

ONCOLOGY KNOWLEDGE HUB · TEACHING SLIDES

Head & Neck Cancer

A mini review for clinicians

For postgraduate residents, medical students and practising clinicians

Dr. Haritha Chiramana

MD (Internal Medicine), DM (Medical Oncology)

Senior Medical Oncologist & Hemato-Oncologist

C.R. Reddy Cancer Center, C.R. Reddy Superspeciality Hospital, Nellore

0861 232 5344 · info@drharitha.co.in · drharitha.co.in

October 2026 · Free for teaching with attribution (CC BY-NC-ND 4.0) · No drug doses · Not advice for an individual patient

Learning objectives

- Recognise early head and neck cancer and the Indian traps that delay diagnosis
- Stage oral cavity (DOI), HPV-associated and HPV-negative cancers correctly
- Choose surgery, chemoradiation or organ preservation by site and function
- Know the larynx and hypopharynx operations, their trade-offs and outcomes
- Decide adjuvant therapy from the pathology report
- Use immunotherapy by PD-L1 CPS; plan survivorship: teeth, swallowing, thyroid, tobacco

Roadmap

- 1 Burden and anatomy
- 2 Presentation and traps
- 3 Screening, workup and staging
- 4 HPV and biomarkers
- 5 Surgery and radiotherapy
- 6 Larynx and hypopharynx
- 7 Chemoradiation and organ preservation
- 8 Immunotherapy, recurrence and nasopharynx
- 9 Survivorship
- 10 Evidence and cases

1

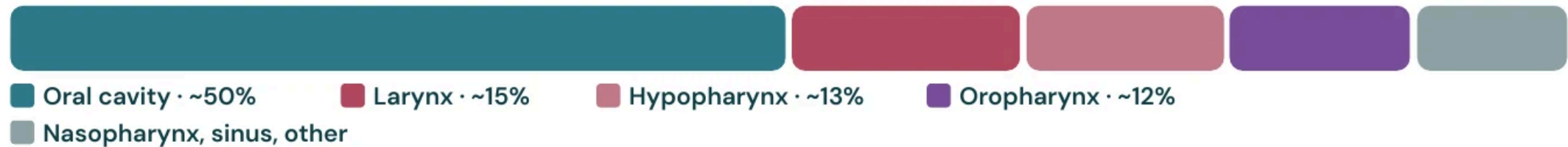
Burden and anatomy

Head and neck cancer in India

- Lip and oral cavity: the commonest cancer in Indian men (GLOBOCAN 2022)
- About a third of the world's oral cancer is in India
- Gutka, khaini, pan, areca nut, bidis and alcohol
- Most present at stage III–IV
- Oropharynx: HPV a minority (about 1 in 8 in ConCERT)

Three working groups

Approximate share of head and neck squamous cancers in Indian hospital series (lip and oral cavity lead; Western series are pharynx-heavy)



Oral cavity

- Tobacco chewing, areca nut, alcohol
- Buccal-gingival in India
- Surgery first; depth of invasion counts
- Elective neck dissection if cNO

Oropharynx

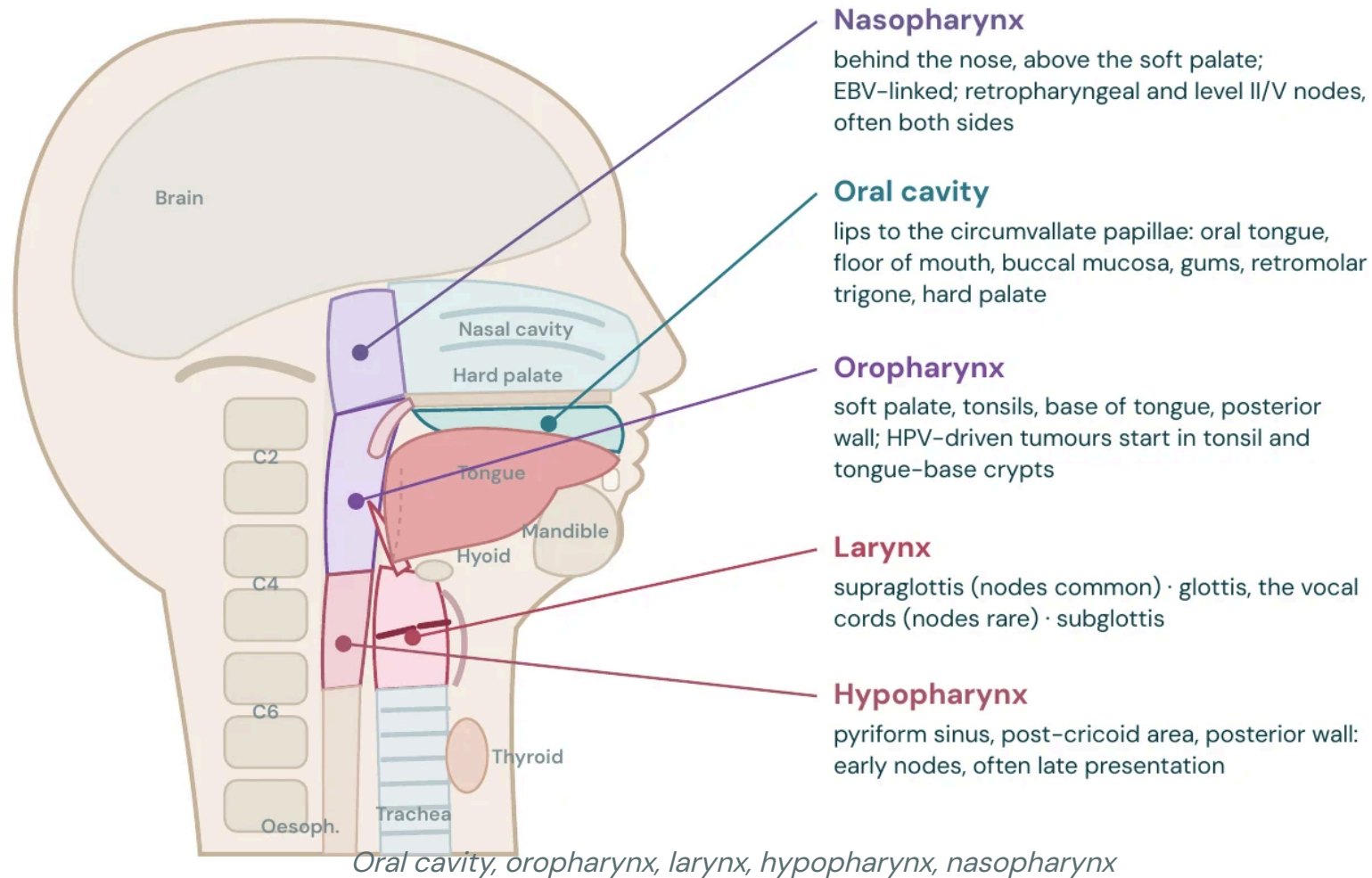
- Tonsil, base of tongue, soft palate
- HPV-driven in 70–80% in the West, a minority in India
- Test p16 in every case
- Chemoradiation or transoral surgery

Larynx · hypopharynx

- Smoking, alcohol; hoarseness first
- Glottic: early, rarely node-positive
- Hypopharynx: late, nodal spread
- Organ preservation when it works

Oral cavity leads in India; site decides cause, spread and first treatment

Where they arise



Risk factors

Risk factors

- Smoked tobacco: 5–25× in heavy smokers
- Smokeless tobacco and areca nut
- Alcohol: multiplies tobacco risk
- HPV-16 (oropharynx), EBV (nasopharynx)
- Poor oral hygiene, immunosuppression, Fanconi anaemia

Not proven causes

- Ill-fitting dentures alone
- Spicy food
- Hot tea
- Mobile phones

2

Presentation and traps

How each site presents

Site	First symptom	Key point
Oral cavity	Non-healing ulcer, patch, loose tooth	Biopsy after 2 weeks
Oropharynx	Sore throat, earache, neck lump	Cystic node = metastasis
Glottis	Hoarseness	Scope after 3 weeks
Supraglottis / hypopharynx	Dysphagia, otalgia, node	Late, nodal, malnourished
Nasopharynx	One-sided blocked ear, nose bleed, neck node	Look at the nasopharynx
Unknown primary	Neck node only	FNAC, PET-CT, panendoscopy

When to examine and biopsy

Examine and biopsy if it lasts > 2–3 weeks

- Mouth ulcer, white or red patch that does not heal
- Lump in the mouth, lip or neck (any painless neck node in an adult)
- Hoarseness > 3 weeks (smokers: look at the cords)
- Pain or difficulty swallowing; earache with a normal ear
- Loose teeth or an ill-fitting denture without dental cause
- Restricted mouth opening, numb lip or chin
- Blood in saliva; one-sided nasal block or bleeding

Oral potentially malignant disorders

- Leukoplakia: white patch, not rubbed off
- Erythroplakia: red velvety patch (highest risk)
- Oral submucous fibrosis: blanched, stiff mucosa, trismus (areca nut)
- Lichen planus and tobacco-pouch keratosis: watch
- Biopsy the reddest, thickest or ulcerated area
- Stop tobacco and areca nut; review 3–6-monthly

India: oral visual examination at 30+ under NP-NCD is cheap and effective; remove any sharp tooth or denture and review in 2 weeks; biopsy anything still there. Repeated courses of antibiotics or ointments only delay diagnosis.

Most delay in India happens before the first biopsy

Indian traps

- Ointments and antibiotics for a non-healing ulcer
- “Oral TB” or “TB node” without proof
- Neck node excised before the throat is examined
- Hoarseness treated as a cold
- Teeth extracted after radiotherapy
- Unplanned RT gaps for travel or festivals

Oral potentially malignant disorders

- Erythroplakia: highest risk
- Leukoplakia: biopsy the thickest or reddest area
- Oral submucous fibrosis: areca nut, trismus
- Stop tobacco and areca nut
- No chemoprevention drug works outside trials
- Follow up 3–6-monthly

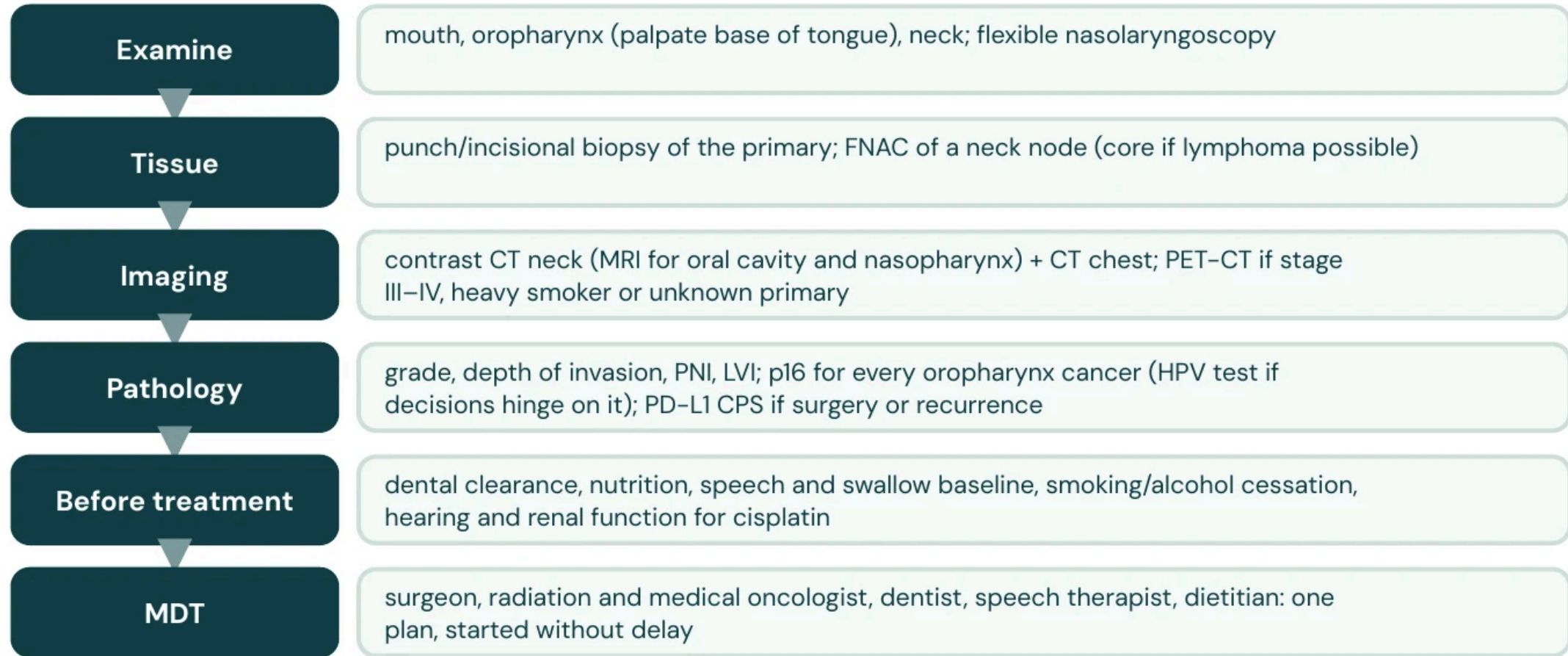
3

Screening, workup and staging

Screening the mouth works

- Kerala trial: 190,000 people, 3 rounds of visual oral screening
- Oral cancer deaths down 27% (29% in tobacco/alcohol users)
- NP-NCD: oral visual examination from 30
- Look in every tobacco user's mouth, under dentures
- Teach the 2-minute self-check

From suspicion to plan



Examine, biopsy, image, pathology, prepare, MDT

TNM at a glance

Oral cavity T category (AJCC 8th): size AND depth of invasion (DOI)

T1	T2	T3	T4a	T4b
≤2 cm and DOI ≤5 mm	≤2 cm with DOI 5–10 mm, or 2–4 cm with DOI ≤10 mm	>4 cm or DOI >10 mm	cortical bone, sinus, facial skin	masticator space, pterygoid plates, skull base, carotid

Neck (non-HPV sites, clinical): extranodal extension (ENE) now upstages

N1	N2a	N2b	N2c	N3a	N3b
single ipsilateral ≤3 cm, ENE–	single ipsilateral 3–6 cm	multiple ipsilateral ≤6 cm	bilateral/contralateral ≤6 cm	>6 cm	clinically overt ENE

HPV-associated oropharynx (clinical): T0–T2 N0–N1 = stage I · T0–T2 N2 or T3 N0–N2 = stage II ·

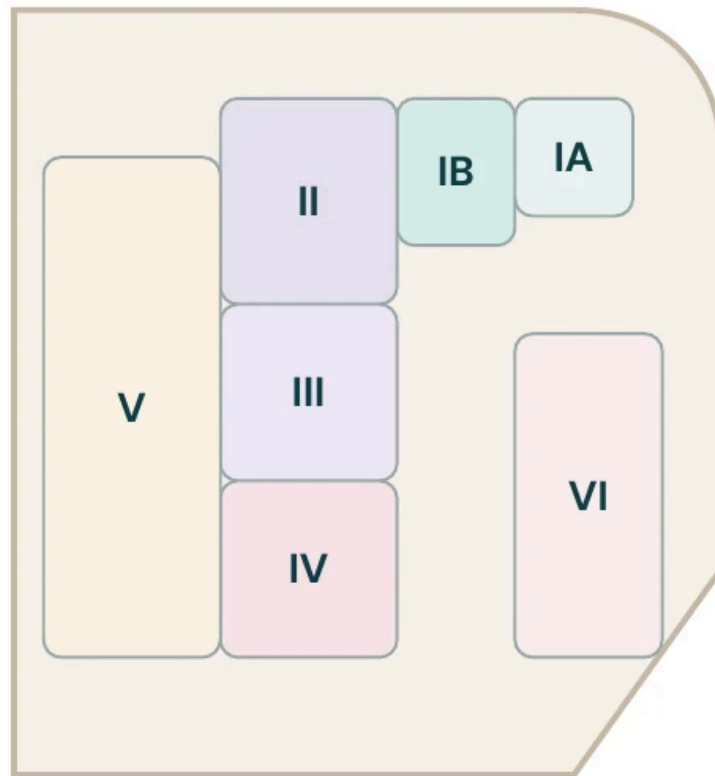
T4 or N3 = stage III · M1 = stage IV

Non-HPV: T1N0 = I · T2N0 = II · T3N0 or N1 = III · T4a or N2 = IVA · T4b or N3 = IVB · M1 = IVC

DOI sets oral cavity T; ENE upstages; HPV has its own table

Where each site drains

Neck levels (schematic, left side)



First-echelon nodes by primary site

Oral tongue, floor of mouth

I–III (IV): skip to III–IV happens

Buccal mucosa, gums, lip

I–II

Oropharynx

II–IV, retropharyngeal; bilateral if midline

Supraglottis, hypopharynx

II–IV, bilateral

Glottis (T1–T2)

nodes rare: no elective neck

Subglottis

VI (paratracheal) and II–IV

Nasopharynx

II, V, retropharyngeal, bilateral

Levels II–IV carry most nodal disease; midline primaries need both necks

Unknown primary

- p16 and EBER on the node
- PET-CT before any examination under anaesthesia
- Panendoscopy, bilateral tonsillectomy, directed biopsies
- Transoral lingual tonsillectomy finds hidden base-of-tongue primaries
- N1 no ENE: surgery or RT; N2b+: chemoradiation

4

HPV and biomarkers

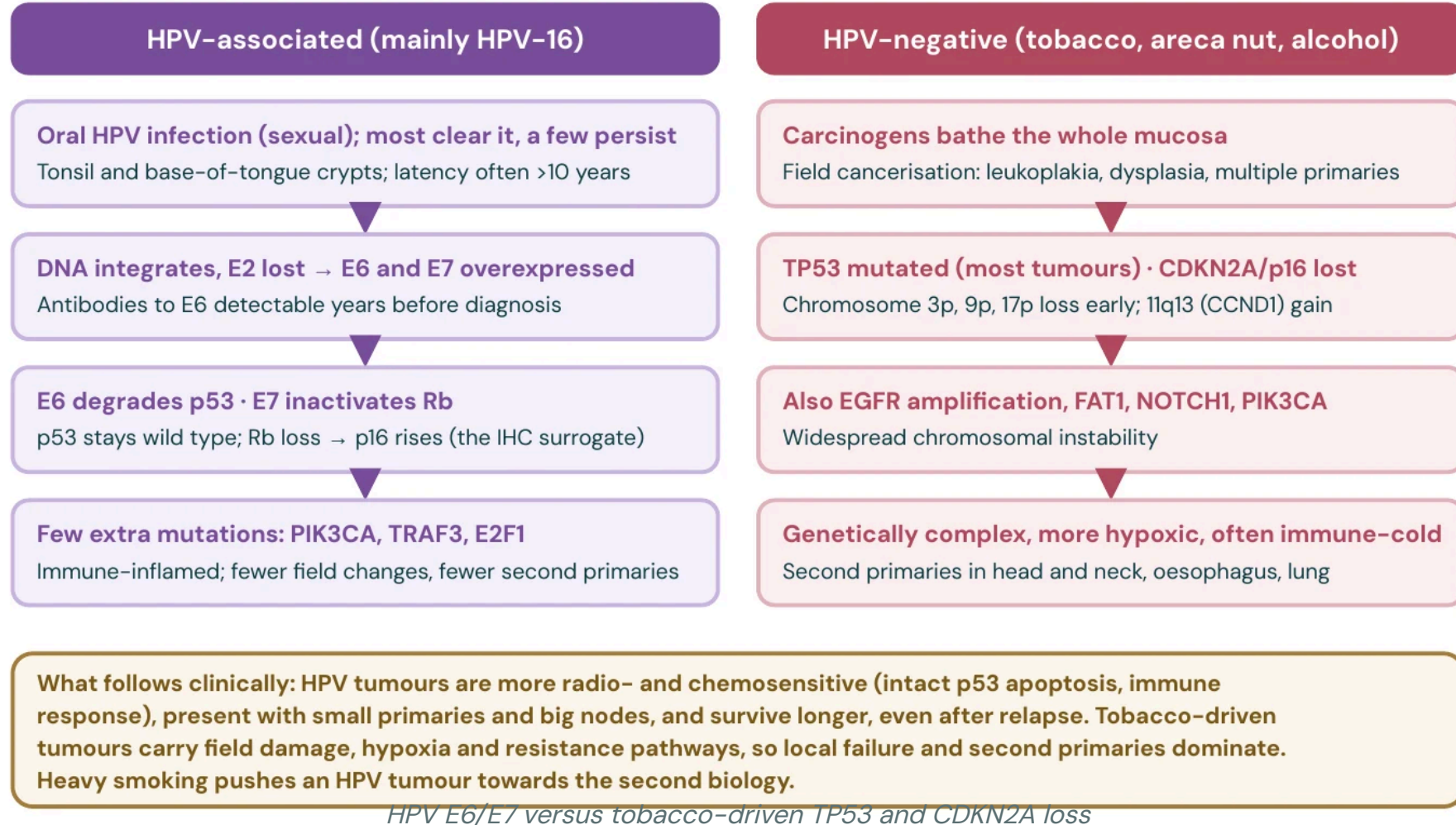
Two diseases in one site

Feature	HPV-associated (p16+)	HPV-negative (p16-)
Typical patient	Younger, often never-smoker	Older, smoker and drinker
Primary	Small tonsil or base-of-tongue tumour	Larger, infiltrative
Neck	Early, often cystic nodes	Nodes later, solid
Test	p16 IHC ($\geq 70\%$ of cells) $\pm$ HPV DNA/RNA	p16 negative
Staging	AJCC 8th HPV table (more stage I–II)	Standard oropharynx table
3-year survival (RTOG 0129)	~82%	~57%
Standard treatment	Same as HPV-negative outside trials	CRT or surgery $\pm$ adjuvant

Smoking above ~10 pack-years erodes the HPV advantage. In India HPV-driven oropharynx cancer is a minority (about 1 in 8 oropharynx cancers in the Indian ConCERT trial). Discordant p16/HPV results behave like HPV-negative disease.

p16 changes stage and prognosis, not treatment outside trials

Two routes, two diseases



HPV status and pack-years together

3-year overall survival after cisplatin chemoradiation, oropharyngeal cancer (RTOG 0129, Ang 2010)

Low risk

HPV+ with ≤ 10 pack-years, or >10 pack-years and NO–N2a (7th ed.)

93%

Intermediate risk

HPV+ >10 pack-years and N2b–N3, or HPV– ≤ 10 pack-years and T2–T3

71%

High risk

HPV– >10 pack-years, or HPV– T4

46%

HPV status, then smoking, then nodal (or T) stage separate the groups.

Retropharyngeal nodes and PIK3CA mutation also predict worse outcomes in HPV-associated disease.

Smoking erodes the HPV advantage

Biomarkers that change management

Marker	Consequence
p16 / HPV	HPV staging table; better prognosis
Depth of invasion	T category; elective neck if >3 mm
Margins, ENE	Cisplatin with postoperative RT
PNI, LVI, nodes	Postoperative RT alone
PD-L1 CPS ≥1	Perioperative and first-line pembrolizumab
CPS ≥20	Pembrolizumab alone at recurrence

HPV pitfalls

- p16 $\geq$ 70% strong, diffuse = positive
- Confirm HPV DNA/RNA if decisions hinge on it
- Discordant p16/HPV behaves like HPV-negative
- Smoking >10 pack-years erodes the advantage
- Do not test p16 in oral cavity routinely
- Cetuximab instead of cisplatin: worse survival

5

Surgery and radiotherapy

What the surgeon offers

Wide local excision

- 1 cm planned mucosal margin to reach a >5 mm final margin
- Deep margin one tissue layer beyond DOI
- Frozen sections; re-excise close margins

Mandible

- Marginal: rim removed, continuity kept (no medullary invasion, dentate)
- Segmental: bone invaded or edentulous jaw
- Fibula free flap ± plate for segments

Neck dissection

- Selective: levels I–III (oral), II–IV (pharynx/larynx)
- Modified radical: N+ neck, preserve XI, IJV, SCM
- Sentinel node biopsy in expert centres

Transoral surgery

- TORS / laser (TLM) for T1–T2 oropharynx, larynx
- Avoids mandibulotomy; less dysphagia
- Select so adjuvant therapy can be avoided

Larynx

- TLM cordectomy for early glottic
- Partial laryngectomy (open) selected cases
- Total laryngectomy: T4a cartilage destruction, salvage

Reconstruction

- Radial forearm (tongue, soft palate)
- ALT thigh (large soft tissue)
- Fibula/scapula (jaw); pectoralis major as backup

Margins and ENE on final pathology decide adjuvant therapy

D'Cruz: elective neck dissection (Tata Memorial)

- 500 patients, early oral cancer, clinically NO
- 3-year OS 80 vs 67.5%
- DFS 69.5 vs 45.9%
- Benefit clearest with DOI >3 mm
- Sentinel node biopsy: equal outcomes in expert centres (Senti-MERORL)

Oral cavity: the neck by site and depth

Situation	Neck
Tongue / floor of mouth, DOI >3 mm	Elective dissection (bilateral if midline) or SLNB
Tongue, DOI 1–3 mm, lateral	SLNB (expert centre) or elective dissection
Tongue, DOI ≤1 mm, lateral	Observe
Buccal, gingiva, retromolar, palate	Elective dissection
T1 lower lip	Observe

Oral cavity: surgical rules

- 1 cm planned margin → >5 mm final margin
- Re-excise close margins in early disease
- Edentulous jaw with cortical erosion → segmental resection
- Buccal cancers: reline the cheek with a free flap
- Fibula for the mandible; radial forearm for tongue

Radiotherapy schedules and the time factor

Definitive chemoradiation

70 Gy in 35 fractions over 7 weeks + weekly or 3-weekly cisplatin

Definitive RT alone (older/unfit)

accelerated or hyperfractionated schedules improve control (MARCH)

Postoperative RT

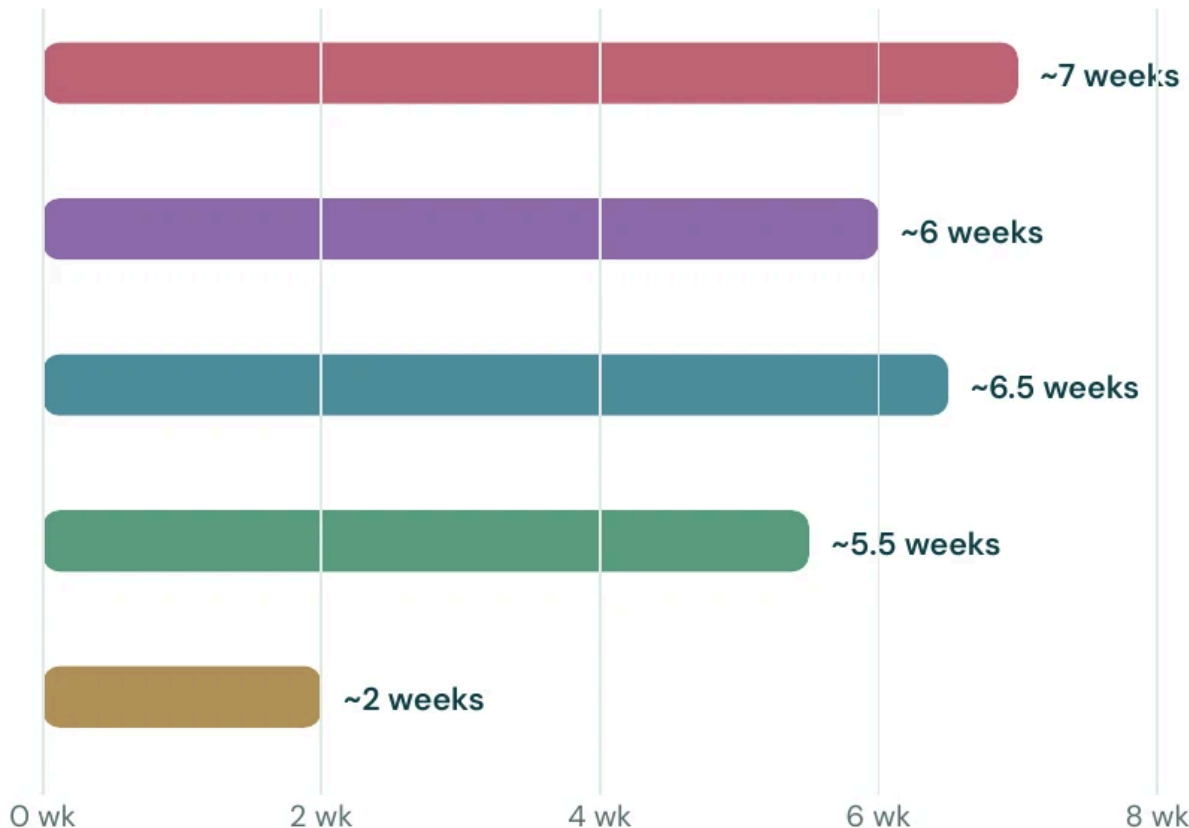
60–66 Gy in 30–33 fractions; start within 6 weeks of surgery

Early glottic (T1)

small field, slightly larger fractions over ~5–6 weeks

Palliative

short hypofractionated courses (1–3 weeks) for pain, bleeding, airway



Every unplanned day off costs local control: avoid gaps (dental and nutrition care first); postoperative RT should finish within about 100 days of surgery. IMRT spares the parotids (PARSPORT) and swallowing muscles (DARS).

Every unplanned day off costs control

Radiotherapy principles

- IMRT standard: PARSPORT, Tata IMRT trial, DARS
- Altered fractionation helps without chemotherapy (MARCH)
- With cisplatin: once-daily RT
- Postoperative RT within 6 weeks; finish within ~100 days
- Glottic T1: small field, no neck

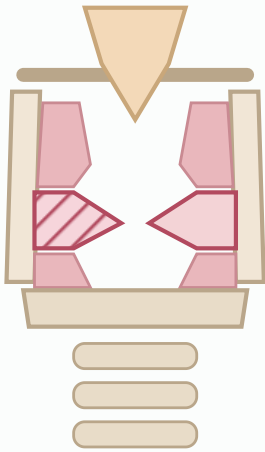
After chemoradiation: the neck

- Clinical review at 4–6 weeks
- PET-CT at 12 weeks
- Complete response → observe
- Residual or PET-positive node → neck dissection
- PET-NECK: same survival, far fewer operations

6

Larynx and hypopharynx

Larynx operations that keep the voice



Transoral laser cordectomy

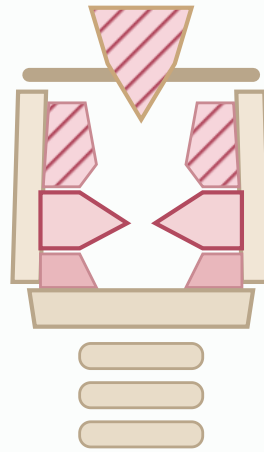
REMOVES

Tumour on the vocal cord, through the mouth

KEEPS

Rest of the larynx; no neck wound; no tracheostomy

Glottic Tis–T1 (selected T2)



Supraglottic laryngectomy

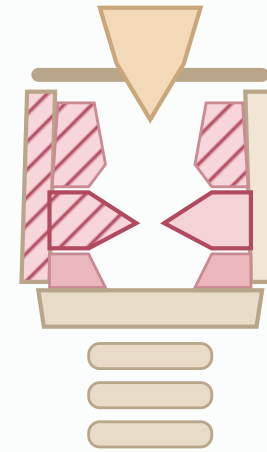
REMOVES

Epiglottis and false cords (above the vocal cords)

KEEPS

Both vocal cords and the natural voice

Supraglottic T1–T2; good lung function



Vertical partial laryngectomy

REMOVES

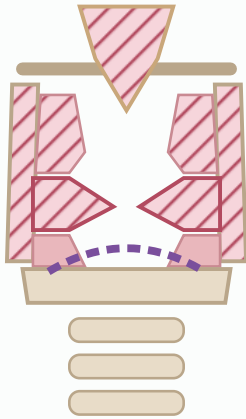
One side of the larynx with its cartilage

KEEPS

The other cord; natural airway after healing

Selected T1–T2 glottic when laser access is poor

Larger operations



Supracricoid laryngectomy

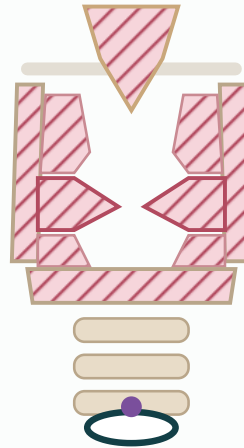
REMOVES

Both cords and the thyroid cartilage

KEEPS

Cricoid and at least one arytenoid; no permanent stoma

Selected T2–T3, limited T4a; expert centres



Total laryngectomy

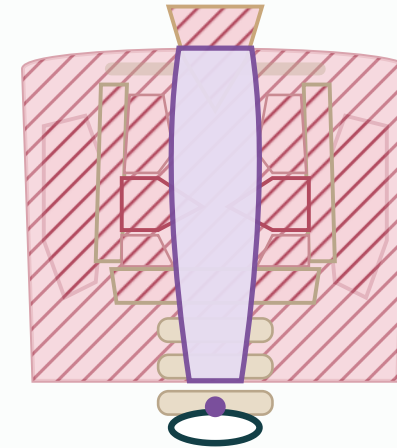
REMOVES

Whole larynx; trachea brought out as a neck stoma

KEEPS

Swallowing; speech with a voice valve

T4a, dead larynx, salvage after RT



Total laryngopharyngectomy

REMOVES

Larynx and the surrounding pharynx

KEEPS

Swallowing via a flap or jejunum tube

Advanced hypopharynx and post-cricoid cancer

 Tissue removed

 Cartilage kept

 Reconstruction (flap or jejunum)

 Stoma with voice valve

 Pexy

Partial operations: who, pros, cons

Operation	Best for	Pros	Cons
Laser cordectomy	Glottic Tis–T1, selected T2	Short stay; repeatable; RT in reserve	Needs exposure; anterior commissure harder
Supraglottic laryngectomy	Supraglottic T1–T2, good lungs	Normal voice kept	Early aspiration; bilateral neck
Supracricoid laryngectomy	Selected T2–T3, limited T4a	No permanent stoma	Rough voice; long rehabilitation
Partial pharyngectomy	Small pyriform or posterior wall	Larynx kept	Few candidates; RT usually follows

Total operations: who, pros, cons

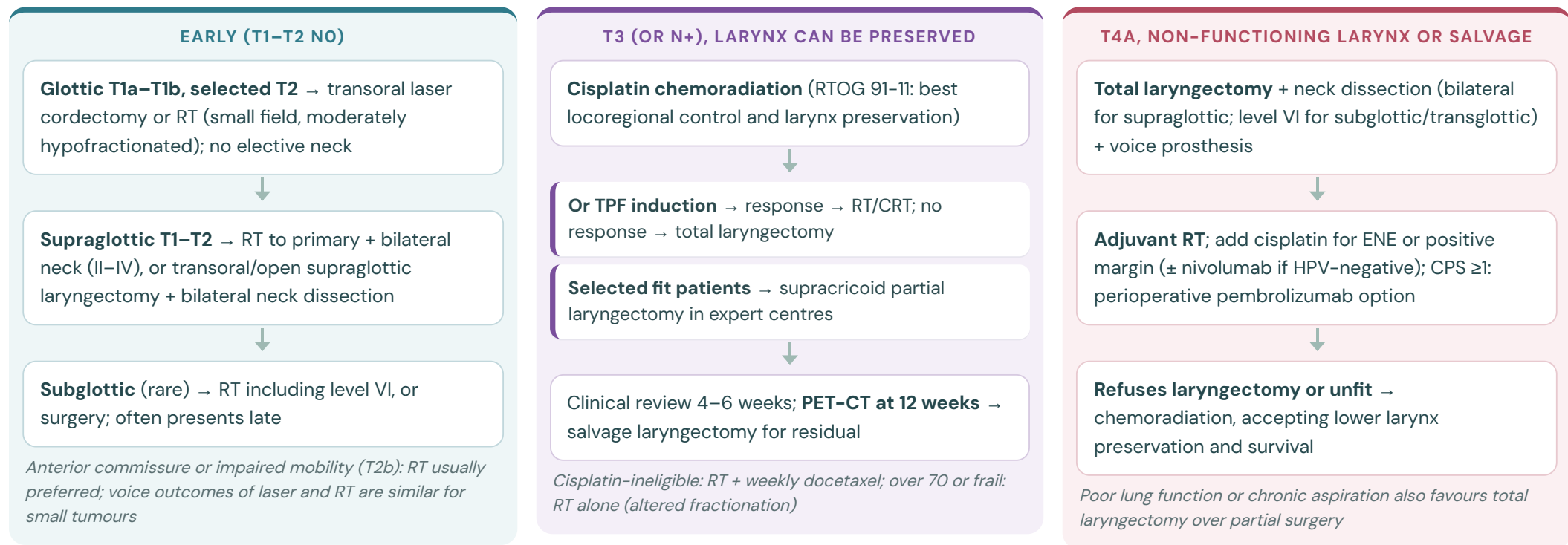
Operation	Best for	Pros	Cons
Total laryngectomy	T4a, dead larynx, salvage	Best control; no aspiration	Stoma; loss of voice and smell; fistula
Total laryngopharyngectomy	Advanced hypopharynx, post-cricoid	Removes bulky disease	Fistula, stricture; flap or jejunum needed

Outcomes and function (approximate)

Operation	Control	Function
Laser cordectomy, T1	85–95%; larynx kept >95% with salvage	Voice ≈ RT after superficial resection
Supraglottic laryngectomy, T1–T2	About 85–90%	Most eat by mouth after rehabilitation
Supracricoid laryngectomy	≥90% in expert series	Most decannulated and eating
Total laryngectomy	Best for T4a	Voice prosthesis: fluent speech in ~70–90%; fistula 10–20% (≈30% salvage)
Laryngopharyngectomy	Limited by distant spread	Most resume oral diet; some strictures

Algorithm: laryngeal cancer

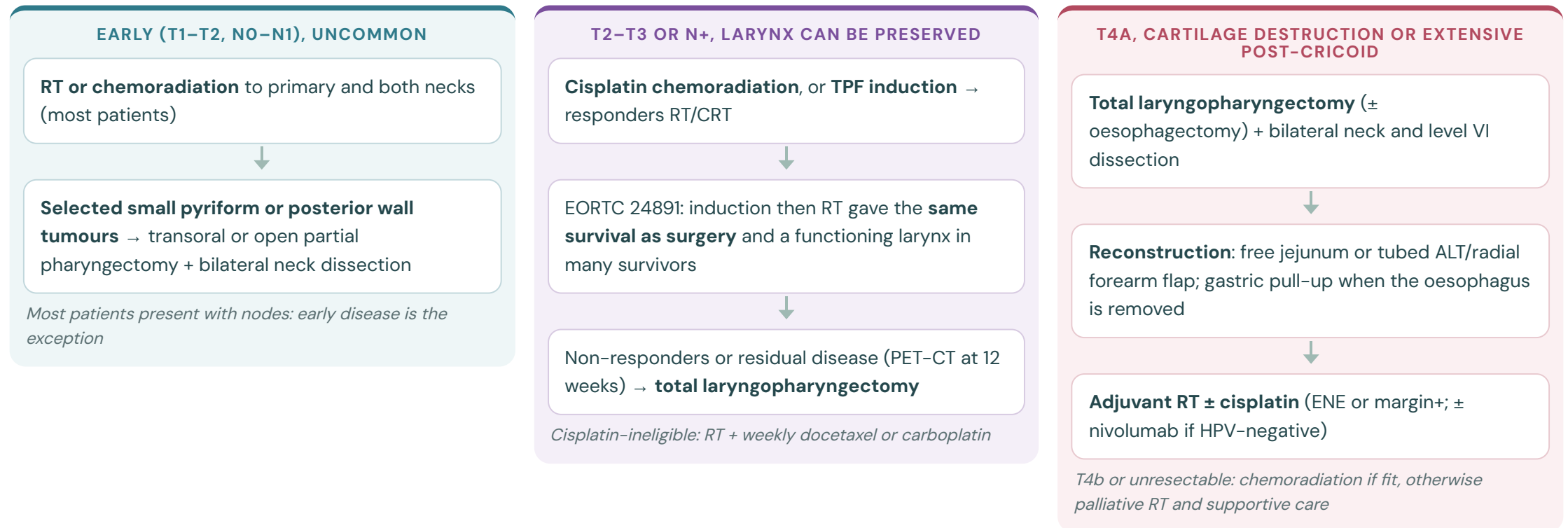
Biopsy-proven laryngeal SCC: laryngoscopy (stroboscopy for early glottic) · cord mobility · CT neck for cartilage and pre-epiglottic/paraglottic spread · CT chest (PET-CT if stage III–IV) · lung function, voice and swallow baseline · dental · tumour board with a surgeon who offers partial and total laryngectomy



All patients: stop smoking (quitline 1800-11-2356) · speech and swallow therapy before and after treatment · stoma care and humidification after laryngectomy · TSH 6–12-monthly after neck RT · yearly low-dose chest CT if ≥20 pack-years.

Algorithm: hypopharyngeal cancer

Biopsy-proven hypopharyngeal SCC: panendoscopy with oesophagoscopy (synchronous oesophageal cancer) · CT/MRI neck · PET-CT (high distant risk) · **nutrition first** (feeding tube if weight loss or aspiration) · lung function · dental · tumour board



All patients: nutrition and weight weekly · speech rehabilitation (voice prosthesis) · stricture dilatation if swallowing narrows · surveillance of the oesophagus and lungs for second primaries · TSH 6-12-monthly.

Laser or RT for early glottic cancer?

- Similar local control and larynx preservation
- Laser: one short procedure, RT kept for later
- RT: no anaesthesia; suits anterior commissure tumours
- Voice similar after superficial cordectomy
- Decide with the patient: access, voice needs, travel

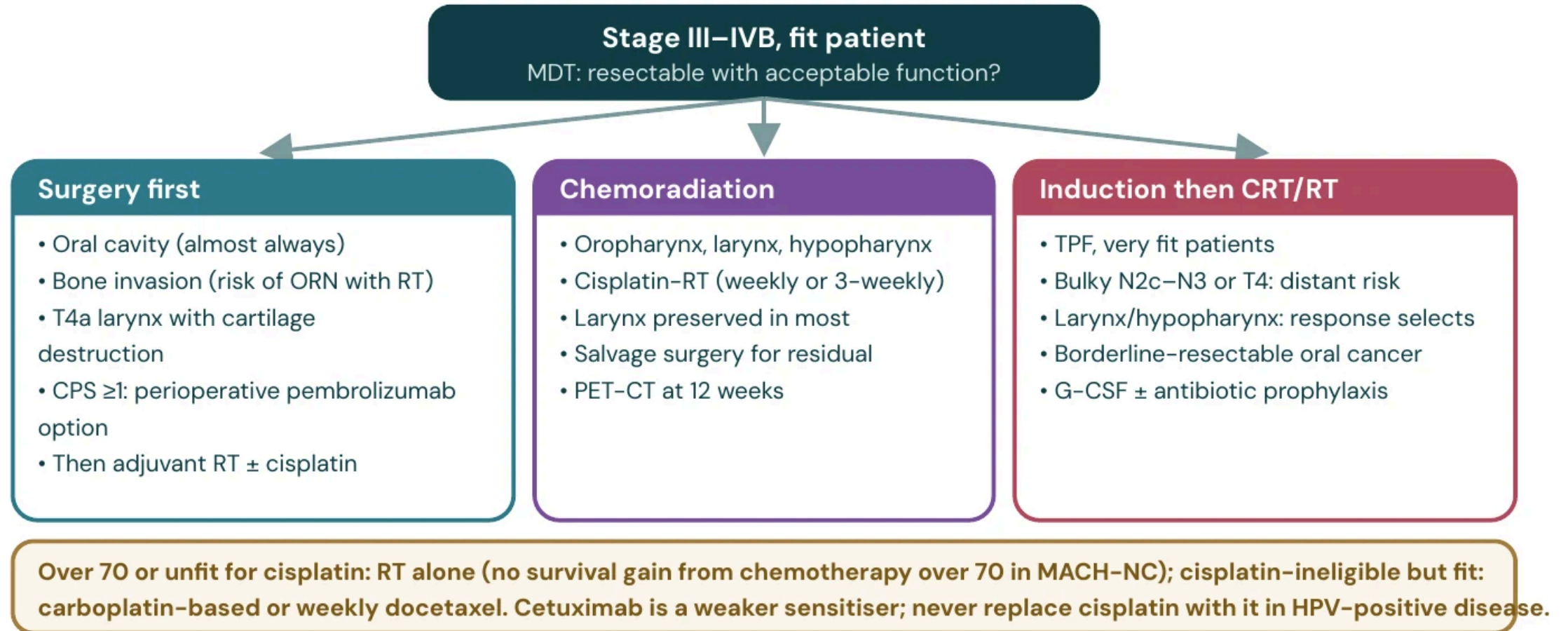
Hypopharynx: special rules

- Nutrition first: most arrive malnourished
- Oesophagoscopy: synchronous oesophageal cancer
- PET-CT: high distant-metastasis risk
- EORTC 24891: induction then RT = surgery for survival
- Laryngopharyngectomy with jejunum or tubed flap for T4a

7

Chemoradiation and organ preservation

Three routes for locally advanced disease



Surgery first, chemoradiation, or induction then RT

MACH-NC: what chemotherapy adds

Strategy	Survival effect
Concurrent CRT vs RT	+6.5% at 5 years (HR 0.83)
Induction alone	No overall gain
Adjuvant chemotherapy alone	No gain
Age over 70	No gain from concurrent chemotherapy

Choosing the sensitiser

Situation	Choice	Evidence
Fit	Cisplatin weekly or 3-weekly	ConCERT, JCOG1008
Cisplatin-ineligible	Weekly docetaxel or carboplatin	Tata 2023: 2-y OS 51 vs 42%
HPV-positive	Cisplatin, never cetuximab	RTOG 1016, De-ESCALaTE
Over 70 / frail	RT alone	MACH-NC
Add IO to CRT	No benefit	JAVELIN, KEYNOTE-412

Weekly cisplatin: get the dose right

- ConCERT (India): weekly non-inferior, less toxic
- JCOG1008 (postoperative): weekly non-inferior
- Tata 2018: low weekly dose was worse
- Aim for a cumulative dose of at least 200 mg/m²
- Audiogram and creatinine clearance first

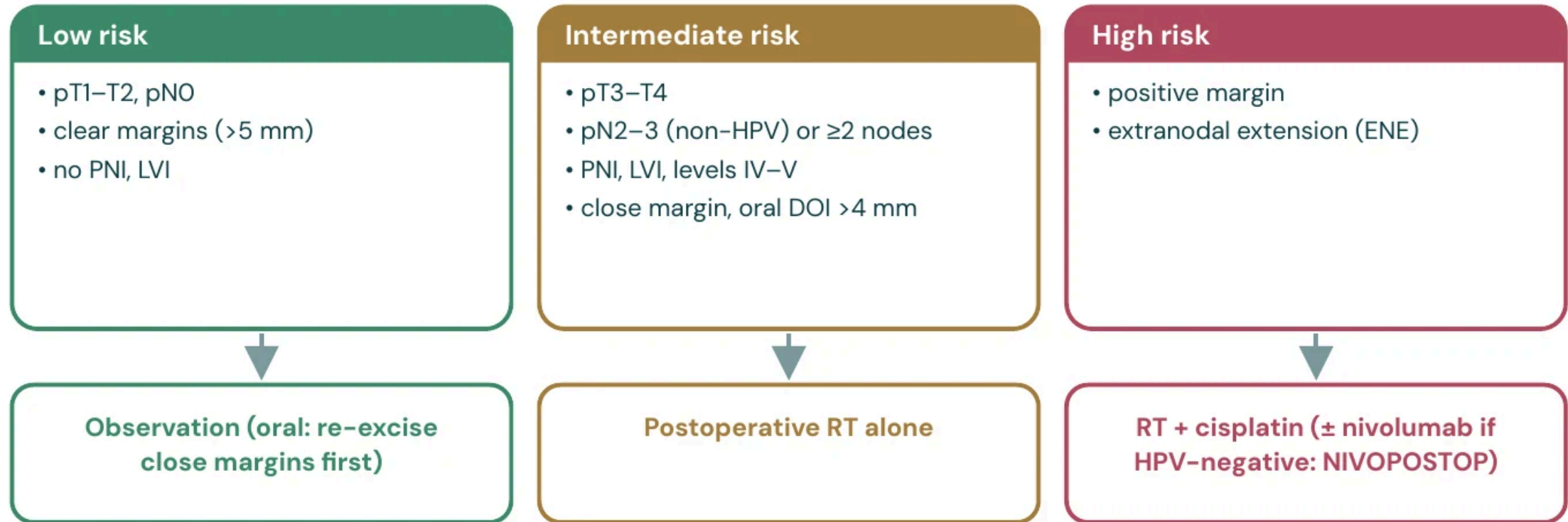
Larynx preservation trials

Trial	Result
VA Larynx	Survival 68% = laryngectomy; larynx kept in 64%
EORTC 24891 (pyriform)	Equal survival; larynx kept in many survivors
RTOG 91-11	Concurrent CRT: best locoregional control (68%)
RTOG 91-11 at 10 years	Survival 28% CRT vs 39% induction
TREMPIN	After TPF: cisplatin- or cetuximab-RT similar

Induction chemotherapy: when

- TPF beats PF (TAX 324: 5-y OS 52 vs 42%)
- Adding it to CRT: no survival gain (PARADIGM, DeCIDE)
- Use for larynx/hypopharynx selection, bulky N2c–N3
- Borderline–resectable oral cancer
- G-CSF ± antibiotic prophylaxis

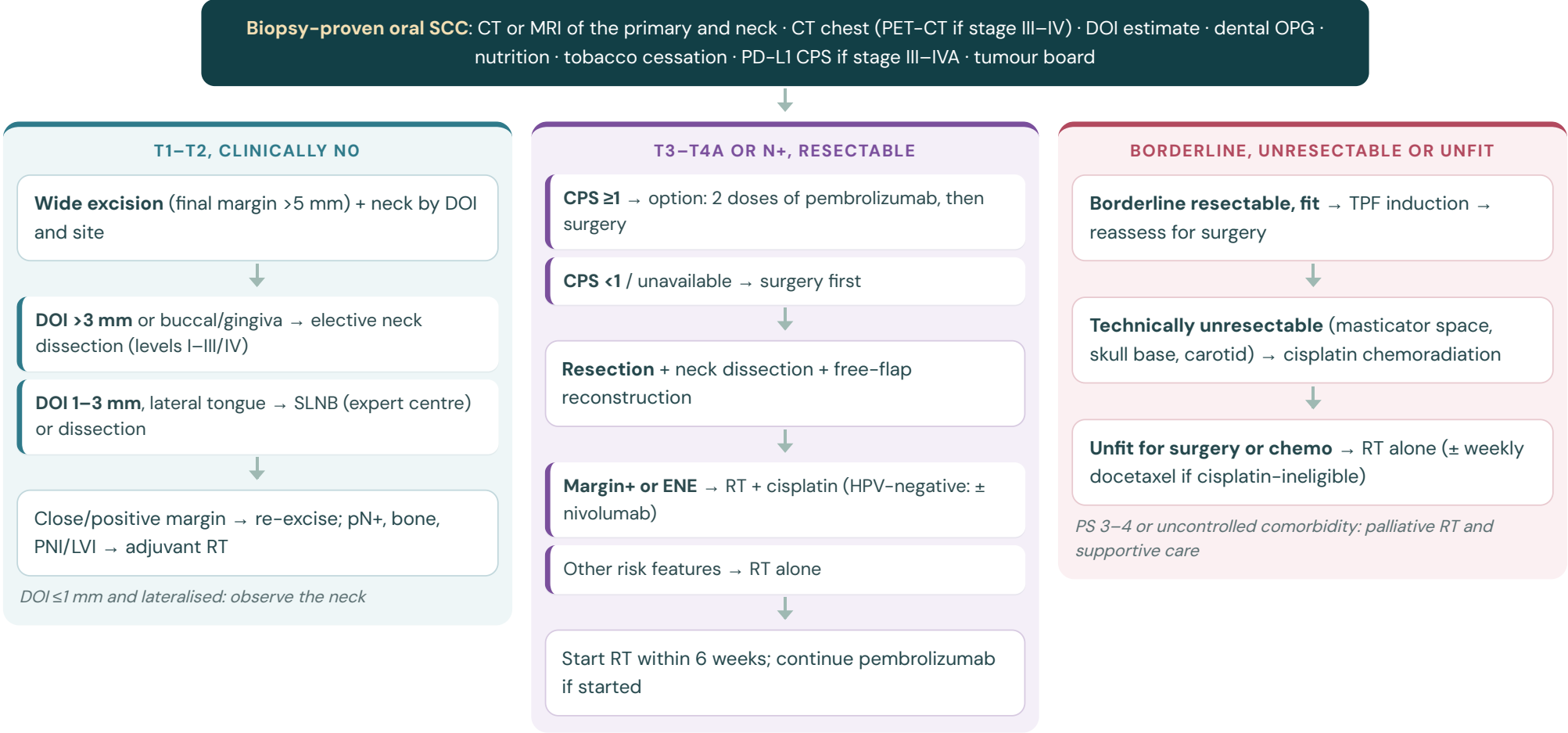
Adjuvant therapy follows pathology



Cisplatin-ineligible: RT alone or RT + weekly docetaxel (Tata trial). Start RT within 6 weeks of surgery. Perioperative pembrolizumab (KEYNOTE-689, CPS ≥ 1) continues after surgery when it was given before. HPV-associated ENE: cisplatin-RT (no nivolumab data).

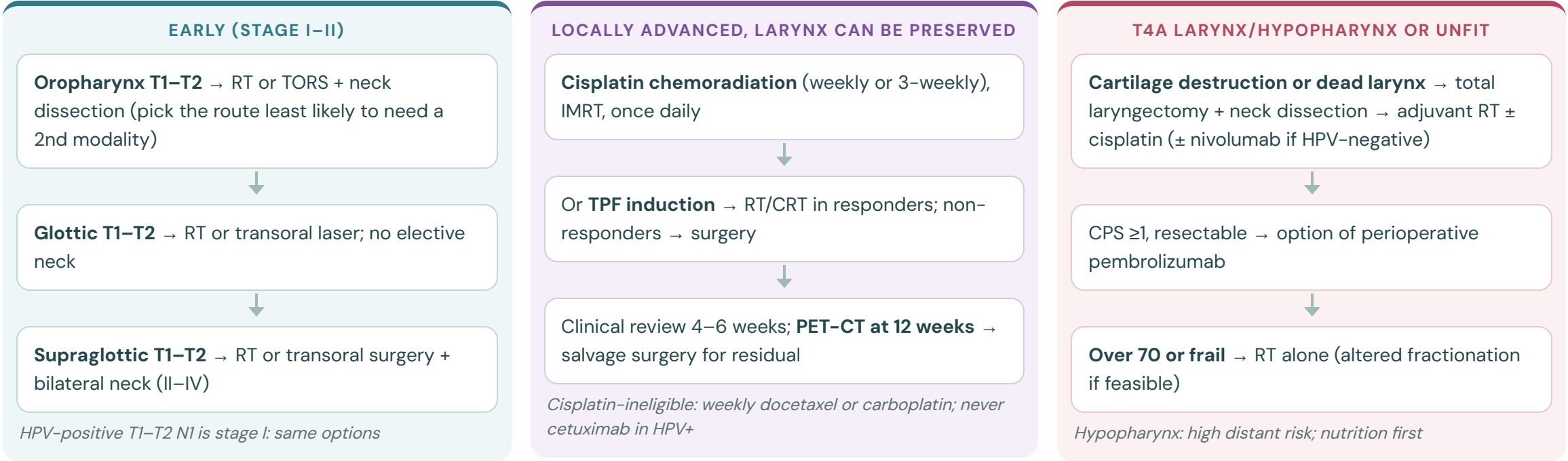
Only margins and ENE gained from cisplatin in both pivotal trials

Algorithm: oral cavity cancer



Algorithm: oropharynx, larynx and hypopharynx

Biopsy-proven SCC: p16 (oropharynx) · CT/MRI neck + CT chest or PET-CT · laryngoscopy (cord mobility) · audiogram, creatinine clearance · dental · nutrition · swallow baseline · tumour board



All patients: stop smoking (quitline 1800-11-2356) · avoid treatment gaps · swallow exercises before RT · voice rehabilitation after laryngectomy · TSH 6–12-monthly · yearly low-dose chest CT if ≥20 pack-years.

8

Immunotherapy, recurrence and nasopharynx

Immunotherapy around surgery

Trial	Setting	Result
KEYNOTE-689	Resectable III–IVA, CPS $\geq$ 1	3-y EFS ~60 vs 46%; OS immature
NIVOPOSTOP	High-risk resected, HPV-negative	3-y DFS 63 vs 53%
JAVELIN H&N 100	Avelumab + definitive CRT	Negative
KEYNOTE-412	Pembrolizumab + definitive CRT	Negative

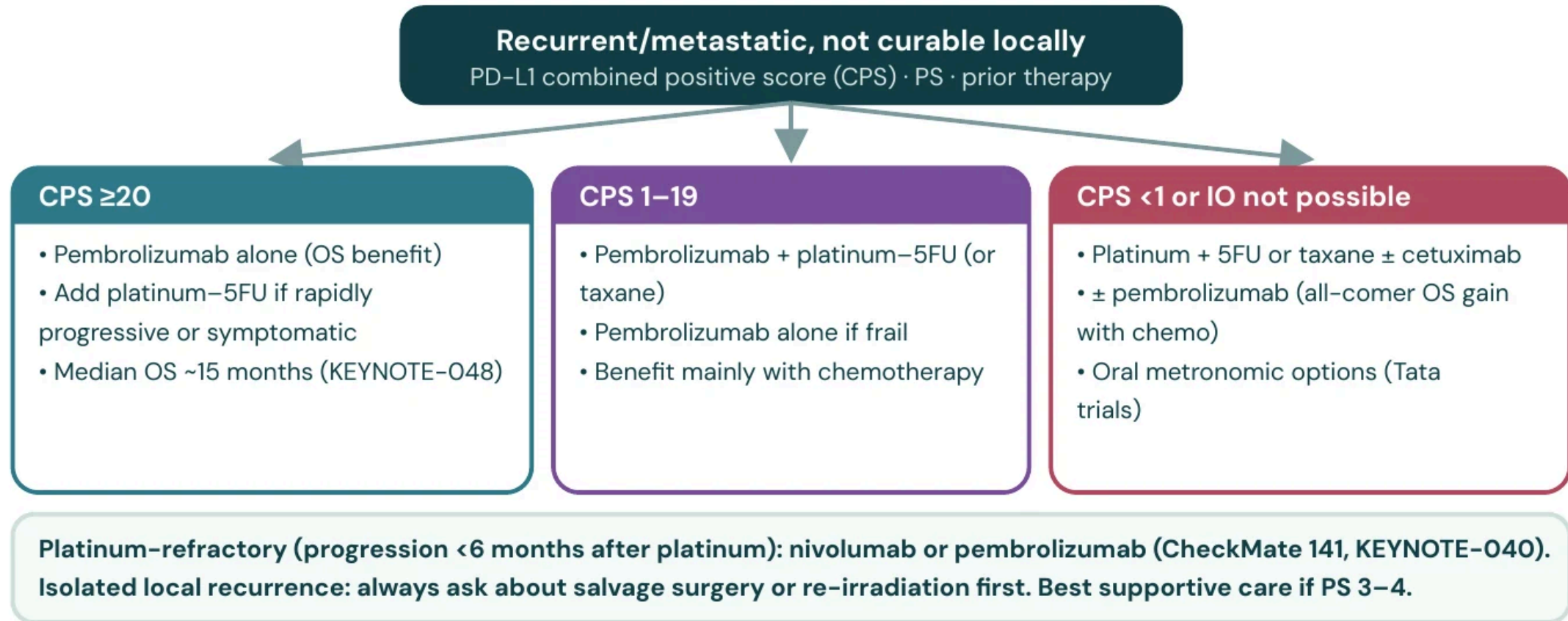
Recurrence: is it curable?

- Resectable local or neck recurrence → salvage surgery
- High-risk pathology → postoperative re-irradiation
- Unresectable → re-irradiation ± chemotherapy (selected)
- Re-RT: deaths ~10%, severe toxicity up to 50%
- Biopsy a new lung lesion: metastasis or second primary?

Re-irradiation: choose carefully

- Salvage surgery first when resectable
- Postoperative re-RT only for high-risk pathology
- Unresectable in-field recurrence: re-RT $\pm$ chemotherapy or SBRT
- Select by interval, prior dose, volume and fitness
- Treatment deaths ~10%; severe toxicity up to 50%

First line by CPS



KEYNOTE-048 changed first-line therapy

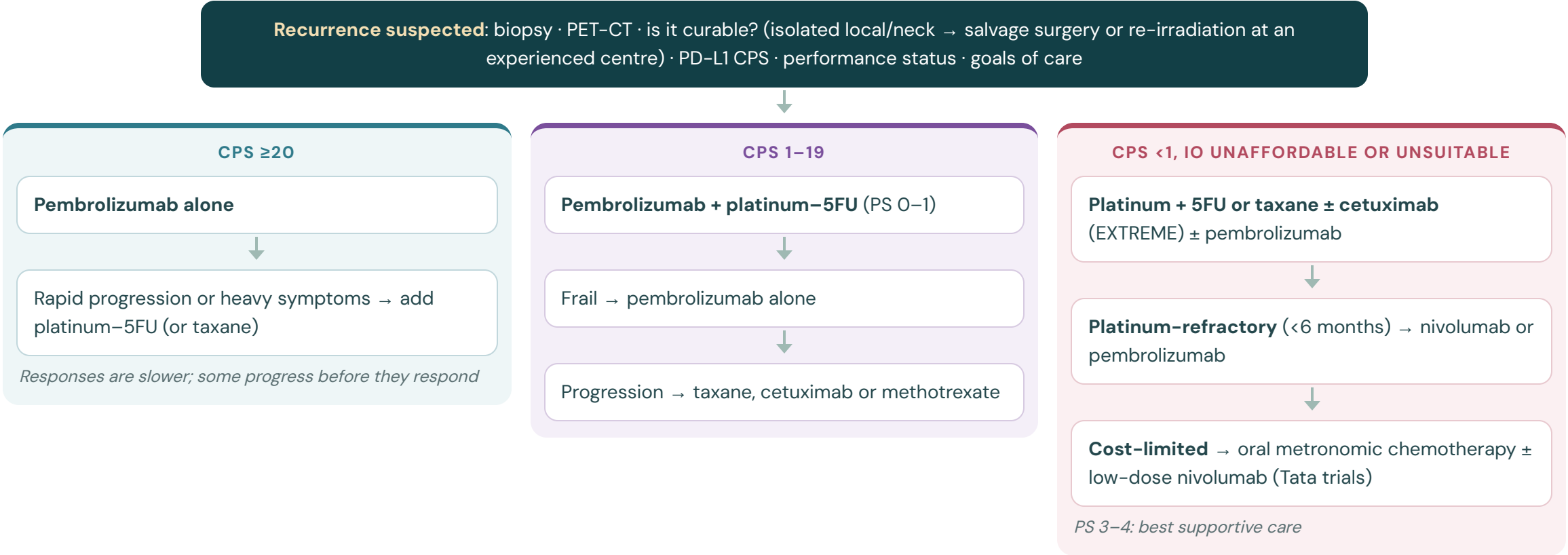
Recurrent/metastatic trials

Trial	Result
EXTREME	Median OS 10.1 vs 7.4 months
KEYNOTE-048 (pembro + chemo)	4-y OS 19 vs 5%
KEYNOTE-048 (pembro, CPS ≥20)	Median OS 15 vs 11 months
CheckMate 141	1-y OS 34 vs 20%
KEYNOTE-040	Median OS 8.4 vs 6.9 months
CheckMate 651	Nivolumab + ipilimumab: negative

Lower-cost evidence from India

- Oral metronomic methotrexate–celecoxib ($\pm$ erlotinib)
- Low-dose nivolumab + metronomic chemotherapy improved OS
- Weekly docetaxel with RT when cisplatin is impossible
- Weekly cisplatin at full dose
- Discuss cost openly; use assistance programmes

Algorithm: recurrent or metastatic disease



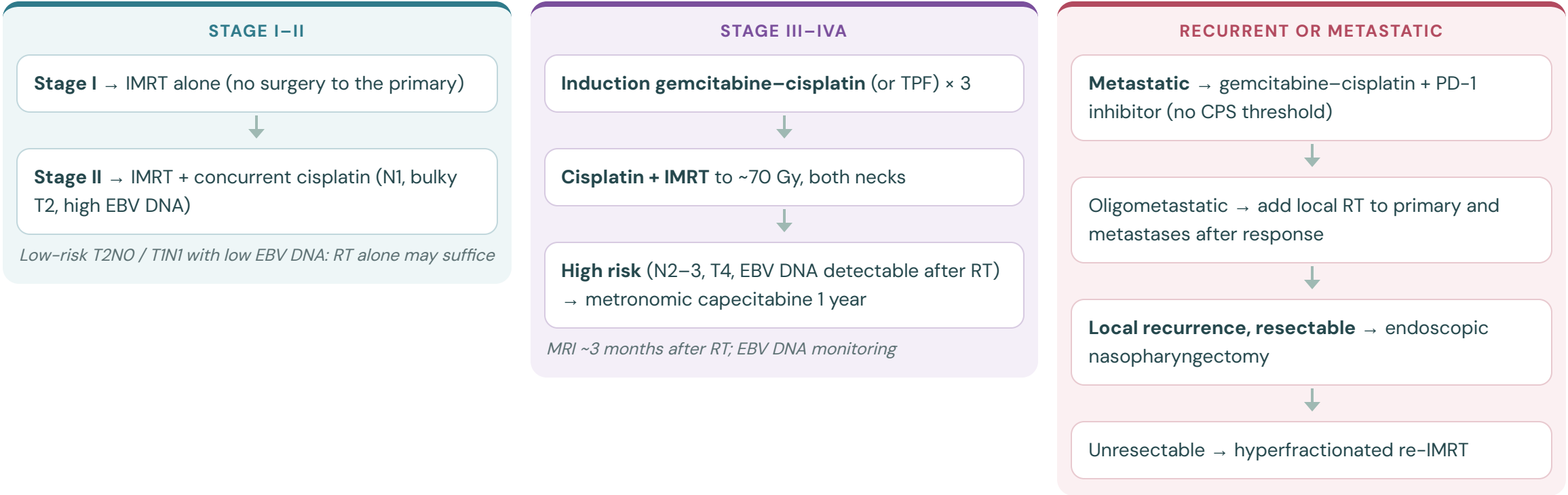
All patients: early palliative care · pain, bleeding and airway plans · nutrition and feeding route decisions with the family · trials where available · carboplatin rather than cisplatin after previous cisplatin.

Nasopharyngeal carcinoma: a different disease

- EBV-driven; endemic in southern China, uncommon in India except the north-east
- One-sided blocked ear, nose bleed, level II/V nodes, cranial nerve palsy
- MRI of nasopharynx and skull base; plasma EBV DNA
- No surgery to the primary; IMRT $\pm$ cisplatin
- Refer to a centre that treats it regularly

Algorithm: nasopharyngeal carcinoma

Biopsy-proven NPC (EBER positive): nasoendoscopy · MRI nasopharynx, skull base and neck · PET-CT if stage III–IV or bulky nodes · plasma EBV DNA · dental, audiology, endocrine and eye baselines · tumour board in an experienced centre



All patients: refer to a centre that treats NPC regularly · yearly TSH and pituitary tests, hearing checks · watch for temporal lobe necrosis, cranial neuropathy and carotid stenosis · dental care for life.

9 Survivorship

Side effects that shape survivorship

Hearing loss, tinnitus

cisplatin, RT near the ear;
audiology at baseline

Trismus

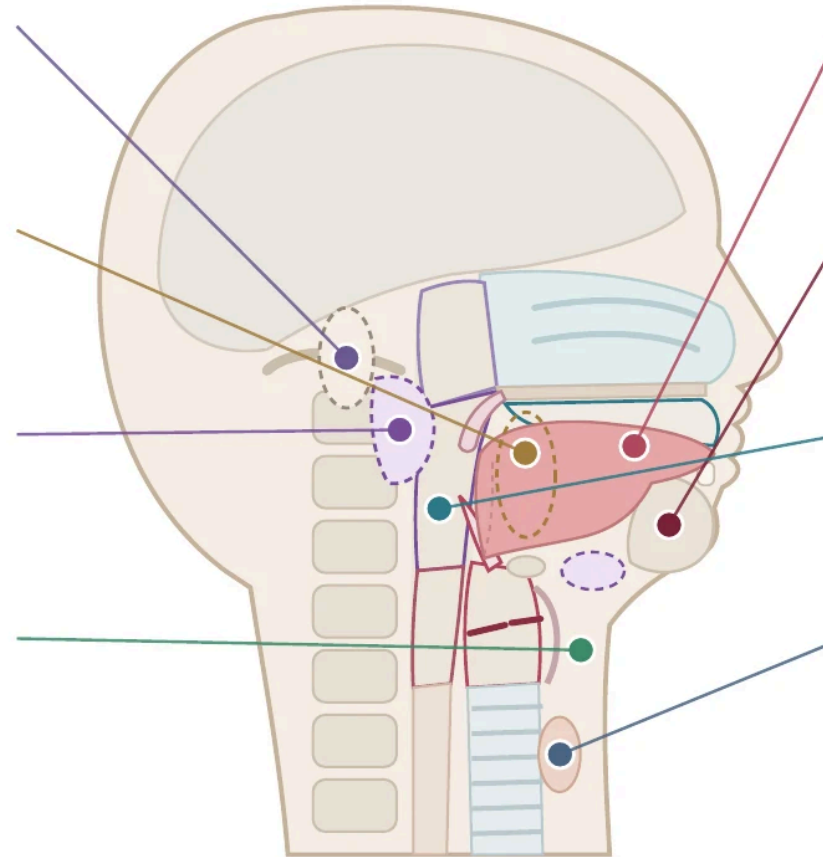
masseter and jaw joint in the
field; jaw-stretch exercises
from day one

Xerostomia, caries

parotid and submandibular
glands; parotid-sparing IMRT,
fluoride for life

Lymphoedema, stiff neck

after neck dissection and RT;
physiotherapy, lymph drainage,
spare nerve XI



Mucositis, taste loss

weeks 2–6 of RT; analgesia,
salt-soda rinses, nutrition

Osteoradionecrosis

mandible: 5–7%; extractions
after RT are the usual trigger

Dysphagia, aspiration

pharyngeal constrictors and
larynx; swallow exercises
before and during RT

Hypothyroidism

thyroid in the neck field: TSH
every 6–12 months

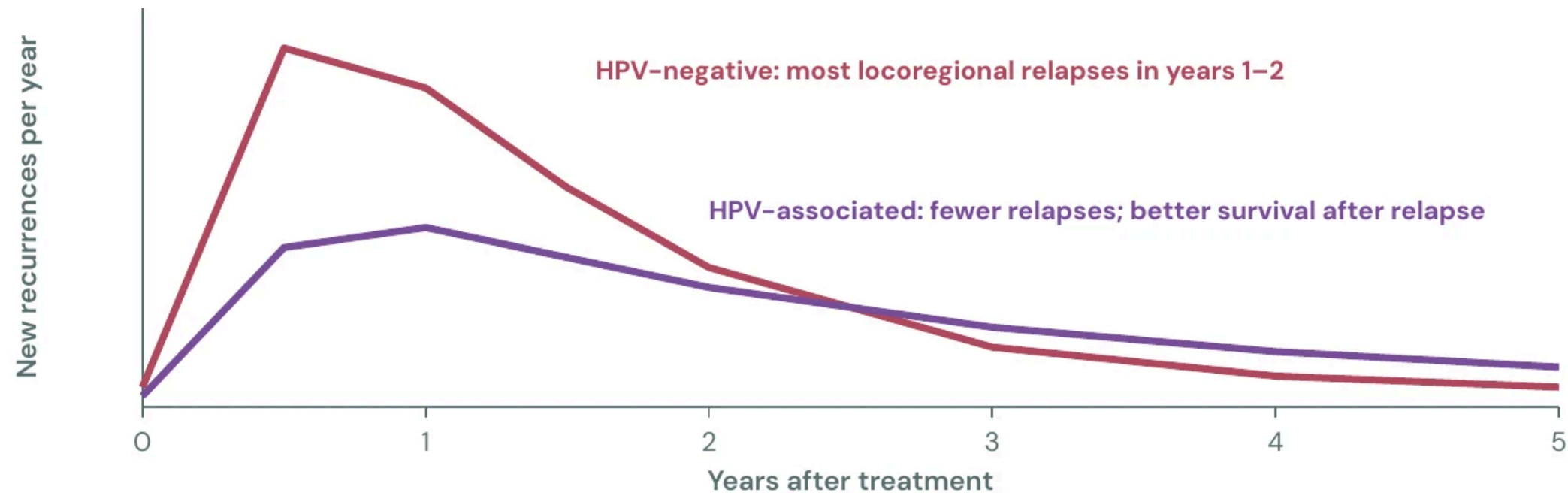
Dashed outlines: ear, parotid, masseter and submandibular gland lie lateral to the midline and are projected for orientation.

*Cisplatin: hearing, kidney, nausea · Cetuximab: acneiform rash, infusion reactions · Immunotherapy: thyroid, skin, colitis, pneumonitis
Prevent before you treat: teeth, swallowing, jaw, tobacco*

Before, during, after

When	Do
Before	Dental clearance, fluoride, nutrition, swallow baseline, tobacco cessation
During	Weekly review: mucositis, pain, weight; no gaps
After	Scope follow-up, PET-CT at 12 weeks, TSH 6–12-monthly
Lifelong	Fluoride, dental review, exercises, mood, second primaries

When relapses happen



Second primaries (lung, oesophagus, head and neck) affect up to 1 in 5 survivors who keep using tobacco

80–90% of recurrences within 2–3 years

Follow-up rhythm



- Examination with flexible scope (the main test), weight, swallow, speech, mood, tobacco and alcohol
- TSH every 6–12 months after neck RT; dental review 6-monthly with fluoride; low-dose chest CT yearly if ≥ 20 pack-years

No routine serial scans after the post-treatment baseline unless symptoms appear. Keep jaw, swallow and shoulder exercises going; screen for depression and suicide risk; refer early to speech, dental and palliative services when needed.

NCCN: 1–3-monthly, 2–4, 4–6, then yearly

Late effects to look for

- Osteoradionecrosis 5–7%: no extractions without specialist advice
- Trismus up to a third
- Late dysphagia and aspiration
- Hypothyroidism
- Lymphoedema, neck fibrosis, shoulder (nerve XI)
- Depression and suicide risk

Life after laryngectomy

- Voice prosthesis: speech therapy before and after surgery
- Stoma care, humidification, stoma cover; no swimming
- Smell and taste reduced: airflow techniques help
- Emergency card: neck breather (oxygen via the stoma)
- Support groups and return to work

Second primary cancers

- Field cancerisation: head and neck, lung, oesophagus
- Up to 1 in 5 survivors; risk lasts 10+ years
- Lower after HPV-associated cancer
- Panendoscopy or PET-CT at diagnosis for synchronous tumours
- Stop tobacco; yearly low-dose chest CT if ≥ 20 pack-years

A four-week target



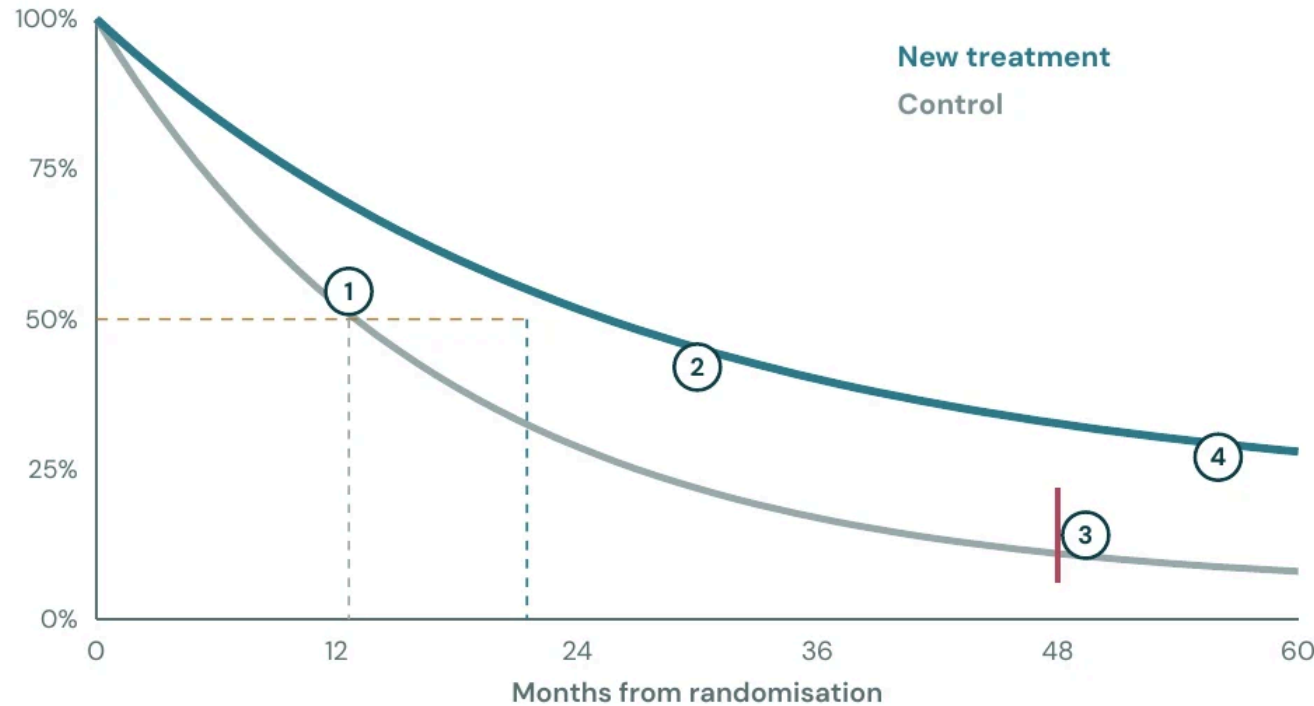
Common avoidable delays: empirical antibiotics/ointments, "oral TB" labels, neck node excision before endoscopy, waiting for dental work, radiotherapy gaps for festivals or travel. State health schemes and PM-JAY cover most of this pathway: enrol early.

Most delay is before the biopsy

10

Evidence and cases

Reading a survival curve



- 1 Median**
The time at which half the patients have had the event. A median gain of a few months can hide a long tail of survivors.
- 2 Hazard ratio**
Relative risk of the event at any moment (0.70 = 30% lower risk). It is not an absolute difference.
- 3 Absolute difference**
The vertical gap at a fixed time (here about 20 points at 4 years).
 $NNT = 100 \div \text{gap}$.
- 4 The tail**
A plateau suggests some patients gain long-term control: the typical immunotherapy pattern.
- 5 Crossover and PFS**
If control patients get the new drug later, overall survival differences shrink; a PFS gain alone may not mean longer life.

Median, hazard ratio, absolute gap, NNT, tail

Practice-changing trials

Trial	Practice
Kerala screening	Screen the mouth
D'Cruz	Elective neck dissection, DOI >3 mm
EORTC 22931 / RTOG 9501	Cisplatin for margins / ENE
RTOG 91-11, VA, EORTC 24891	Larynx preservation
MACH-NC	Concurrent CRT; not over 70
RTOG 1016	Never cetuximab in HPV+
KEYNOTE-048	IO first line by CPS

Case 1: tongue ulcer treated with gels

- 46-year-old gutka user, 1.8 cm lateral tongue SCC
- DOI 6 mm, cNO
- Partial glossectomy + elective neck dissection
- pT2 NO: no adjuvant therapy
- Stop gutka for life

Case 2: buccal cancer in a khaini user

- Submucous fibrosis, 3.5 cm buccal SCC, one node
- Wide excision, neck dissection, radial forearm flap
- pT3 N1, PNI, clear margins, no ENE
- Postoperative RT alone
- Jaw exercises to prevent trismus

Case 3: the extraction socket that never healed

- Gingivobuccal T4a N2b, CPS 15
- Option: perioperative pembrolizumab (KEYNOTE-689)
- Segmental mandibulectomy + fibula flap
- ENE → RT with cisplatin
- Without pembrolizumab: NIVOPOSTOP option

Case 4: cystic neck lump, non-smoker

- p16-positive tonsil T1 N1: stage I
- RT alone or TORS + neck dissection
- If chemoradiation: cisplatin, not cetuximab
- PET-CT at 12 weeks

Cases 5 and 6: larynx

- T1a glottic: small-field RT or laser; no neck
- T3 supraglottic with fixed cord, wants voice
- Cisplatin chemoradiation (or TPF induction)
- PET-CT at 12 weeks; salvage laryngectomy if residual

Cases 7 and 8

- 71-year-old, hypopharynx T3N2b, CrCl 42: feed first, RT + weekly docetaxel
- Lung metastases 8 months after CRT, CPS 25: pembrolizumab alone
- If unaffordable: low-dose nivolumab + metronomic chemotherapy
- Palliative care from the same visit

Practice pearls for Indian clinics

- Biopsy any mouth lesion persisting 2 weeks
- FNAC before any neck node excision
- Measure DOI; treat the neck
- Extract hopeless teeth before RT, not after
- Weekly cisplatin at full dose; docetaxel if cisplatin impossible
- Ask about tobacco and areca nut at every visit

Take-home messages

- Site decides cause, spread and treatment
- Surgery first for oral cavity; organ preservation for most larynx and pharynx
- Total laryngectomy for the destroyed or non-functioning larynx
- Cisplatin is the sensitiser; pathology decides adjuvant therapy; CPS decides immunotherapy
- Function, teeth and tobacco are part of cure

THANK YOU

Questions and discussion

Dr. Haritha Chiramana

Senior Medical Oncologist & Hemato-Oncologist · C.R. Reddy Cancer Center, C.R. Reddy
Superspeciality Hospital

17/406, Old Post Office Road, near Leela Mahal Road, Nellore, Andhra Pradesh 524003

Phone 0861 232 5344 · WhatsApp +91 79896 42272

info@drharitha.co.in · drharitha.co.in

Full mini review, algorithms, MCQ bank and case vignettes: drharitha.co.in/professionals

Cite as: Chiramana H. Head & Neck Cancer: a mini review for clinicians. Oncology Knowledge Hub [Internet]. Nellore (India): drharitha.co.in; 2026. Available from: <https://drharitha.co.in/professionals/head-neck>