

**MUCOSAL MELANOMAS OF THE  
HEAD AND NECK  
STRUCTURED REPORTING  
PROTOCOL  
(1<sup>st</sup> Edition 2019)**

Incorporating the:

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

Mucosal Melanomas of the Head and Neck Dataset

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

**Core Document versions:**

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

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# Scope

This protocol contains standards and guidelines for the structured reporting of mucosal melanoma of the head and neck. The protocol has been developed for the reporting of resection and biopsy specimens of mucosal melanoma arising in the nasopharynx, oropharynx, larynx, hypopharynx, oral cavity, nasal cavity and paranasal sinuses; lip vermillion is excluded. All other malignancies and tumour categories are dealt with in separate protocols, specifically cutaneous melanoma is separately reported.

Direct extension of a cutaneous primary into a mucosal site should be excluded, and would not be reported via this protocol (see above). Metastasis to a head and neck mucosal site is also excluded. If there are overlapping sites, clinical centring of the tumour should determine the protocol to use. If a primary tumour extends to involve the contralateral side, the tumour is still considered a unifocal tumour, but involving multiple, contiguous sites. If there are two topographically distinct and separate tumours, they are considered multifocal, and in this setting a separate cancer checklist should be completed for each tumour. In cases where there is uncertainty, one checklist should be completed, with multifocal tumours selected.

Neck dissections and nodal excisions are dealt with in a separate [protocol](#) which may be used, as appropriate, in conjunction with this protocol.

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
FISH	Fluorescent in-situ hybridization
ICCR	International Collaboration on Cancer Reporting
LIS	Laboratory information system
LVI	Lymphovascular invasion
PBS	Pharmaceutical Benefits Scheme
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 (eg 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 (eg 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>1</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 eg 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 (eg 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>1</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 eg 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 (eg 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

## Mucosal Melanomas of the Head and Neck

Mucosal melanomas are rare and aggressive malignant tumours. The nose and sinuses are the most commonly affected regions within the respiratory tract, and, alongside the oral cavity, comprise almost all cases of head and neck mucosal melanoma. These mucosal sites are frequently in unexposed areas, resulting in late presentation and very poor outcomes.

While there is significant evidence that cutaneous malignant melanoma rates continue to increase there has been very few studies on the rates of malignant mucosal melanoma worldwide. A recent study by Youssef et al<sup>2</sup> analysed rates in the Australian population over a 25-year study period. Their findings indicated a continuously progressive increase in incidence in the 353 cases identified, particularly in relation to sinonasal mucosal melanoma in men, despite the overall incidence remaining higher in women.

## 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, 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>3,4</sup> around the world. Both the United Kingdom,<sup>5</sup> and United States<sup>6</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 ie 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>7-10</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 mucosal melanomas of the head and neck 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 mucosal melanomas of the head and neck

ICCR dataset elements for mucosal melanomas of the head and neck 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 eg

 G2.03	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>11</sup>
- *World Health Organization (WHO). Classification of Head and Neck Tumours., 4th Edition. El-Naggar AK, Chan JKC, Grandis JR, Takata T, Slostweg PJ (editors). Lyon, France: IARC Press;2017.*<sup>12</sup>
- *AJCC Cancer Staging Manual, 8th edition, American Joint Committee on Cancer, 2016*<sup>13</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 – Mucosal melanomas of the Head and Neck 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 eg example reports, request information etc, have also been added.

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## Acknowledgements

The Head and Neck cancers expert committees wish to thank all the pathologists and clinicians who contributed to the discussion around this document.

## **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)

Melanoma Institute Australia (MIA)

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 Australia

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>11</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 mucosal melanomas of the head and neck, 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>14</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 eg "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 ie 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.

 <b>S2.02</b>	<b>The operative procedure must be recorded.</b>	
	CS2.02a	If a neck dissection is submitted, then a separate <a href="#">protocol</a> is available to record the information.
 <b>S2.03</b>	<b>The specimen(s) submitted must be recorded.</b>	
	CS2.03a	The surgical approach for mucosal melanoma largely depends on the site of the primary tumour. In some locations such as gingiva, a single specimen may be received with/without additional separate margins. This may be a mucosal based resection or a composite resection with underlying tissues including bone. In the sinonasal cavity, while there may be a primary tumour specimen, numerous further specimens are received from contiguous anatomic sites in a 3-dimensional approach. The specimens submitted help to delineate the anatomic extent required for resection and may include bilateral tissues. Lymph node dissections are dealt with in a separate <a href="#">dataset</a> .

 <b>S2.04</b>	<b>The macroscopic tumour site(s) must be recorded.</b>	
	CS2.04a	<p>Mucosal melanomas of the head and neck show specific sites of predilection, but in general are rare.</p> <p>Nasal cavity: The majority of tumours are identified within the nasal cavity or septum, while other anatomic sites are rarely affected.<sup>15,16</sup></p> <p>Oral cavity: Most tumours are found on the palate or gingiva, although any site may be affected.<sup>17-19</sup></p> <p>Primary melanoma within nasopharynx, oropharynx, larynx and hypopharynx are exceedingly uncommon. However, nasopharyngeal primaries have an even worse prognosis than other head and neck sites.<sup>15</sup></p>
 G2.01	Tumour focality should be recorded.	
 <b>S2.05</b>	<b>The dimensions of largest tumour must be recorded.</b>	
	CS2.05a	<p>Unlike melanoma in cutaneous sites, tumour thickness (Breslow) and tumour level (Clark) are not clinically significant as a prognostic factor, nor are they easily determined due to the specimen type.<sup>20</sup> Overall tumour size (using 3 cm as a cut-off) is known to be associated with a worse prognosis,<sup>15,21-23</sup> but does not impact on T stage. The single largest tumour dimension in any one of the samples submitted should be entered, as trying to combine multiple smaller measurements from multiple different sites (especially if fragmented) does not yield clinically meaningful data.</p>
 G2.02	Additional dimensions of the largest tumour may be recorded.	

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

- CS2.06a The colours of the ink used to designate the various surfaces (particularly superficial and deep) should be clearly stated in the macroscopic description to guide margin assessment.
- CS2.06b 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 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.
- Recording the origin/designation of tissue blocks also facilitates retrieval of blocks for further immunohistochemical or molecular analysis, research

studies or clinical trials.

G2.03 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.

CG2.03a The traditional macroscopic narrative recorded at the time of specimen dissection is often reported separately from the cancer dataset. Although this remains an option, it is recommended that macroscopic information be recorded within the overall structure of this protocol.

CG2.03b 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.

CG2.03c A traditional macroscopic description may be required when the Laboratory Information System (LIS) does not allow a structured approach.

CG2.03d 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	The inclusion of the specific histologic type or pattern of melanoma is primarily for differential diagnostic considerations, while the specific type does not impact patient outcome or management. <sup>15,22</sup> As mucosal melanomas are molecularly distinct from those of cutaneous origin occasional cases may require further molecular evaluation prior to definitively classifying as being of mucosal origin.
 G3.01	The histological subtype may be recorded.	

G3.02 Microscopic tumour size should be recorded.

G3.03 The presence or absence of perineural invasion should be recorded.

G3.04 The presence or absence of lymphovascular invasion should be recorded.

G3.05 Mitotic count may be reported.

CG3.05a Some variables reported in Cutaneous melanoma are not relevant or easily applied to head and neck mucosal melanoma however Shuman et al<sup>22</sup> suggest mitotic rate may also be relevant.

G3.06 The presence of ulceration may be recorded.

CG3.06a Schumann et al<sup>22</sup> suggest the presence of ulceration may also be relevant.

 <b>S3.02</b>	<b>The surgical margin status must be reported.</b>	
	CS3.02a	In addition to the distance of tumour from the excision margin, documentation regarding the site of the positive or narrow margin should also be reported.
	CS3.02b	Studies vary on margin status being an independent prognostic marker in head and neck mucosal melanoma, however margin status is a well-established parameter and capture of further data will assist in establishing if this is a prognostic marker.
 G3.07	The presence or absence of coexistent pathology should be recorded.	
	CG3.07a	Melanosis is considered to be a potential precursor, although with conflicting data based on anatomic site

		and geographic distribution of the reported patients. <sup>24-</sup> <sup>26</sup> Pagetoid spread within the surface epithelium is often identical to melanoma in situ, without a meaningful separation between these entities at this time.
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G3.08 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.

Some studies, such as Her-2 testing, are required under the Pharmaceutical Benefits Scheme, to enable certain specific therapies to be prescribed.

 G4.01	Whether or not ancillary tests are performed should be recorded and the results incorporated into the pathology report.	
	CG4.01a	The diagnosis of melanoma is supported by the use of melanoma markers, including S100 protein, SOX10, HMB45, Melan A and tyrosinase, among others. Further, molecular studies can also be performed in selected cases, either for diagnostic purposes (helping to confirm the diagnosis), or for potential use in targeted therapies based on the results. Molecular findings in mucosal melanoma are different from cutaneous primaries, with <i>KIT</i> and <i>NRAS</i> mutations occurring more frequently than <i>BRAF</i> mutations in tumours of mucosal sites. <sup>27-31</sup>

## 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.

 <b>S5.01</b>	<b>The primary tumour stage (pT) must be recorded according to the AJCC TNM system (8<sup>th</sup> edition).</b> <sup>13</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.	
	CS5.01a	<p>By American Joint Committee on Cancer (AJCC)/Union for International Cancer Control (UICC) 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 TNM, as opposed to the clinical classification, and is based on gross and microscopic examination. 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.</p> <p>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 (eg 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.</p>

	<p><b>TNM Descriptors</b></p> <p>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.</p> <p>The “m” suffix indicates the presence of multiple primary tumours in a single site and is recorded in parentheses: pT(m)NM.</p> <p>The “y” prefix indicates those cases in which classification is performed during or following initial multimodality therapy (ie 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 (ie 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> <p><b>Additional Descriptors</b></p> <p><u>Residual Tumour (R)</u></p> <p>Tumour remaining in a patient after therapy with curative intent (eg surgical resection for cure) is categorized by a system known as R classification, shown below.</p> <p>RX Presence of residual tumour cannot be assessed</p> <p>R0 No residual tumour</p> <p>R1 Microscopic residual tumour</p> <p>R2 Macroscopic residual tumour</p> <p>For the surgeon, the R classification may be useful to indicate the known or assumed status of the completeness of a surgical excision. For the pathologist, the R classification is relevant to the status of the margins of a surgical resection specimen. That is, tumour involving the resection margin on pathologic examination may suggest residual tumour in the patient and may be classified as macroscopic or microscopic according to the findings at the specimen margin(s).</p> <p>The 8th edition of the AJCC/UICC staging of head</p>
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		<p>and neck cancers includes a separate chapter for mucosal melanomas.<sup>13,32</sup> Approximately two-thirds of mucosal melanomas arise in the sinonasal tract, one-quarter are found in the oral cavity and the remainder occur only sporadically in other mucosal sites of the head and neck.<sup>33</sup> Even small tumours behave aggressively with high rates of recurrence and death.<sup>33</sup> To reflect this aggressive behaviour, primary cancers limited to the mucosa are considered T3 lesions.</p> <p>Advanced mucosal melanomas are classified as T4a and T4b. The anatomic extent criteria to define moderately advanced (T4a) and very advanced (T4b) disease are given above. The AJCC staging for mucosal melanomas does not provide for the histologic definition of a T3 lesion; as the majority of mucosal melanomas are invasive at presentation, mucosal based melanomas (T3 lesions) include those lesions that involve either the epithelium and/or lamina propria of the involved site. Rare examples of in situ mucosal melanomas occur but in situ mucosal melanomas are excluded from staging, as they are extremely rare.<sup>33</sup></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/subtype
- c. 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.

CG5.02a 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 this 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 laboratory information system (LIS) capabilities and as described in *Functional Requirements for Structured Pathology Reporting of Cancer Protocols*.<sup>34</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>			
<b>S1.01</b>	<b>Demographic information provided</b>		
<b>S1.02</b>	<b>Clinical information provided on request form</b>	<b>Not provided</b> OR <b>Text</b> OR <b>Structured entry as below:</b>	
	Operative procedure	<b>TEXT</b> <b>OR</b> <b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Biopsy (excisional, incisional), <i>specify</i></li> <li>• Resection, <i>specify (eg maxillectomy, hemiglossectomy, partial laryngectomy, etc.)</i></li> <li>• Neck (lymph node) dissection*, <i>specify</i></li> <li>• Other, <i>specify</i></li> </ul> <u>Note:</u>	

		* If a neck dissection is submitted, then a separate dataset is used to record the information.	
G1.01	Copy to Doctor	<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	Comments	<b>Text</b>	
<b>Macroscopic findings</b>			
<b>S2.01</b>	<b>Specimen labelled as</b>	<b>Text</b>	
 <b>S2.02</b>	<b>Operative procedure</b>	<p><b>Not specified</b></p> <p><b>OR</b></p> <p><b>Multi selection value list (select all that apply):</b></p> <ul style="list-style-type: none"> <li>• Biopsy (excisional, incisional), <i>specify</i></li> <li>• Resection, <i>specify (eg maxillectomy, hemiglossectomy, partial laryngectomy, etc.)</i></li> <li>• Neck (lymph node) dissection*, <i>specify</i></li> <li>• Other, <i>specify</i></li> </ul> <p><u>Note:</u> * If a neck dissection is submitted, then a separate dataset is used to record the information.</p>	

 <b>S2.03</b>	<b>Specimen submitted</b>	Not specified <b>OR</b> <i>Anatomic site, specify (may be multiple separate sites, but excluding lymph node dissection as that is a separate form)</i>	
 <b>S2.04</b>	<b>Tumour site</b>	Cannot be assessed <b>OR</b> <b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• <i>Sinonasal, specify subsite(s)</i> <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Midline</li> <li>○ Right</li> <li>○ Laterality not specified</li> </ul> </li> <li>• <i>Oral cavity, specify subsite(s)</i> <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Midline</li> <li>○ Right</li> <li>○ Laterality not specified</li> </ul> </li> <li>• <i>Larynx, specify subsite(s)</i> <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Midline</li> <li>○ Right</li> </ul> </li> </ul>	

		<ul style="list-style-type: none"> <li>○ Laterality not specified</li> <li>• Nasopharynx, <i>specify subsites(s)</i> <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Midline</li> <li>○ Right</li> <li>○ Laterality not specified</li> </ul> </li> <li>• Other, <i>specify site/subsite(s)</i> <ul style="list-style-type: none"> <li>○ Left</li> <li>○ Midline</li> <li>○ Right</li> <li>○ Laterality not specified</li> </ul> </li> <li>• Other, <i>specify including laterality</i></li> </ul>	
 G2.01	Tumour focality	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Cannot be assessed, <i>specify</i></li> <li>• Unifocal</li> <li>• Multifocal, <i>specify number of tumours in specimen</i></li> </ul>	
 S2.05	<b>Maximum dimension of largest tumour</b> (largest focus in a single specimen)	<b>Cannot be assessed, <i>specify</i></b> <b>OR</b> <b>Numeric: __mm</b>	
 G2.02	Additional dimensions of largest tumour	<b>Numeric: __x__mm</b>	
S2.06	<b>Ink application and block identification key</b>	<b>Text</b>	

G2.03	Additional macroscopic comments	<b>Text</b>	
<b>Microscopic findings</b>			
 S3.01	<b>Histological tumour type</b>	<b>Cannot be assessed, <i>specify</i></b> <b>OR</b> <b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Mucosal melanoma</li> <li>• Melanoma (uncertain origin), <i>specify/comment</i></li> </ul>	
 G3.01	Histological subtypes	<b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Balloon cell melanoma</li> <li>• Mixed epithelioid and spindle cell melanoma</li> <li>• Epithelioid cell melanoma</li> <li>• Spindle cell melanoma</li> <li>• Amelanotic melanoma</li> <li>• Desmoplastic</li> <li>• Neurotropic</li> <li>• Other, <i>specify</i></li> </ul>	
G3.02	Microscopic tumour size	<b>Numeric: ___x__x__mm</b>	

G3.03	Perineural invasion	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	
G3.04	Lymphovascular invasion	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not identified</li> <li>• Present</li> <li>• Cannot be assessed, <i>specify</i></li> </ul>	
G3.05	Mitotic count	<b>Numeric: __ / mm<sup>2</sup></b>	
G3.06	Ulceration	<ul style="list-style-type: none"> <li>• <b>Present</b></li> <li>• <b>Not identified</b></li> </ul>	
 S3.02	<b>MARGIN STATUS</b>	<b>Cannot be assessed, <i>specify</i></b> <b>OR</b> <b>Complete the following:</b>	
	<b>Invasive melanoma</b>	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not involved</li> <li>• Involved</li> </ul>	<b>If not involved by invasive melanoma record the distance of invasive melanoma from closest margin and specify closest margin, if possible</b>  <b>If involved, specify margin(s) if possible</b>

	<i>Distance of invasive melanoma from closest margin</i>	<b>Numeric: __mm</b> OR <b>Distance not assessable</b>	
	<i>Closest margin</i>	<b>Text</b>	
	<i>Margin(s) involved</i>	<b>Text</b>	
	Melanoma in situ	<b>Single selection value list:</b> <ul style="list-style-type: none"> <li>• Not involved</li> <li>• Involved</li> </ul>	<b>If not involved by melanoma in situ record the distance of melanoma in situ from closest margin and the closest margin, if possible.</b>  <b>If involved specify margin(s) if possible</b>
	<i>Distance of melanoma in situ from closest margin</i>	<b>Numeric: __mm</b> OR <b>Distance not assessable</b>	
	<i>Closest margin</i>	<b>Text</b>	
	<i>Margin(s) involved</i>	<b>Text</b>	
 G3.07	Coexistent pathology	<b>None identified</b> OR <b>Multi selection value list (select all that apply):</b> <ul style="list-style-type: none"> <li>• Melanoma in situ/pagetoid spread</li> </ul>	

		<ul style="list-style-type: none"> <li>• Melanosis</li> <li>• Other, <i>specify</i></li> </ul>	
G3.08	Additional microscopic comment	<b>Text</b>	
<b>Ancillary findings</b>			
 G4.01	Ancillary studies	<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 selection value list:</b> <p>T3 Tumours limited to the mucosa and immediately underlying soft tissue, regardless of thickness or greatest dimension; for example, polypoid nasal disease, pigmented or nonpigmented lesions of the oral cavity, pharynx, or larynx.</p> <p>T4 Moderately advanced or very advanced</p>	

		<p>T4a Moderately advanced disease. Tumour involving deep soft tissue, cartilage, bone, or overlying skin</p> <p>T4b Very advanced disease. Tumour involving brain, dura, skull base, lower cranial nerves (IX, X, XI, XII), masticator space, carotid artery, prevertebral space, or mediastinal structures</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 eg 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/subtype</p> <p>c. 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 Mucosal Melanomas of the Head and Neck 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 ie Healthcare Provider Identifier - Individual (HPI-I) and Healthcare Provider Identifier - Organisation (HPI-O) should be use, where possible, to identify the requesting doctor.

## Clinical Information

 ➤	The operative procedure should be recorded.
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- 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.

## Example Request Information Sheet

<b>MUCOSAL MELANOMAS OF THE HEAD AND NECK</b>		
<b>Histopathology Request Information</b>		
Family name <input type="text"/>		Ethnicity <input type="radio"/> Unknown/inadequately described <input type="radio"/> Aboriginal/Torres Strait Islander (AU) <input type="radio"/> Māori (NZ) <input type="radio"/> Other ethnicity: <input type="text"/>
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>OPERATIVE PROCEDURE</b> <input type="checkbox"/> Biopsy (excisional, incisional), <i>specify</i> <input type="text"/> <input type="checkbox"/> Resection, <i>specify (e.g. maxillectomy, hemiglossectomy, partial laryngectomy, etc.)</i> <input type="text"/> <input type="checkbox"/> Neck (lymph node) dissection*, <i>specify</i> <input type="text"/> <input type="checkbox"/> Other, <i>specify</i> <input type="text"/>  <small>* If a neck dissection is submitted, then a separate dataset is used to record the information.</small>	<b>PRINCIPAL CLINICIAN</b> <input type="text"/>  <b>OTHER COMMENTS</b> <input type="text"/>	

Version 1.0 Request Information from MUCOSAL MELANOMAS OF THE HEAD AND NECK 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 like data elements under headings and using 'white space' assists in rapid transfer of information.<sup>35</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>35</sup>

Reduce 'clutter' to a minimum.<sup>35</sup> Thus, information that is not part of the protocol (eg billing information or SNOMED codes) should not appear on the reports or should be minimised.

Reduce the use of formatting elements (eg 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

<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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## MUCOSAL MELANOMA STRUCTURED REPORT

Page 1 of 2

### Diagnostic Summary

#### Procedure

Right side of nasal septum: Mucosal melanoma (T=8mm, thickness 3mm, mitoses: 2/mm<sup>2</sup>, superficial ulceration present), lymphovascular involvement present, perineural involvement present, melanoma in situ is seen at the inferior and posterior margins of resection.  
pT3 (AJCC TNM 8th edition has not currently proposed groupings).

### Supporting Information

#### CLINICAL

**Operative procedure:** Resection of right side of the nasal septum  
**Other clinical comment:** Biopsy from the polyp 2 weeks ago ?mucosal melanoma

#### MACROSCOPIC

**Specimen labelled:** "RIGHT SIDE OF THE NASAL SEPTUM, SINGLE SUTURE SUPERIOR, DOUBLE SUTURE ANTERIOR"  
**Operative procedure:** Resection of right side of the nasal septum  
**Specimen submitted:** Nasal septal mucosa, inferior turbinate and deep cartilage  
**Tumour site:** Right nasal mucosa  
**Tumour focality:** Unifocal, ulcerated nodular lesion  
**Max dimension largest tumour:** 8 mm  
**Add'l dimensions of largest tumour:** 5 x 3mm  
**Additional macroscopic comments:** On serial sectioning, there is a grey white friable area underlying the ulcerated nodule.  
**Differential Ink Application:** Superior inked blue, inferior inked black. The specimen serially sectioned from anterior to posterior and submitted entirely.

**Block identification key:** 1A: radial sections of the anterior margin (superior half), 1B: radial sections of the anterior margin (inferior half), 1C-1E: transverse sections of the nasal mucosa from anterior to posterior, 1F: radial sections of posterior margin (superior half), 1G: radial sections of the posterior margin (inferior half).  
 2A-2C: Serial sections of the inferior turbinate  
 3A: Deep cartilage submitted entirely.

Location of Macroscopic Photographs: M/2019/P28460

## MICROSCOPIC

**Histological tumour type:** Mucosal melanoma  
**Histological subtype:** Epithelioid type  
 Tumour size/thickness: 3mm  
 Perineural invasion: Present  
 Lymphovascular invasion: Present  
 Mitoses: 2/mm<sup>2</sup>  
 Superficial ulceration: Present, possibly related to the previous biopsy at this site.

## MARGIN STATUS:

Invasive melanoma: Deep: 0.5mm  
 Posterior margin: 0.5mm  
 Anterior margin: 2mm  
 Inferior margin: 1mm  
 Superior margin: 2mm  
 Melanoma in situ: present at the posterior and inferior margins of resection.

## Coexistent pathology:

Nil

## Additional microscopic comments:

A separate focus of lentiginous melanocytic proliferation is present towards the superior margin. The melanocytes in this region show moderate cytologic atypia with nuclear enlargement and distinctive nucleoli. Confluence of these atypical cells is not seen.

## ANCILLARY TESTS

S100, SOX 10, Melan A, HMB45 (melanocytic markers): strong diffuse immunostaining in the melanoma in situ and invasive component. The immunostains, particularly SOX10, demonstrate melanoma in situ at the posterior and inferior margins of resection.  
 CK (epithelial marker): Negative in the neoplastic cells.

Reported by *Dr Bernard Beckstein*

Authorised 4/9/2019

# References

- 1 Merlin T, Weston A and Tooher R (2009). Extending an evidence hierarchy to include topics other than treatment: revising the Australian 'levels of evidence'. *BMC Med Res Methodol* 9:34.
- 2 Youssef D, Vasani S, Marquess J and Cervin A (2017). Rising incidence of head and neck mucosal melanoma in Australia. *J Laryngol Otol* 131(S2):S25-s28.
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