


# Parathyroid Carcinoma & Atypical Parathyroid Neoplasm Histopathology Reporting Proforma



Includes the  International Collaboration on Cancer reporting dataset denoted by \*

Family name

Given name(s)

Date of birth

Patient identifiers

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

Date of request

**S1.03** Accession number

Requesting doctor - name and contact details

Sex

- Male  
 Female  
 Intersex/indeterminate

Ethnicity

- Unknown  
 Aboriginal/Torres Strait Islander (AU)  
 Māori (NZ)  
 Other ethnicity:

Mandatory questions (i.e. protocol standards) are in bold (e.g. **S1.03**).

Indicates multi-select  Indicates single select

## Clinical information

**S1.02/S2.02\***  Not provided\* OR

\*A diagnosis of parathyroid carcinoma or atypical parathyroid neoplasm requires information regarding intra-operative findings, serum PTH and calcium levels, comorbidities such as renal failure etc. Thus, this option should only be used after all efforts to obtain information, including MDT discussion, has been exhausted.

OR

Hyperparathyroidism

- Primary  
 Secondary  
 Tertiary  
 Non-functional

Previous parathyroid surgery, *specify*

Relevant familial history, *specify*

Presence of a clinical syndrome, *specify*

Other, *specify*

G1.01 COPY TO DOCTORS

## S1.04 PRINCIPAL CLINICIAN

G1.02 \*OTHER COMMENTS

## Macroscopic findings

**S2.01 SPECIMEN LABELLED AS**

**S3.03 \*PRE-OPERATIVE BIOCHEMICAL INFORMATION**

(select all that apply)

Information not provided\*

Calcium, *specify level with units and specimen type (serum, other)*

Parathyroid hormone (PTH), *specify level with units*

Other, *specify*

**S2.04 \*OPERATIVE PROCEDURE** (select all that apply)

Not specified

**Side**

- Right
- Left
- Not specified

**Location**

- Superior
- Inferior
- Not specified

**\*Tissue nature**

- Parathyroidectomy, single gland
- Parathyroidectomy, en bloc with thyroid lobe
- Other parathyroid gland sampling

Unilateral

Lymph node sampling, *specify*

Soft tissue of neck, *specify* Bilateral

Other, *specify*

**G2.01 \*INTRA-OPERATIVE FINDINGS** (select all that apply)

Not specified

Non-adherent to surrounding structures

Adherent to structure(s)

- Thyroid  Recurrent laryngeal nerve
- Oesophagus  Skeletal muscle

Other, *specify*

Other, *specify*

**S2.05 \*SPECIMEN(S) SUBMITTED** (select all that apply)

Not specified

Parathyroid

Left

- Superior  Inferior  Not specified

Right

- Superior  Inferior  Not specified

Other, *specify*

Thyroid gland

- Left  Right  Isthmus

Lymph nodes, *specify site(s) and laterality*

Other, *specify site(s) and laterality*

**S2.06 \*TUMOUR SITES** (select all that apply)

Not specified

Parathyroid

Left

- Superior  Inferior  Not specified

Right

- Superior  Inferior  Not specified

Mediastinal

Intrathyroidal, *specify lobe*

Soft tissue or muscle, *specify site(s) and laterality*

Lymph nodes, *specify site(s) and laterality*

Other, *specify site(s) and laterality*

**S2.07 \*SPECIMEN WEIGHT**

mg Parathyroid alone

OR

mg Parathyroid with other structure(s), *specify structure(s)*



Cannot be assessed, *specify*

**S2.08 \*TUMOUR DIMENSIONS**

Maximum tumour dimension (largest tumour)

mm

Additional dimensions (largest tumour)

mm x  mm

Cannot be assessed, *specify*

**S2.09 BLOCK IDENTIFICATION KEY**


**G2.02 OTHER MACROSCOPIC COMMENTS**


## Microscopic findings

### S3.01 \*HISTOLOGICAL TUMOUR TYPE

- Atypical parathyroid neoplasm (atypical parathyroid adenoma)/neoplasm of uncertain malignant potential (UMP)<sup>a</sup>
- Parathyroid carcinoma

<sup>a</sup> Defined as tumours that are histologically or clinically worrisome but do not fulfill the more robust criteria (i.e., invasion, metastasis) for carcinoma. They generally include tumours that have two or more concerning features, such as fibrous bands, mitotic figures necrosis, trabecular growth, or adherence to surrounding tissues intraoperatively. Atypical parathyroid neoplasms usually have a smaller dimension, weight, and volume than carcinomas and are less likely to have coagulative tumour necrosis.

### S3.02 \*HISTOLOGICAL TUMOUR GRADE

- Low grade
- High grade
- Not determined
- Not applicable (i.e., atypical neoplasm/adenoma, UMP<sup>a</sup>)

### S3.03 \*EXTENT OF INVASION (select all that apply)

- Cannot be assessed
- Confined to parathyroid without invasion through tumour capsule
- Invasion through tumour capsule
- Invasion into extra-parathyroidal soft tissue
- Invasion into adjacent structures, *specify*
- Recurrent laryngeal nerve
  - Thyroid gland
  - Oesophagus
  - Skeletal muscle
  - Other, *specify*
- 

### S3.04 \*LYMPHOVASCULAR INVASION

- Not identified
- Present
- Vascular invasion
  - Lymphatic invasion

### S3.05 \*PERINEURAL INVASION

- Not identified
- Present

### S3.06 \*NECROSIS

- Not identified
- Present

### S3.07 \*MITOTIC COUNT

per 2 mm<sup>2</sup> <sup>b</sup>

- Cannot be assessed

<sup>b</sup> 2 mm<sup>2</sup> approximates 10 HPFs on some microscopes.

### S3.08 \*MARGIN STATUS

- Not involved (R0)
- Distance of tumour to closest margin  mm
- Involved
- Abutting tissue edge (R1 resection)
  - Transected, fragmented or ruptured (possible R2 resection)
- Specify if named structure/location is involved at margin(s)*
- 
- Cannot be assessed, *specify*
- 

### S3.09 \*LYMPH NODE STATUS

- No nodes submitted or found
- Number of lymph nodes examined
- Not involved
  - Involved
- Number of positive lymph nodes
- Number cannot be determined

### G3.01 \*COEXISTENT FINDINGS (select all that apply)

- None identified
- Present
- Other finding(s) in same parathyroid gland as neoplasm
  - Other, *specify*
- 
- Tissue from another submitted parathyroid gland, *specify*
- Normal
  - Hypercellular, *specify*
- 
- Other, *specify*
- 

### S3.10 \*DISTANT METASTASES

- Not identified
- Information not available
- Present, *specify site(s)*

### G3.02 ADDITIONAL MICROSCOPIC COMMENT

## Ancillary findings

### G4.01 \*ANCILLARY STUDIES

Not performed

Immunohistochemistry performed

Ki-67, *specify results and method*  %

Parafibromin (CDC73), *specify results*

PGP9.5, *specify results*

Other immunohistochemistry, *specify*

Molecular performed

CDC73 (parafibromin gene)

Germline testing, *specify results*

Tumour (somatic) testing, *specify results*

Other molecular test(s), *specify*

Other, *specify*

## Synthesis and overview

### S5.01 \*PATHOLOGICAL STAGING (AJCC TNM 8<sup>th</sup> edition)

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

m - multiple primary tumours

r - recurrent

y - post-therapy

#### Primary tumour (pT)

TX Primary tumour cannot be assessed

T0 No evidence of primary tumour

Tis Atypical parathyroid neoplasm (neoplasm of uncertain malignant potential)\*

T1 Localised to the parathyroid gland with extension limited to soft tissue

T2 Direct invasion into the thyroid gland

T3 Direct invasion into recurrent laryngeal nerve, oesophagus, trachea, skeletal muscle, adjacent lymph nodes, or thymus

T4 Direct invasion into major blood vessel or spine

\*Defined as tumours that are histologically or clinically worrisome but do not fulfill the robust criteria (i.e. invasion, metastasis) for carcinoma. They generally include tumours that have two or more concerning features, such as fibrous bands, mitotic figures, necrosis, trabecular growth, or adherence to surrounding tissues intraoperatively. Atypical parathyroid neoplasms usually have a smaller dimension, weight, and volume than carcinomas and are less likely to have coagulative tumour necrosis.

#### Regional lymph nodes (N)

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastasis

N1 Regional lymph node metastasis

N1a Metastasis to level VI (pretracheal, paratracheal, and prelaryngeal/Delphian lymph nodes) or superior mediastinal lymph nodes (level VII)

N1b Metastasis to unilateral, bilateral, contralateral cervical (Level I, II, III, IV, or V) or retropharyngeal nodes

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### S5.02 Year and edition of staging system

### G5.01 DIAGNOSTIC SUMMARY

Include: Specimen submitted, Specimen weight, Tumour type, Tumour dimensions, Extent of invasion, Tumour stage.

### S5.03 OVERARCHING COMMENT

G5.02 Edition/version number of the Cancer Structured Reporting Protocol.