PROSTATE CANCER

(CORE/NEEDLE BIOPSY)

STRUCTURED REPORTING PROTOCOL

(1st Edition 2014)

Core Document versions:

- World Health Organization Classification of Tumours. Pathology and Genetics of Tumours of the Urinary System and Male Genital Organ. 2004

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Contents

Scope

This protocol contains standards and guidelines for the structured reporting of core biopsy specimens for prostate carcinoma. There are separate protocols for radical prostatectomy and transurethral resection (TUR) specimens.

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
EPE	extraprostatic extension
ISUP	International Society of Urological Pathology
LIS	laboratory information system
LVI	lymphovascular invasion
PBS	Pharmaceutical Benefits Scheme
PIN	prostatic intraepithelial neoplasia
PSA	prostate specific antigen
RCPA	Royal College of Pathologists of Australasia
SVI	seminal vesicle involvement
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	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). Commentary is used to: • define the way an item should be reported, to foster reproducibility • explain why an item is included (e.g. how does the item assist with clinical management or prognosis of the specific cancer). • cite published evidence in support of the standard or guideline • state any exceptions to a standard or guideline. 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).
General commentary	General commentary is text that is not associated with a specific standard or guideline. It is used: • to provide a brief introduction to a chapter, if necessary • 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).

Guideline	Guidelines are recommendations; they are not mandatory, as indicated by the use of the word 'should'. Guidelines cover items that are not essential for clinical management, staging or prognosis of a cancer, but are recommended. Guidelines include key observational and interpretative findings that are fundamental to the diagnosis and conclusion. Such findings are essential from a clinical governance perspective, because they provide a clear, evidentiary decision-making trail. Guidelines are not used for research items. In this document, guidelines are prefixed with 'G' and numbered consecutively within each chapter (eg G1.10).
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 histo-morphological 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	Standards are mandatory, as indicated by the use of the term 'must'. Their use is reserved for core items essential for the clinical management, staging or prognosis of the cancer and key information (including observations and interpretation) which is fundamental to the diagnosis and conclusion. 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. The summation of all standards represents the minimum dataset for the cancer. In this document, standards are prefixed with 'S' and numbered consecutively within each chapter (eg S1.02).
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	Synthesis is the process in which two or more pre-existing elements are combined, resulting in the formation of something new. The Oxford dictionary defines synthesis as “the combination of components or elements to form a connected whole”. In the context of structured pathology reporting, synthesis represents the integration and interpretation of information from two or more modalities to derive new information.

Introduction

Prostate cancer

Prostate cancer is the most common cancer with 21,808 new cases reported in Australia in 2009. It is also the third most common cause of cancer death, accounting for almost 3,235 in 2010.[1] Both the number of new cases and the number of deaths from prostate cancer are increasing, partly driven by the ageing of the population.[2] There is a wide variation in the biological behaviour of prostate cancer. Most tumours are relatively slow-growing; however, a significant minority have the propensity for aggressive behaviour, including metastasis, and such tumours can be fatal.[3]

Benefits of structured reporting

Structured pathology reports with standardised definitions for each component have been shown to significantly enhance the completeness and quality of data provided to clinicians, and have been recommended both in North America and the United Kingdom.[4-7]

The College of American Pathologists and the Royal College of Pathologists (UK) have recently published useful protocols for the reporting of prostate cancer.[8,9] These have been widely used in recent years in Australia and New Zealand, usually in modified formats to suit local requirements and preferences. A protocol endorsed by the Royal College of Pathologists of Australasia and other local organisations involved in the management of prostate cancer is therefore needed. The authors have not attempted to 're-invent the wheel' but have borrowed freely from pre-existing publications. The intention is to provide pathologists with a minimum dataset and guidelines that are comprehensive, easy to use, and in keeping with local capacities and practice.

Importance of histopathological reporting

Information from pathology reports on core biopsy and transurethral resection (TUR) specimens, particularly Gleason grade and pathological stage, has a key role in the rational planning of patient management and is a major component of the most common nomograms used to guide clinical decision making.[10]

Design of this protocol

This protocol defines the relevant information to be assessed and recorded in a pathology report for prostate cancer. Mandatory elements (standards) are differentiated from those that are not mandatory but represent best practice (guidelines). Also, items suited to tick boxes are distinguished from more complex elements requiring free text or narrative. 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 representing information from this protocol, organised and formatted differently to suit their respectively different purposes.

Key documentation

- *Guidelines for Authors of Structured Cancer Pathology Reporting Protocols*, Royal College of Pathologists of Australasia, 2009[11]

- *Pathology and Genetics: Tumours of the Urinary System and Male Genital Organs.* World Health Organization Classification of Tumours, Volume 7, 2004[12]

Changes since last edition

Not applicable.

Authority and development

This section provides details of the committee involved in developing this protocol and the process by which it was developed.

Protocol developers

This protocol was developed by an expert committee, with assistance from relevant stakeholders.

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Stakeholders

ACT Health
Anatomical Pathology Advisory Committee (APAC)
Andrology Australia
Australian Cancer Network
Australian Commission on Safety and Quality in Health Care
Cancer Australia
Cancer Control New Zealand
Cancer Council ACT
Cancer Council NSW
Cancer Council Queensland
Cancer Council SA
Cancer Council Tasmania
Cancer Council Victoria
Cancer Council Western Australia
Cancer Institute NSW
Cancer Services Advisory Committee (CanSAC)
Cancer specific expert groups – engaged in the development of the protocols
Cancer Voices
Clinical Oncology Society of Australia (COSA)
Department of Health and Ageing
Faculty of Radiation Oncology Genito-Urinary Group (FROGG)
Grampians Integrated Cancer Services (GICS)
Independent Review Group of Pathologists
Health Informatics Society of Australia (HISA)
Medical Software Industry Association (MSIA)
National Coalition of Public Pathology (NCOPP)
National E-Health Transition Authority (NEHTA)

National Health Committee, Ministry of Health, New Zealand
National Pathology Accreditation Advisory Council (NPAAC)
National Round Table Working Party for Structured Pathology Reporting of Cancer.
New Zealand Cancer Registry Board
New Zealand Prostate Cancer Working Group
New Zealand Ministry of Health
NSW Ministry of Health
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Queensland Cooperative Oncology Group (QCOG)
Representatives from laboratories specialising in anatomical pathology across Australia
Royal Australasian College of Physicians (RACP)
Southern Melbourne Integrated Cancer Service (SMICS)
Standards Australia
The Medical Oncology Group of Australia
The Prostate Cancer Foundation of Australia (PCFA)
The Royal Australasian College of Surgeons (RACS)
The Royal Australian and New Zealand College of Radiologists (RANZCR)
The Royal Australian College of General Practitioners (RACGP)
The Royal College of Pathologists of Australasia (RCPA)
The Urological Society Of Australia And New Zealand (USANZ)
Victorian Cooperative Oncology Group (VCOG)
Western Australia Clinical Oncology Group (WACOG)

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Development process

This protocol has been developed following the seven-step process set out in *Guidelines for Authors of Structured Cancer Pathology Reporting Protocols*[11].

Where no reference is provided, the authority is the consensus of the expert group.

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 Prostate Core Biopsies 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.[13] This document specifies the minimum information to be provided by the requesting clinician for any pathology test.

CS1.01b The patient's ethnicity must be recorded, if known. In particular whether the patient is of aboriginal or Torres Strait islander origin. This is in support of a government initiative to monitor the health of indigenous Australians 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 Medicare number (Australia), 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 atomically.

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 principle clinician can 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 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.

G1.01 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.

Specimen handling

- **The tissue from each specimen container must be submitted and processed as a separate specimen.**

  - Preferably the urologist should submit each needle core in a separate container, so that each specimen jar will contain only one core. This is in accordance with the current consensus recommendations from the College of American Pathologists, International Society of Urological Pathology and Association of Directors of Anatomic and Surgical Pathology.[14]

  - When there are 2 or more cores per container, fragmentation, if present, precludes accurate assessment of i) the number of cores received; ii) the number of positive cores if carcinoma is present in more than one fragment and ; iii) the extent of tumour in each core. These are important prognostic parameters, particularly with respect to the optimal selection of patients for active surveillance protocols.[14,15]

  - There is a greater tendency to core fragmentation when >1 core is submitted in a container.[16] Furthermore, if >2 cores are submitted in one tissue cassette/block it is difficult to align them all within one plane during embedding. Since foci of prostate carcinoma in needle core biopsies are often small, this may lead to the carcinoma not being represented on the slide and a false negative diagnosis being rendered. Deeper sections may not necessarily avoid this problem if the area of interest has been lost during block trimming in an attempt to cut a full face section.

Macroscopic findings

S2.01 The location of each specimen as stated on the specimen containers must be recorded.

S2.02 The length of each core must be measured (in millimetres).

CS2.02a Each core (or portion thereof) in each specimen must be counted and measured (length in mm).

CS2.02b Preferably there should be only 1 needle core in each specimen jar for the reasons outlined above. However, if 2 or more needle cores are submitted in one container and there is some fragmentation, careful clinicopathological consultation is essential (particularly with cores <6mm

long) to avoid counting fragments of the one core as separate cores and providing misleading information on tumour extent. If the percentage of core involved by carcinoma is reported for a core <6mm long, it is recommended that information on the core length is also provided.[14]

G2.01 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.

CG2.01a 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.

CG2.01b 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.

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.

S3.01 The histological findings for each separately identified specimen must be recorded individually.

CS3.01a Each separately labelled container must be reported separately, with the following criteria. Individual specimen reporting:

- Delineates the region with the highest score and allows urologists to decide if nerve sparing operations can be done on one side only.
- Facilitates surgical decision making, including wide dissection at apex and bladder neck as well as nerve sparing
- Partin tables, etc use the highest core's score, not the average or composite.

S3.02 The presence or absence of tumour in each specimen must be recorded.

S3.03 The histological tumour type must be recorded.

CS3.03a Choose from the following values taken from the World Health Organization Classification of Tumours. Pathology and Genetics of Tumours of the Urinary System and Male Genital Organs (2004)):[12]

- Adenocarcinoma (Acinar, usual type)
- Adenocarcinoma (Acinar variant eg foamy, pseudohyperplastic) (specify type)
- Prostatic ductal adenocarcinoma
- Adenosquamous carcinoma
- Small cell carcinoma
- Sarcomatoid carcinoma
- Undifferentiated carcinoma, not otherwise specified
- Mixed
- Other (specify)

CS3.03b The large majority (>95%) of prostate cancers are acinar adenocarcinomas.[12] Other types of carcinoma are rarer but must be recorded if present, since some variants, such as ductal adenocarcinoma, small cell carcinoma, sarcomatoid carcinoma and urothelial-type adenocarcinoma, have a significantly poorer

prognosis.[12,17-22] The tumour type should be assigned in line with the 2004 WHO classification[12] and mixtures of different types should be indicated.

S3.04 The Gleason score (ISUP 2005) must be recorded for each specimen.[23] (See Tables S3.04a-d)

CS3.04a The 2005 ISUP modified Gleason score is a required (core) element for all core (needle) biopsy specimens containing adenocarcinoma, except for those showing morphological changes consistent with androgen withdrawal or significant radiation therapy changes.

The Gleason grading system has been in use for over 40 years and is the current, internationally accepted grading system for prostate cancer.[24] It has undergone several significant modifications over time, with an updated version developed at the 2005 ISUP Consensus Conference on Gleason Grading of Prostatic Carcinoma.[23] The Gleason score is an important, independent predictor of tumour behaviour and is a key parameter in the tables and nomograms commonly used to guide decisions on clinical treatment.[25-27]

The method for Gleason scoring is described in the 2005 ISUP Consensus Conference recommendations.[23] Gleason grading is based solely on the architectural patterns of the tumour, best assessed at low power magnification, using a 4x or 10x objectives, and is not influenced by nuclear or cytoplasmic features.

CS3.04b Because of sampling limitations, Gleason Score on a needle biopsy is a predictionof the Gleason score within the prostate. As such, various conventions are used, some of which are different from those used in Gleason scoring a complete radical prostatectomy. In particular, the 2005 ISUP Consensus Conference guidelines recommended that the Gleason score for each specimen should be based on the dominant (most prevalent) grade **plus the highest grade** of the remaining grades present.[23]

CS3.04c A composite/overall Gleason score incorporating cancer grade from all the specimens may also be recorded for the case if desired (i.e. optional), however, when recorded this should be clearly distinguished from standard reporting of the highest score.

Figure S3.04 **Gleason grade 5 carcinoma**

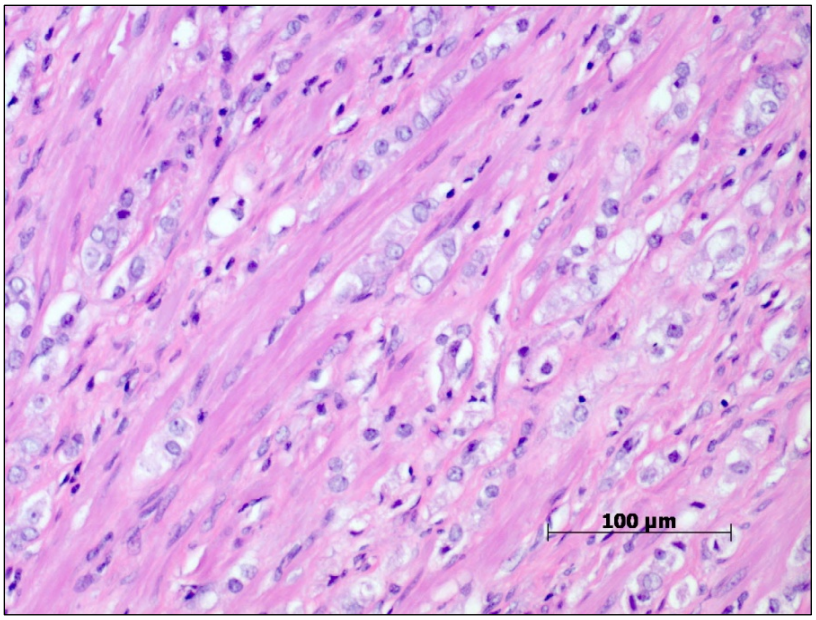


Table S3.04a **Gleason grading**

Gleason grade	Criteria	Comments
1	Closely packed small regular glands forming a circumscribed rounded nodule	Not to be used in needle biopsies.
2	Glands more loosely arranged; not quite as uniform; fairly circumscribed but may have minimal infiltration at margins	Not to be used in needle biopsies. (May be used in TURP and radical prostatectomy specimens)
3	Discrete glandular units/acini with marked variation in size and shape; infiltrates in and amongst benign prostatic tissue Very rarely cribriform (see below)	Lowest grade to be used in reporting needle biopsies.
4	Fused micro acinar glands; ill-defined glands with poorly formed lumina; large cribriform irregular glands; hypernephroid	
5	Minimal if any glandular differentiation – solid sheets, cords or single cells. Comedocarcinoma	

Table S3.04b Gleason scoring

Number of different grades present	Proportion of grades present	Comments
1	One of 3, 4 or 5 only	Double grade to get score (eg 4+4=8)
2 – Primary and secondary	Grades mixed	Report both grades, dominant pattern* first (3+4, 4+3 ..)
	Secondary grade is a lower grade and of limited amount (<5%)	Ignore lower grade – 4+3 becomes 4+4
	Secondary grade is higher grade and of limited amount (<5-10%)	Include higher grade – 3+3 becomes 3+4
3 – Primary, secondary and tertiary	Grades 3, 4 and 5	Score the Primary grade and the highest grade : 3+4+5 becomes 3+5=8 4+3+5 becomes 4+5=9 4+5+3 becomes 4+5=9

Notes:
Dominant (primary) grade is that which occupies the greatest area.

Table S3.04c Gleason scoring of cribriform patterns

Cribriform pattern	Morphology	Comments
Grade 3	Small, well circumscribed, round with smooth regular edges	Rare. Should be used only rarely in scoring
Grade 4	Irregular cribriform and fused gland masses visible at low power	Should include nearly all cribriform patterns
Grade 5	Any cribriform area with necrosis	Comedonecrosis
PIN		Do not include in score
Intraductal carcinoma	Branched architecture of high grade intraductal proliferation filling lumen, often associated with necrosis. At least partial retention of basal cells.	Include as Grade 4 (or 5 if comedonecrosis)

PIN = prostatic intraepithelial neoplasia

Table S3.04d Gleason scoring of unusual patterns

Pattern	Morphology	Comment
Vacuoles	Cytoplasmic change seen in all grades	Grade as if vacuoles were absent, on the underlying architecture
Mucin extravasation		Grade as if were absent
Mucinous fibroplasia	Collagenous micronodules	Grade as if were absent
Glomeruloid structures		Grade as 4
Foamy gland change		Grade as if were absent
Small cell neuroendocrine		Do not assign a grade
Ductal	Elongated and columnar cells	4+4 and 4+5

S3.05 Tumour extent in each separately received specimen must be recorded.

CS3.05a An estimate of the extent of carcinoma in each specimen is important, but the method of measurement used by different groups varies and the optimal method is a source of controversy. The following methods have been widely used (often in combination):

i) when there are multiple (≥2) cores in the one specimen container the number of positive cores (each ≥5mm) and the total number of cores present should be recorded,

and

ii) the percentage of prostatic tissue in each specimen that is involved by carcinoma,

and/or

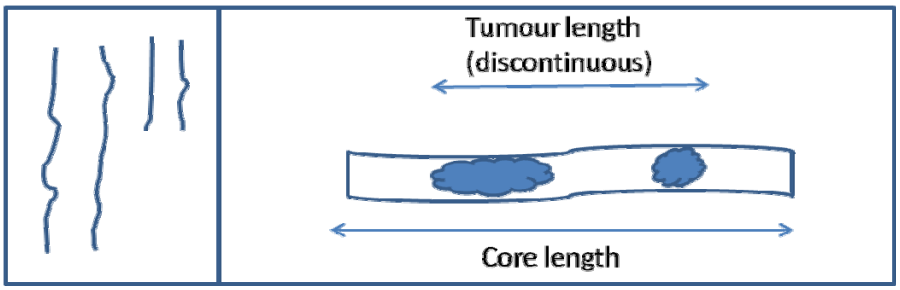
iii) the length (in mm) of tissue involved by carcinoma and total length of the core(s) for that particular specimen (see CS3.05b),

and/or

iv) when there are multiple (≥2) cores in the one specimen container, the percentage of prostatic tissue involved by tumour may be recorded for the core with the greatest amount of tumour.

CS3.05b With respect to CS3.05a iii) above, when carcinoma is discontinuous within a core, the intervening non-neoplastic prostatic tissue should be included in the estimate of carcinoma length provided that the two discontinuous foci are within 5mm of each other (although the discontinuous nature of the tumour foci should be noted in the report).[14,15,28,29] This has been shown to correlate better with tumour volume in the subsequent radical prostatectomy specimen than measuring each focus of carcinoma individually then adding them up (see Figure S3.05).

Figure S3.05 Measurement of discontinuous carcinoma in a core/needle biopsy



G3.01 The presence or absence of perineural invasion should be recorded.

CG3.01a Record if present in individual specimens.

CG3.01b The significance of perineural invasion in prostate core biopsy specimens is uncertain. Some studies show a correlation with extraprostatic extension (EPE) in the corresponding radical prostatectomy specimens[30-33] or an association with adverse outcome in patients treated with radical prostatectomy or external beam radiation.[31,32,34,35] Other investigators have questioned the prognostic value of biopsy perineural invasion in univariate or multivariate analyses.[36-38] A comprehensive review of the literature concluded that the weight of evidence suggested that perineural invasion was a significant prognostic factor for EPE and subsequent local recurrence.[39]

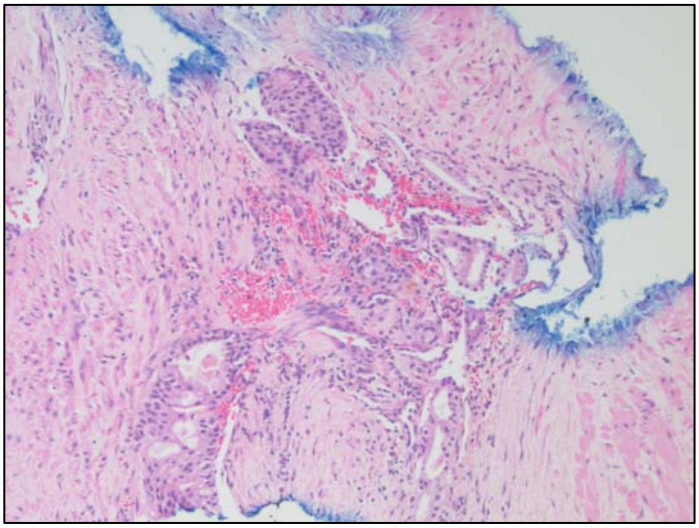
G3.02 The presence or absence of lymphovascular invasion should be recorded, if present.

CG3.02a Record if present in each individual specimen.

CG3.02b Although there is evidence that lymphovascular invasion is a significant prognostic indicator of increased risk of recurrence post radical prostatectomy (see RCPA Radical Prostatectomy Protocol 2nd edition section G3.011), there is little published data on the significance of LVI specifically in prostate core biopsies, possibly due to the relative rarity of this finding. However, if LVI is identified it may well be significant and its presence should be recorded.

See Figure G3.02. Lymphovascular invasion in a core /needle biopsy.

Figure G3.02 Lymphovascular invasion in a core/needle biopsy

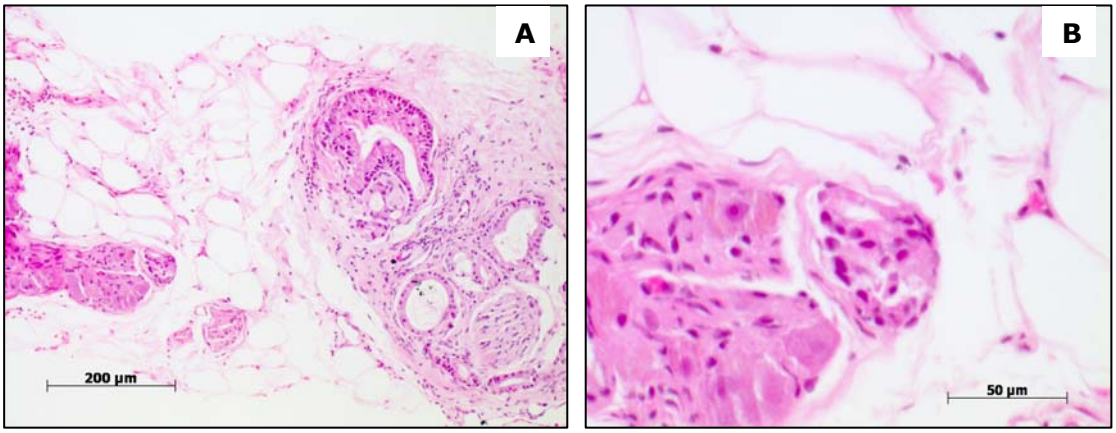


S3.06 The presence or suspicion of extraprostatic extension (EPE) must be recorded, if present.

CS3.06a Note if present in each individual specimens. It is not essential to record the absence of EPE in each core, but negative findings should be included in the summary (G5.01).

CS3.06b EPE can be diagnosed if tumour is found within fatty tissue, however, intraprostatic adipose tissue may be found in rare cases and if this is suspected EPE should be recorded as equivocal.[40,41]

Figure S3.06 Extraprostatic extension (EPE)



A: EPE in a core/needle biopsy, H&E stain at 100x scale
B: EPE in a core/needle biopsy, H&E stain at 400x scale

G3.03 The presence of high grade prostatic intraepithelial neoplasia (PIN) may be recorded, if present.

CG3.03a The significance of finding high grade PIN in a core biopsy has been controversial with some studies finding an increased risk for detection of prostatic adenocarcinoma in subsequent biopsies, while others did not.[42,43] A recent large Canadian study found that this risk was related to the extent of PIN, i.e. the number of involved sites; only patients with multifocal high grade PIN had a significantly increased risk of prostate cancer.[44,45,46] Low grade PIN should not be reported.

G3.04 The presence of intraductal carcinoma of the prostate (IDC-P) should be recorded, if present.

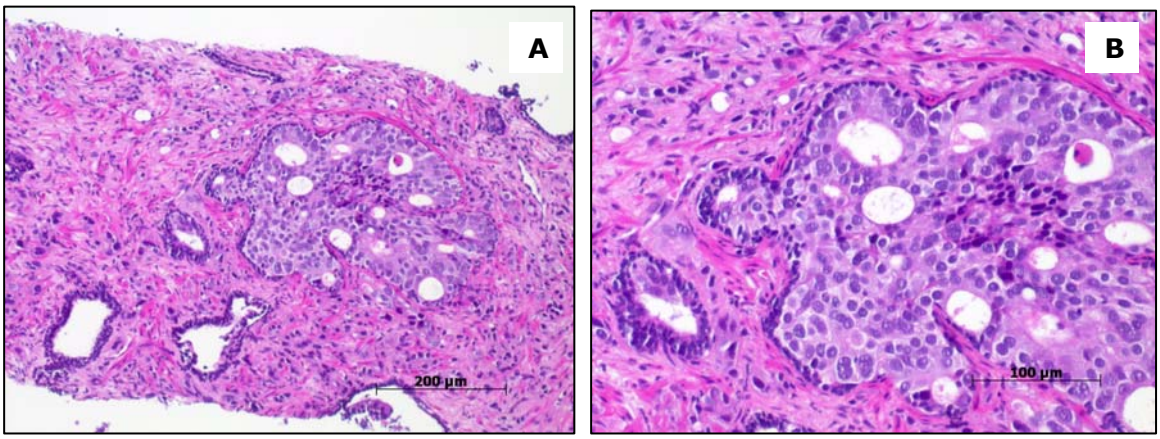
CG3.04a Intraductal carcinoma of the prostate (IDC-P) has been well characterised at the histological and molecular levels over the past decade and its clinical significance is now also better understood.[47] The diagnosis of IDC-P is based on morphology and the key criteria include: 1) large calibre glands that are more than twice the diameter of normal non-neoplastic peripheral glands; 2) preserved (at

least focally) basal cells identified on H&E staining or with basal cell markers, such as p63, keratin 34βE12 and keratin 5/6; 3) significant nuclear atypia including enlargement (x6 adjacent non-neoplastic nuclei) and anisonucleosis; and 4) comedonecrosis, which is often but not always present.[48,49]

CG3.04b IDC-P is strongly associated with high volume, high grade invasive prostate carcinoma (typically Gleason grade 4 or 5). Therefore the presence of IDC-P in a biopsy, even if invasive carcinoma cannot be identified, mandates immediate repeat biopsy or definitive therapy (depending on the clinical situation).

CG3.04c It is important to distinguish IDC-P from high grade PIN: compared to IDC-P, high grade PIN has less architectural and cytological atypia (nuclei are never >6x adjacent non-neoplastic glandular nuclei) and cribriform high grade PIN is rare.

Figure G3.04 Intraductal carcinoma of the prostate IDC-P



A: IDC-P in a core/needle biopsy, 100x scale
B: IDC-P in a core/needle biopsy, 200x scale

G3.05 Comments should be included, if appropriate.

CG3.05a Free text entry to allow any additional, unusual or unexpected findings, such as seminal vesicle invasion, to be reported.

4 Ancillary studies findings

No ancillary tests are currently used on a routine diagnostic basis for prostate cancer.

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.

G5.01 The 'Diagnostic summary' section of the final formatted report should include relevant information for clinical decision making.

CG5.01a It is appropriate to draw all the specimens together at the end of the report as a summary, particularly as specimen numbers can sometimes pass fourteen to twenty per patient.

CG5.01b The summary should include relevant positive and negative findings.

CG5.01c A summary Gleason Score should be included. It is controversial as to whether just the highest score or both the highest and a composite/global score (reflecting the overall grading of all the specimens received) should be included.[23] Clinicians need a single score for nomograms but will vary in which they prefer. Hence, to fit local practice a composite/global score may be given in addition to the highest score. If this option is utilised, then the type of score should be clearly identified in the report.

CS5.01d The summary can be formatted as follows:

Tumour Type (S3.03)	Adenocarcinoma (or variant)
Location of positive cores (see S2.01 and S3.02)	State location of positive cores
Gleason Score (S3.04)	
Highest	(eg: 4+4=8)
Composite*	(eg: 4+3=7)
Perineural invasion (G3.01)	present / not identified
Lymphovascular invasion (G3.02)	present / not identified
Extraprostatic extension (S3.06)	present / no extraprostatic tissue present / not identified

High grade PIN (G3.03)	present/ not identified
Comment (S3.05)	free text for any unusual aspects

*Optional element

S5.01 The reporting system must provide a field for free text or narrative in which the reporting pathologist can give overarching case comment.

CS5.01a 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.

CS5.01b Use of this field is at the discretion of the reporting pathologist.

6 Structured checklist

The following checklist contains all the standards and guidelines for this protocol 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 below 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 best practice 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.[50]

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.

Values in italics are conditional on previous responses.

Values in all caps are headings with sub values.

S/G	Item description	Response type	Conditional
Pre-analytical			
S1.01	**Demographic information provided**		
S1.02	**Clinical information provided on request form**	**Text** OR **Structured entry as below:**	
	Specimens provided	**Text**	
	Clinical history (including Gleason grade and score of previous specimens)	**Text**	
	Previous therapy	**Text**	
	Serum PSA (prebiopsy) value	**Numeric: ___ng/mL**	
S1.03	**Pathology accession number**	Alpha-numeric	
S1.04	**Principal clinician caring for the patient**	**Text**	

S/G	Item description	Response type	Conditional
G1.01	Comments	**Text**	
Macroscopic findings			
S2.01	**Identification and location of specimens**	**Numeric:** sequential indicator for each specimen (container) received **AND** **Text:** location **AND** **Numeric**: number of cores per specimen (container). *Notes:* *Note that a sequential indicator, the location for each specimen and number of cores per specimen must be recorded for each specimen received.*	
S2.02	**Length of core**	**Numeric: _____mm** **AND/OR** **Fragments** *Notes:* *For each core received in S2.01 a length of core is recorded.*	
G2.01	Other macroscopic comment	**Text**	

S/G	Item description	Response type	Conditional
Microscopic findings			
S3.02	**Presence of tumour?**	**Single selection value list:** • No evidence of tumour • Tumour present *Notes:* *Note that Presence of tumour must be recorded for each specimen received in S2.01.*	**If tumour present record the histological type.**
S3.03	**Histological tumour type**	**Multi selection value list (select all that apply):** • Adenocarcinoma (Acinar, usual type) • Adenocarcinoma (Acinar variant eg, foamy, pseudohyperplastic) • Prostatic ductal adenocarcinoma • Adenosquamous carcinoma • Small cell carcinoma • Sarcomatoid carcinoma • Undifferentiated carcinoma, not otherwise specified • Mixed • Other *Notes:* *Note that the Histological type must be recorded for each*	**If other, record other type.** **If Adenocarcinoma (Acinar variant eg foamy, pseudohyperplastic) record variant.**

S/G	Item description	Response type	Conditional
		positive specimen recorded in S3.02	
	Other type	***Text***	
	Acinar variant	***Text***	
S3.04	***GLEASON SCORE***	*Notes:* *Note that the primary and secondary Gleason scores must be recorded for each positive specimen recorded in S3.02.* ***The highest, and if desired, composite scores are recorded once per case.***	***Conditional on presence of positive specimens in S3.02***
	Primary	***Numeric:___***	
	Secondary	***Numeric:___***	
	Highest score	***Numeric:___ + ___ = ___***	
	Composite score *****	***Numeric:___ + ___ = ___***	
S3.05	***TUMOUR EXTENT***	*Notes:* *Note that tumour extent (whatever options) must be recorded for each positive specimen recorded in S3.02.*	***Conditional on presence of positive specimens in S3.02***
	Number of positive cores (≥5mm) and the total number of cores	**Numeric: _____/_____** ***AND***	

S/G	Item description	Response type	Conditional
	Prostatic tissue involved by tumour	**Numeric: ___%** ***AND/OR***	
	Length of tissue involved by carcinoma and total length of the core(s)	**Numeric: _____mm/_____mm** ***AND/OR***	
	Prostatic tissue involved by tumour for the core with the greatest amount of tumour	**Numeric: ___%**	
G3.01	*Perineural invasion*	***Single selection value list:*** • *Not identified* • *Present* *Notes:* *Perineural invasion should be recorded for each positive specimen recorded in S3.02. Negative findings can be recorded per specimen or alternatively they can be recorded in the Summary section.*	***Conditional on presence of positive specimens in S3.02***
G3.02	*Lymphovascular invasion*	***Single selection value list:*** • *Not identified* • *Present*	***Conditional on presence of positive specimens in S3.02***

S/G	Item description	Response type	Conditional
		Notes: *Lymphovascular invasion should be recorded for each positive specimen recorded in S3.02. Negative findings can be recorded per specimen or alternatively they can be recorded in the Summary section.*	
S3.06	***Extraprostatic extension (EPE)***	***Single selection value list:*** • *Not identified* • *No extraprostatic tissue present* • *Present* *Notes:* *The presence of EPE is assessed for each positive specimen recorded in S3.02. Negative findings can be recorded per specimen or alternatively they can be recorded in the Summary section.*	***Conditional on presence of positive specimens in S3.02***
G3.03	High grade PIN	**Single selection value list:** • Not identified • Present *Notes:* *The presence of high grade PIN should be recorded for each specimen received in S2.02. Negative findings can be recorded per specimen or alternatively they can be recorded in the Summary section***.**	

<table>
<tr><th>S/G</th><th>Item description</th><th>Response type</th><th>Conditional</th></tr>
<tr><td>G3.04</td><td>Intraductal carcinoma of prostate (IDC-P)</td><td>Single selection value list:
Not identified
Present
<u>Notes:</u>
The presence of IDC-P should be recorded for <u>each</u> specimen received in S2.02. Negative findings can be recorded per specimen or alternatively they can be recorded in the Summary section.</td><td></td></tr>
<tr><td>G3.05</td><td>Additional microscopic comment</td><td>Text</td><td></td></tr>
<tr><td colspan="2">Synthesis and overview</td><td></td><td></td></tr>
<tr><td>G5.01</td><td>Diagnostic summary</td><td>Text/Table:<table><tr><td>Tumour Type</td><td>Adenocarcinoma (or variant)</td></tr><tr><td>Location</td><td>State location of positive cores</td></tr><tr><td>Gleason Score:</td><td></td></tr><tr><td>Highest</td><td>(eg: 4+4=8)</td></tr><tr><td>Composite*</td><td>(eg 4+3=7)</td></tr><tr><td>Perineural invasion</td><td>present / not identified</td></tr></table></td><td></td></tr>
</table>

<table>
<tr><th>S/G</th><th>Item description</th><th>Response type</th><th>Conditional</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Lymphovascular invasion</td><td>present / not identified</td></tr>
<tr><td>Extraprostatic extension</td><td>present / no extraprostatic tissue present / not identified</td></tr>
<tr><td>High grade PIN</td><td>present/not identified</td></tr>
<tr><td>Comment</td><td>free text for any unusual aspects</td></tr>
</table>
*Optional
</td><td></td></tr>
<tr><td>S5.01</td><td>Overarching comment</td><td>Text</td><td></td></tr>
</table>

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 information and surgical handling procedures

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 bladder cancer 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.

Clinical information relating to presenting symptoms and spread of disease — including pretreatment prostate specific antigen (PSA) — are necessary for staging of the tumour. Details of previous therapy are required because this often impacts upon the grading of the tumour and this needs to be taken into account by the examining pathologist. Similar information is required regardless of whether the specimen is a core biopsy, transurethral resection (TUR) or radical prostatectomy.

Diagnosis of prostate cancer in thin core biopsy, TUR of prostate and prostatectomy specimens cannot be made on clinical grounds alone; rather, the diagnosis relies on histological examination of the specimen (see Chapter 3).

The histopathology report forms part of a patient's permanent medical record and includes information that informs appropriate management. As such, the report provides a method for the recording relevant clinical information that will be permanently available even in the absence of the patient's detailed clinical notes.

Patient information

- **Adequate demographic and request information should be provided with the specimen.**
  - Items relevant to cancer reporting protocols include:
    i patient name
    ii date of birth
    iii sex
    iv identification and contact details of requesting doctor
    v date of request
  - The patient's ethnicity should be recorded, if known. In particular whether the patient is of aboriginal or Torres Strait islander origin. This is in support of a government initiative to monitor the health of indigenous Australians 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 Medicare number (Australia), Individual Healthcare Identifier (IHI) (Australia) or the National Healthcare Identifier (New Zealand).

Clinical Information

- **The nature of the specimen must be clearly stated.**

  - Thin core biopsy is only undertaken for diagnostic purposes in men in which cancer is suspected on clinical grounds or following testing in asymptomatic patients. Core biopsies of prostate from different sites must be submitted in separate specimen pots. Preferably, each individual core/needle biopsy should be submitted in its own specimen jar. If the urologist includes >1, they should specify the number present in that specimen jar. This will facilitate accurate mapping of any cancer present and thereby inform surgical clearance and decisions regarding the appropriateness of undertaking nerve sparing procedures. Accurate mapping of cancers can also assist in planning of radiotherapy.

- Clinical history should be recorded.

  - In many cases the clinical history will influence the ultimate diagnosis and may provide information which will assist in providing prognostic information. Specifically, the Gleason grade and score of prostate cancer in any previously submitted specimen should be provided. This permits assessment of any progression of the tumour towards a more undifferentiated state, which itself is of prognostic significance.

- Previous therapy should be described.

  - Radiation and /or endocrine therapy for prostate cancer has a profound effect on the morphology of both the cancer and the benign prostatic tissue. For this reason, information about any previous therapy is important for the accurate assessment of biopsies.

  - Following irradiation, benign, acinar epithelium shows nuclear enlargement and nucleolar prominence[51] while basal cells may show cytologic atypia, nuclear enlargement and nuclear smudging.[52] There may also be increased stromal fibrosis, which may resemble tumour-induced desmoplasia. These changes may persist for a considerable period, have been reported up to 72 months after treatment and are more pronounced in patients who have undergone brachytherapy compared to those who have received external beam radiation therapy.[52,53] It is important to document any previous radiotherapy to help the pathologist to interpret changes accurately. Failure to do so could lead to an incorrect diagnosis of malignancy.

- Radiotherapy has a variable effect on prostate carcinoma. There is debate as to whether or not Gleason grading is appropriate [51,54] because radiation may be associated with apparent upgrading in prostatectomy specimens.[55] It has been suggested that in biopsies undertaken following radiotherapy, tumours that do not show any radiation effect should be graded, while tumours that show a treatment effect should not.[56]

- Neoadjuvant androgen blockade induces basal cell hyperplasia and cytoplasmic vacuolation in benign prostatic tissue, and this is unlikely to be confused with malignancy.[57] The effect of androgen blockage on prostate cancer is variable and an apparent upgrading of the cancer has been reported in a number of studies.[55,57] The current consensus is that these tumours should not be graded.[58]

➢ Serum PSA (prebiopsy value) should be recorded.

- Serum PSA is essential for stage grouping in the 7th Edition of the AJCC/UICC TNM staging system.[59] In addition, serum PSA is a key parameter in some nomograms widely used to estimate the risk of recurrence post-operatively and guide clinical decision making on adjuvant therapy.[25-27]

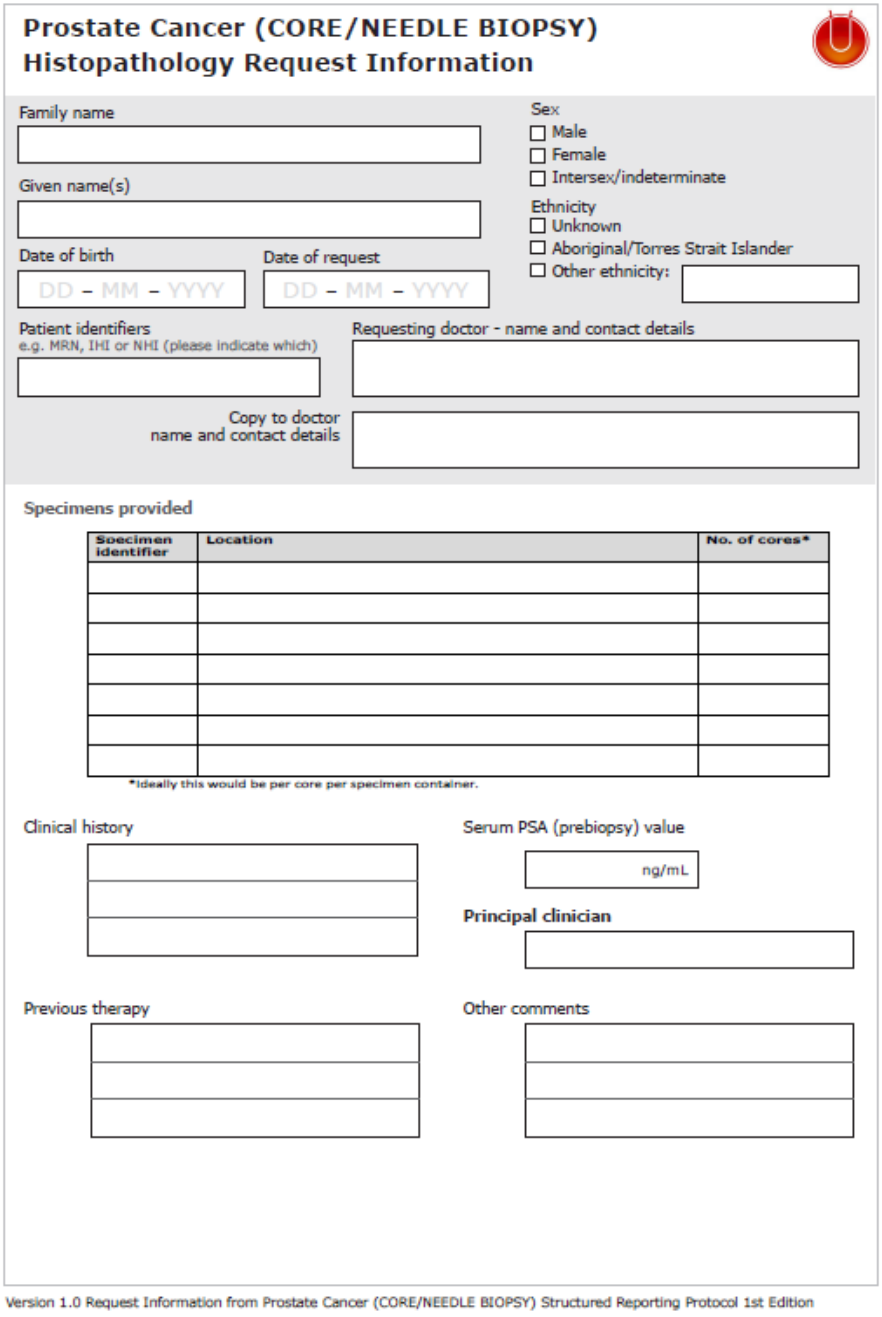
- Despite criticisms about the utility of PSA-based prostate cancer screening, most prostate cancers are detected in asymptomatic men on the basis of PSA testing. Although PSA levels provide some indication of the likelihood of discovering cancer within a biopsy of the prostate, a diagnosis of malignancy should be based on histological findings and should not be influenced by PSA levels. Elevated PSA levels may be due to acute or granulomatous prostatitis and, for this reason, any clinical evidence of prostatitis should be reported to the pathologist as part of the clinical history.[60]

- In isolation, PSA levels have a moderately high sensitivity but a low specificity for prostate cancer. Beyond the age of 50 years, PSA levels increase due to an increasing incidence of benign prostatic hyperplasia. There is no cut-off point for PSA levels that is diagnostic for cancer, although age related medians and reference intervals improve the predictive power of this test (see the RCPA Position Paper).[61,62] Elevated levels of serum PSA also provide prognostic information; in particular, pretreatment PSA levels have been correlated with tumour grade and stage.[63]

➢ 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



Prostate Cancer (CORE/NEEDLE BIOPSY)
Histopathology Request Information

Family name

Given name(s)

Date of birth DD – MM – YYYY

Date of request DD – MM – YYYY

Sex
☐ Male
☐ Female
☐ Intersex/indeterminate

Ethnicity
☐ Unknown
☐ Aboriginal/Torres Strait Islander
☐ Other ethnicity:

Patient identifiers
e.g. MRN, IHI or NHI (please indicate which)

Requesting doctor - name and contact details

Copy to doctor name and contact details

Specimens provided

Specimen identifier	Location	No. of cores*

*Ideally this would be per core per specimen container.

Clinical history

Serum PSA (prebiopsy) value ng/mL

Principal clinician

Previous therapy

Other comments

Version 1.0 Request Information from Prostate Cancer (CORE/NEEDLE BIOPSY) 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.[86]

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.[86]
- Reduce 'clutter' to a minimum.[86]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 Examples of pathology reports

These are example reports only, formats will vary with Laboratory System functionality and local design. The table in example 2 is regarded as an optimal method of rendition, however it is recognised that it may not be achievable in many existing Laboratory Systems.

In general the laboratory should assess the capabilities of all end users to ensure faithful reproduction with the electronic transmission of any pathology report. Current Australian Standards stipulate that the report be sent both as a text version (atomic or otherwise) and that it be accompanied by a version rendered specifically as intended by the pathologist / laboratory. One way to achieve this is using a pdf format as below.

Example 1, page 1:

Citizen, George W.
C/O Paradise Close
Merewether Bay Resort
Nar Nar Goon East, 3181

Male

DOB 1/7/1951
MRN FMC1196785

Lab Ref: **14/P28460**
Referred: 30/2/2014

Copy to: Dr G. Gleason
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

PROSTATE CANCER (CORE BIOPSY) STRUCTURED REPORT

Diagnostic Summary

Prostate (CORE BIOPSY):

Tumour Type	Adenocarcinoma
Location	Left mid, left apex
Gleason Score (HIGHEST):	4+3=7
Perineural invasion	Present, focally
Lymphovascular invasion	Not identified
Extraprostatic extension	Not identified

Comment: Nil

Supporting Information

CLINICAL

Specimen type: Core biopsies of prostate
Clinical history: Previous biopsy: Gleason 3+3=6 left mid
Serum PSA: 8.9 ug/L
Comment: No symptoms. No treatment.

MACROSCOPIC

1. "LEFT BASE"
   Number of cores: 2
   Length(s): 11mm, 16mm
   Pale tissue. All embedded block 1A
2. "LEFT MID"
   Number of cores: 2
   Length(s): 15mm, 14mm
   Pale tissue. All embedded block 1A
3. "LEFT APEX"
   Number of cores: 2
   Length(s): 10mm, 15mm
   Pale tissue. All embedded block 1A
4. "RIGHT BASE"
   Number of cores: 2
   Length(s): 11mm, 15mm

Example 1, page 2:

5. "RIGHT MID"
   Number of cores: 1
   Length(s): 16mm
   Pale tissue. All embedded block 1A

6. "RIGHT APEX"
   Number of cores: 3
   Length(s): 8mm, 10mm, 14mm
   Pale tissue. All embedded block 1A

MICROSCOPIC

1. "LEFT BASE"
   Presence of tumour?: No evidence of tumour
   Comment: Focal atrophy

2. "LEFT MID"
   Presence of tumour?: Tumour present
   Histological type (WHO): Adenocarcinoma, acinar
   Gleason grade (ISUP 2005): 4+3=7
   Tumour extent: 40% of tissue received
   12mm carcinoma of 29mm total core length, 2 of 2 cores involved
   Perineural invasion: Present
   Lymphovascular invasion: Not identified
   Extraprostatic extension: No extraprostatic tissue present
   High grade PIN: Present. One focus

3. "LEFT APEX"
   Presence of tumour?: Tumour present
   Histological type (WHO): Adenocarcinoma, acinar
   Gleason grade (ISUP 2005): 3+3=6
   Tumour extent: 10% of tissue received.
   2.5mm carcinoma of 25mm total core length, 1 of 2 cores involved
   Perineural invasion: Not identified
   Lymphovascular invasion: Not identified
   Extraprostatic extension: Not identified
   High grade PIN: Not identified

4. "RIGHT BASE"
   Presence of tumour?: No evidence of tumour
   Comment: Basal cell hyperplasia

5. "RIGHT MID"
   Presence of tumour?: No evidence of tumour
   Comment: Patchy active prostatitis

6. "RIGHT APEX"
   Presence of tumour?: No evidence of tumour
   Comment: Focal atrophy

Reported by Dr Bernard Beckstein Authorised 2/3/2014

Example 2, page 1:

Citizen, George W.
C/O Paradise Close
Merewether Bay Resort
Nar Nar Goon East, 3181

Male

DOB 1/7/1951
MRN FMC1196785

Lab Ref: **14/P28460**
Referred: 30/2/2014

Copy to: Dr G. Gleason
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

PROSTATE CANCER (CORE BIOPSY) STRUCTURED REPORT

Diagnostic Summary

Prostate (CORE BIOPSY):

Tumour Type	Adenocarcinoma
Location	Left mid, left apex
Gleason Score (HIGHEST):	4+3=7
Perineural invasion	Present
Lymphovascular invasion	Not identified
Extraprostatic extension	Not identified

Comment: Nil

Supporting Information

CLINICAL

Specimen type:	Core biopsies of prostate
Clinical history:	Previous biopsy: Gleason 3+3=6 left mid
Serum PSA:	8.9 ug/L
Comment:	No symptoms. No treatment

Example 2, page 2:

	S2.02		S2.03	S3.02	S3.03	S3.04		S3.05			G3.01	G3.02	S3.06	G3.03	G3.04
Spec. Nbr	Location	Core Nbr	Length of core	Presence of tumour	Tumour type	Gleason score:		Tumour extent			Perineural invasion	LVI	EPE	High grade PIN	Comments
						Primary	Secondary	Prostatic tissue involved	Length carcinoma/ total length	Cores involved					
1	Left Base	1	11mm	No evidence of tumour											Focal atrophy
		2	16mm												
2	Left Mid	1	15mm	Tumour present Tumour present	Adenocarcinoma, acinar	4	3	40%	12/29mm	2/2	Present	Not identified	No extraprostatic tissue present	Present. One focus	
		2	14mm												
3	Left apex	1	10mm	Tumour present	Adenocarcinoma, acinar	3	3	10%	2.5/25mm	1/2	Not identified	Not identified	Not identified	Not identified	
		2	15mm												
4	Right Base	1	11mm	No evidence of tumour											Basal cell hyperplasia
		2	15mm												
5	Right Mid	1	16mm	No evidence of tumour											Patchy active prostatitis
6	Right Apex	1	8mm	No evidence of tumour											Focal atrophy
		2	10mm												
		3	14mm												

Reported by Dr Bernard Beckstein Authorised 2/3/2014

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