

Carcinomas of the Major Salivary Glands

Histopathology Reporting Guide

Family/Last name

Date of birth

DD – MM – YYYY

Given name(s)

Patient identifiers

Date of request

DD – MM – YYYY

Accession/Laboratory number

Elements in **black text** are **CORE**. Elements in **grey text** are **NON-CORE**.☐ indicates multi-select values☐ indicates single select values

SCOPE OF THIS DATASET

PREVIOUS THERAPY (Note 1)

- ☐ Information not provided
- ☐ Not administered
- ☐ Administered (select all that apply)
- ☐ Surgery
- ☐ Chemotherapy
- ☐ Radiotherapy
- ☐ Targeted therapy, *specify if available*

☐ Immunotherapy, *specify if available*

OPERATIVE PROCEDURE (select all that apply) (Note 2)

- ☐ Not specified
- ☐ Biopsy (excisional, incisional, core needle), *specify*

☐ Resection, *specify*

☐ Neck (lymph node) dissection,^a *specify*

☐ Other, *specify*

^a If a **neck (lymph node) dissection** is submitted, then a separate dataset is used to record the information.**SPECIMEN(S) SUBMITTED** (select all that apply) (Note 3)

- ☐ Not specified
- ☐ Parotid gland
- ☐ Superficial lobe
- ☐ Deep lobe
- ☐ Submandibular gland
- ☐ Sublingual gland
- ☐ Neck (lymph node) dissection,^a *specify*

☐ Accompanying specimens, *specify*

☐ Other (e.g., partial gland excision), *specify*

^a If a **neck (lymph node) dissection** is submitted, then a separate dataset is used to record the information.**TUMOUR SITE** (select all that apply) (Note 3)

- ☐ Not specified
- ☐ Parotid gland
- ☐ Superficial lobe
- ☐ Deep lobe
- ☐ Submandibular gland
- ☐ Sublingual gland
- ☐ Other, *specify*

TUMOUR LATERALITY (Note 3)

- ☐ Not specified
- ☐ Left
- ☐ Right

TUMOUR FOCALITY (Note 4)

- ☐ Unifocal
- ☐ Bilateral
- ☐ Multifocal

Specify number of tumours

TUMOUR DIMENSIONS (Note 5)

Maximum tumour dimension (largest tumour)
(pathology and/or imaging determination)

 mm

Additional dimensions (largest tumour)

 mm x mm

☐ Cannot be assessed, *specify*

BLOCK IDENTIFICATION KEY (Note 6)

(List overleaf or separately with an indication of the nature and origin of all tissue blocks)

HISTOLOGICAL TUMOUR TYPE (select all that apply) (Note 7)

(Value list based on the World Health Organization Classification of Head and Neck Tumours (2023))

☐ Mucoepidermoid carcinoma

☐ Adenoid cystic carcinoma

☐ Tubular/cribriform pattern predominant

☐ Solid pattern

% of solid component

%

☐ Acinic cell carcinoma

☐ Secretory carcinoma

☐ Microsecretory adenocarcinoma

☐ Polymorphous adenocarcinoma

☐ Classic

☐ Cribriform

☐ Hyalinising clear cell carcinoma

☐ Basal cell adenocarcinoma

☐ Intraductal carcinoma

☐ Salivary duct carcinoma, *specify subtype(s)*

☐ Myoepithelial carcinoma

☐ Epithelial-myoepithelial carcinoma

☐ Mucinous adenocarcinoma

☐ Sclerosing microcystic adenocarcinoma

☐ Carcinoma ex pleomorphic adenoma

Carcinoma subtype(s), *specify*

☐ Intracapsular

☐ Minimally invasive ☐ Widely invasive

Distance from capsule

mm

☐ Carcinosarcoma of the salivary glands

☐ Sebaceous adenocarcinoma

☐ Lymphoepithelial carcinoma

☐ Squamous cell carcinoma

☐ Sialoblastoma

☐ Salivary carcinoma, NOS

☐ Other, *specify*

HISTOLOGICAL TUMOUR GRADE (Note 8)

(Not applicable to all tumours)

☐ Not applicable

☐ Grade 1, well differentiated, low grade

☐ Grade 2, moderately differentiated, intermediate grade

☐ Grade 3, poorly differentiated, high grade

☐ Undifferentiated

☐ High grade transformation

Grading system used, *specify*

☐ Cannot be assessed, *specify*

EXTENT OF INVASION (select all that apply) (Note 9)

☐ Not identified

☐ Macroscopic extraparenchymal extension

☐ Bone

☐ Skin

☐ Facial nerve

☐ Other, *specify*

☐ Cannot be assessed, *specify*

LYMPHOVASCULAR INVASION (Note 10)

☐ Not identified

☐ Present

☐ Indeterminate, *specify reason*

PERINEURAL INVASION (Note 11)

☐ Not identified

☐ Present

Nerve size, if known

mm

Location

☐ Intratumoural

☐ Extratumoural

Degree of extent

☐ Focal

☐ Extensive

☐ Indeterminate, *specify reason*

MARGIN STATUS (Note 12)

☐

Not involved by carcinoma

Distance of tumour from closest margin

mm

☐

Distance not assessable

Specify closest margin(s), if possible

☐

Involved by carcinoma

Specify margin(s), if possible

☐

Cannot be assessed, specify

COEXISTENT PATHOLOGY (select all that apply) (Note 13)

☐

None identified

☐

Oncocytic metaplasia

☐

Tumour-associated lymphoid proliferation (TALP)

☐

Intercalated duct hyperplasia/adenoma

☐

Concurrent benign tumour(s), specify

☐

Other, specify

ANCILLARY STUDIES (Note 14)

☐

Not performed

☐

Performed (select all that apply)

☐

Immunohistochemistry biomarkers, specify test(s) and result(s)

☐

Molecular biomarkers, specify test(s) and result(s)

☐

Other, record test(s), methodology and results

Representative blocks for ancillary studies, specify those blocks best representing tumour and/or normal tissue for further study

PATHOLOGICAL STAGING (UICC TNM 8th edition)^b (Note 15)

TNM Descriptors (only if applicable) (select all that apply)

☐

m - multiple primary tumours

☐

r - recurrent

☐

y - during or following multimodality therapy

Primary tumour (pT)^c

☐

TX^d Primary tumour cannot be assessed

☐

T0 No evidence of primary tumour

☐

Tis Carcinoma in situ

☐

T1 Tumour 2 cm or less in greatest dimension without extraparenchymal extension^e

☐

T2 Tumour more than 2 cm but not more than 4 cm in greatest dimension without extraparenchymal extension^e

☐

T3 Tumour more than 4 cm and/or tumour with extraparenchymal extension^e

☐

T4a Moderately advanced local disease
Tumour invades skin, mandible, ear canal, and/or facial nerve

☐

T4b Very advanced local disease
Tumour invades base of skull and/or pterygoid plates, and/or encases carotid artery

^b Reproduced with permission. Source: UICC TNM Classification of Malignant Tumours, 8th Edition, eds by James D. Brierley, Mary K. Gospodarowicz, Christian Wittekind. 2016, Publisher Wiley (incorporating any errata published up until 28th November 2023).

^c Note that the results of neck (lymph node) dissection are derived from a separate dataset.

^d TX should be used only if absolutely necessary.

^e Extraparenchymal extension is clinical or macroscopic evidence of invasion of soft tissues or nerve, except those listed under T4a and T4b. Microscopic evidence alone does not constitute extraparenchymal extension for classification purposes.

Definitions

CORE elements

CORE elements are those which are essential for the clinical management, staging or prognosis of the cancer. These elements will either have evidentiary support at Level III-2 or above (based on prognostic factors in the National Health and Medical Research Council (NHMRC) levels of evidence¹). In rare circumstances, where level III-2 evidence is not available an element may be made a CORE element where there is unanimous agreement by the Dataset Authoring Committee (DAC). An appropriate staging system e.g., Pathological TNM staging would normally be included as a CORE element.

Non-morphological testing e.g., molecular or immunohistochemical testing is a growing feature of cancer reporting. However, in many parts of the world this type of testing is limited by the available resources. In order to encourage the global adoption of ancillary tests for patient benefit, International Collaboration on Cancer Reporting (ICCR) includes the most relevant ancillary testing in ICCR Datasets as core elements, especially when they are necessary for the diagnosis. Where the technical capability does not yet exist, laboratories may consider temporarily using these data elements as NON-CORE items.

The summation of all CORE elements is considered to be the minimum reporting standard for a specific cancer.

NON-CORE elements

NON-CORE elements are those which are unanimously agreed should be included in the dataset but are not supported by level III-2 evidence. These elements may be clinically important and recommended as good practice but are not yet validated or regularly used in patient management.

Key information other than that which is essential for clinical management, staging or prognosis of the cancer such as macroscopic observations and interpretation, which are fundamental to the histological diagnosis and conclusion e.g., macroscopic tumour details, may be included as either CORE or NON-CORE elements by consensus of DAC.

 [Back](#)

Scope

The dataset has been developed for the reporting of primary cancer resection and biopsy specimens of malignancies arising from the major salivary glands (parotid, submandibular and sublingual glands). For resections of recurrent disease, the reporting guide may be used pragmatically although some data elements may be not applicable nor assessable. Melanomas, lymphomas, and sarcomas are dealt with in separate ICCR datasets.² Minor salivary gland malignancies arising in the oral cavity, nasal cavity and paranasal sinuses, larynx, hypopharynx, trachea, nasopharynx, oropharynx, gnathic bones, and ear-temporal bone specimens are staged according to their anatomical sub-site and are dealt with in separate ICCR datasets.³ Minor salivary gland tumours are rare with insufficient quality evidence currently to support a separate dataset, recognising this is a limitation. Further, the ICCR follows Union for International Cancer Control (UICC) guidance for staging,⁴ and the major salivary gland system is not applicable to minor salivary glands. The notes on histological typing and grading in this dataset may be used to inform reporting of minor salivary gland malignancies. In addition, neck dissections and nodal excisions are dealt with in a separate dataset, and this dataset should be used in conjunction, where applicable.⁵

This dataset is based on histology, but if cytology is the only material available, we recommend using the 'other' box in the operative procedure section to record appropriate information.⁶⁻⁸

For bilateral tumours, a separate dataset should be completed for each tumour.

The second edition of this dataset includes changes to align the dataset with the World Health Organization (WHO) Classification of Head and Neck Tumours, 5th edition, 2024.⁹

 **Back**

Note 1 – Previous therapy (Non-core)

In general adjuvant or neoadjuvant therapy are not employed for salivary gland tumours, but as this field develops, it would be wise to include any previous surgery, chemotherapy, radiotherapy, targeted or immunotherapy which may have been used to manage the patient prior to the biopsy/resection.

 **Back**

Note 2 – Operative procedure (Core)

The wide distribution of subsites that are involved by salivary gland malignancies results in a significant complexity of procedural types and necessitates open communication between the operating surgeon and the pathologist. The exact type of procedure (i.e., excisional biopsy versus resection) will be interpreted in discussion with the multidisciplinary team, especially since procedural nomenclature is constantly evolving.¹⁰⁻¹³ In the context of recurrent disease, there may be nodules of recurrent carcinoma without any surrounding salivary gland tissue, and the best procedure designation would require discussion between pathologist and surgeon.^{12,14}

 **Back**

Note 3 – Specimen(s) submitted (Core), Tumour site (Core) and Tumour laterality (Core)

The salivary sites, particularly the parotid have a nuanced, oncologically relevant compartmentalisation that should be represented appropriately under specimen submitted and tumour site.¹⁰ Tissue types and microanatomic structures encountered histologically are dependent on this specimen type and site. Thus, as with operative procedure, open communication is necessary to maximise accuracy. An attempt should be made at tumour centring within the submitted sample to document the true site of the primary neoplasm (such as superficial or deep parotid lobes). Accompanying specimens would include skin, bone (mandible or maxilla), and other localised tissues which aid in final staging and thus should be included.

Laterality is a standard identifying parameter for specimens submitted, with 'not specified' sparingly selected and only after best efforts have been made to obtain the requisite information. Reporting of laterality provides supporting information to ensure that the correct site is recorded and is a common quality assurance metric.^{12,15-17}

 **Back**

Note 4 – Tumour focality (Non-core)

Multifocality is defined as separate foci of tumour in the same salivary gland, while multicentric is defined as multiple tumours in separate organs/sites (e.g., bilateral parotid glands). These designations apply to primary tumours, not metastases, and require histologic confirmation that tumour is present. Truly multifocal salivary carcinomas are rare.¹⁸⁻²⁰ The most common multifocal malignancy is acinic cell carcinoma.²¹ Rarely multifocality in basal cell adenocarcinoma may raise the possibility of Brooke-Spiegler syndrome (CYLD cutaneous syndrome).²² If bilateral or multifocal tumours are identified, an additional dataset is completed for each additional tumour(s).

 [Back](#)

Note 5 – Tumour dimensions (Core and Non-core)

Tumour size, specifically the largest dimension is a key staging element for UICC and American Joint Committee on Cancer (AJCC) and is prognostically critical.^{4,12,23,24} Tumour measurement should ideally be performed macroscopically on the fresh specimen if possible, since formalin fixation may cause tumour shrinkage.²⁵ Occasionally, the microscopic extent of tumour should be used to record tumour size, for example, when the size significantly exceeds macroscopic estimates. When sample fragmentation or disruption precludes accurate measurement, reliance of imaging or intraoperative dimensions may be necessary.

 [Back](#)

Note 6 – Block identification key (Non-core)

The origin/designation of all tissue blocks should be recorded. This information should ideally be documented in the final pathology report and is particularly important when further internal or external review arises. The reviewer needs to have unequivocal description of the origin of each block in order to provide an informed specialist opinion. If this information is not included in the final pathology report, it should be available on the laboratory computer system and relayed to the reviewing pathologist. It is highly encouraged to have a digital image (photograph) of the specimen and record of the key of the tumour blocks.

Recording the origin/designation of tissue blocks also facilitates retrieval of blocks for further immunohistochemical or molecular analysis, research studies, or clinical trials.

 [Back](#)

Note 7 – Histological tumour type (Core and Non-core)

All salivary gland tumours should be classified based on the most recent edition of the WHO Classification of Head and Neck Tumours, 5th edition, 2024 (Table 1).⁹ Histologic type informs biologic behaviour and thus influences prognosis, patterns of recurrence and clinical management.^{26,27} Carcinoma biology is quite different (i.e., basal cell adenocarcinoma is indolent with locoregional recurrence and low nodal metastatic rates²⁸ versus salivary duct carcinoma with high rates of nodal metastasis²⁹⁻³¹), and thus accurate classification is important.

Carcinoma ex pleomorphic adenoma is further subclassified by carcinoma subtype and extent of invasion. The histologic type of the malignant component should be reported (most commonly salivary duct carcinoma, myoepithelial carcinoma, and epithelial-myoepithelial carcinoma).³²⁻³⁴ Extent of invasion beyond the pleomorphic adenoma borders is separately into: 1) intracapsular: when the carcinoma is confined within the PA capsule; 2) minimally invasive: when the carcinoma invades <6 millimetres (mm) beyond the pleomorphic adenoma capsule; and 3) invasive: when the invasion beyond the pleomorphic adenoma capsule measures ≥6 mm. Prior to diagnosing an in situ/intracapsular carcinoma ex pleomorphic adenoma, sectioning of the entire lesion for histologic evaluation is recommended in order to exclude the presence of invasive growth. Prognosis has been linked to degree of invasion with non-invasive and minimally invasive cancers having a better prognosis than invasive cancers.³⁵⁻³⁷ The presence of a solid component in adenoid cystic carcinoma was been shown to be an independent prognostic factor,³⁸ and thus is a core element. However, the percentage of solid pattern is not yet standardised without cutoffs determined, and as such, the percentage of solid pattern is non-core at this time.

Metastasising pleomorphic adenoma, despite metastatic development is not included here since it is technically considered benign under the recent WHO classification of tumours.³⁹

Primary salivary gland neuroendocrine carcinomas (small cell and large cell) are not specifically included in the salivary gland classification in the WHO 5th edition,⁹ but should be included under ‘other’ in this reporting guide. Harmonisation resulted in a single chapter within the WHO classification devoted to neuroendocrine neoplasms.

The diagnosis of primary squamous cell carcinoma of the salivary gland should be used sparingly as it is typically a metastasis from another site, unless sialodochodysplasia is histologically identified or primary skin or mucosal squamous cell carcinoma can be definitively excluded.

Table 1: World Health Organization classification of epithelial tumours of the salivary glands.⁹

Descriptor	ICD-O coding ^a
Mucoepidermoid carcinoma	8430/3
Adenoid cystic carcinoma	8200/3
Acinic cell carcinoma	8550/3
Secretory carcinoma	8502/3
Microsecretory carcinoma	
Polymorphous carcinoma	8525/3
Hyalinising clear cell carcinoma	8310/3
Basal cell adenocarcinoma	8147/3
Intraductal carcinoma	8500/2
Salivary duct carcinoma	8500/3
Myoepithelial carcinoma	8982/3
Epithelial-myoepithelial carcinoma	8562/3
Mucinous adenocarcinoma	8480/3
Sclerosing microcystic adenocarcinoma	
Carcinoma ex pleomorphic adenoma	8941/3
Carcinosarcoma of the salivary glands	8980/3
Sebaceous adenocarcinoma	8410/3
Lymphoepithelial carcinoma	8082/3
Squamous cell carcinoma	8070/3
Sialoblastoma	8974/1
Salivary carcinoma NOS and emerging entities	8140/3

^a These morphology codes are from the International Classification of Diseases for Oncology, third edition, second revision (ICD-O-3.2).⁴⁰ Behaviour is coded /0 for benign tumours; /1 for unspecified, borderline, or uncertain behaviour; /2 for carcinoma in situ and grade III intraepithelial neoplasia; /3 for malignant tumours, primary site: and /6 for malignant tumours, metastatic site. Behaviour code /6 is not generally used by cancer registries.

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 [Back](#)

Note 8 – Histological tumour grade (Core)

The histologic (microscopic) grading of salivary gland carcinomas has been shown to be an independent predictor of behaviour and plays a role in optimising therapy. Further, there is often a positive correlation between histologic grade and clinical stage.³⁵ However, most salivary gland carcinoma types have an intrinsic biologic behaviour, such as basal cell adenocarcinoma (low grade) compared to salivary duct carcinoma (high grade) and attempted application of a universal grading scheme is not recommended.³⁵ Thus by assigning a histologic type, the tumour grade itself is often implied. Still, several grading systems for each tumour type are available, with differing merits, and as such, recording which system has been applied is more clinically meaningful (use ‘specify’ to state the system used). As a general guide, histologic grade is not applied for acinic cell carcinoma, basal cell adenocarcinoma, epithelial-myoepithelial carcinoma, hyalinising clear cell

carcinoma, myoepithelial carcinoma, sebaceous adenocarcinoma, lymphoepithelial carcinoma, salivary duct carcinoma, microsecretory adenocarcinoma, sclerosing microcystic adenocarcinoma, and sialoblastoma (refer to Table 1).

High grade transformation has evolved into an important concept of tumour progression in salivary gland carcinomas. Historically designated as ‘dedifferentiation’, it describes progression of a typically monomorphic carcinoma into a pleomorphic high grade carcinoma, showing sheet-like growth, tumour necrosis, mitotic index, and profound nuclear pleomorphism.^{41,42} The importance of this phenomenon is that tumours demonstrating high grade transformation show an aggressive clinical course that deviates drastically from the usual behaviour for a given tumour type, thus alerting to the potential need for more aggressive clinical management. Tumours for which this phenomenon is well characterised include acinic cell carcinoma, adenoid cystic carcinoma, and epithelial-myoepithelial carcinoma, while secretory carcinoma and polymorphous adenocarcinoma also rarely undergo high grade transformation.^{43,44} High grade and high grade transformation may sound similar, but the latter generally implies there is a low grade component concurrently present with the high grade transformation.

 **Back**

Note 9 – Extent of invasion (Core)

Macroscopic extraparenchymal extension is the parameter required to upstage a tumour to pT3 or higher and is thus more important than microscopic extraparenchymal extension. Bone, skin, and facial nerve involvement are parameters that define stage T4a.²³ While microscopic extraparenchymal extension is not a stage defining parameter, in certain instances it may yield useful information for postoperative clinical management. Direct extension into lymph nodes is not considered lymph node involvement. However, if lymph node(s) are included within the samples submitted, a separate reporting guide for neck lymph nodes should be completed,⁵ as intra- and peri-parotid or submandibular gland lymph nodes are commonly present, and are known to predict cervical lymph node metastases.⁴⁵⁻⁴⁸

 **Back**

Note 10 – Lymphovascular invasion (Core)

Lymphovascular invasion is diagnostic of malignancy in salivary gland tumours (except for benign metastasising pleomorphic adenoma). Existing data are limited but support its prognostic value although this varies by tumour type and study.⁴⁹⁻⁵⁷ As with many other organ sites, the significance of the distinction between vascular and lymphatic invasion as well as the extent of vascular invasion is not known.

Cases that are still equivocal after taking additional steps may be reported as ‘indeterminate’ for lymphovascular invasion, but this designation should be sparingly used and it is useful to provide the reason in a comment in the report.

 **Back**

Note 11 – Perineural invasion (Core and Non-core)

Perineural invasion is diagnostically useful since it often confirms a malignant classification (although there are benign exceptions). Perineural, circumferential, or intraneural invasion is defined as the presence of carcinoma juxtaposed intimately along, around, or within a nerve. Specifically, it includes the potential space between the bundles of axons and the perineurium; thus, carcinoma external to the perineurium is not perineural invasion. Further, some distinguish between intratumoural versus extratumoural affected nerves, although robust data supporting such a distinction is not yet available for salivary gland tumours.^{49,58-61} The value of perineural invasion as a prognosticator varies depending on tumour type and literature.^{55,62-67} Selected named nerve (i.e., facial nerve) involvement is incorporated into staging and assigned a more advanced stage,²³ but nerve involvement should be recorded regardless the size of the nerve(s). A more granular documentation to include extent of perineural invasion, localisation and size of involved nerves (measured in mm diameter of the largest nerve⁶⁸) may be prognostically relevant, though not well studied, hence their inclusion as non-core elements.

↑ Back

Note 12 – Margin status (Core)

Complete surgical excision to include cancer-free surgical margins is the primary mode of therapy for salivary gland cancers, as retrospective studies have shown an increased risk for recurrence and decreased survival with positive surgical margins.⁶⁹⁻⁷² Still, when controlling for stage, histologic risk group, and use of radiation, margin status is not an independent risk factor.⁷³ Unlike mucosal sites, there are no data to indicate a specified critical distance of tumour from margin indicative of a prognostic difference.^{52,54,61,73,74} Indeed this may be dependent on tumour type, major salivary gland involved, and border.^{73,75} Based on current level of evidence, reporting of distances to margins constitute a non-core element, giving these distance may aid in decisions about therapeutic intervention (postoperative radiation or chemotherapy).^{64,76,77}

↑ Back

Note 13 – Coexistent pathology (Non-core)

For salivary epithelial malignancies, non-neoplastic salivary pathology is of interest but not currently oncologically relevant overall. For some tumours however, a tumour-associated lymphoid proliferation (TALP)⁷⁸ may be mistaken for a lymph node and this distinction is important for staging. For acinic cell carcinomas, those with a prominent TALP may actually be more indolent.⁷⁹ Data suggests lesions such as intercalated duct hyperplasia/adenoma may be a precursor lesion,⁸⁰ while benign tumours (pleomorphic adenoma, sclerosing polycystic adenoma) may have carcinoma develop within them.⁸¹⁻⁸³ Distinguishing between oncocytic metaplasia, hyperplasia and oncocytoma may be challenging, but as none of these are considered precursor lesions, require no formal documentation.

↑ Back

Note 14 – Ancillary studies (Non-core)

Ancillary studies encompass immunohistochemistry as well as molecular analysis. The main use of ancillary testing in salivary gland is to refine diagnosis. While there may be prognostic and therapeutic applications, they are not required as standard of care. There is growing evidence that androgen receptor results may aid in prognosis and treatment of salivary duct carcinoma, while data regarding HER2 have thus far not been associated with a worse overall survival.⁸⁴⁻⁸⁷ HER2 is identified in a small fraction (about 5-10%) of mucoepidermoid carcinoma,⁸⁸⁻⁹¹ although positivity versus overexpression can be misleading (up to 84%⁸⁶). HER2 overexpression is seen in salivary duct carcinoma (about 40%), but has not been shown to be associated with a worse overall survival.^{84,87,90,91} However, amplification is seen in only about 20% of the cases that have HER2 immunohistochemistry (two thirds of positive cases). If the tumours are metastatic, co-expression of HER2 and androgen receptor (AR) seems to provide augmented response to trastuzumab therapies than just androgen deprivation therapy.⁹²

Canonical genomic alterations have aided in refining salivary gland classification, testable by many methodologies.⁹³⁻⁹⁸ A detailed review of each relevant pathogenic variant for each salivary gland cancer type is beyond the scope of this dataset.⁹⁹⁻¹⁰² Alterations in benign tumours such as pleomorphic adenoma and basal cell adenoma may be retained in their malignant counterparts.

 [Back](#)

Note 15 – Pathological staging (Core)

By UICC/AJCC convention,^{4,103} the designation 'T' refers to a primary tumour that has not been previously treated. The symbol 'p' refers to the pathologic classification of the TNM, as opposed to the clinical classification, and based on clinical stage information supplemented/ modified by operative findings and gross and microscopic evaluation of the resected specimens.^{4,103} pT entails a resection of the primary tumour or biopsy adequate to evaluate the highest pT category, pN entails removal of nodes adequate to validate lymph node metastasis, and pM implies microscopic examination of distant lesions. Clinical classification (cTNM) is usually carried out by the referring physician before treatment during initial evaluation of the patient or when pathologic classification is not possible.

Pathologic staging is usually performed after surgical resection of the primary tumour. Pathologic staging depends on pathologic documentation of the anatomic extent of disease, whether or not the primary tumour has been completely removed. If a biopsied tumour is not resected for any reason (e.g., when technically unfeasible) and if the highest T and N categories or the M1 category of the tumour can be confirmed microscopically, the criteria for pathologic classification and staging have been satisfied without total removal of the primary cancer.

TNM Descriptors

For identification of special cases of TNM or pTNM classifications, the 'm' suffix and 'y' and 'r' prefixes are used. Although they do not affect the stage grouping, they indicate cases needing separate analysis.

The 'm' suffix indicates the presence of multiple primary tumours in a single site and is recorded in parentheses: pT(m)NM.

The 'y' prefix indicates those cases in which classification is performed during or following initial multimodality therapy (i.e., neoadjuvant chemotherapy, radiation therapy, or both chemotherapy and radiation therapy). The cTNM or pTNM category is identified by a 'y' prefix. The ycTNM or ypTNM

categorises the extent of tumour actually present at the time of that examination. The 'y' categorisation is not an estimate of tumour prior to multimodality therapy (i.e., before initiation of neoadjuvant therapy).

The 'r' prefix indicates a recurrent tumour when staged after a documented disease-free interval, and is identified by the 'r' prefix: rTNM.

Reporting of pathological staging categories (pT,pN,pM) is based on the evidence available to the pathologist at the time of reporting. As indicated in UICC TNM8 and AJCC TNM8,^{4,103} the final stage grouping of a patient's tumour is based on a combination of pathological staging and other clinical and imaging information.

Pathological staging should not be reported if the submitted specimen is insufficient for definitive staging, especially with biopsy samples (core needle, incisional or excisional). Staging is based on the submitted resection, and even if there is grossly residual disease or there is tumour at the margin, pT staging should only be reported on findings in the resection specimen and/or at operation.¹⁰³

For the pN classification of regional lymph nodes, see ICCR Nodal excisions and neck dissection specimens dataset.⁵

The reference document TNM Supplement: A commentary on uniform use, 5th Edition (C Wittekind et al. editors) may be of assistance when staging.¹⁰⁴

 **Back**

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