

# Parathyroid Carcinoma & Atypical Parathyroid Neoplasm Histopathology Reporting Guide



Family/Last name

Date of birth

Given name(s)

Patient identifiers

Date of request

Accession/Laboratory number

Elements in **black text** are CORE. Elements in **grey text** are NON-CORE.

indicates multi-select values     indicates single select values

[SCOPE OF THIS DATASET](#)

## CLINICAL INFORMATION (select all that apply)

- Information not provided
- Hyperparathyroidism
  - Primary
  - Secondary
  - Tertiary
- Previous parathyroid surgery, *specify*
- Relevant familial history, *specify*
- Presence of a clinical syndrome, *specify*
- Other, *specify*

## 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*

## OPERATIVE PROCEDURE (select all that apply)

- Not specified
- Parathyroidectomy, single gland
- Parathyroidectomy, en bloc with thyroid lobe
- Other parathyroid gland sampling
  - Unilateral     Bilateral
- Lymph node sampling, *specify*
- Soft tissue of neck, *specify*
- Other, *specify*

## 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*

## 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*

**TUMOUR SITE** (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*

**SPECIMEN WEIGHT**

mg Parathyroid alone

OR

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

↓

Cannot be assessed, *specify*

**TUMOUR DIMENSIONS**

Maximum tumour dimension (largest tumour)  
 mm

Additional dimensions (largest tumour)  
 mm x  mm

Cannot be assessed, *specify*

**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.

**HISTOLOGICAL TUMOUR GRADE**

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

**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-parathyroid soft tissue
- Invasion into adjacent structures, *specify*
  - Recurrent laryngeal nerve
  - Thyroid gland
  - Oesophagus
  - Skeletal muscle
  - Other, *specify*

**LYMPHOVASCULAR INVASION**

- Not identified
- Present
  - Vascular invasion
  - Lymphatic invasion

**PERINEURAL INVASION**

- Not identified
- Present

**NECROSIS**

- Not identified
- Present

**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.

**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*

**LYMPH NODE STATUS**  No nodes submitted or foundNumber of lymph nodes examined  Not involved InvolvedNumber of positive lymph nodes  Number cannot be determined**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***ANCILLARY STUDIES** (select all that apply)  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***HISTOLOGICALLY CONFIRMED DISTANT METASTASES**  Not identified Not assessed Present, *specify site(s)***PATHOLOGICAL STAGING (AJCC TNM 8<sup>th</sup> edition)<sup>c</sup>** **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 Tis Atypical parathyroid neoplasm (neoplasm of UMP)<sup>a</sup> 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**Regional lymph nodes (pN)** 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, or contralateral cervical (level I,II,III,IV, or V) or retropharyngeal nodes<sup>c</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.