影scale1-5分，但病人依據營養科體重指標，BW一個禮拜下降>2%，一個月體重下降>5%。

高風險病人監測機制

作業流程



提示說明/相關表格

一.監測對象：

新診斷頭頸癌(全)的病人，並於本院接受全部或部分的首次療程；及他院診斷，於本院接受全部或部分的首次療程(class 1及class 2)。

二.監測頻率及時間點：

以季為單位(3月、6月、9月、12月)，舉例:6月監測1-3月的病人。

三.人員：

(1) 審查人員:頭頸癌個管師

(2) 複審人員:頭頸癌多專科團隊核心成員(醫師)

四.監測方法:

依據本院頭頸癌高危險群病人及高風險之臨床醫療照護，標準作業程序進行監測。

五.頭頸癌高風險定義：

(1) 全身性系統性疾病：心肺功能不全（Unstable angina、recent myocardial infarction、decompensated heart failure、COPD FEV1 < 50%）、肝腎功能不全（Ccr <30、cirrhosis child C）、中風後performance status差（ECOG 3-4）

(2) 年齡>70歲且有虛弱症的病人

(2) 長期服用免疫抑制劑

(3) 凝血功能不全：liver cirrhosis導致血小板不足、PT、APTT prolonged等

(4) 腫瘤因素導致潛在性呼吸道壓迫：tongue、tongue base、mouth floor、hypopharynx、larynx等位於中線位置腫瘤，太大(T4b)有可能造成慢性呼吸道壓迫，嚴重的頸部轉移(N3b)也有呼吸道壓迫風險，另外病人若是有嚴重張口受限導致插管困難，以上皆是建議進行預防性氣管切開術之適應症。

(5) 腫瘤因素導致潛在性出血風險：腫瘤侵犯血管造成出血，或是過於靠近大血管（tumor engage common carotid artery, T4b）。

(6) 營養狀況:

- Cachexia/Severe weight loss:BWL >5% in one month、BWL >10% in two to six month
- 吞嚥攝影scale1-5分，但病人依據營養科體重指標，BW一個禮拜下降>2%，一個月體重下降>5%。

六.頭頸癌高風險病人流程:

病人於診斷期經醫師判定為高風險，需於診療計畫書上點選高風險病人符合之條件，並且召開家庭會議或提報多專科團隊會議討論。

嗓音及吞嚥復健指引

一. 頭頸癌患者復健簡介

口腔、鼻、及咽喉組成人體上吸道及上消化道，此通道和我們的呼吸、說話及進食有密不可分的關係。當腫瘤發生於上述部位，即統稱為頭頸癌；常見有口腔癌、鼻咽癌、口咽癌、下咽癌、喉癌等，目前口腔癌已是導致國人男性癌症死亡的第四名殺手。頭頸癌的治療常常需要合併手術、放射線或化學治療，在清除腫瘤細胞同時也可能破壞正常組織，造成說話及進食功能受影響，可能常見出現的困難有：**1.構音障礙、2.嗓音問題、3.吞嚥障礙、 4.**嗆咳造成吸入性肺炎的評估與預防。過去病患常在治療完成後，發現說話及吞嚥功能嚴重受損時，才考慮復健，可能讓復健成效不佳。近年來，病患的早期復健愈來愈受重視，亞東醫院頭頸癌醫療團隊在選擇治療計畫同時，會考慮治療對說話及吞嚥功能的可能影響，醫師團隊會安排語言吞嚥治療師評估及諮商，及早介入說話及吞嚥復健，以提升治療後病患生活品質(圖1)。

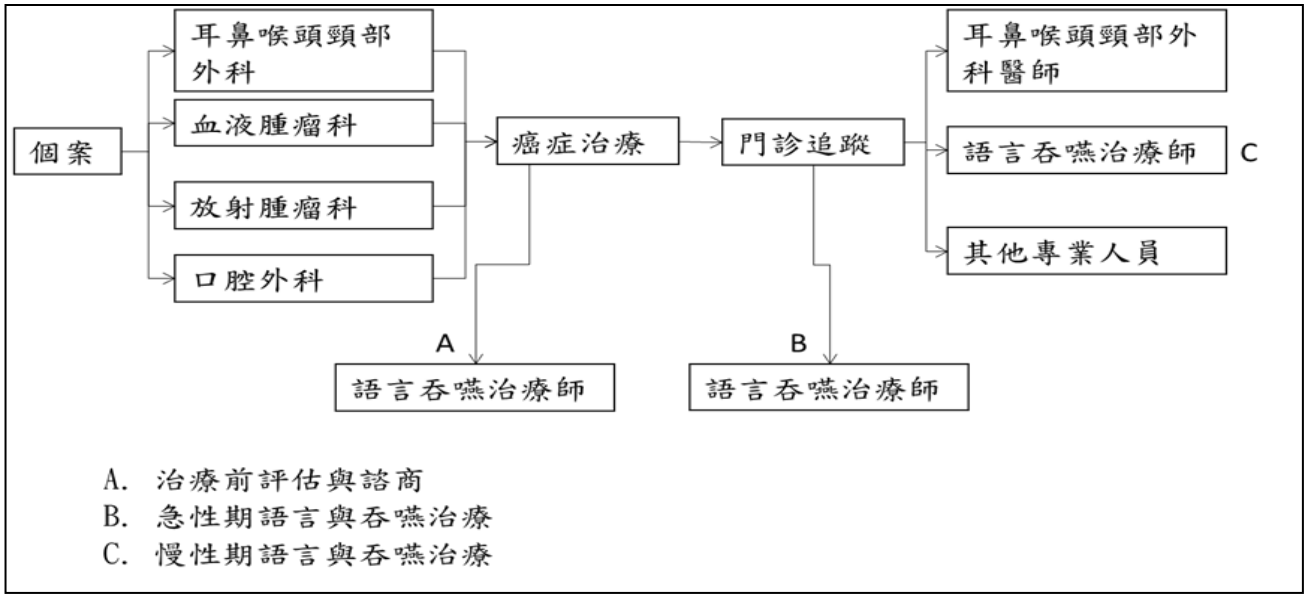


圖1.亞東醫院頭頸部腫瘤照護流程圖

嗓音及吞嚥復健指引

二、醫學處置對吞嚥及言語造成的可能影響

頭頸癌的治療常需要合併手術、放射線或化學治療，清除腫瘤細胞同時可能破壞正常組織，可能造成的影響如:

(一)手術:1.組織切除和重建造成肌肉彈性、力量和活動範圍下降、組織密合度受影響。2.食團控制、食物後推及咀嚼能力下降3.鼻腔逆流4.吞嚥反射起動時間延遲5.喉部上抬及咽部收縮力量下降6.呼吸道保護變差

(二)放射線及化學治療:1.口腔黏膜炎2.放射性皮膚炎3.口乾症(xerostomia)4.肌肉纖維化(fibrosis)5.牙關緊閉(trismus)6.食道狹窄7.味覺及嗅覺改變8.聽力損失

三、頭頸癌的言語復健

說話功能評估包括「構音」及「嗓音」兩大部分。以下針對構音及嗓音的評估與復健加以介紹：

壹. 構音

(一)構音功能

「構音」指的是發出語音的複雜動作：來自肺部的氣體通過聲帶，流經構音器官─唇、齒、舌、顎、咽，藉以發出清晰的語音；如果發音過程中某個構音器官有缺陷或不協調，發出來的語音不正確，即會產生構音問題。頭頸癌腫瘤本身即會壓迫唇、頰、舌、顎造成構音問題、這些部位的切除造成閉合不良、肌肉力量及活動範圍不足，以及放射線及化學治療使唾液減少、口腔破皮、潰瘍及發炎、嘴巴無法打開(牙關緊閉)，都可能使說話清晰度降低。

(二)構音功能之評估

包括言語機轉評估 、呼吸發聲共鳴評估 、口腔構造功能檢查 、臉唇齒舌顎咽評估 、口腔輪替動作及進食狀況評估

嗓音及吞嚥復健指引

(三)構音復健指引：

1. 增加構音器官力量：受影響構音器官(包含唇、舌、臉頰、顎)肌肉阻抗練習，以壓舌板、海綿棒或手向構音器官活動相反方向施力，而肌肉需朝活動方向盡力抵抗。阻抗運動從維持3秒鐘開始，視肌肉組織力量的增加慢慢延長抵抗時間，需做到極限以促進肌纖維的增長。
2. 增加構音器官活動範圍(range of motion, ROM)：

1) 嘴唇:噘嘴發"ㄨ"、"一"，以及交替說"ㄨ"、"一"十次，動作盡量大。

2) 舌頭:舌頭盡量往前伸出、往後縮回；伸出口腔往上翹、往下舔、往左右嘴角移動。

3. 放慢說話速度：放慢說話速度使構音動作能較為完整、確實，以提升整體興清晰度。
4. 誇大構音：加大構音器官的動作以提升構音準確性。

貳. 嗓音

(一)嗓音功能

「嗓音」指的是說話時的聲音，通常考量聲音的音質、音量、音調。嗓音異常指的是：說話時嗓音的音質、音量、音調或彈性異於同年齡、同性別、同文化團體中的其他人，或自覺有嗓音問題者。腫瘤本身壓迫聲帶及呼吸道可能造成聲音沙啞及發聲困難，部分喉切除術後會使聲音沙啞及氣息聲，全喉切除病人在術後則無法說話；放射線治療後喉部部周圍水腫及頸部肌肉纖維化會使聲音沙啞，這些都會影響聲音的品質及發聲。

嗓音及吞嚥復健指引

(二)嗓音功能評估 ：包括聲帶振動特徵評價，發音質量的主、客觀評估，氣流動力學喉功能評估，喉神經肌肉電功能評估，影像學評估等方面。

(三)嗓音復健指引：

1. 聲帶功能練習(vocal function exercise)：
   1) 輕輕說"一"，說得越長越好，且盡量保持聲音穩定。
   2) 說"ㄋㄡ"(NO)音，由低音滑到高音。
   3) 說"ㄋㄡ"(NO)音，由高音滑到低音。
   4) 以"ㄡ"音來唱Do、Re、Mi、Fa、Sol，每個音盡量拉長且維持穩定。
2. 軟起聲練習。
3. 共鳴練習。
4. 全喉切除患者言語復健：練習食道語、氣動式人工發聲器、電動式人工發聲器、發聲瓣的使用。

四. 頭頸癌患者的吞嚥功能評估及復健

(一)正常的吞嚥

「吞嚥」指食物或液體由嘴巴進入胃中的一個複雜過程。正常的吞嚥過程包含四期：1.口腔準備期：將食物咀嚼磨碎形成食團。2.口腔期：將食團後送引起吞嚥反射。3.咽部期：吞嚥反射將食團推到食道上方。4.食道期：食團通過食道進入胃中。任一吞嚥期間的動作或流程延遲、不完整將改變食物流向，造成食物哽嗆或嗆咳。

嗓音及吞嚥復健指引

(二)常見的吞嚥問題

1. 嘴唇閉合不佳：容易流口水，進食時食物由嘴唇溢出。
2. 兩頰張力不足：食物散落到牙齒外側，不易形成食團。
3. 舌頭控制不良：無力或活動不佳，食團無法由前向後推送、黏附在上顎或口底。
4. 顎咽功能障礙：食團逆流到鼻腔。
5. 口腔感覺敏感度降低：延遲吞嚥反射，造成食物堆積或是嗆咳。
6. 舌根與咽壁接觸減少：感覺吞不下去或吞不乾淨。
7. 呼吸道關閉不良：容易嗆到。
8. 唾液減少：固體食物易黏於口中。

(三)吞嚥功能的評估方式

1. 口腔運動功能：包含嘴唇閉合、兩頰力量、舌頭力量及活動度、軟餓上提、咀嚼、發聲能力、咳嗽力量等。
2. 嘗試吞嚥功能評估(trial swallow)：依序及依病人狀況給予少量液體、濃稠液體、糊狀食物、軟質食物或固體食物，在實際吞嚥過程中評估喉部上抬能力、吞嚥反射時間、食物殘餘(residue)、是否嗆咳及清除食物殘餘能力。
3. 儀器檢查：包含電視螢光吞嚥攝影(Videofluoroscopic swallowing study)、纖維內視鏡吞嚥檢查(Fiberoptic Endoscopic Examination, FEES)。

(四)吞嚥障礙的治療方式

1. 代償性治療方法：包含調整食物質地、味道、溫度以及調整進食姿勢

嗓音及吞嚥復健指引

2. 口腔動作運動：改善唇、頰、舌、顎、喉部及咽部肌肉的力量及增加可活動範圍。
3. 吞嚥手法：

1) 多次吞嚥法：增加吞嚥的次數，將堆積的食團吞乾淨。
2) 上聲門吞嚥法：利用「閉氣、吞嚥、咳嗽」的步驟進行吞嚥動作，可避免食團嗆入呼吸道。
3) 超上聲門吞嚥法：利用「用力閉氣、吞嚥、咳嗽」的步驟進行吞嚥動作，可關閉呼吸道入口，避免食團嗆入呼吸道。
4) 用力吞嚥法：吞嚥的時候喉部肌肉用力擠壓，可增加舌根向後移動，清除會厭谿的殘留。
5) 孟德爾森吞嚥法：吞口水時讓喉部停留在上方數秒，增加喉部上抬的幅度與時間，減少梨狀竇殘留。
6) Masako吞嚥法：輕輕咬住舌頭乾吞口水，可增加咽部收縮的力量。

4. 深咽神經肌肉刺激(Deep pharyngeal neuromuscular stimulation)

五、結語

醫學為生命延長壽命，復健為壽命添增生命。頭頸癌治療或多或少會為病人帶來語言、吞嚥的後遺症。在頭頸癌治療團隊的通力合作下，早期的介入頭頸癌患者的語言與吞嚥評估與治療，將為患者延長壽命外更添加生活品質。

嗓音及吞嚥復健指引

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頭頸癌根治性暨重建手術指引(共識)

一、目的: 為提升頭頸癌病患於本院治療之效率，及提高頭頸癌病患照顧品質，特訂定本指引(共識)

二、資格限制:

科別	職稱	證照
耳鼻喉頭頸外科	廖立人主任	耳鼻喉專科醫師暨頭頸部腫瘤專科醫師
	羅武嘉主任	耳鼻喉專科醫師暨頭頸部腫瘤專科醫師
	吳伯軒醫師	耳鼻喉專科醫師暨頭頸部腫瘤專科醫師
口腔暨顎面外科	林秉毅主任	口腔外科專科醫師
	郭英雄教授	口腔外科專科醫師
	楊濡瑄醫師	口腔外科專科醫師
	周厚江醫師	口腔外科專科醫師
整形外科	張惇皓醫師	整形外科專科醫師
	阮廷倫醫師	整形外科專科醫師

頭頸癌根治性暨重建手術指引(共識)

三、背景:

1. 亞東醫院有完整的頭頸癌治療團隊
2. 針對根治性暨重建手術因為需要跨團隊的治療
3. 過去有時因為排程需要讓病患先進行化療，才進行根治性手術；病患可能因此轉院治療。
4. 為提升頭頸癌病患於本院治療之效率，提高病患照顧品質，訂定本辦法。

四、病歷回顧

項目	2019/09到2020/08	2020/10/12 到 2021/01/31
決定開刀至手術日的平均天數	23.3 days	19.8days
開刀當天等待時間	163.2 min	85 min
手術結束時間	20:41	20:26

五、他院狀況:

NO	醫院	手術房間	接刀時間	結束轉送	開刀數	其他
1	臺大	ENT combine 房，一週星期四一線	AM 8:00	SICU 或 BICU, PS 安排	1週1台	PS Fellow 開刀; 等四週者 Bridge CT
2	馬偕	ENT 或 PS 協調	該科先開2-3hr，再接刀	兩天前訂 SICU, 沒有到 BICU或 NICU，一定有 ICU	一週最多三台	PS Fellow 12:00~20:00 值班; 約2-3 週可以排到刀，不會 Bridge CT
3	中榮	PS 房間	AM 8:00	PS會安排 SICU 或 BICU	週1-5　都有 PS 可以配合flap 重建, 一天最多兩台	1-2週可以排到刀
4	高榮	用 ENT或 PS 的線	AM 8:00	定 SICU會保留床位	週1-5　都有 PS 可以配合flap 重建	1-2週可以排到刀
5	慈濟	PS 房間(PS 一天兩線)	PS 開完再接	SICU 或 BICU, PS 安排	週1-5都有 PS 可以配合flap 重建;	排刀約等1週，年100台

頭頸癌根治性暨重建手術指引(共識)

六、頭頸癌照護團隊運作標準模式

1. 於耳鼻喉科/口腔外科切片並確診頭頸部癌症
2. 門診或住院安排腫瘤分期檢查 (頭頸部核磁共振檢查,全身骨骼掃描檢查,頭頸部超音波,上消化3.道內視鏡檢查,腹部超音波檢查,全口牙齒檢查)，並填寫癌症診療計畫書
3. 評估治療前吞嚥功能及安排吞嚥攝影
4. 召開治療前頭頸癌多專科團隊會議
5. 確定以聯合手術作為主要治療後，召開頭頸癌聯合手術會議決定術式方向。 (耳鼻喉科、口腔外科、整形外科)
6. 召開術前家庭會議，解釋手術術式及術後照顧等。
7. 安排住院接受手術治療
8. 照會社工及營養師
9. 術後照顧及安排後續治療計劃
10. 治療後持續門診追蹤

頭頸癌根治性暨重建手術指引(共識)

七、 實施辦法及流程

1. 臨床上頭頸外科及口腔外科醫師判斷頭頸癌患者須進行頭頸癌跨團隊根治性暨重建手術時發動
2. 聯絡整形外科團隊，協調手術時間，依共識進行(附件2)
3. 確定手術時間(或住院時)通知開刀房(控台或護理長宥均88038)及外科加護病房(88096 ICU輪值NP,下班時段為值班CR)
4. 需同時通知該病人進住之一般病房。(但書:若手術當天ICU無法空出床位，則ICU跟原病房一床換一床)
5. 原則一週一台為上限，往後視情況調整
6. 病患取消時也要通知開刀房(控台或宥均)及外科加護病房(88096 ICU輪值NP,下班時段為值班CR)
7. 需依照開刀房規定完備術前準備(癌症診療計畫說明書、手術同意書、術前評估等)(check list 附件 3)
8. 須依本院照顧病患原則完備歷程(包括EBM, 手術紀錄、病歷紀錄等)
9. 頭頸癌團隊或開刀房管委會得定期檢視診治歷程，如有嚴重違規，得經頭頸癌團隊或開刀房管委會決議，要求改善、甚至暫停或取消資格

頭頸癌根治性暨重建手術指引(共識)

附件2. 頭頸癌跨團隊根治性暨重建手術流程共識

1. 10/12開始每週多1個順位給頭頸癌combine，手術病人不等ICU床，早上8點接刀。（使用非c-arm房22或24）、（週1～週5任選1天）、（ICU床後喬，若當天無法轉出空床，則由頭頸癌病人原病床接受ICU轉出病人）。
2. 由ENT、口外先與整外協調出開刀日期後，由主責醫師向手術控台booking，先以每週一台為限，之後是否增加提管委會滾動式檢討。
3. 適用術式：Free flap、PM flap、 ALT flap。
4. 不需ICU床的combine 手術也適用。
5. 管委會每季報告、6個月觀察期。

頭頸癌根治性暨重建手術指引(共識)

附件3. 頭頸癌跨團隊根治性暨重建手術術前check list

1. 需有手術前團隊會議記錄或是家庭記錄
2. 通知整形外科醫師
3. 通知 OR
4. 通知 SICU
5. 通知 一般病房 (有可能開刀日會跟ICU一床換一床)
6. 癌症診療計畫說明書
7. 手術同意書
8. 術前麻醉評估、備血
9. 照會其他團隊成員
    a. 營養師、復健師、牙科(可看之前staging有無照會過)

頭頸癌常見第四級副作用處理原則

1. Leukopenia or Neutropenia: WBC < 1000/mm3 or absolute neutrophil count < 500 mm3
   - 建議停藥
   - 給予白血球生長激素
   - 下次化療調整劑量
2. Anemia: Life-threatening consequences; urgent intervention indicated
   - 建議停藥
   - 輸血
   - 下次化療調整劑量
3. Thrombocytopenia: Platelet < 25000/mm3
   - 建議停藥
   - 視出血傾向考慮輸血
   - 下次化療調整劑量
4. Liver function abnormality: AST/ALT >20 x ULN, Total bilirubin >10 x ULN
   - 建議停藥

頭頸癌常見第四級副作用處理原則

5. Renal function abnormality: Cr >6.0 x ULN
   - 矯正其他可處理因素，如脫水、感染等
   - 處理伴隨腎功能異常產生之電解質異常或體液累積
   - 停藥或更換藥物
6. Vomiting: Life-threatening consequences; urgent intervention indicated
   - 建議停藥
   - 營養支持
7. Diarrhea: Life-threatening consequences; urgent intervention indicated
   - 建議停藥
   - 評估體重，尿量，電解質平衡
   - 水分補充與營養支持
   - 藥物症狀治療
   - 查找其他腹瀉原因，糞便化驗培養

頭頸癌常見第四級副作用處理原則

8. Mucositis: Life-threatening consequences; urgent intervention indicated
   - 建議停藥
   - 傷口處理及保持口腔清潔
   - 止痛症狀控制
   - 營養支持，管灌飲食與點滴支持
9. Mucositis: Life-threatening consequences; urgent intervention indicated
   - 建議停藥
   - 傷口處理及保持口腔清潔
   - 止痛症狀控制
   - 營養支持，管灌飲食與點滴支持
10. Skin rash: Life-threatening consequences
    - 建議停藥
    - 會診皮膚科
11. Neuropathy: Life-threatening consequences; urgent intervention indicated
    - 建議停藥
    - 查找其他原因

頭頸癌常見第四級副作用處理原則

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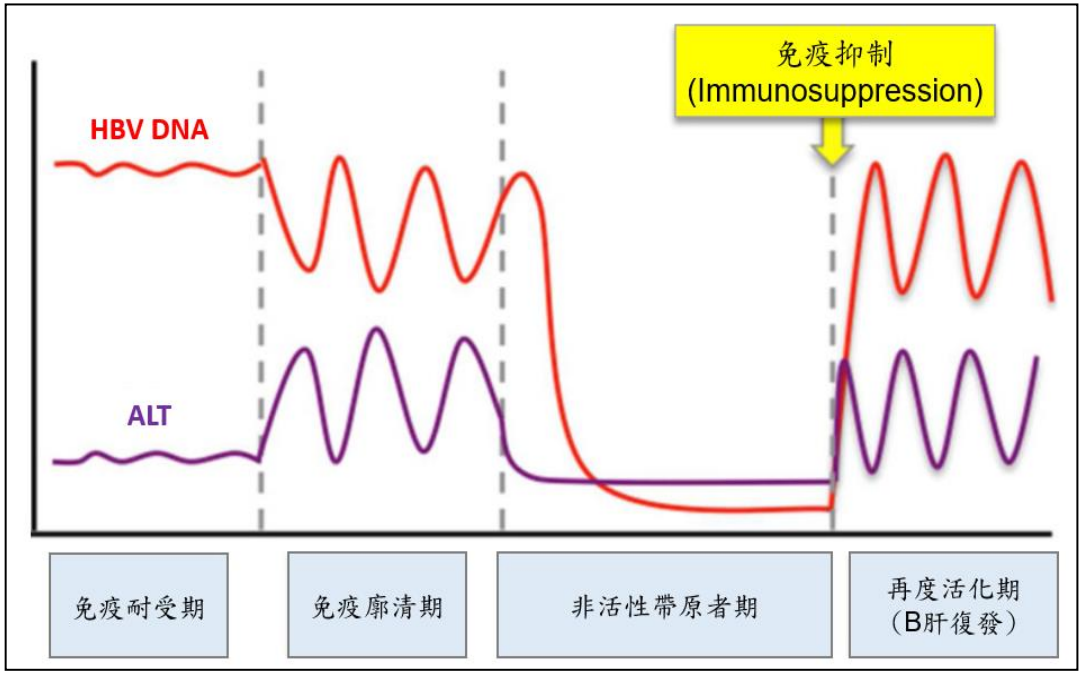
頭頸部癌症患者治療前B、C型肝炎治療指引

一、簡介:

近年，隨著化學治療藥物及生物製劑的進步，免疫抑制療法(Immunosuppressive therapy)有漸增的趨勢，然而，伴隨強力免疫抑制的風險，便是患者本身潛在感染疾病的復發，其中以病毒性肝炎復發較為常見。而病毒性肝炎在台灣的盛行率偏高，可謂國病，此重要議題值得臨床醫師與病患關切。因此，在癌症病患實施化學治療前，詳細評估病人肝功能及審視病人有否有B、C型肝炎帶原及其感染狀態十分重要，並適當投與預防性肝炎抗病毒藥物，防止病人因治療造成肝炎病毒活躍，繼發肝炎急性發作，甚至因猛爆性肝炎而有生命危險。



Alissa Visram, et al. "Defining and grading HBV reactivation" *AASLD, 2015*

頭頸部癌症患者治療前B、C型肝炎治療指引

二、B型肝炎

1. 感染狀況
   a. 需從3個指標來看：**表面抗原（HBsAg）、表面抗體（Anti-HBs）、核心抗體（Anti-HBcIgG）**。感染過B肝的人，不管後來成為帶原者或是恢復者，其Anti-HBcIgG都會長期呈陽性。
   b. **慢性B肝帶原者**(chronic hepatitis B)為**表面抗原呈陽性超過六個月**。在1986年實施新生兒全面施打B肝疫苗前，台灣人最常見的B肝病毒感染途徑為出生前後的母子垂直感染，年齡愈小受感染、愈容易變成慢性帶原者，因此在1986年前出生者，高達15%～20%為B肝帶原者，病毒再活化的風險最高。
   c. **康復型B肝患者(Resolved hepatitis B)是**曾經感染過B肝的非帶原者，為**HBsAg(-)、Anti-HBcIgG(+)**。對於這類康復型B肝患者，檢測Anti-HBsAb是人體是否對B肝病毒產生免疫力的象徵，因此若**Anti-HBsAb(+)**，屬於體內B肝病毒再活化風險較低者；反之若**Anti-HBsAb(-)**，體內B肝病毒再活化風險較高。
2. 復發定義
   a. 慢性B肝帶原者: 復發定義為 HBV DNA上升超過標準值。在免疫抑制療法下，復發機率高達70%。
   b. 康復型B肝患者: 復發定義為HBs Ag復陽(reversion)或是血中HBV DNA的出現。在免疫抑制療法下，復發機率約為41.5%。

頭頸部癌症患者治療前B、C型肝炎治療指引

3. B 肝復發病程
   a. **隱性復發期(silent reactivation):** 因免疫抑制，體內病毒量開始上升，但是血中肝指數則為正常或輕微上升。
   b. **肝炎復發期(HBV associated hepatitis):** 免疫抑制療法結束後，免疫系統逐漸恢復，並開始攻擊受感染的肝細胞，造成臨床上、生化血清學上或病理組織學上的肝炎現象。
   c. **猛爆性肝炎(fulminant haptic failure):** 少部分病人則可能進展至嚴重肝炎情形，大量肝細胞死亡，血中HBV DNA以及肝指數大幅上升，造成肝臟生理功能停擺，出現肝功能異常、肝腦病變、凝血功能異常等症狀，死亡率可高達四成。
4. 復發風險
   a. B肝復發風險與B肝感染狀態的關係:

風險高低	血清學特徵	健保是否給付預防用藥
高度風險	HBsAg(+), Anti-HBc(+), Anti-HBs(-)	是
中度風險	HBsAg(-), Anti-HBc(+), Anti-HBs(-)	否
低度風險	HBsAg(-), Anti-HBc(+), Anti-HBs(+)	否

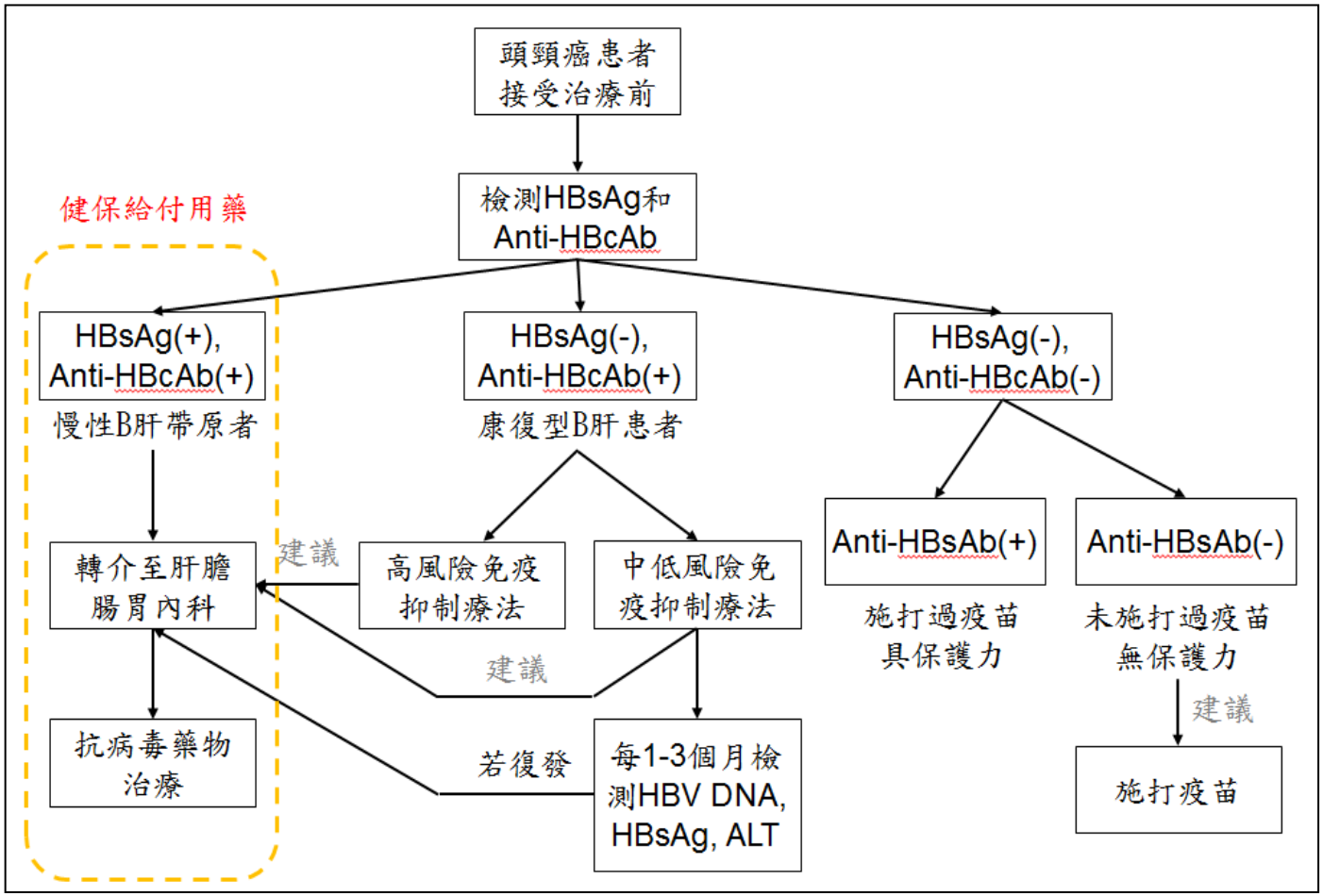
頭頸部癌症患者治療前B、C型肝炎治療指引

b. B肝復發風險與**免疫抑制藥物種類**與**使用的時間**的關係:

風險高低	免疫抑制藥物種類與使用時間
高度風險	接受癌症化學治療 接受 B 細胞抑制劑(如rituximab)等強效免疫抑制劑藥物。 使用中高劑量類固醇（每日 10-20 毫克以上）且治療時程大於 4 週 接受骨髓移植
中度風險	接受生物製劑或某些具免疫抑制能力的標靶藥物 (如TNF-α therapy, cytokine inhibitor, integrin inhibitor, TKI等等) 使用低劑量類固醇（每日小於 10 毫克）但治療時程大於 4 週。
低度風險	使用任何劑量類固醇但治療時程小於 1 週 使用非類固醇的傳統免疫抑制劑。

頭頸部癌症患者治療前B、C型肝炎治療指引

5. 癌症治療前之B型肝炎評估與治療流程

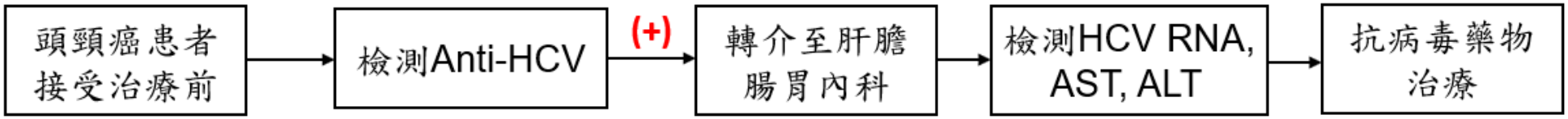


目前健保規定: 慢性B型肝炎帶原者在接受癌症化學療法中，經照會消化系專科醫師同意後，可於化學療法前1週開始給付使用，直至化學療法結束後6個月，以預防B型肝炎發作。

頭頸部癌症患者治療前B、C型肝炎治療指引

三、C型肝炎

1. 在台灣，C型肝炎是僅次於B肝的肝病殺手，臨床上皆證實與肝硬化、肝癌有關。然而，過去C型肝炎礙於治療的副作用甚鉅，藥物交互作用(Drug-drug interaction)機率較高，病人順應性不佳，臨床治療的執行往往窒礙難行。所幸，2014年全新的口服C肝藥物問世，改寫了C肝治療的歷史，治癒C型肝炎不再是遙不可及的終點，規律服藥8-12周，治癒率可達九成以上。為免於因免疫抑制療法造成C型肝炎的活化，應於治療前，例行接受C型肝炎抽血檢測，篩出潛藏的C型 肝炎患者，給予積極治療。
2. 癌症治療前之C型肝炎評估與治療流程:



目前健保規定: ALT 值異常，且 Anti-HCV 與 HCV RNA 均為陽性者。

頭頸部癌症患者治療前B、C型肝炎治療指引

四、參考文獻

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高齡且虛弱頭頸癌病患處理原則

一、定義：年齡超過70歲，體能狀況(ECOG) grade 3-4

二、治療前評估

1. 共病 (Comorbidity)：參考CCI (Charlson Comorbidity Index)及亞東頭頸癌團隊決議，心肺功能嚴重不全（Unstable angina、recent myocardial infarction、decompensated heart failure、COPD FEV1 < 50%）、肝腎功能嚴重不全（Ccr <30、cirrhosis child C）病患治療需更加注意。

- **心臟疾病**：轉介心臟腫瘤專門醫師評估心臟功能，整合慢性疾病篩檢及控制，並定期監測。
- **肺部疾病**：如為嚴重之慢性肺病，如慢性阻塞性肺病等，應轉介胸腔科評估使用藥物控制疾病，降低治療風險；視情況追蹤胸部檢查，注意併發肺炎之風險性。
- **肝功能不全**：視情況考慮減少化學治療的使用；另頭頸癌治療常用藥物中，taxane紫杉醇於肝功能不佳患者須做劑量調整，並特別小心副作用；治療過程中密切監測肝功能，避免過度脫水易誘發肝腎症候群；轉介腸胃科醫師共同追蹤肝硬化。
- **腎功能不全**：藥物選擇可從cisplatin更換為carboplatin，如為放射化療合併治療，可考慮以口服ufur或是標靶藥物cetuximab取代傳統化療cisplatin，或視情況選擇單獨放射治療；注意感染或脫水可能造成之腎功能惡化甚至洗腎的風險；避免腎毒性的藥物。

高齡且虛弱頭頸癌病患處理原則

2. 營養 (Nutrition)：

- 以BMI (Body Mass Index)及近6個月體重下降狀況評估營養狀態。
- 會診營養師進行指導與建議，與輔助性營養補充品的評估使用，以提供足夠的熱量、蛋白質與所需營養成分。
- 頭頸癌病患更應特別注意口腔清潔、蛀牙照護處理及口腔黏膜炎之護理，以促進進食的穩定性。
- 頭頸癌病患因腫瘤位置或治療本身，容易造成吞嚥功能障礙，高齡虛弱病患本身也容易併有吞嚥功能障礙，故治療前進行吞嚥功能檢查，評估吞嚥訓練與復健，有助於病患維持營養，及決定是否需要提早鼻胃管管灌進食。

3. 多藥性 (Polypharmacy)：

- 檢視病患所有用藥 (包含在診所或其他科門診開立之慢性病用藥)，評估是否有不須使用或重複用藥。
- 檢視用藥與用藥或用藥與治療用藥間之交互作用 (drug-drug interaction)，視情況會診藥師進行評估。

4. 家庭社會支持 (Social support)：

- 證據顯示低社會支持與高死亡風險是有相關性的，頭頸癌病患也是一群支持系統與社經地位相對較差的族群，需評估病患的社經地位與支持系統，例如獨居與否、居住環境、親友照顧、收入與經濟問題等，轉介社工，以獲得更好的支持與協助。
- 考慮轉介養護機構以達到更妥善的照護。
- 本院頭頸癌病患，尤其是需行放射化療合併治療之病患，社工可提供營養補充品的支持方案，協助病患於治療期間有較好的營養支持。

高齡且虛弱頭頸癌病患處理原則

三、治療選擇與考量

高齡且有虛弱症之頭頸癌病患，其手術、放療、化療會視每位病患之個體情況差異而訂定個別的治療調整，須審慎評估是否仍可行definitive treatment，還是改為palliative treatment甚至best supportive care，建議提報團隊討論或是舉行家庭會議，最後會參考多專科專業意見及彙整家屬/病患家庭情況，做出適當之個人化醫療決策。

1. 手術：

●實際年齡並非是可否手術的唯一考量，需同時評估病患的共病症、認知與體能/器官功能、與營養狀態

●會診麻醉科共同評估手術風險，以相關風險量表進行評估（例如ACS NSQIP Surgical Risk Calculator, American College of Surgeons National Surgical Quality Improvement Program Surgical Risk Calculator）。

2. 放射治療：

- 治療前與病患及家屬詳細分析接受放射治療之利弊、副作用、與劑量次數選擇。
- 放射治療劑量可能須視病患情況進行調整。
- 頭頸癌放射治療造成之黏膜炎會產生後續的疼痛與營養問題，除了可依照本院頭頸癌放射治療病患口腔照護作業規範W14030-02-002進行積極照護外，也需盡早給予疼痛控制與營養支持介入，例如置放鼻胃管或予以點滴支持。
- 若同時合併化學治療，更需特別注意副作用與照護。

高齡且虛弱頭頸癌病患處理原則

4. 化學治療與標靶治療：

- 需參考病患年齡、性別、身高、體重、器官功能、體能、治療藥物種類等進行綜合評估。
- 高齡的頭頸癌病患，治療的藥物及劑量勢必需要調整，無法手術之病患若需進行放射治療，可考慮行單獨之放射治療，若評估可行放射化療合併治療，也可考慮以口服ufur或是標靶藥物cetuximab取代傳統化療cisplatin 。
- 高齡且虛弱之病患，需審慎評估是否改採palliative treatment緩和醫療，或是單獨放射治療。
- 可參考Cancer and Aging Research Group Chemo Toxicity Calculator預估病患接受化學治療可能產生grade 3-5副作用的風險高低，協助進行化療與否的評估。

5. 免疫治療

- 大型臨床試驗中多半不收案年老病患，部分小型研究顯示年老與年輕病患接受免疫治療的效果相當，但須小心副作用風險可能略高。
- 須小心免疫相關副作用(immune-related adverse event, irAE)的發生，與發生後高劑量長時間類固醇的使用，可能產生後續感染風險、及對原本共病狀態及認知功能的影響。

高齡且虛弱頭頸癌病患處理原則

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嚴重共病症頭頸癌病患處理原則

一、定義：心、肺、肝、腎功能嚴重不全

依據亞東頭頸癌團隊決議，訂為Unstable angina、recent myocardial infarction、decompensated heart failure、COPD FEV1 < 50%、Ccr < 30、cirrhosis child C。

二、治療前評估

1. 心臟疾病：

●轉介心臟腫瘤專門醫師評估心臟功能。

●整合慢性疾病篩檢(例如血糖、血壓、血脂肪)及急慢性疾病控制，並定期監測。

2. 肺部疾病：

●嚴重之慢性肺病，如慢性阻塞性肺病等，應轉介胸腔科評估使用藥物控制疾病，以降低治療風險。

●視情況評估居家氧氣支持。

3.腎功能不全：

- 不只單看creatinine level，尤其是年老或女性病患，計算creatinine clearance或Cockcroft-Gault equation能更好的評估腎功能。
- 藥物選擇可從cisplatin更換為carboplatin，如為放射化療合併治療，可考慮以標靶藥物cetuximab合併放射治療。

嚴重共病症頭頸癌病患處理原則

4.肝功能不全：

- 確認肝功能異常是否有急性或可處理之情形，例如急性B型肝炎或C型肝炎發作，轉介腸胃科醫師共同追蹤肝炎或肝硬化。
- 酒精性肝硬化者建議戒酒。
- 評估肝門靜脈高壓 (portal hypertension)情形及相對應處理，例如食道靜脈曲張進行食道靜脈曲張結紮術。
- 視情況考慮減少化學治療的使用，或選擇相對較少肝毒性的藥物。頭頸癌常用的治療藥物中，cisplatin及carboplatin用於肝功能嚴重異常病患亦不需調整劑量，而taxane及methotrexate則需留意劑量調整甚至避免使用。

5. 檢視病患所有用藥 (包含在診所或其他科門診開立之慢性病用藥)，評估是否有重複用藥；檢視用藥與用藥或用藥與治療用藥間之交互作用 (drug-drug interaction)，視情況會診藥師進行評估。

6. 會診營養師進行評估，針對嚴重共病症病患之特殊營養需求給予建議。

嚴重共病症頭頸癌病患處理原則

三、治療中評估

1. 心臟疾病：
   - 評估體液狀態，避免fluid overload 。
   - 如出現急性心臟衰竭徵兆，盡早會診心臟科協助處理。
2. 肺部疾病：
   - 追蹤胸部X光檢查，注意併發肺炎之風險性。
   - 視情況評估居家氧氣支持。
3. 肝功能不全：
   - B型肝炎表面抗原(HBsAg)陽性病患於化學治療開始前1週開始，直至化學治療結束後6個月，需使用B型肝炎病毒用藥。
   - 治療造成的副作用(嘔吐、腹瀉、黏膜炎進食飲水量下降)引發脫水，或是過程中感染，可能誘發肝腎症候群或造成肝功能更加惡化，需避免脫水，及小心感染徵兆，盡早介入治療。
   - 治療過程中密切監測肝功能。
4. 腎功能不全：
   - 治療造成的副作用(嘔吐、腹瀉、黏膜炎進食飲水量下降)引發脫水，或是過程中感染，均可能造成腎功能更加惡化甚至洗腎的風險，需適度補充水分，評估鼻胃管灌食或靜脈點滴補充，及小心感染徵兆，盡早介入治療。
   - 治療過程中密切監測腎功能，減少腎毒性藥物使用。

嚴重共病症頭頸癌病患處理原則

四、參考資料

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高致吐性藥物止吐規範

一. 定義：藥物之致吐性依據NCCN (National Comprehensive Cancer Network) guideline，定義不同化療藥物之致吐性高低。頭頸癌常用藥物中，cisplatin及high dose carboplatin (AUC≧4) 屬高致吐性化療藥物。

EMETOGENIC POTENTIAL OF PARENTERAL ANTICANCER AGENTS[a]

LEVEL	AGENT		
High emetic risk (>90% frequency of emesis)[b,c,d]	• AC combination defined as any chemotherapy regimen that contains an anthracycline and cyclophosphamide • Carboplatin AUC ≥4 • Carmustine >250 mg/m²	• Cisplatin • Cyclophosphamide >1,500 mg/m² • Dacarbazine • Doxorubicin ≥60 mg/m² • Epirubicin >90 mg/m² • Ifosfamide ≥2 g/m² per dose	• Mechlorethamine • Melphalan ≥140 mg/m² • Sacituzumab govitecan-hziy • Streptozocin
Moderate emetic risk (>30%–90% frequency of emesis)[b,c,d]	• Aldesleukin >12–15 million IU/m² • Amifostine >300 mg/m² • Azacitidine • Bendamustine • Busulfan • Carboplatin AUC[e] <4 • Carmustine[e] ≤250 mg/m² • Clofarabine • Cyclophosphamide[e] ≤1500 mg/m² • Cytarabine >200 mg/m² • Dactinomycin[e]	• Daunorubicin[e] • Dual-drug liposomal encapsulation of cytarabine and daunorubicin • Dinutuximab • Doxorubicin[e] <60 mg/m² • Epirubicin[e] ≤90 mg/m² • Fam-trastuzumab deruxtecan-nxki • Idarubicine • Ifosfamide[e] <2 g/m² per dose • Irinotecan[e] • Irinotecan (liposomal)	• Lurbinectedin • Melphalan <140 mg/m² • Methotrexate[e] ≥250 mg/m² • Oxaliplatin[e] • Temozolomide • Trabectedin[e]

LEVEL	AGENT			
Low emetic risk (10%–30% frequency of emesis)[b,d,f]	• Ado-trastuzumab emtansine • Aldesleukin ≤12 million IU/m² • Amifostine ≤300 mg/m² • Arsenic trioxide • Axicabtagene ciloleucel[g] • Belinostat • Brexucabtagene autoleucel[g] • Brentuximab vedotin • Cabazitaxel • Carfilzomib • Copanlisib • Cytarabine (low dose) 100 mg/m² – 200 mg/m²	• Docetaxel • Doxorubicin (liposomal) • Enfortumab vedotin-ejfv • Eribulin • Etoposide • 5-Fluorouracil (5-FU) • Floxuridine • Gemcitabine • Gemtuzumab ozogamicin • Inotuzumab ozogamicin • Isatuximab-irfc • Ixabepilone • Methotrexate >50 mg/m² – <250 mg/m²	• Mitomycin • Mitomycin pyelocalyceal solution • Mitoxantrone • Mogamulizumab • Moxetumomab • Necitumumab • Olaratumab • Omacetaxine • Paclitaxel • Paclitaxel-albumin • Pemetrexed • Pentostatin • Polatuzumab vedotin	• Pralatrexate • Romidepsin • Tafasitamab-cxix • Tagraxofusp • Talimogene laherparepvec • Thiotepa • Tisagenlecleucel[g] • Topotecan • Ziv-aflibercept
Minimal emetic risk (<10% frequency of emesis)[b,d,f]	• Alemtuzumab • Atezolizumab • Avelumab • Asparaginase • Bevacizumab • Bleomycin • Blinatumomab • Bortezomib • Cetuximab • Cemiplimab • Cladribine • Cytarabine <100 mg/m² • Daratumumab	• Daratumumab and hyaluronidase-fihj • Decitabine • Denileukin diftitox • Dexrazoxane • Durvalumab • Elotuzumab • Fludarabine • Ipilimumab • Luspatercept-aamt • Methotrexate ≤50 mg/m² • Nelarabine • Nivolumab	• Obinutuzumab • Ofatumumab • Panitumumab • Pegaspargase • Pembrolizumab • Pertuzumab • Pertuzumab/trastuzumab and hyaluronidase-zzxf • Ramucirumab • Rituximab • Rituximab and hyaluronidase human injection for SQ use	• Siltuximab • Temsirolimus • Trastuzumab • Trastuzumab/hyaluronidase • Valrubicin • Vinblastine • Vincristine • Vincristine (liposomal) • Vinorelbine

高致吐性藥物止吐規範

二. 高致吐性藥物之預防嘔吐用藥

1. NK1 receptor antagonist：本院可選擇的藥物下列2擇1
   - ●Emend IV (Fosaprepitant) 150mg IV on Day 1
   - ●Akynzeo (netupitant 300mg/palonosetron 0.5mg) PO on Day 1 (此複合用藥已包含NK1 receptor antagonist及5-HT3 receptor antagonist，不需額外再搭配其他5-HT3 receptor antagonist)
2. 5-HT3 receptor antagonist：本院可選擇的藥物下列2擇1
   - ●Palonosetron (Aloxi) 0.25 mg IV on Day 1
   - ●Granisetron (Kytril) 2 mg PO or 1-3mg IV on Day 1
3. Dexamethasone 5-12mg PO/IV on Day 1, then 5-8mg PO/IV on Day 2-4
4. Olanzapine (Zyprexa Zydis) 5-10 mg PO on Day 1-4
5. 建議使用NK1 receptor antagonist + 5-HT3 receptor antagonist + Dexamethasone，亦可考慮額外再加上Olanzapine (需自費使用)

三. 治療後之突發性嘔吐 (breakthrough nausea/vomiting)

1. 大原則為增加不同機轉之止嘔吐用藥
   以下為NCCN guideline之建議，需就病患狀況做個別調整
   - ●Atypical antipsychotic：Olanzapine 5-10 mg PO daily
   - ●Benzodiazepine：Lorazepam 0.5-2 mg PO/IV PRNQ6H
   - ●Other：Haloperidol 0.5-2 mg PO/IV PRNQ6H, Metoclopramide 10-20 mg PO/IV PRNQ6H
   - ●Phenothiazine：Prochlorperazine 5-10 mg PO/IV PRNQ6H
   - ●5-HT3 receptor antagonist：Granisetron 1-2 mg PO daily
   - ●Corticosteroid：Dexamethasone 5-12 mg PO/IV daily
2. 視病患嘔吐改善情形，上述用藥可由PRN改為常規使用
3. 下一輪化療可考慮加強預防性止吐用藥

四. 參考資料：

National Comprehensive Cancer Network. (2021). Antiemesis *(version 1.2021)*. Retrieved from https://www.nccn.org/professionals/physician_gls/pdf/antiemesis.pdf

住院病人照護品質滿意度調查表

病房別

109.05.20 修訂

親愛的先生女士：

您好！為提高本院服務品質，營造更好的醫療服務環境，懇請您利用幾分鐘時間填寫這份問卷，以提供我們改進的方向。 敬祝 健康快樂

壹、 此部份為探討您住院期間對各項目服務的滿意程度，請在適當的□內打✓。

	滿意程度				
	很滿意	滿意	尚可	不滿意	很不滿意
	5	4	3	2	1
1.護理人員態度親切和善	□	□	□	□	□
2.當您有需要呼叫時，護理人員能儘快前來處理	□	□	□	□	□
3.護理人員會提供疾病相關的衛教知識	□	□	□	□	□
4.護理人員執行治療時能維護您的隱私，給予適當遮蔽	□	□	□	□	□
5.病房常保持安寧	□	□	□	□	□
6.床墊軟硬度合宜	□	□	□	□	□
7.提供清潔的床單、被單	□	□	□	□	□
8.整體而言，您對本次住院期間護理人員服務的整體感覺	□	□	□	□	□
9.其他建議事項(請說明)：					

_____

貳、 在此住院期間，您認為服務態度最讓您感到滿意的醫生或護理人員是：(請寫出姓名)

_____

您認為最不滿意的醫生或護理人員是：(請寫出姓名)

不滿意的原因為：_____

參、若您或家人有接受出院準備服務團隊的照護，敬請繼續填寫下列問卷，謝謝!

	很滿意	滿意	尚可	不滿意	很不滿意	無接觸
	5	4	3	2	1	
1.醫護人員說明「出院後疾病照護及注意事項」的整體感覺	□	□	□	□	□	□
2.住院中接受（營養師、社工師、復健師、藥師）等專業人員提供的相關照護指導滿意程度						
※營養師	□	□	□	□	□	□
※社工師	□	□	□	□	□	□
※復健師	□	□	□	□	□	□
※藥　師	□	□	□	□	□	□
3.說明出院後安排回家、或至安養護中心、護理之家等居住場所	□	□	□	□	□	□
4.說明回家後所需準備之用品，如：傷口、各種管路照護用物、輪椅、抽痰機、氣墊床、氧氣製造機等	□	□	□	□	□	□
5.說明回家後可利用的後續照顧資源及申請條件，如：居家護理、喘息服務、居家服務等	□	□	□	□	□	□
6.出院時間的安排	□	□	□	□	□	□
7.協助預約下次返診時間	□	□	□	□	□	□
8.提供出院後醫療諮詢服務電話及地點說明	□	□	□	□	□	□
9.其他建議事項(請說明)：						

_____

※ 若您願意我們進一步與您連繫，請留下您的資料，我們將儘快依您的建議(意見)回覆。

床號：_____ 連絡姓名：_____ 電話：_____

頭頸癌生活評估量表

我們關心您的健康，請就自身狀況回答以下問卷問題。問題答案中並沒有「對」或「錯」，請勾選最適合您的答案。您所提供的資訊內容將完全保密。

*必填

1。 為了可以掌握您的問題，請留下您的姓名

2。 您的健康行為?

每列請僅選取一個答案。

	無	已戒	不清楚	10年以下,每天20顆/根內	10年以下,每天20顆/根以上	超過10年,每天20顆/根內	超過10年,每天20顆/根以上
嚼檳榔習慣	◯	◯	◯	◯	◯	◯	◯
吸菸習慣	◯	◯	◯	◯	◯	◯	◯

3。 飲酒習慣

單選。

- ◯ 無飲酒習慣
- ◯ 沒有每天喝(每週平均<4次)
- ◯ 每天喝(每週平均<4次)
- ◯ 若有飲酒請於下列填寫種類及單位ml
- ◯ 其他：

4。 *

每列請僅選取一個答案。

	完全沒有	有一點	相當多	非常多	不適用
1.您在戶外從事短距離步行，是否有困難?	◯	◯	◯	◯	◯
2.您進食、穿衣、洗澡或上廁所需要別人幫助嗎?	◯	◯	◯	◯	◯
3.您在從事工作或是日常活動上是否受到限制?	◯	◯	◯	◯	◯

5。 3.您有特別不舒服的症狀嗎? *

單選。

- ◯ 虛弱
- ◯ 噁心
- ◯ 嘔吐
- ◯ 便祕
- ◯ 腹瀉
- ◯ 無
- ◯ 其他：

6。 在過去一星期內（過去七天內）*

每列請僅選取一個答案。

	完全沒有	有一點	相當多	非常多	不適用
5.你會覺得情緒低落嗎?	◯	◯	◯	◯	◯
6.您是否有覺得臉部疼痛?	◯	◯	◯	◯	◯
7.您吞嚥時曾有困難嗎?	◯	◯	◯	◯	◯
8.您吞嚥時曾經嗆到嗎?	◯	◯	◯	◯	◯
9.您張大嘴巴曾有困難嗎?	◯	◯	◯	◯	◯
10.您曾覺得嘴巴乾乾的嗎?	◯	◯	◯	◯	◯

7。 在過去一星期內（過去七天內）*

每列請僅選取一個答案。

	完全沒有	有一點	相當多	非常多	不適用
11.您曾有嗅覺方面問題嗎?	◯	◯	◯	◯	◯
12.您曾有味覺方面問題嗎?	◯	◯	◯	◯	◯
13.您曾為自己的外觀感到困擾嗎？	◯	◯	◯	◯	◯
14.您進食曾感到困擾嗎?	◯	◯	◯	◯	◯
15.您與別人交談曾感到困擾嗎?	◯	◯	◯	◯	◯
16.您和人交往接觸曾感到困擾嗎?	◯	◯	◯	◯	◯
17.您外出至公共場合曾感到困擾?	◯	◯	◯	◯	◯
18.您曾有體重減輕嗎?	◯	◯	◯	◯	◯

8。 16.您如何評定過去一星期內（過去七天內）您整體的健康?

單選。

	1	2	3	4	5	6	7	
非常差	◯	◯	◯	◯	◯	◯	◯	極好

9。 17.您如何評定過去一星期內（過去七天內）您整體的生活品質?

單選。

	1	2	3	4	5	6	7	
非常差	◯	◯	◯	◯	◯	◯	◯	極好

10。 謝謝您的回答!

背景

頭頸部鱗狀細胞癌（HNSCC）在上消化道中的位置相當獨特，該位置是SARS-Cov2的高感染與傳播位置。由於SARS-Cov2（COVID-19中的致病性病毒）的大流行，國外某些地區域內的大型醫療機構已不堪重負，因為醫療系統的資源有限，除了COVID-19患者可能無法獲得適當的醫療服務，也限制了包括頭頸癌 (HNSCC)中高風險患者的治療。在某些醫院系統中，手術室，加護病房(ICU)可能已經滿載，進而限制了頭頸癌患者，檢查檢和診斷及手術治療能量。

雖然建議可提供虛擬看診，由於遠距醫療，虛擬醫療軟硬體並未廣泛使用，因此只能為需要評估的癌症患者提供有限的檢查。這種大流行期間，許多耳鼻喉科，牙科和其他專科診所的臨床醫生可能已經關閉，也限制了對頭頸癌的轉介造成就醫延遲。

COVID-19的特徵包括1：

1. SARS-Cov2具有高度傳染性，和傳播能力
2. 根據美國的最新數據，COVID-19的死亡率為1-2%
3. 然而頭頸部鱗狀細胞癌是一種致命疾病，如果不治療，其死亡率非常大
4. 頭頸部鱗狀細胞癌可出現在上呼吸道黏膜，診斷和治療通常（工作人員，患者和醫護人員）需要暴露在病毒的威脅下。

5. 由於吞嚥困難和/或氣道可能受損，許多HNSCC患者在治療後仍保持較高的噴濺風險。 這些患者可能需要鼻胃管，經皮胃造口術管和/或氣管切開術管，可能會使醫療保健提供者接觸到霧化病毒。
6. 目前仍缺乏使用SARS-Cov2快速抗體測試的機會，加上使用SARS-Cov2測試PCR檢查的機會有限，使頭頸癌患者的診斷和治療更加複雜。
7. 由於無症狀、輕微症狀或有症狀的患者可能具有明顯的傳染性。基於症狀的篩查可能不足以檢測SARS-Cov2感染患者，因此建議對所有要進行手術或治療的患者，治療前進行PCR檢測。

基於對於SARS-Cov2爆發大流行的擔心，同時持續為癌症患者提供基於指引的照護，需要預先準備頭頸癌症在國內爆發大流行下，醫療和護理有關的指引。

多團隊案例討論會議仍是溝通病患治療方向的重要管道，多團隊案例討論會議改採虛擬網路開會方式；除非有明顯的臨床原因需要延遲，否則不要推遲或中斷SARS-CoV-2陰性患者的頭頸癌治療[2]。

診治頭頸癌病患有以下建議:

1. 醫療及護理人員防護[1]

建議在接受COVID-19評估的患者中使用電動空氣淨化呼吸器（powered air purifying respirator , PAPR）、N95口罩及面罩。避免不必要的內視鏡檢查，不建議使用霧化器治療，以降低通過霧化顆粒傳播的風險。

2. 手術考量[3]

進行頭頸部手術仍是腫瘤患者治療重要選項；在黏膜頭頸部手術中使用電動工具已知會導致霧化，提高傳染的風險，不建議使用。

3. 放射線治療及化學治療考量1

- 為了減少門診就診的頻率，可以考慮將靜脈注射方案轉換為口服方案，並縮短放射治療的時間。
- 對於被診斷為COVID-19的患者，應根據治療的總體目標，患者當前的腫瘤狀態和醫療合併症以及治療耐受性來決定是否延遲或修改治療方案。其他注意及建議事項整理於表1。

頭頸腫瘤在COVID-19大流行下相關建議[4]:

預防病毒傳播

1. 避免不必要的流程和身體檢查
2. 所有可能產生氣溶膠的醫療措施使用全套個人防護裝備(PPE)。

對新患者進行遠距醫療診療

3. 在患者評估之前進行遠距醫療多學科診察
4. 遠距醫療多團隊案例討論會議
5. 面對面諮詢僅限於必須進行身體檢查的情況

照顧/治療後監測

6. 盡可能進行虛擬的後續追蹤
7. 編排團隊、由輪替的小組成員進行患者診治

術前篩檢診查

8. 病人在手術前要自我隔離14日無發病
9. SARS-Cov2陽性患者，僅在緊急情況下進行手術
10. 對於SARS-Cov2感染未明患者，應在手術前立即進行SARS-Cov2檢查。

手術治療

11. 對於初期喉癌、HPV相關之口咽癌儘可能以放射治療、化療為第一線療法，而非手術治療
12. 延遲超過4週以上，預期腫瘤會惡化的情況下，盡早為患者進行手術
13. 限制手術團隊人數，將手術室人員限制為基本團隊成員
14. 在手術時，盡量減少團隊成員移動進出手術室
15. 在大流行情況和有限的資源範圍內，應慎重考慮發動重建手術
16. 手術團隊可以在麻醉插管/拔管過程中待在手術室外面等待

參考資料

1. Yuen E, Fote G, Horwich P, Nguyen SA, Patel R, Davies J, et al. Head and neck cancer care in the COVID-19 pandemic: A brief update. Oral Oncology 2020;105:104738.
2. Chaves ALF, Castro AF, Marta GN, Junior GC, Ferris RL, Giglio RE, et al. Emergency changes in international guidelines on treatment for head and neck cancer patients during the COVID-19 pandemic. Oral Oncology 2020;107:104734.
3. Ansarin M. Surgical management of head and neck tumours during the SARS-CoV (Covid-19) pandemic. Acta Otorhinolaryngologica Italica 2020;40(2):87.
4. Wu V, Noel CW, Forner D, Zhang ZJ, Higgins KM, Enepekides DJ, et al. Considerations for head and neck oncology practices during the coronavirus disease 2019 (COVID-19) pandemic: Wuhan and Toronto experience. Head & neck 2020;42(6):1202-1208.

Updated on 2017-1-16

Pharynx-1:T1-4aN0-N2 Unresectable1,2加入Chemotherapy can be given for disease control during preRT waiting period.
Pharynx-2 :T4b or N3 CCRT2.3 /RT or cetuximab/RT3加入Chemotherapy can be given for disease control during pre-RT waiting period.

Updated on 2018-11-19

Oral-3:依照NCCN整頁修訂 ，CCRT or Definitive RT (only for lip)
Oral-4:依照NCCN整頁修訂
原本本院指引pharynx部分，依照NCCN建議將pharynx部分分成Oropharynx及hypopharynx and larynx合併
Orph-1:依照NCCN建議work up部分加入Nutrition, speech and swallowing evaluation/therapy as indicated
Orph-2~4:依據NCCN建議，且將P16(+)及P16(-)治療合併呈現在本院指引
Pharynx-1:work up部分加入Nutrition, speech and swallowing evaluation/therapy as indicated and Consider pulmonary function tests for conservation surgery candidates
Pharynx-2:依照NCCN修訂，No adverse features→本院建議observation or RT
Pharynx-3:依照NCCN修訂，No adverse features→本院建議observation or RT
Pharynx-4:依照NCCN修訂， T1-2,N+;T3,any N，經團隊討論也可only RT
Naso:work up: 建議加上Consider Epstein-Barr virus (EBV)/DNA testinge、Consider ophthalmologic and endocrine evaluation as clinically indicated、Nutrition,speech and swallowing evaluation/therapy as indicated

Updated on 2018-11-19

Naso 1:依照NCCN建議修訂:M1→Platinum-based combination chemotherapy→RT to primary and neck or Chemo/RT as clinically indicated
Sali-work up:依照NCCN建議work up部分加入Nutrition, speech and swallowing evaluation/therapy as indicated
Sali-1:Parotidectomy with complete resection of tumor ± neck dissection for high-grade and/or T3-4 tumors
Follw-A:依照NCCN新增
ADV1~4:依照NCCN建議新增

Updated on 2019-05-13

Oral-1:CLINICAL STAGING:T4b, any N, or unresectable nodal disease 加上 Unfit for surgery

Oral-2:T1-2,N0,依照NCCN建議修改Resection of primary + SLN biopsy後面接Neck dissectiong if SLN pN+ or SLN identificationunsuccessful及SLN0，後面路徑沒有更改。

Oral-3:Clinical staging T1-2,N1-3;T3-4改成T4a。

ORPH-1: Clinical staging 第三列P16(-) AnyT改成T1-4,N2-3
ORPH-2:Transoral or open resection of primary± neck dissection依照NCCN改成Resection of

Primary and ipsilateral or bilateral neck dissection。For T1-2,N1 only RT+systemic therapy改成 T2 only

ORPH-3:Transoral or open resection of primary± neck dissection依照NCCN改成Resection of

Primary and ipsilateral or bilateral neck dissection。

ORPH-4: Clinical staging P16(-) anyT改成T1-4。Transoral or open resection of primary± neck dissection依照NCCN改成Resection of Primary and ipsilateral or bilateral neck dissection。

Naso-1:AnyT,anyN,M1新增加RT or surgery in select patients with oligometastatic disease。

SALI-1:T1,T2建議Adenoid cystic;Intermediate or high grade一定要RT。

Updated on 2020-05-04

【Oral-1.ORPH-1.Pharynx-1.Naso-1.SALI-1】的Work up:新增Smoking cessation counseling、Fertility/reproductive counseling
【 Oral-3】:新增One positive node without adverse features→RT or Observation
【 ORPH-2】:只留P16(-)T3-4a,N0-1走這條治療路徑。
【 ORPH-3】:
(1)原先是T2 only:CCRT，修改成T1-2,N1 only:RT1 + systemic therapy
(2) Resection of primary and ipsilateral or bilateral neck dissection→Adverse features[1] →Extranodal extension ± positive margin →P16(-):Systemic therapy/RT ，P16(+):可CCRT or RT
【 ORPH-4】:
(1)期別整併為P16(+),T1-2,N1(single node>3cm/or 2 or more ipsilateralnodes ≤6 cm), cN2-3,T3-4,N0-3。
(2)Resection of primary and ipsilateral or bilateral neck dissection→p16(-):N2a-b, N3 ;P16(+):原本是N1-N3，改成N0-N3(unilateral)。
(3)Resection of primary and ipsilateral or bilateral neck dissection→P16(-)N2c P16(+)N2-N3(bilateral) →Resection of primary and bilateral neck dissection(增加and字眼)。

Updated on 2020-05-04

【 FOLL-A 2 OF 2 】:
(1)Residual primary，persistent disease or progression→assess extent of disease or distant metastases:Consider CT of primary and neck and/or MRI with contrast (4–8 wk) Consider FDG-PET/ CT →If diagnosis confirmed or progression修改成Confirmed residual or persistent disease or progression。
(2)If response →assess extent of disease or distant metastases:FDG-PET/CT at minimum 12 wk→ FDG- PET/CT negative:Observation; FDG- PET/CT equivocal:Observation or repeat FDG PET/ CT at 3–6 mo ;FDG- PET/CT Postive:CT or MRI with contrast→Biopsy Or Resection of primary (if feasible) and/or neck dissection if nodal disease in neck (if feasible)。
(3)CT of primary and neck and/or MRI with contrast/ or PET(optional) at 8–12 wk→ Imaging positive→Neck dissection or刪除 FNA or 加上Consider字眼 FDG-PET imaging at 12 wk。
【 ADV-2】:PS 0-1→Systemic therapy加上Combination or Single-agent
【 ADV-3】:Locoregional recurrence without prior RT →Resectable →Concurrent systemic therapy/RT1刪除Induction systemic therapy改成 combination systemic therapy (category 3) followed by RT or systemic therapy/RT 。
【 ADV-4】: If locoregional failure, consider locoregional treatment based on disease extent and symptoms→PS 0-1 →systemic therapy/RT前加上concurrent→刪除臨床試驗(本院無) 。
分期:依據AJCC 8th updata V.3 檢視修訂分期。

Updated on 2020-12-28

【 Oral-3】:新增N3 →詳見(ADV-1)
【 Oral-4】:新增T4b or M1 →詳見(ADV-1)
【 ORPH-2】:P16(+)T1–2, N0-1刪除(single node≤3cm)，刪除治療T1-2,N1才可CCRT。
【 ORPH-3】:P16(+)T3-4,N0-1，刪除single node≤3cm
【 ORPH-4】:
(1)P16(+),刪除T1-2,N1(single node>3cm/or 2 or more ipsilateral nodes ≤6 cm), cN2-3，T3改成T1-4,N0-3。
(2)Resection of primary and ipsilateral or bilateral neck dissection後面看N+的部分刪除，直接接有無危險因子。
(3)新增T4b or M1 →詳見(ADV-1)
【 Pharynx-2】: T1-2,N0新增CCRT在首次治療
【 Pharynx-3】: T1-2,N+,T3-T4a,any N後面若有危險因子，本Consider Systemic therapy/RT，建議刪除Consider。
【 Pharynx-4】:CR後接DefinitiveRT or Consider systemic therapy/RT，刪除Consider。
【 Salivary Gland 】:指引原本只有一頁，因修訂指引及版面問題分成三頁。
【 SALI-2 】:

Updated on 2020-12-28 續

【 SALI-4 】:此頁新增，follow up若病人recurrence→Distant metastases →刪除Clinical trial preferred選項。

- CCRT改為Systemic therapy/RT
- 新增頭頸癌**【臨床醫療照護標準作業流程】**

Updated on 2021-07-05

【 Work up】:分成Indicated及Optional。

【 ORPH-2】:RT+ systemic therapy:only for N1。

【 Naso-2】:T0(EBV+)-T1, N1-3;T2-4, any N N0-3後續治療:1.Concurrent Systemic therapy/RT followed by adjuvant chemotherapy 2.Concurrent Systemic therapy/RT 3.Induction chemtherapy followed by chemo/RT。

【 Naso-2】:Any T, any N, M1改成T1–4,N0–3,M1，後續治療:Platinum-based combination Chemotherapy。

→如果做Systemic therapy/RT as clinically indicated需一起做Locoregional treatment to oligometastatic sites。

【 FOLL-A 2 OF 2】:建議做CT或MRI 8-12週，刪除PET(optional) 。

【 ADV-2】:PS2-3新增±Palliative RT Or Palliative surgery。

【 ADV-4】:PS2-3新增±Palliative RT Or Palliative surgery。

➢備註:Chemotherapy can be given for disease control 刪除during pre-RT waiting period。

➢【高風險個案定義】:新增年齡>70歲且有虛弱症(ECOG3-4分)的病人。

➢新增【高風險病人監測機制】

Updated on 2021-12-06

- 修訂Page.7頭頸癌團隊結構成員示意圖
- 新增:高齡且虛弱頭頸癌病患處理原則、嚴重共病症頭頸癌病患處理原則

Updated on 2022-06-20

【 ORAL-3】:刪除One positive node without adverse features
【 ORAL-3】:新增Selected T4a patients who decline surgery
【 ORAL-4】:刪除此頁
【 Pharynx-1】: 分期分類T2-3改成T1,N0-3 ，T3-4改成 T4a,N0-3
【 Pharynx-4】: Response after induction chemo- therapy→Primary site: < PR or progression in neck →新增Unresectable nodal disease →(See ADV-1)
【 Naso-1】:以M0.M1區別
【 Naso-2】: 新增T2, N0, M0 →Definitive RT± concurrent systemic therapyk if high-risk features
【 Naso-2】:T0(EBV+)-T1, N1-3;T2-4, N0-3改成T1–2,N1,M0 or T3,N0,M0 →Concurrent systemic therapy/RT。Consider induction or adjuvant chemotherapyk if high-risk featuresl
【 Naso-2】:T1–4,N0–3,M1改成T3–4,N1–3,M0 or Any T,N2–3,M0
【 Naso-3】:此頁新增
【 FOLL-A 2 OF 2】:新增Lymphedema evaluation and rehabilitation, as clinically indicated
【 ADV-2】:PS0-1，治療後新增 Palliative RT
【 ADV-2】:PS3，治療後新增也可做Alternate single-agent systemic therapyj or Palliative RT
【 ADV-4】:PS0-1，治療後新增 Palliative RT
【 ADV-4】:PS3，治療後新增也可做Alternate single-agent systemic therapyj or Palliative RT

- 刪除EPA(可信任之專業教學活動)-**2022年耳鼻喉科學會推動電子式EPA取代**

Updated on 2023-05-08

制訂人員:新增血液腫瘤科 蔣京谷醫師。

目錄:頭頸癌臨床指引，口咽癌分為p16 negative及 positive。

備註:1.Adverse pathologic features:皆新增close margins。

內文中:No adverse features 及Adverse features 改成No adverse pathologic features 及Adverse pathologic features。

【ORAL-1】: T1-2, N0、T3N0；T1-3,N1-3；T4a,N0-3、T4b, any N, N0-3 or unresectable nodal disease or Unfit for surgery、Metastatic (M1) disease initial presentation。

【ORAL-3】:

1.CLINICAL STAGING，分成T3N0;T1-3,N1-3、T4a,N0-3及Selected patients who decline or are unfit for surgery。

2.Selected patients who decline or are unfit for surgery後可做RT或CCRT。

【ORPH-1】: Oropharynx分為P16 (-)及P16 (+)。

【ORPH-2】:

1.p16-negative, T1–2, N0-1: pN0 and no adverse pathologic features→Follow up。

2. p16-negative, T1–2, N0-1: pN1 without other adverse pathologic features→Consider RT。

3.新增pathologic。

【Pharynx-3】: Excision of primary ±unilateral or bilateral neck dissection→新增pN1 without other adverse pathologic features→Consider RT。

【NASO-2】: T3–4,N1–3,M0 or Any T,N2–3,M0→新增Cell therapy (T4)。

【NASO-3】: T1–4,N0–3,M1→新增Cell therapy (T4 or M1)。

【FOLL-A 2 OF 2】: Residual primary, persistent disease or progression→Assess extent of disease or distant metastases:Consider CT of primary and neck and/or MRI with contrast (4–8 wk)or Consider FDG-PET/ CT改成CT or MRI with contrast or FDG-PET/ CT。

Updated on 2023-05-08

【ADV-1】: Newly diagnosed (M0)T4b, any N or Unresectable nodal disease or Unfit for surgery→PS 2→新增可做CCRT。

【ADV-2】: Metastatic (M1) disease at initial presentation→PS 3→新增Single-agent systemic therapy。

【ADV-3】: Locoregional recurrence without prior RT及Locoregional recurrence , second primary with prior RT皆新增or persistent disease。

【ADV-4】: PS 3→新增Single-agent systemic therapy。

頭頸癌病人照護流程(P57):

1.癌症分期檢查新增:評估治療前營養狀況、評估治療前癌心高風險、評估治療前頭頸癌高風險、選擇合適SDM。

2.治療計畫分為:積極治療(手術、CCRT、RT 、化學、標靶、免疫)、緩和治療(手術、CCRT、RT 、化學、標靶、免疫)、安寧醫療

Updated on 2024-01-05

- **更新2023-12-14頭頸癌疾病照護團隊討論修正之組織架構圖**
- 新增Work-up心臟評估及B肝檢驗【ORAL-1】【ORPH-2】【 Pharynx-1】【 NASO-1】【SALI-1】
  - ➤Multidisciplinary consultation(CardioOncology)
  - ➤Screening for hepatitis B
- 刪除【ORAL-3】Selected patients who decline or are unfit for surgery進行Systemic therapy/RT or RT(if unfit for concurrent systemic therapy/RT，修改至流程Very Advanced Head and Neck Cancer (ADV-1)
- 新增「**bridge therapy**」至【ORAL-2】【ORPH-1】【 Pharynx-1】【 NASO-1】【SALI-1】
- Bridge therapy "Bridge therapy before waiting for Systemic therapy/RT
- 進吞嚥復健項目增加嗆咳造成吸入性肺炎的評估與預防
- 放射線治療照射部位於顱底病人每年須追蹤檢驗項目，如:AM cortisol, growth hormone (GH), free T4, prolactin, insulin-like growth factor 2 (IGF-2), luteinizing hormone (LH), follicle-stimulating hormone (FSH), serum adrenocorticotropic hormone (ACTH), TSH,
- AJCC頁面加註clear/close margin定義說明

2024 NCCN
At this time there is no universal definition for what constitutes a clear/close margin.
p16 (HPV)-positive oropharynx cancer: close margins (<3 mm)
Ethmoid Sinus Tumors: close margins (tumors adjacent to the cribriform plate and/or medial wall of the orbit),
Glottic cancers, a 1- to 2-mm margin is considered adequate
In transoral endoscopic and robotic approaches for oropharynx cancers, margins of 1.5–2.0 mm may be acceptable
團隊檢視，對於「Close margin」的距離無一致定論，病理科將維持現況，並配合國健署指標4 mm，可量測的檢體會寫出距離幾mm、Close (<1 mm) 或顯然非常遠的則註明 >4 mm。

亞　東　紀　念　醫　院

優良照顧品質

完整治療團隊

新穎檢查與治療

創新教學方式

豐富研究成果

民眾首選的頭頸癌照護團隊

頭頸癌醫療照顧多專科團隊
HNC multidisciplinary team, FEMH