

**CARCINOMAS OF THE  
NASOPHARYNX AND  
OROPHARYNX  
STRUCTURED REPORTING  
PROTOCOL  
(1<sup>st</sup> Edition 2019)**

Incorporating the:

**International Collaboration on Cancer Reporting (ICCR)**

Carcinomas of the Nasopharynx and Oropharynx Dataset

[www.ICCR-Cancer.org](http://www.ICCR-Cancer.org)

**Core Document versions:**

- ICCR dataset: Carcinomas of the Nasopharynx and Oropharynx Dataset 1<sup>st</sup> edition
- AJCC Cancer Staging Manual 8<sup>th</sup> edition
- World Health Organization (WHO). Classification of Head and Neck Tumours. 4<sup>th</sup> edition.

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# Scope

This protocol contains standards and guidelines for the structured reporting of carcinomas of the Nasopharynx and Oropharynx. The protocol has been developed for the reporting of resection and biopsy specimens of the nasopharynx and oropharynx. The protocol applies to all invasive carcinomas of the nasopharynx and oropharynx including the base of tongue, tonsils, soft palate, posterior wall, and uvula. Lymphomas and sarcomas are not included.

Neck dissections and nodal excisions are dealt with in a separate [protocol](#), and this protocol should be used in conjunction with relevant protocols, where applicable. Other [protocols](#) on cancers of the head and neck region are available.

When a biopsy specimen is all that is received, elements specific to the biopsy should be reported and the remaining items that are applicable to surgically resected tumours omitted. For carcinomas of the oropharynx, there is no allowance for a single tumour that is "multifocal". Although multiple synchronous and metachronous primary oropharyngeal squamous cell carcinomas are uncommon and are usually of the same high risk human papillomavirus (HPV) type, there is no data to suggest that they are not simply separate primary tumours.<sup>1</sup> Thus, for oropharyngeal carcinomas, each distinct focus should be considered a separate primary tumour, and should receive its own separate report. However, for nasopharyngeal tumours, even if the tumour appears to be multifocal clinically and pathologically, these are regarded and treated as a single primary.<sup>2-4</sup>

Structured reporting aims to improve the completeness and usability of pathology reports for clinicians, and improve decision support for cancer treatment. This protocol can be used to define and report the minimum data set but the structure is scalable and can equally accommodate a maximum data set or fully comprehensive report.

# Abbreviations

AJCC	American Joint Committee on Cancer
CG	Commentary for a guideline
CS	Commentary for a standard
EBER	EBV encoded early RNA
EBV	Epstein-Barr virus
HPV	Human papillomavirus
ICCR	International Collaboration on Cancer Reporting
IHC	Immunohistochemistry
ISH	In situ hybridisation
LIS	Laboratory information system
LVI	Lymphovascular invasion
PBS	Pharmaceutical Benefits Scheme
PCR	Polymerase chain reaction
RCPA	Royal College of Pathologists of Australasia
TNM	Tumour-node-metastasis
UICC	International Union Against Cancer
WHO	World Health Organization

# Definitions

The table below provides definitions for general or technical terms used in this protocol. Readers should take particular note of the definitions for 'standard', 'guideline' and 'commentary', because these form the basis of the protocol.

Ancillary study	An ancillary study is any pathology investigation that may form part of a cancer pathology report but is not part of routine histological assessment.
Clinical information	Patient information required to inform pathological assessment, usually provided with the specimen request form, also referred to as "pre-test information".
Commentary	<p>Commentary is text, diagrams or photographs that clarify the standards (see below) and guidelines (see below), provide examples and help with interpretation, where necessary (not every standard or guideline has commentary).</p> <p>Commentary is used to:</p> <ul style="list-style-type: none"><li>• define the way an item should be reported, to foster reproducibility</li><li>• explain why an item is included (e.g., how does the item assist with clinical management or prognosis of the specific cancer).</li><li>• cite published evidence in support of the standard or guideline</li><li>• state any exceptions to a standard or guideline.</li></ul> <p>In this document, commentary is prefixed with 'CS' (for commentary on a standard) or 'CG' (for commentary on a guideline), numbered to be consistent with the relevant standard or guideline, and with sequential alphabetic lettering within each set of commentaries (e.g., CS1.01a, CG2.05b).</p>
General commentary	<p>General commentary is text that is not associated with a specific standard or guideline. It is used:</p> <ul style="list-style-type: none"><li>• to provide a brief introduction to a chapter, if necessary</li><li>• for items that are not standards or guidelines but are included in the protocol as items of potential importance, for which there is currently insufficient evidence to recommend their inclusion. (Note: in future reviews of protocols, such items may be reclassified as either standards or guidelines, in line with diagnostic and prognostic advances, following evidentiary review).</li></ul>



Guideline	<p>Guidelines are recommendations; they are not mandatory, as indicated by the use of the word 'should'. Guidelines cover items that are unanimously agreed should be included in the dataset but are not supported by National Health and Medical Research Council (NHMRC) level III-2 evidence.<sup>5</sup> These elements may be clinically important and recommended as good practice but are not yet validated or regularly used in patient management.</p> <p>Guidelines include 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, block identification key, may be included as either required or recommended elements by consensus of the expert committee. Such findings are essential from a clinical governance perspective, because they provide a clear, evidentiary decision-making trail.</p> <p>Guidelines are not used for research items.</p> <p>In this document, guidelines are prefixed with 'G' and numbered consecutively within each chapter (e.g., G1.10).</p>
Macroscopic findings	Measurements, or assessment of a biopsy specimen, made by the unaided eye.
Microscopic findings	In this document, the term 'microscopic findings' refers to histomorphological assessment.
Predictive factor	A predictive factor is a measurement that is associated with response or lack of response to a particular therapy.
Prognostic factor	A prognostic factor is a measurement that is associated with clinical outcome in the absence of therapy or with the application of a standard therapy. It can be thought of as a measure of the natural history of the disease.
Standard	<p>Standards are mandatory, as indicated by the use of the term 'must'. Standards 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 NHMRC levels of evidence<sup>5</sup> document). In rare circumstances, where level III-2 evidence is not available an element may be made a Standard where there is unanimous agreement in the expert committee. An appropriate staging system e.g., Pathological TNM staging would normally be included as a required element. These elements must be recorded and at the discretion of the pathologist included in the pathology report according to the needs of the recipient of the report.</p> <p>The summation of all standards represents the minimum dataset for the cancer.</p> <p>In this document, standards are prefixed with 'S' and numbered consecutively within each chapter (e.g., S1.02).</p>

Structured report	A report format which utilises standard headings, definitions and nomenclature with required information.
Synoptic report	A structured report in condensed form (as a synopsis or precis).
Synthesis	<p>Synthesis is the process in which two or more pre-existing elements are combined, resulting in the formation of something new.</p> <p>The Oxford dictionary defines synthesis as “the combination of components or elements to form a connected whole”.</p> <p>In the context of structured pathology reporting, synthesis represents the integration and interpretation of information from two or more modalities to derive new information.</p>

# Introduction

## Carcinomas of the nasopharynx and oropharynx

In Australia carcinomas of the head and neck account for 3.4% of all carcinomas diagnosed,<sup>6</sup> and within this group carcinomas of the pharynx are 19% of this subset. Emerging data has highlighted the role of oncogenic viruses in the development of these tumours, and in risk stratification, and therefore it is important that these should be incorporated into a cancer reporting system. In the introduction to the section on Tumours of the Nasal Cavity, Paranasal Sinuses and Skull base that forms part of the revised WHO Head and Neck Monograph,<sup>7</sup> the authors recognized the wide spectrum of tumours that may occur in this small anatomic region, but limited inclusion in this current protocol to mainly sinonasal lesions, head and neck tumours that commonly occur in this region, and lesions that were important in the diagnostic process. Given that there are already a large number of existing protocols for reporting,<sup>8</sup> the committee adopted a similar approach, and focused on lesions unique, or of particular importance to this site, with other common lesions included in other protocols. Thus, this manual should be considered as but one piece in the building blocks of establishing a comprehensive dataset that balances our diagnostic and therapeutic usefulness with routine anatomical pathology reporting practicality.

## Benefits of structured reporting

The pathology report lays the foundation for a patient's cancer journey and conveys information which:

- Provides the definitive diagnosis
- Includes critical information for Tumour-Node-Metastasis (TNM) staging
- Evaluates the adequacy of the surgical excision
- Provides morphological and biological prognostic markers which determine personalised cancer therapy

However, the rapid growth in ancillary testing such as immunohistochemistry (IHC), flow cytometry, cytogenetics, and molecular studies, have made the task of keeping abreast of advances on specific cancer investigations extremely difficult for pathologists. The use of structured reporting checklists by pathologists ensures that all key elements are included in the report specifically those which have clinical management, staging or prognostic implications. Consequently minimum or comprehensive datasets for the reporting of cancer have been developed<sup>9,10</sup> around the world. Both the United Kingdom,<sup>11</sup> and United States<sup>12</sup> have produced standardised cancer reporting protocols or "datasets" for national use for many years.

The use of cancer reporting checklists improves completeness and quality of cancer reporting and thereby ensures an improved outcome for cancer patients. This has long term cost implications for public health by ensuring the most effective and timely treatment based on accurate and complete information.

The use of a structured reporting format also facilitates easy extraction of the necessary information by secondary users of the information i.e., cancer registries.

## Importance of histopathological reporting

The information contained within a pathology report includes prognostic information for the patient and treating clinical team. The content will assist in subsequent management, whether this may be surveillance, further surgery, radiotherapy or chemotherapy, or a combination of these modalities.

## International Collaboration on Cancer Reporting

The International Collaboration on Cancer Reporting (ICCR), founded in 2011 by the Australasian (RCPA), United States College of American Pathologists (US CAP) and Royal College of Pathologists United Kingdom (RCPATH UK) Colleges of Pathology and the Canadian Association of Pathology - Association Canadienne des Pathologistes (CAP-ACP) in association with the Canadian Partnership Against Cancer (CPAC), was established to explore the possibilities of a collaborative approach to the development of common, internationally standardised and evidence-based cancer reporting protocols for surgical pathology specimens.

The ICCR, recognising that standardised cancer datasets have been shown to provide significant benefits for patients and efficiencies for organisations through the ease and completeness of data capture<sup>13-16</sup> undertook to use the best international approaches and the knowledge and experience of expert pathologists, and produce cancer datasets which would ensure that cancer reports across the world will be of the same high quality – ensuring completeness, consistency, clarity, conciseness and above all, clinical utility.

Representatives from the four countries participating in the initial collaboration undertook a pilot project in 2011 to develop four cancer datasets - Lung, Melanoma, Prostate (Radical Prostatectomy), and Endometrium. Following on from the success of this pilot project, the ICCR was joined by the European Society of Pathology (ESP) in 2013 and in 2014 incorporated a not-for-profit organisation focussed on the development of internationally agreed evidence-based datasets developed by world leading experts. The ICCR Datasets are made freely available from its website [www.ICCR-Cancer.org](http://www.ICCR-Cancer.org)

## Design of this protocol

This structured reporting protocol has been developed using the ICCR dataset on Carcinomas of the nasopharynx and oropharynx as the foundation.


This protocol includes all of the ICCR cancer dataset elements as well as additional information, elements and commentary as agreed by the RCPA expert committee. It provides a comprehensive framework for the assessment and documentation of pathological features of nasopharynx and oropharynx specimens.

ICCR dataset elements for Carcinomas of the nasopharynx and oropharynx are included verbatim. ICCR Core elements are mandatory and therefore represented as standards in this document. ICCR Non-core elements, that is, those which are not mandatory but are recommended, may be included as guidelines or upgraded to a standard based on the consensus opinion of the local expert committee.

The ICCR elements are identified in each chapter with the ICCR logo placed before the Standard or Guideline number or bullet and the ICCR element description and commentary is boarded by a grey box as shown below:

 <b>S3.01</b>	<b>The histological tumour type must be recorded.</b>
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Additional commentary by the RCPA expert committee may be added to an ICCR element but is not included in the grey bordered area nor indicated with an ICCR logo e.g.,

 <b>G2.03</b>	If present, the laterality of the lymph nodes submitted may be recorded as left, right or bilateral.
--	--

CS2.03a If present, record site and number. All lymph node tissue should be submitted for histological examination.

Further information on the ICCR is available at [www.iccr-cancer.org](http://www.iccr-cancer.org)

## Checklist

Consistency and speed of reporting is improved by the use of discrete data elements recorded from the checklist. Items suited to tick boxes are distinguished from more complex elements requiring free text or narrative. A structured or discrete approach to responses is favoured, however the pathologist is encouraged to include free text or narrative where necessary to document any other relevant issues, to give reasons for coming to a particular opinion and to explain any points of uncertainty.

## Report format

The structure provided by the following chapters, headings and subheadings describes the elements of information and their groupings but does not necessarily represent the format of either a pathology report (Chapter 7) or checklist (Chapter 6). These, and the structured pathology request form (Appendix 1) are templates that represent information from this protocol, organised and formatted differently to suit different purposes.

## Key documentation

- *Guidelines for Authors of Structured Cancer Pathology Reporting Protocols, Royal College of Pathologists of Australasia, 2009*<sup>17</sup>
- *World Health Organization (WHO). Classification of Head and Neck Tumours., 4th Edition. El-Naggar AK, Chan JKC, Grandis JR, Takata T, Slotweg PJ (editors). Lyon, France: IARC Press;2017.*<sup>18</sup>
- *AJCC Cancer Staging Manual, 8th edition, American Joint Committee on Cancer, 2016*<sup>19</sup>

## Changes since last edition

Not applicable.

# Authority and development

This section provides information about the process undertaken to develop this protocol.

This 1st edition of the protocol is an amalgam of two separate processes:

1. This protocol is based on the ICCR dataset – Carcinomas of the nasopharynx and oropharynx 1st edition. All ICCR elements from this dataset, both core (mandatory) and non-core (optional), are included in this protocol, verbatim. (It should be noted that RCPA feedback from all Anatomical Pathology fellows and specifically the local expert committee was sought during the development process of the ICCR dataset). Details of the ICCR development process and the international expert authoring committee responsible for the ICCR dataset are available on the ICCR website: [iccr-cancer.org](http://iccr-cancer.org).
2. Additional elements, values and commentary have been included as deemed necessary by the local expert committee. In addition, the standard inclusions of RCPA protocols e.g., example reports, request information etc., have also been added.

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## Acknowledgements

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## **Stakeholders**

ACT Cancer Registry

ACT Health

Australian and New Zealand Head and Neck Cancer Society

Australian Cancer Network

Australian Commission on Safety and Quality in Health Care

Australian Digital Health Agency

Australian Institute of Health and Welfare

Cancer Australia

Cancer Council ACT

Cancer Council Queensland

Cancer Council Victoria

Cancer Council Western Australia

Cancer Institute NSW

Cancer Services Advisory Committee (CanSAC)

Cancer Voices NSW

Clinical Oncology Society of Australia (COSA)

Department of Health, Australia

Health Informatics Society of Australia (HISA)

Independent Review Group of Pathologists

Medical Oncology Group of Australia

Medical Software Industry Association (MSIA)

Ministry of Health, New Zealand

National Pathology Accreditation Advisory Council (NPAAC)

New Zealand Cancer Registry

Northern Territory Cancer Registry

Pathology Australia

Public Pathology Australia

Queensland Cooperative Oncology Group (QCOG)

RCPA Anatomical Pathology Advisory Committee (APAC)

Representatives from laboratories specialising in anatomical pathology across Australasia

Royal Australasian College of Physicians (RACP)

Royal Australasian College of Surgeons (RACS)

Royal Australian and New Zealand College of Radiologists (RANZCR)

Royal Australian College of General Practitioners (RACGP)

Royal College of Pathologists of Australasia (RCPA)

South Australia Cancer Registry

Standards Australia  
Tasmanian Cancer Registry  
Victorian Cancer Registry  
Western Australia Clinical Oncology Group (WACOG)  
Western Australian Cancer Registry

## **Development process**

This protocol has been developed following the ten-step process set out in *Guidelines for Authors of Structured Cancer Pathology Reporting Protocols*.<sup>17</sup>

Where no reference is provided, the authority is the consensus of the local expert group for local inclusions and the ICCR Dataset Authoring Committee for ICCR components denoted with the ICCR logo.



# 1 Pre-analytical

This chapter relates to information that should be recorded on receipt of the specimen in the laboratory.

The pathologist is reliant on the quality of information received from the clinicians or requestor. Some of this information may be received in generic pathology request forms, however, the additional information required by the pathologist specifically for the reporting of carcinomas of the nasopharynx and oropharynx, is outlined in Appendix 1. Appendix 1 also includes a standardised request information sheet that may be useful in obtaining all relevant information from the requestor.

Surgical handling procedures affect the quality of the specimen and recommendations for appropriate surgical handling are included in Appendix 1.

## **S1.01 All demographic information provided on the request form and with the specimen must be recorded.**

- CS1.01a The Royal College of Pathologists of Australasia (RCPA) *The Pathology Request-Test-Report Cycle — Guidelines for Requesters and Pathology Providers* must be adhered to.<sup>20</sup> This document specifies the minimum information to be provided by the requesting clinician for any pathology test.
- CS1.01b Document whether or not the patient identifies as Aboriginal and/or Torres Strait Islander in Australia or Māori in New Zealand. This is in support of government initiatives to monitor the health of those who identify as indigenous, particularly in relation to cancer.
- CS1.01c The patient's health identifiers may include the patient's Medical Record Number as well as a national health number such as a patient's Individual Healthcare Identifier (IHI) (Australia) or the National Healthcare Identifier (New Zealand).

## **S1.02 All clinical information as documented on the request form must be recorded verbatim.**

- CS1.02a The request information may be recorded as a single text (narrative) field or it may be recorded in a structured format.
- CS1.02b In most cases all clinical information should be transcribed: however, in a small number of cases the pathologist may exercise discretion regarding the inclusion of provided clinical information, for instance, possibly erroneous information or information that may impact on patient privacy. In such case reference should be made as to the location of the complete clinical information e.g., "Further clinical information is available from the scanned request form."

G1.01 The copy doctors requested on the request form should be recorded.

## **S1.03 The pathology accession number of the specimen must be**

**recorded.**

**S1.04 The principal clinician involved in the patient's care and responsible for investigating the patient must be recorded.**

CS1.04a The principal clinician should provide key information regarding the clinical presentation of the patient. Follow up may be required with the principle clinician for a number of reasons:

- The clinical assessment and staging may be incomplete at the time of biopsy.
- The pathology request is often authored by the clinician performing the surgical excision/biopsy rather than the clinician who is investigating and managing the patient.
- The identity of this clinician is often not indicated on the pathology request form

In practice therefore, it is important in such cases that the reporting pathologist should be able to communicate with the managing clinician for clarification.

CS1.04b The Australian Healthcare identifiers i.e., Healthcare Provider Identifier - Individual (HPI-I) and Healthcare Provider Identifier - Organisation (HPI-O) should be included, where possible, to identify the principal clinician involved in the patient's care.

G1.02 Any clinical information received in other communications from the requestor or other clinician should be recorded together with the source of that information.

## 2 Specimen handling and macroscopic findings

This chapter relates to the procedures required after the information has been handed over from the requesting clinician, and the specimen has been received in the laboratory.

### Tissue banking

- Pathologists may be asked to provide tissue samples from fresh specimens for tissue banking or research purposes. The decision to provide tissue should only be made if the pathologist is sure that the diagnostic process will not be compromised. As a safeguard, research use of the tissue samples may be put on hold until the diagnostic process is complete.

### Specimen handling

- Detailed fixation and specimen handling instructions are available from the RCPA online Cut-up Manual:

<https://www.rcpa.edu.au/Manuals/Macroscopic-Cut-Up-Manual>





- **The specimen must be handled in a systematic and thorough fashion to ensure completeness and accuracy of pathological data.**


### Macroscopic findings

**S2.01 The labelling of the specimen(s) must be clearly recorded.**

G2.01 Dimensions of each submitted specimen should be recorded.

G2.02 A description of any mucosal surface abnormalities/lesion(s) should be described.

 <b>S2.02</b>	<b>The macroscopic tumour site(s) must be recorded.</b>	
	CS2.02a	Tumour site is important for understanding the locations within the pharynx in pathology specimens that are involved by tumour, and provides information beyond T-classification that may be useful for the management of patients, such as for narrowly targeting radiation therapy and for surgical resection or re-resection.
 <b>S2.03</b>	<b>The maximum dimension of largest tumour must be recorded.</b>	
	CS2.03a	Tumour dimensions are used for T-classification of oropharyngeal carcinomas, at least for early stage

		<p>tumours. In addition, tumour size may be helpful clinically in making decisions about the details of therapy or extent of disease in post-treatment recurrence specimens. The macroscopic diameter (in millimetres) should be used unless the histological extent measured on the glass slides is greater than what is macroscopically apparent, in which case the microscopic dimension is used. As for other tissues, measurements are made pragmatically, acknowledging distortion of tissues by cautery, processing, and other possible artefacts. For transoral resection specimens that are received in multiple pieces, the exact size of the tumour cannot be precisely assessed pathologically. Even if an exact tumour size cannot be provided, an estimate should be provided that will allow for provision of one of the T-classifiers that are based on size.<sup>21</sup> Tumour size is also important in salvage nasopharyngectomy specimens as a correlate to prognosis after surgery.<sup>22,23</sup></p>
	G2.03	Additional dimensions of the largest tumour may be recorded.

G2.04 A description of the tumour should be recorded.

**S2.04 The depth of invasion must be measured.**

**S2.05 All surgical margins must be assessed, and the closest deep and circumferential surgical margin must be measured and recorded.**

**S2.06 A block identification key listing the nature and origin of all tissue blocks must be recorded.**

CS2.06a The origin/designation of all tissue blocks should be recorded. This information should be documented in the final pathology report and is particularly important should the need for internal or external review arise. The reviewer needs to be clear about the origin of each block 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.

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

G2.05 A descriptive or narrative field should be provided to record any macroscopic information that is not recorded in the above standards and guidelines, and that would normally form part of the macroscopic description.





CG2.05a The traditional macroscopic narrative recorded at the time of specimen dissection is often reported separately from the cancer protocol. Although this remains an




option, it is recommended that macroscopic information be recorded within the overall structure of this protocol.

- CG2.05b Much of the information recorded in a traditional macroscopic narrative is covered in the standards and guidelines above and in many cases, no further description is required.
- CG2.05c A traditional macroscopic description may be required when the Laboratory Information System (LIS) does not allow a structured approach.
- CG2.05d Where the LIS offers an electronic interface for structured data entry the need for narrative can be significantly reduced to describe only information not otherwise captured.

### 3 Microscopic findings

This section relates to purely histological or morphological assessment. Information derived from multiple investigational modalities, or from two or more chapters, is described in Chapter 5.





 <b>S3.01</b>	<b>The histological tumour type must be recorded.</b>	
	CS3.01a	Refer to Appendix 4.
	CS3.01b	<p>The latest World Health Organization (WHO) classification of carcinomas of the oropharynx<sup>24</sup> has simplified the nomenclature of oropharyngeal squamous cell carcinoma to HPV-positive (p16 positivity an acceptable surrogate marker) and HPV-negative (p16 negativity an acceptable surrogate marker), removing further histologic typing. This is because for HPV/p16 positive squamous cell carcinomas, histologic subtype (nonkeratinizing, basaloid, papillary, etc.) does not appear to further segregate outcomes in any meaningful or reproducible way. However, even if HPV/p16 status is known, the histologic type can still be useful for pathology practice (comparison to possible new primaries, for frozen sections, and for comparison with possible metastases that may subsequently occur). In this protocol we recommend recording histological type and viral status as separate data items.</p> <p>For nasopharyngeal carcinomas, the WHO classification<sup>25</sup> still refers to them by histologic type. However, Epstein-Barr Virus (EBV) status should be assessed and reported as well, if possible.</p> <p>Salivary gland carcinomas are typed based on the recent WHO classification, and matching the International Collaboration on Cancer Reporting (ICCR) <i>Carcinomas of the major salivary glands</i> dataset,<sup>26</sup> including the many new histologic and molecular subtypes. Histologic type essentially defines biologic behaviour amongst salivary gland carcinomas and thus influences prognosis, patterns of recurrence and thus clinical management.<sup>27,28</sup> Refer to the ICCR <i>Carcinomas of the major salivary glands</i> dataset<sup>26</sup> for more details.</p> <p>For neuroendocrine tumours, there is a paucity of data regarding stage variables and outcome, but histologic typing provides strong and useful information for treatment and prognosis.</p>
 <b>S3.02</b>	<b>The Histological tumour grade must be recorded.</b>	

	CS3.02a	<p>Only applicable for conventional, EBV negative nasopharyngeal carcinomas and for HPV negative oropharyngeal carcinomas and for carcinomas where the viral status cannot be determined. If the tumour is post-treatment, grading is not applicable, since there are no studies establishing its significance.</p> <p>For virus-related oropharyngeal and nasopharyngeal squamous cell carcinomas, formal grading is not applicable. HPV-positive oropharyngeal carcinomas and EBV-related nasopharyngeal carcinomas are prognostically favourable relative to the virus negative ones, yet appear poorly differentiated morphologically due to their lymphoepithelial or nonkeratinizing morphology.<sup>29,30</sup></p> <p>For the virus negative squamous cell carcinomas ("conventional" tumours) in both the oropharynx and nasopharynx, grading is based on the degree of resemblance to the normal epithelium and follows the descriptions in the WHO classification. This is identical to conventional squamous cell carcinomas at other head and neck anatomic subsites. Specific variants of squamous cell carcinoma such as spindle cell, verrucous, basaloid, papillary, and adenosquamous have intrinsic biological behaviours and currently do not require grading.</p>
	G3.01	The depth of invasion should be recorded.
	CG3.01a	<p>Depth of invasion is less well established as a staging and prognostic parameter for oropharyngeal tumours than for oral cavity carcinomas. The maximum depth of invasion should be recorded in millimetres from the normal surface epithelium to the deepest point of tumour invasion, but <i>only</i> for those tumours clearly arising from the surface epithelium. This does <i>not</i> apply for those arising submucosally from the tonsillar crypt epithelium which lack landmarks from which to measure "depth". For surface tumours, if the tumour is ulcerated, then the reconstructed surface should be used. Note that depth of invasion, defined in this way, is not the same as tumour thickness (measured from surface of tumour to deepest invasion) which will be larger than depth of invasion in exophytic tumours and smaller in ulcerated tumours.<sup>31</sup> The aim should be to provide a best estimate of tumour depth. A more detailed comment on the nature of the tissues invaded (mucosa, muscle, etc.) should occur in the 'comments' sections. Depth of invasion is significantly related to nodal metastasis for oropharyngeal carcinomas, although the optimal cut-off point for prognostic purposes is uncertain with 3 mm, 4 mm or 5 mm being suggested by different authors.<sup>31-39</sup> Depth of invasion is not clearly prognostic or clinically useful for nasopharyngeal carcinomas, but is a surrogate of tumour size in salvage nasopharyngectomy specimens,</p>





		so reporting is encouraged (but not required) in these specimens. In addition, in centres that perform nasopharyngectomy procedures, additional information that should be provided would include the presence of sphenoid sinus or cavernous sinus invasion. <sup>22,23</sup>
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**S3.03 Tumour size must be recorded.**

**S3.04 Tumour site (i.e., nasopharynx or oropharynx) must be recorded.**

 <b>S3.05</b>	<b>The presence or absence of perineural invasion must be recorded.</b>	
	CS3.05a	Traditionally, the presence of perineural invasion (neurotropism) is an important predictor of poor prognosis in head and neck cancer of virtually all sites. <sup>40</sup> This refers to the H&E presence of tumour growing in the perineural plane/space and not to tumour simply surrounding or near to nerves. The relationship between perineural invasion and prognosis appears to be largely independent of nerve diameter. <sup>41</sup> The few studies (mostly surgical resection-related) looking at perineural invasion exclusively in oropharyngeal squamous cell carcinomas show either borderline significance or none, when controlling for p16/HPV status, etc. <sup>42-44</sup> It may be that it remains important in HPV negative tumours but has less or no significance for HPV positive ones. Although its impact in oropharyngeal tumours may not be equivalent to other anatomic subsites in the head and neck, it is still an important data element and may impact decisions on therapy. If it is the only risk factor present, then by American Society for Radiation Oncology (ASTRO) guidelines it may be used to administer post-operative radiation after careful discussion of patient preference. <sup>45-47</sup> There are no data on perineural invasion for nasopharyngeal carcinomas so it is considered "not applicable" for these tumours.
 <b>S3.06</b>	<b>The presence or absence of lymphovascular invasion must be recorded.</b>	
	CS3.06a	The presence or absence of lymphovascular invasion should be mentioned if carcinoma is clearly identified within endothelial-lined spaces. This must be carefully distinguished from retraction artefacts. It is not necessary to distinguish between small lymphatics and venous channels. While the presence of nodal metastases indicates that lymphatic invasion must be present, this element should only be reported as positive when lymphovascular invasion is identified microscopically in the primary tumour specimen. Otherwise it should be listed as "not identified". Several retrospective studies on surgically-treated



		<p>oropharyngeal squamous cell carcinoma show a statistically significant decrease in prognosis for patients with lymphovascular space invasion, independent of other clinical and pathologic features.<sup>42-44,48,49</sup> The presence of lymphovascular invasion may impact decisions on therapy. If it is the only risk factor present, then by ASTRO guidelines it may be used to advise post-operative radiation after careful discussion of patient preference.<sup>47</sup> Recording of lymphovascular invasion is not applicable for nasopharynx specimens.</p>
 <b>S3.07</b>	<b>The surgical margin status must be reported for large excision specimens.</b>	
	CS3.07a	<p>Positive resection margins are a consistently adverse prognostic feature in patients with oropharyngeal squamous cell carcinoma, when tightly defined, although this impact might be less in the p16/HPV positive patient.<sup>42-44,48,49</sup> The definition of a positive margin is controversial.<sup>50,51</sup> However, several studies support the definition of a positive margin to be invasive carcinoma or carcinoma in situ/severe dysplasia present at margins (microscopic cut-through of tumour).<sup>50</sup> The reporting of surgical margins should also include information regarding the distance of invasive carcinoma and severe dysplasia/carcinoma in situ from the surgical margin. Tumours with “close” margins also carry an increased risk for local recurrence,<sup>50,52,53</sup> but the definition of a “close” margin is not standardized as the effective cut-off varies between studies and between anatomic subsites. Thus, distance of tumour from the nearest margin should be recorded when it can be measured. Distance may not be feasible to report if separate margin specimens are submitted in addition to the main specimen. In this instance, state that margins are negative, but do not provide a distance. Distance from margins essentially cannot be ascertained in transoral laser microsurgery (TLM), but may not be of the same significance as for en-bloc resections or transoral robotic surgery (TORS) specimens.</p> <p>Because of the uncertainty and difficulty (if not impossibility) of telling in situ from invasive (“metastasis-capable”) squamous cell carcinoma in crypt-derived tumours of the oropharynx and nasopharynx, the reporting is simplified here just as “distance of closest carcinoma” to the margin, without reference to invasive or in situ.</p> <p>Reporting of surgical margins for non-squamous carcinomas should follow those used for such tumours at all head and neck subsites.</p>
 G3.02	The presence or absence of coexistent pathology should be recorded.	
	CG3.02a	Some coexistent pathologic findings can be significant

		<p>for the index cancer, the most obvious of which is areas of extensive or discontinuous surface squamous dysplasia, but coexistent diseases or other malignancies such as lymphoma could be clinically relevant. Judgment of the reporting pathologist will dictate the information provided in this section.</p>
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G3.03 Radiation induced tissue damage can be recorded.

CG3.03a An observation regarding radiation induced tissue damage can be provided if the request form includes history regarding neoadjuvant radiotherapy or recurrence in a previous radiotherapy field. Currently, there are no internationally standardised guidelines for evaluation of radiotherapy induced damage or whether this should influence any decisions regarding further radiotherapy. However, description of the radiotherapy induced tissue damage will allow collection of this data to develop evidence base for the future. Features such as stromal atypia, hyalinization, interstitial fibrosis, small vessel endothelial proliferation, and other features may be mentioned.

G3.04 Any additional relevant microscopic comments should be recorded.

## 4 Ancillary studies findings

Ancillary studies may be used to determine lineage, clonality or disease classification or subclassification; as prognostic biomarkers; or to indicate the likelihood of patient response to specific biologic therapies.

 G4.01	Whether or not ancillary tests are performed should be recorded and the results incorporated into the pathology report.
	<p>CG4.01a</p> <p>In resource-limited practices (or when only extremely limited biopsy samples are available that preclude further testing etc.) where p16/HPV (oropharynx) or EBV (nasopharynx) testing cannot be performed, staging and treatment of patients will be inherently different.<sup>54</sup> The American Joint Committee on Cancer (AJCC) and the Union for International Cancer Control (UICC) recommend that oropharyngeal squamous cell carcinomas that cannot be tested for p16/HPV be regarded and treated as HPV-negative. This recommendation should be followed for the completion of the ICCR dataset.</p> <p>Given that most HPV-related oropharyngeal squamous cell carcinomas are nonkeratinizing morphologically, arise deep in the tonsillar parenchyma, have cystic nodal metastases, and may have particular clinical features such as arising in non-smokers who are younger than typical head and neck squamous cell carcinomas, certain patients can be strongly suspected as having HPV-related tumours. In particular, nonkeratinizing histologic morphology, present in 50-60% of oropharyngeal squamous cell carcinoma, correlates very well with positive HPV status.<sup>55</sup> However, prediction of HPV status by such surrogate marker and clinical grounds is less reliable than direct p16/HPV testing.<sup>56</sup> Thus, when determining optimal treatment for patients, local practices must carefully exercise their own judgment and decide on what grounds they can classify patients as (likely) HPV-related in their populations.</p> <p>It is now well established that HPV plays a pathogenic role in a large subset of oropharyngeal squamous cell carcinomas.<sup>57,58</sup> A smaller subset of nasopharyngeal carcinomas is related to transcriptionally active high risk HPV.</p> <p>HPV-positive oropharyngeal carcinoma represents a unique squamous cell carcinoma type with proven more favourable prognosis than for HPV-negative tumours.<sup>59</sup> Staging of these patients is now different than for HPV-negative tumours and treatment differences are emerging.</p> <p>There are many methods for testing HPV status with</p>

	<p>p16 IHC emerging as a simple, thoroughly validated prognostic marker in oropharyngeal squamous cell carcinoma (SCC).<sup>60</sup> The most commonly used criterion for positivity as a surrogate marker moderate to intense nuclear and cytoplasmic staining in 70% or more of the tumour cells, which is the recommended cutoff for these guidelines,<sup>61</sup> with the caveat that the correlation with HPV status is not 100%.<sup>62,63</sup> The combination of p16 IHC with nonkeratinizing morphology is very strongly associated with transcriptionally-active high risk HPV in the oropharynx.<sup>55</sup> HPV specific tests include in situ hybridisation (ISH) for DNA, polymerase chain reaction (PCR) for HPV-DNA, reverse transcriptase (RT)-PCR for HPV-mRNA, and ISH for mRNA. There is no consensus on the best methodology for HPV testing but the WHO, AJCC, UICC, and a College of American Pathologists Expert Panel have all recommended p16 IHC. Additional HPV-specific testing is performed at the discretion of the pathologist.</p> <p>The new WHO Blue Book terms squamous cell carcinomas of the oropharynx simply as HPV-positive or HPV-negative.<sup>24,64</sup> However, they specifically note that p16 IHC alone (with appropriate criteria for a positive versus negative test) is a suitable surrogate marker. They recommend the terminology HPV-positive even if only p16 is performed.</p> <p>EBV is associated with the nonkeratinizing types of nasopharyngeal carcinomas in the vast majority of patients, and with the keratinizing carcinomas in endemic regions. The most reliable detection method for EBV is ISH for EBV encoded early RNA (EBER) present in cells latently infected by EBV, and is recommended because it is a modestly strong favourable prognostic marker and because it is confirmation of the tumour having a nasopharyngeal association.<sup>29</sup> A subset of patients with nasopharyngeal carcinoma are related to transcriptionally-active high risk HPV.<sup>65-67</sup> Most of these tumours are described as nonkeratinizing differentiated using the WHO terminology. They are EBV (EBER) negative and p16 positive. Testing for HPV/p16 in EBV negative nonkeratinizing carcinomas, however, is at the discretion of the local practice. It may be indicated in routine clinical practice to help alert the clinician that this may be an oropharyngeal primary tumour that is secondarily involving the nasopharynx and not because the HPV is of proven prognostic benefit in such tumours.<sup>65-67</sup></p>
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## 5 Synthesis and overview

Information that is synthesised from multiple modalities and therefore cannot reside solely in any one of the preceding chapters is described here.

For example, *tumour stage* is synthesised from multiple classes of information – clinical, macroscopic and microscopic.

By definition, synthetic elements are inferential rather than observational, often representing high-level information that is likely to form part of the 'Summary' or 'Diagnosis' section in the final formatted report.

Overarching case comment is synthesis in narrative format. Although it may not necessarily be required in any given report, the provision of the facility for overarching commentary in a cancer report is essential.

<p><b>S5.01</b></p>	<p><b>The primary tumour stage (pT) must be recorded according to the AJCC TNM system (8<sup>th</sup> edition).</b><sup>19</sup> Used with the permission of the American College of Surgeons, Chicago, Illinois. The original source for this information is the AJCC Cancer Staging Manual, Eighth Edition (2016) published by Springer Science+Business Media.</p>	
	<p>CS5.01a</p>	<p>This protocol recommends the T-classification schemes published by the 8<sup>th</sup> edition AJCC staging manual for the pharynx.<sup>19,68</sup> It is quite noteworthy that the oropharyngeal carcinomas staging has been modified significantly from past systems, as the identification of HPV-positive oropharyngeal SCC as a specific subgroup means that the older versions ineffectively stratify outcomes.<sup>69</sup></p> <p>By convention, the designation "T" refers to a primary tumour that has not been previously treated. The symbol "p" refers to the pathologic classification of the stage, as opposed to the clinical classification, and is based on gross and microscopic examination. pT entails a resection of the primary tumour 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. There is no pathologic M0 category as this designation requires clinical evaluation and imaging. 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.</p> <p>Pathological staging is usually performed after surgical resection of the primary tumour and depends on documentation of the anatomic extent of disease, whether or not the primary tumour has been completely removed. If a biopsied tumour is</p>

		<p>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, and thus this information provided.</p> <p>For identification of special cases of TNM or pTNM classifications, “y” and “r” prefixes are used. Although they do not affect the stage grouping, they indicate cases needing separate analysis.</p> <p>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 categorizes the extent of tumour actually present at the time of that examination. The “y” categorization is not an estimate of tumour prior to multimodality therapy (i.e., before initiation of neoadjuvant therapy).</p> <p>The “r” prefix indicates a recurrent tumour when staged after a documented disease-free interval, and is identified by the “r” prefix: rTNM.</p>
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**S5.02 The year of publication and/or the edition of the cancer staging system used in S5.01 must be included in the report.**

G5.01 The 'Diagnostic summary' section of the final formatted report should include:

- a. Specimen(s) submitted
- b. Tumour type
- c. Tumour grade
- d. Tumour stage

**S5.03 The reporting system must provide a field for free text or narrative in which the reporting pathologist can give overarching case comment if required.**

CS5.03a This field may be used, for example, to:

- explain the decision-making pathway, or any elements of clinicopathological ambiguity, or factors affecting diagnostic certainty, thereby allowing communication of diagnostic subtlety or nuance that is beyond synoptic capture

- give recommendations for further action or investigation
- document further consultation or results still pending

CS5.03b Use of this field is at the discretion of the reporting pathologist.

G5.02 The edition/version number of the RCPA protocol on which the report is based should be included on the final report.

CS5.02a For example, the pathology report may include the following wording at the end of the report: "the data fields within this formatted report are aligned with the criteria as set out in the RCPA document "XXXXXXXXXX" XXXX Edition dated XXXXXXXX".

## 6 Structured checklist

The following checklist includes the standards and guidelines for this protocol which must be considered when reporting, in the simplest possible form. The summation of all 'standards' is equivalent to the 'minimum data set' for prostate cancer. For emphasis, standards (mandatory elements) are formatted in bold font.

**S6.01 The structured checklist provided may be modified as required but with the following restrictions:**

- a. All standards and their respective naming conventions, definitions and value lists must be adhered to.**
- b. Guidelines are not mandatory but are recommendations and where used, must follow the naming conventions, definitions and value lists given in the protocol.**

G6.01 The order of information and design of the checklist may be varied according to the LIS capabilities and as described in *Functional Requirements for Structured Pathology Reporting of Cancer Protocols*.<sup>70</sup>

CG6.01a Where the LIS allows dissociation between data entry and report format, the structured checklist is usually best formatted to follow pathologist workflow. In this situation, the elements of synthesis or conclusions are necessarily at the end. The report format is then optimised independently by the LIS.

CG6.01b Where the LIS does not allow dissociation between data entry and report format, (for example where only a single text field is provided for the report), pathologists may elect to create a checklist in the format of the final report. In this situation, communication with the clinician takes precedence and the checklist design is according to principles given in Chapter 7.

G6.02 Where the checklist is used as a report template (see G6.01), the principles in Chapter 7 and Appendix 2 apply.


CG6.02a All extraneous information, tick boxes and unused values should be deleted.


G6.03 Additional comment may be added to an individual response where necessary to describe any uncertainty or nuance in the selection of a prescribed response in the checklist. Additional comment is not required where the prescribed response is adequate.





Item descriptions in italics are conditional on previous responses.

Values in all caps are headings with sub values.


S/G	Item description	Response type	Conditional
<b>Pre-analytical</b>			
S1.01	<b>Demographic information provided</b>		
S1.02	<b>Clinical information provided on request form</b>	<b>Not provided</b> OR <b>Text</b> OR <b>Structured entry as below:</b>	
	<b>Neoadjuvant therapy</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Information not provided</li> <li>• Not administered</li> <li>• Administered, <i>specify type (select all that are applicable)</i> <ul style="list-style-type: none"> <li>○ Chemotherapy</li> <li>○ Radiotherapy</li> <li>○ Chemoradiotherapy</li> <li>○ Targeted therapy, <i>specify if available</i></li> <li>○ Immunotherapy, <i>specify if</i></li> </ul> </li> </ul>	


		<p><i>available</i></p> <ul style="list-style-type: none"> <li>○ Time interval since therapy, <i>specify</i></li> </ul>	
	<p><b>Operative procedure</b></p>	<p><b>Multi selection value list (select all that apply):</b></p> <ul style="list-style-type: none"> <li>• Resection, <i>specify</i> <ul style="list-style-type: none"> <li>○ Transoral laser microsurgical resection</li> <li>○ Transoral robotic surgical resection</li> <li>○ Other, <i>specify</i></li> </ul> </li> <li>• Biopsy (excisional, incisional), <i>specify</i></li> <li>• Neck (lymph node) dissection*, <i>specify</i></li> <li>• Other, <i>specify</i></li> </ul> <p>Note: * If a neck dissection is submitted, then a separate protocol is used to record the information.</p>	

	<b>Specimen submitted</b>	<b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Oropharynx <ul style="list-style-type: none"> <li>○ Palatine tonsil</li> <li>○ Base of tongue/lingual tonsil</li> <li>○ Soft palate</li> <li>○ Uvula</li> <li>○ Pharyngeal wall (posterior)</li> <li>○ Pharyngeal wall (lateral)</li> <li>○ Other, <i>specify</i></li> </ul> </li> <li>• Nasopharynx, <i>specify if necessary</i></li> <li>• Other, <i>specify</i></li> </ul>	
	<b>Anatomical site of lesion</b>	<b>Text</b>	
	<b>Laterality of the lesion</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Left</li> <li>• Right</li> </ul>	
	<b>Clinical history</b>	<b>Text</b>	
	Human papilloma virus (HPV) status	<b>Text</b>	
	Clinical diagnosis or differential diagnosis	<b>Text</b>	

	<b>New primary lesion or recurrence</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• New primary</li> <li>• Recurrence – regional, <i>describe</i></li> <li>• Recurrence – distant, <i>describe</i></li> </ul>	
G1.01	Copy To doctors recorded	<b>Text</b>	
<b>S1.03</b>	<b>Pathology accession number</b>	<b>Alpha-numeric</b>	
<b>S1.04</b>	<b>Principal clinician</b>	<b>Text</b>	
G1.02	Additional comments	<b>Text</b>	
<b>Macroscopic findings</b>			
<b>S2.01</b>	<b>Specimen labelled as</b>	<b>Text</b>	
G2.01	Specimen dimensions	<b>Numeric: __x__x__mm</b> <u>Notes:</u> Record measurements for each specimen submitted	
G2.02	Mucosal surface abnormalities/lesion(s)	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present, <i>describe and measure</i></li> </ul>	
 <b>S2.02</b>	<b>Tumour site</b>	Cannot be assessed OR <b>Multi selection value list (select all that apply):</b>	



		<ul style="list-style-type: none"> <li>• Oropharynx <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Right</li> <li>○ Midline</li> <li>○ Laterality not specified</li> <li>○ Palatine tonsil</li> <li>○ Base of tongue/lingual tonsil</li> <li>○ Soft palate</li> <li>○ Uvula</li> <li>○ Pharyngeal wall (posterior)</li> <li>○ Pharyngeal wall (lateral)</li> <li>○ Other, <i>specify</i></li> </ul> </li>   <li>• Nasopharynx <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Right</li> <li>○ Midline</li> <li>○ Laterality not specified</li> <li>○ Nasopharyngeal tonsils (adenoids)</li> <li>○ Fossa of Rosenmüller</li> <li>○ Lateral wall</li> </ul> </li> </ul>	
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		<ul style="list-style-type: none"> <li>○ Other, <i>specify</i></li> <li>• Other, <i>specify including laterality</i></li> </ul>	
 S2.03	<b>Maximum dimension of largest tumour</b>	<b>Cannot be assessed, <i>specify</i></b> <b>OR</b> <b>Numeric: __mm</b>	<b><i>Not applicable for incisional biopsies.</i></b>
G2.03	Additional dimensions of largest tumour	<b>Numeric: __x__mm</b>	
G2.04	Tumour description	<b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Exophytic</li> <li>• Endophytic</li> <li>• Ulcerated</li> <li>• Polypoid</li> <li>• Nodular</li> </ul>	
S2.04	<b>Macroscopic depth of invasion</b>	<b>Numeric: ____mm</b>	








S2.05	<b>Surgical margins</b>	<p><b>Text</b> (specify margin)</p> <p><b>AND</b></p> <p><b>Numeric:</b> (distance to lesion): ____mm</p> <p><u>Notes:</u> Note that the margin and distance to lesion will need to be repeated for each surgical margin including the closest deep and circumferential margin.</p>	
S2.06	<b>Block identification key</b>	<b>Text</b>	
G2.05	Additional macroscopic comments	<b>Text</b>	
<b>Microscopic findings</b>			
 S3.01	<b>Histological tumour type</b>	<p><b>Cannot be assessed, <i>specify</i></b></p> <p><i>OR</i></p> <p><b>Multi selection value list (select all that apply):</b></p> <p><b><u>Carcinomas of the oropharynx</u></b></p> <ul style="list-style-type: none"> <li>• Squamous cell carcinoma, conventional <ul style="list-style-type: none"> <li>○ Keratinizing</li> <li>○ Nonkeratinizing</li> <li>○ Nonkeratinizing with maturation (“partially</li> </ul> </li> </ul>	

		<p>keratinizing")</p> <ul style="list-style-type: none"> <li>• Acantholytic squamous cell carcinoma</li> <li>• Adenosquamous carcinoma</li> <li>• Basaloid squamous cell carcinoma</li> <li>• Papillary squamous cell carcinoma</li> <li>• Spindle cell carcinoma</li> <li>• Verrucous carcinoma</li> <li>• Lymphoepithelial carcinoma</li> <li>• Salivary gland tumours, <i>specify type</i></li> <li>• Haematolymphoid tumours</li> </ul> <p><b><u>Carcinomas of the nasopharynx</u></b></p> <ul style="list-style-type: none"> <li>• Nonkeratinizing squamous cell carcinoma <ul style="list-style-type: none"> <li>○ Differentiated</li> <li>○ Undifferentiated (lymphoepithelial)</li> </ul> </li> <li>• Keratinizing squamous cell carcinoma</li> <li>• Basaloid squamous cell carcinoma</li> <li>• Nasopharyngeal papillary adenocarcinoma</li> </ul>	
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		<ul style="list-style-type: none"> <li>• Salivary gland tumours, <i>specify type</i></li> <li>• Neuroendocrine tumour, <i>specify type</i></li> <li>• Other, <i>specify</i></li> </ul>	
 S3.02	<b>Histological grade</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not applicable</li> <li>• GX: Cannot be assessed</li> <li>• G1: Well differentiated</li> <li>• G2: Moderately differentiated</li> <li>• G3: Poorly differentiated</li> <li>• Other, <i>specify</i></li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	<b>Only applicable for conventional, EBV negative nasopharyngeal carcinomas, and HPV negative oropharyngeal carcinomas.</b>
 G3.01	Depth of invasion	<b>Numeric: __mm</b> <b>OR</b> <b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not applicable</li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	
S3.03	<b>Tumour size</b> (greatest surface dimensions)	<b>Numeric: __x__mm</b> <u>Notes:</u> <i>length x width</i>	
S3.04	<b>Tumour site</b>	<b>Single selection value list:</b>	

		<ul style="list-style-type: none"> <li>• Base of tongue</li> <li>• Tonsils</li> <li>• Soft palate</li> <li>• Posterior wall</li> <li>• Uvula</li> <li>• Other, <i>specify</i></li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	
 S3.05	<b>Perineural invasion</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Cannot be assessed, <i>specify</i></li> <li>• Not identified</li> <li>• Present</li> </ul>	<b><i>Not applicable for nasopharynx.</i></b>
 S3.06	<b>Lymphovascular invasion</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Cannot be assessed, <i>specify</i></li> <li>• Not identified</li> <li>• Present</li> </ul>	<b><i>Not applicable for nasopharynx.</i></b>
 S3.07	<b>MARGIN STATUS</b>		
	<b>Invasive carcinoma</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not involved</li> <li>• Involved</li> </ul>	<b><i>Only applicable for large excision specimens.</i></b> <b><i>If not involved by invasive carcinoma record the distance of tumour from closest margin</i></b> <b><i>If involved specify margin(s) if possible</i></b>

	<b>Distance of tumour from closest margin</b>	<b>Numeric: __mm</b> OR <b>Distance not assessable</b>	
	<b>Margins involved</b>	<b>Text</b>	
	<b>Carcinoma in situ/high grade dysplasia*</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not involved</li> <li>• Involved</li> <li>• Not applicable</li> </ul> <p><i>*Only applicable for HPV-negative oropharyngeal and EBV-negative nasopharyngeal tumours and for tonsillar surface disease. High grade dysplasia is synonymous with moderate/severe dysplasia.</i></p>	<b>If not involved by Carcinoma in situ/high-grade dysplasia record the distance of tumour from closest margin.</b>  <b>If involved specify margin(s) if possible</b>
	<b>Distance of tumour from closest margin</b>	<b>Numeric: __mm</b> OR <b>Distance not assessable</b>	
	<b>Closest margin</b>	<b>Text</b>	
	<b>Margin(s) involved</b>	<b>Text</b>	
 G3.02	Coexistent pathology	<b>None identified</b> OR <b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Dysplasia^</li> </ul>	

		<ul style="list-style-type: none"> <li>○ Mild</li> <li>○ Moderate</li> <li>○ Severe <ul style="list-style-type: none"> <li>▪ Focal</li> <li>▪ Multifocal</li> <li>▪ Discontinuous with the primary site</li> </ul> </li> <li>• Carcinoma in situ <ul style="list-style-type: none"> <li>○ Focal</li> <li>○ Multifocal</li> <li>○ Discontinuous with the primary site</li> </ul> </li> <li>• Other, <i>specify</i></li> </ul> <p><u>Notes:</u>  ^Applicable for oropharyngeal surface mucosal disease only; not for tonsillar crypt epithelium.</p>	
G3.03	Radiation induced tissue damage	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Identified, <i>specify</i></li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	<b><i>If identified specify a description of induced damage, if possible.</i></b>  <b><i>If cannot be assessed, specify a reason, if possible.</i></b>
G3.04	Additional microscopic comment	<b>Text</b>	

## Ancillary findings



G4.01

Ancillary studies

### **Viral testing/Viral tumour markers**

OROPHARYNX

#### **Single selection value list:**




- Not performed/unknown
- Performed
  - **p16 IHC**
    - Positive
      - >70% nuclear and cytoplasmic staining of at least moderate to strong intensity
      - Other criterion used, *specify*
    - Negative

AND

Criteria used to determine p16 IHC results, *specify*

- **High risk HPV specific testing**

		<ul style="list-style-type: none"> <li>▪ <b>DNA PCR</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> </ul> </li> <li>▪ <b>DNA ISH</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> </ul> </li> <li>▪ <b>E6/E7 mRNA ISH</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> </ul> </li> <li>▪ <b>E6/E7 mRNA RT-PCR</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> </ul> </li> </ul> <p><b>Viral testing/Viral tumour markers</b> NASOPHARYNX</p> <p><b>Single selection value list:</b></p> <ul style="list-style-type: none"> <li>• Not performed/unknown</li> <li>• Performed <ul style="list-style-type: none"> <li>○ EBV (EBER) ISH – Positive</li> <li>○ EBV (EBER) ISH – Negative</li> </ul> </li> </ul> <p><b><u>Other ancillary studies</u></b></p>	
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		<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not performed</li> <li>• Performed, <i>specify</i></li> </ul>	
<b>Synthesis and overview</b>			
 S5.01	<b>PATHOLOGICAL STAGING (AJCC 8TH EDITION)</b>		
	<b>TNM descriptors</b>	<b>Multi select value list :</b> <ul style="list-style-type: none"> <li>• m - multiple primary tumours</li> <li>• y - post therapy</li> <li>• r - recurrent</li> </ul>	
	<b>Primary tumour (T)</b>	<b>Single select value list :</b> <b><u>p16 Positive oropharynx</u></b>  T0 No primary identified T1 Tumour 2 cm or smaller in greatest dimension T2 Tumour larger than 2 cm but not larger than 4 cm in greatest dimension T3 Tumour larger than 4 cm in greatest dimension or extension to lingual surface of epiglottis T4 Moderately advanced local disease Tumour invades the larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, or mandible or beyond*	

		<p>*Mucosal extension to lingual surface of epiglottis from primary tumours of the base of the tongue and vallecula does not constitute invasion of the larynx.</p> <p><b><u>p16 Negative oropharynx</u></b></p> <p>TX Primary tumour cannot be assessed  Tis Carcinoma <i>in situ</i>  T1 Tumour 2 cm or smaller in greatest dimension  T2 Tumour larger than 2 cm but not larger than 4 cm in greatest dimension  T3 Tumour larger than 4 cm in greatest dimension or extension to lingual surface of epiglottis</p> <p><b><u>Nasopharynx</u></b></p> <p>TX Primary tumour cannot be assessed  T0 No tumour identified. but EBV-positive cervical node(s) involvement  T1 Tumour confined to nasopharynx, or extension to oropharynx and/or nasal cavity without parapharyngeal involvement  T2 Tumour with extension to parapharyngeal space, and/or adjacent soft tissue involvement (medial pterygoid, lateral pterygoid,</p>	
--	--	--	--



		<p>prevertebral muscles)</p> <p>T3 Tumour with infiltration of bony structures at skull base, cervical vertebra, pterygoid structures, and/or paranasal sinuses</p> <p>T4 Tumour 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</p>	
<b>S5.02</b>	<b>Year and edition of staging system</b>	<p><b>Numeric:</b> year</p> <p><b>AND</b></p> <p><b>Text:</b> Edition e.g., 1<sup>st</sup>, 2<sup>nd</sup> etc.</p>	
G5.01	<p>Diagnostic summary</p> <p>Include:</p> <p>a. Specimen(s) submitted</p> <p>b. Tumour type</p> <p>c. Tumour grade</p> <p>d. Tumour stage</p>	<b>Text</b>	
<b>S5.03</b>	<b>Overarching comment</b>	<b>Text</b>	
G5.02	Edition/version number of the RCPA protocol on which the report is based	<b>Text</b>	

## 7 Formatting of pathology reports

Good formatting of the pathology report is essential for optimising communication with the clinician, and will be an important contributor to the success of cancer reporting protocols. The report should be formatted to provide information clearly and unambiguously to the treating doctors, and should be organised with their use of the report in mind. In this sense, the report differs from the structured checklist, which is organised with the pathologists' workflow as a priority.

Uniformity in the format as well as in the data items of cancer reports between laboratories makes it easier for treating doctors to understand the reports; it is therefore seen as an important element of the systematic reporting of cancer. For guidance on formatting pathology reports, please refer to Appendix 2. An example of a pathology report is shown in Appendix 3.

# Appendix 1 Pathology request form


This appendix describes the information that should be collected before the pathology test. Some of this information can be provided on generic pathology request forms; any additional information required specifically for the reporting of carcinomas of the nasopharynx and oropharynx may be provided by the clinician on a separate request information sheet. An example request information sheet is included below. Elements which are in bold text are those which pathologists consider to be required information. Those in non-bold text are recommended.




Also included in this appendix are the procedures that are recommended before handover of specimens to the laboratory.



## Patient information

- **Adequate demographic and request information should be provided with the specimen.**
  - Items relevant to cancer reporting protocols include:
    - patient name
    - date of birth
    - sex
    - identification and contact details of requesting doctor
    - date of request
  - Document whether or not the patient identifies as Aboriginal and/or Torres Strait Islander in Australia or Māori in New Zealand. This is in support of government initiatives to monitor the health of those who identify as indigenous, particularly in relation to cancer.
- The patient's health identifiers should be provided.
  - The patient's health identifiers may include the patient's Medical Record Number as well as a national health number such as a patient's Individual Healthcare Identifier (IHI) (Australia) or the National Healthcare Identifier (New Zealand).
- The Australian Healthcare identifiers i.e., Healthcare Provider Identifier - Individual (HPI-I) and Healthcare Provider Identifier - Organisation (HPI-O) should be used, where possible, to identify the requesting doctor.

## Clinical Information

 ➤	Any neoadjuvant therapy administered should be recorded.
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	<ul style="list-style-type: none"> <li>• Treatment with primary chemoradiation is the most common approach for patients with carcinomas of the nasopharynx and oropharynx. However, for oropharynx cancer patients, primary surgery can be used with appropriate adjuvant therapy based on the staging, particularly for small primary tumours and clinically early stage patients. Patients should be clinically staged based on the features at primary presentation. Salvage surgery may be performed and prior treatment can have a profound impact on the tumour, including its stage. For this reason, it should be clearly stated if the patient has received prior neoadjuvant therapy, whether chemotherapy, targeted therapies, immunotherapies, radiation or multiple modalities. Unlike other anatomic sites where pathologic treatment response quantification/characterization is prognostic and may determine additional treatments, in oropharyngeal carcinomas, this has not been clearly established as clinically significant. However, some data suggests that complete pathologic treatment response may be prognostically favourable, particularly in post-treatment neck dissection specimens. For nasopharyngeal carcinomas, primary surgical resection is very uncommon. Most patients will receive primary chemotherapy and radiation with post-treatment endoscopy, biopsy, and imaging between 6 to 12 weeks later, with the simple binary presence of viable tumour or not dictating need for additional therapy. The degree of treatment response, at least on pathologic grounds, has not been determined to be significant.</li> </ul>
	<p><b>The operative procedure must be recorded.</b></p>
	<ul style="list-style-type: none"> <li>• <b><u>Oropharynx</u></b>  <p>Many oropharyngeal carcinomas are treated non-surgically so that guidance relating to small biopsies is most appropriate for these tumours.<sup>71</sup></p> <p>Open surgical resections have become less common. Transoral approaches such as TLM and TORS that are less morbid and have shown promising oncologic outcomes and are utilized, particularly for small, early carcinomas, both HPV positive and negative.<sup>72,73</sup> Resection specimens of carcinomas from this area should be carefully oriented by the surgeon so that surgically important resection margins can be appropriately sampled and reported.</p> <p><b><u>Nasopharynx</u></b></p> <p>The vast majority of nasopharyngeal carcinomas are treated non-surgically so that guidance relating to small biopsies is most appropriate for these tumours.<sup>74</sup> The rare primary resection specimens of carcinomas from this area and salvage nasopharyngectomy specimens should be carefully oriented by the surgeon so that surgically important resection margins can be appropriately sampled and reported.</p> </li> </ul>

	<p><b>The specimen(s) submitted must be recorded.</b></p>
	<ul style="list-style-type: none"> <li>• <b><u>Oropharynx (Figure 1)</u></b>  <p>The oropharynx is the portion of the continuity of the pharynx extending from the plane of the superior surface of the soft palate to the plane of the superior surface of the hyoid bone or floor of the vallecula.<sup>75</sup> The contents of the oropharynx include:</p> <ul style="list-style-type: none"> <li>- soft palate</li> <li>- palatine tonsils</li> <li>- anterior and posterior tonsillar pillars</li> <li>- tonsillar fossa</li> <li>- uvula</li> <li>- base of tongue (lingual tonsil)</li> <li>- vallecula</li> <li>- posterior oropharyngeal wall</li> <li>- lateral oropharyngeal wall.</li> </ul> <p><b><u>Nasopharynx (Figure 1)</u></b>  <p>The nasopharynx is the superior portion of the pharynx and is situated behind the nasal cavity and above the soft palate; it begins anteriorly at the posterior choana and extends along the plane of the airway to the level of the free border of the soft palate.<sup>75</sup> The contents of the nasopharynx include:</p> <ul style="list-style-type: none"> <li>- nasopharyngeal tonsils (adenoids) which lie along the posterior and lateral aspect of the nasopharynx</li> <li>- orifices of the Eustachian tubes which lie along the lateral aspects of the nasopharyngeal wall</li> <li>- fossa of Rosenmüller.</li> </ul> <p><b><u>Waldeyer's ring</u></b>  <p>Waldeyer's ring is formed by a ring or group of extranodal lymphoid tissues at the upper end of the pharynx and consists of the:</p> <ul style="list-style-type: none"> <li>- palatine tonsils</li> <li>- pharyngeal tonsil (adenoids)</li> <li>- base of tongue/lingual tonsil</li> <li>- adjacent submucosal lymphatic tissues.</li> </ul> <p>The oropharynx is clearly delineated from the nasopharynx by the soft palate. The inferior portion of the soft palate is oropharyngeal and the superior portion nasopharyngeal. Posteriorly, the nasopharynx extends from the level of the free edge of the soft palate to the skull base.</p> </p></p></li> </ul>

➤ **The anatomical site of the lesion should be recorded.**

- Site is an important identifier especially when multiple biopsies are performed. For carcinomas that may involve more than one site, it is recommended that the clinician identify all sites involved and that if possible, the principal

site of involvement be recorded.

- Sufficient information is required to localise the lesion for subsequent therapy. A diagram or photograph can facilitate this.
- Prognostic significance – the association between anatomical site and survival may be explained by the tumours site's influence on metastasis to cervical lymph nodes.<sup>15-16</sup>

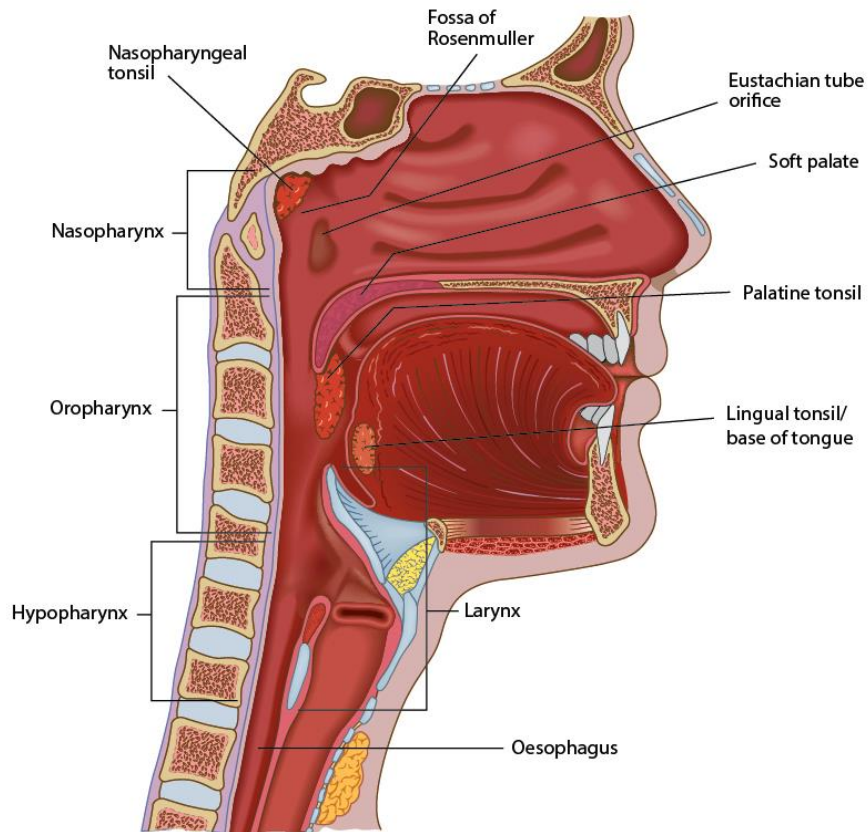
➤ **The laterality of the lesion must be recorded.**

- Laterality information is needed for identification purposes.


➤ **Clinical history must be recorded.**

- Human papilloma virus status should be recorded (if known). (If biopsy tissue is positive for one or more serotypes of HPV by PCR, IHC or other approved detection method)
- The clinical diagnosis or differential diagnosis should be recorded.
  - Providing the provisional clinical diagnosis or differential diagnosis improves clinico-pathological correlation and improves diagnostic accuracy.
- Comments should be included, if appropriate.
  - Space for free text should be included to encourage reporting of ambiguity, or for the addition of other comments.

**Figure 1. Normal anatomy of the nasopharynx and oropharynx.** Copyright ICCR – reproduced with permission.



## Example Request Information Sheet

<b>CARCINOMAS OF THE NASOPHARYNX AND OROPHARYNX</b> <b>Histopathology Request Information</b> 	
Family name <input type="text"/>	Indigenous Status <input type="radio"/> Aboriginal but not Torres Strait Islander origin <input type="radio"/> Torres Strait Islander but not Aboriginal origin <input type="radio"/> Both Aboriginal and Torres Strait Islander origin <input type="radio"/> Neither Aboriginal nor Torres Strait Islander origin <input type="radio"/> Not stated/inadequately described
Given name(s) <input type="text"/>	
Date of birth <input type="text" value="DD - MM - YYYY"/>	Date of request <input type="text" value="DD - MM - YYYY"/>
Patient identifiers e.g. MRN, IHI or NHI (please indicate which) <input type="text"/>	Requesting doctor - name and contact details <input type="text"/>
Copy to doctor name and contact details <input type="text"/>	
<b>NEOADJUVANT THERAPY</b> <input type="radio"/> Not administered <input checked="" type="radio"/> Administered, <i>specify type</i> <input type="checkbox"/> Chemotherapy <input type="checkbox"/> Radiotherapy <input type="checkbox"/> Chemoradiotherapy <input checked="" type="checkbox"/> Targeted therapy, <i>specify if available</i> <input type="text"/> <input checked="" type="checkbox"/> Immunotherapy, <i>specify if available</i> <input type="text"/>	<b>SPECIMENS SUBMITTED</b> (select all that apply) <input checked="" type="checkbox"/> Oropharynx <input type="checkbox"/> Palatine tonsil <input type="checkbox"/> Base of tongue/lingual tonsil <input type="checkbox"/> Soft palate <input type="checkbox"/> Uvula <input type="checkbox"/> Pharyngeal wall (posterior) <input type="checkbox"/> Pharyngeal wall (lateral) <input checked="" type="checkbox"/> Other, <i>specify</i> <input type="text"/> <input checked="" type="checkbox"/> Nasopharynx, <i>specify if necessary</i> <input type="text"/> <input checked="" type="checkbox"/> Other, <i>specify</i> <input type="text"/>
<b>OPERATIVE PROCEDURE</b> (select all that apply) <input checked="" type="checkbox"/> Resection, <i>specify</i> <input type="radio"/> Transoral laser microsurgical resection <input type="radio"/> Transoral robotic surgical resection <input checked="" type="radio"/> Other, <i>specify</i> <input type="text"/> <input checked="" type="checkbox"/> Biopsy (excisional, incisional), <i>specify</i> <input type="text"/> <input checked="" type="checkbox"/> Neck (lymph node) dissection*, <i>specify</i> <input type="text"/> <input checked="" type="checkbox"/> Other, <i>specify</i> <input type="text"/>	<b>ANATOMICAL SITE OF LESION</b> <input type="text"/> <b>LATERALITY OF THE LESION</b> <input type="checkbox"/> Left <input type="checkbox"/> Right <b>CLINICAL HISTORY</b> <input type="text"/> <input type="text"/> <input type="text"/>
* If a neck dissection is submitted, then a separate dataset is used to record the information.	<b>HUMAN PAPILLOMA VIRUS (HPV) STATUS</b> <input type="text"/> <input type="text"/>

V1.0 Request Info from CARCINOMAS OF THE NASOPHARYNX AND OROPHARYNX Structured Reporting Protocol 1st Edition



<p><b>CLINICAL DIAGNOSIS OR DIFFERENTIAL</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>NEW PRIMARY LESION OR RECURRENCE</b></p> <p><input type="radio"/> New primary</p> <p><input type="radio"/> Recurrence - regional, <i>describe</i></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><input type="radio"/> Recurrence - distant, <i>describe</i></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<p><b>PRINCIPAL CLINICIAN</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><b>ADDITIONAL COMMENTS</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>
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Normal anatomy of the pharynx. Copyright ICCR – reproduced with permission.

V1.0 Request Info from CARCINOMAS OF THE NASOPHARYNX AND OROPHARYNX Structured Reporting Protocol 1st Edition

The above Request Information Sheet is published to the RCPA website.

# Appendix 2 Guidelines for formatting of a pathology report

## Layout

Headings and spaces should be used to indicate subsections of the report, and heading hierarchies should be used where the LIS allows it. Heading hierarchies may be defined by a combination of case, font size, style and, if necessary, indentation.

Grouping similar data elements under headings and using 'white space' assists in rapid transfer of information.<sup>76</sup>

Descriptive titles and headings should be consistent across the protocol, checklist and report.

When reporting on different tumour types, similar layout of headings and blocks of data should be used, and this layout should be maintained over time.

Consistent positioning speeds data transfer and, over time, may reduce the need for field descriptions or headings, thus reducing unnecessary information or 'clutter'.

Within any given subsection, information density should be optimised to assist in data assimilation and recall. The following strategies should be used:

Configure reports in such a way that data elements are 'chunked' into a single unit to help improve recall for the clinician.<sup>76</sup>

Reduce 'clutter' to a minimum.<sup>76</sup> Thus, information that is not part of the protocol (e.g., billing information or SNOMED codes) should not appear on the reports or should be minimised.

Reduce the use of formatting elements (e.g., bold, underlining or use of footnotes) because these increase clutter and may distract the reader from the key information.

Where a structured report checklist is used as a template for the actual report, any values provided in the checklist but not applying to the case in question must be deleted from the formatted report.

Reports should be formatted with an understanding of the potential for the information to 'mutate' or be degraded as the report is transferred from the LIS to other health information systems.

As a report is transferred between systems:

- text characteristics such as font type, size, bold, italics and colour are often lost
- tables are likely to be corrupted as vertical alignment of text is lost when fixed font widths of the LIS are rendered as proportional fonts on screen or in print
- spaces, tabs and blank lines may be stripped from the report, disrupting the formatting
- supplementary reports may merge into the initial report.

# Appendix 3 Example of a pathology report

For specimens including lymph node excisions, refer to the [protocol for Head and Neck nodal excisions](#) where appropriate, in conjunction with this protocol.

In particular, it should be emphasized that different staging systems exist for p16 positive and p16 negative tumours with and without lymph node involvement.

Page 1 of 2

<b>Tshen, Georgina W.</b> C/O Paradise Close Wreck Bay Resort Nar Nar Goon East, 3181 Female DOB 1/7/1951 MRN FMC1096785	Lab Ref: <b>19/P28460</b> Referred: 30/8/2019	Copy to: Dr G. Grey Rainforest Cancer Centre, 46 Smith Road, Woop Woop, 3478	Referred by: Dr V. Smith Suite 3, AJC Medical Centre, Bunyip Crescent Nar Nar Goon West, 3182
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## NASOPHARYNX & OROPHARYNX STRUCTURED REPORT

### Diagnostic Summary

#### Procedure

Transoral robotic surgical resection, SND levels II-IV with tracheostomy, p16 positive squamous cell carcinoma, Metastatic squamous cell carcinoma in 1 of 16 lymph nodes (1/16)  
TNM 8th edition Stage pT1 pN1 (AJCC 8th edition, 2016)

### Supporting Information

#### CLINICAL

<b>Neoadjuvant therapy:</b>	Not administered
<b>Operative procedure:</b>	Transoral robotic surgical resection, SND levels II-IV with tracheostomy
<b>Specimen submitted:</b>	Oropharynx, Pharyngeal wall (posterior)
<b>Anatomical site of lesion:</b>	Oropharynx
<b>Laterality of lesion:</b>	Left
<b>Clinical history:</b>	Smoker, Moderate drinking habits, (unknown HPV status)
<b>New primary / recurrence:</b>	New primary

#### MACROSCOPIC

<b>Specimen labelled:</b>	"Transoral robotic surgical resection, SND levels II-IV with tracheostomy"
<b>Specimen dimensions:</b>	62 x 45 x 10 mm
<b>Number of lymph nodes:</b>	16
<b>Macroscopic metastatic tumour:</b>	A single lymph node in level II measures 12mm in maximum dimension.
<b>Mucosal surface abnormalities/lesions:</b>	Diffuse erythematous plaque with ulceration
<b>Tumour site:</b>	Surface, Oropharynx, Pharyngeal wall (posterior)
<b>Max dimension largest tumour:</b>	15 mm
<b>Tumour description:</b>	Ulcerated dull white and granular without necrosis
<b>Macroscopic depth of invasion:</b>	5 mm
<b>Surgical margins:</b>	2 mm, superior, 3mm right soft tissue margin

**Block identification key:** Deep margin inked yellow, superior margin inked blue and inferior margin inked in red

A: inferior margin, B: tumour with closest superior margin: 1C–G tumour with closest left circumferential margin: 1H representative section posterior margin: 1I–N level II lymph nodes, one 1O–Q level III lymph nodes, 1R–third level IV lymph nodes (lymph nodes according to lymph node protocol nil)

Photograph and blocking diagram attached.

#### MICROSCOPIC

**Histological tumour type:** Squamous cell carcinoma

**Histological grade:** Not applicable

**Tumour size:** 15 x 8 mm

**Tumour site:** Oropharynx, Pharyngeal wall (posterior)

**Perineural invasion:** Not identified

**Lymphovascular invasion:** Present

#### MARGIN STATUS:

**Invasive carcinoma:** Not involved, Closest margin - superior

**Distance to closest margin:** 2 mm

**Carcinoma in situ/high grade dysplasia:** Not applicable

#### Lymph node (LN) status

**Node levels:** I-IV

**Number of nodes examined:** 16

**Number of nodes positive:** 1

**Level of involved nodes:** level II

**Max dimension of largest LN met:** 12mm

**Max dimension of largest involved LN:** 12mm

**Extranodal extension (ENE):** Not seen

**Number of nodes with ENE:** 0

**Level of lymph node with ENE:** n/a

**Greatest extent of ENE:** n/a

**Margin overlying ENE:** n/a

**Soft tissue metastasis:** Not seen

**Non-lymphatic structures involved:** n/a

**Coexistent pathology:** Mild dysplasia in surface epithelium

**Additional microscopic comments:** No gland atrophy

#### ANCILLARY TESTS

**Ancillary test performed:** p16 immunohistochemistry +ve

Reported by Dr Bernard Beckstein

Authorised 4/9/2019

## Appendix 4 WHO classification of tumours

### WHO classification of tumours of the nasopharynx<sup>a77</sup>

Descriptor	ICD-O codes
<b>Nasopharyngeal carcinoma</b>	
Nonkeratinizing squamous cell carcinoma	8072/3
Keratinizing squamous cell carcinoma	8071/3
Basaloid squamous cell carcinoma	8083/3
Nasopharyngeal papillary adenocarcinoma (low grade)	8260/3
<b>Salivary gland tumours</b>	
Adenoid cystic carcinoma	8200/3
Salivary gland anlage tumour	
<b>Neuroendocrine tumours</b>	
Well differentiated neuroendocrine carcinoma	8240/3
Moderately differentiated neuroendocrine carcinoma	8249/3
Poorly differentiated neuroendocrine carcinoma	
Small cell neuroendocrine carcinoma	8041/3
Large cell neuroendocrine carcinoma	8013/3

<sup>a</sup> The morphology codes are from the International Classification of Diseases for Oncology (ICD-O). Behaviour is coded /0 for benign tumours; /1 for unspecified, borderline, or uncertain behaviour; /2 for carcinoma in situ and grade III intraepithelial neoplasia; and /3 for malignant tumours.

### WHO classification of tumours of the oropharynx (base of tongue, tonsils, adenoids)<sup>a77</sup>

Descriptor	ICD-O codes
<b>Squamous cell carcinoma</b>	
Squamous cell carcinoma, HPV-positive	8085/3*
Squamous cell carcinoma, HPV-negative	8086/3*
<b>Salivary gland tumours</b>	
Pleomorphic adenoma	8940/0
Adenoid cystic carcinoma	8200/3
Polymorphous adenocarcinoma	8525/3

<sup>a</sup> The morphology codes are from the International Classification of Diseases for Oncology (ICD-O). Behaviour is coded /0 for benign tumours; /1 for unspecified, borderline, or uncertain behaviour; /2 for carcinoma in situ and grade III intraepithelial neoplasia; and /3 for malignant tumours.

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# References

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