Parathyroid Carcinoma & Atypical Parathyroid Neoplasm
Histopathology Reporting Guide

Family/Last name

Given name(s)

Date of birth

DD – MM – YYYY

Patient identifiers

Date of request

DD – MM – YYYY

Accession/Laboratory number

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

☐ indicates multi-select values  ☐ indicates single select values

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
  ○ 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

SCOPE OF THIS DATASET

indicates multi-select values  indicates single select values

**HISTOLOGICAL TUMOUR TYPE**

- Atypical parathyroid neoplasm (atypical parathyroid adenoma)/neoplasm of uncertain malignant potential (UMP)\(^a\)
- Parathyroid carcinoma

\(^a\) Defined as tumours that are histologically or clinically worrisome but do not fulfil 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.

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

**TUMOUR DIMENSIONS**

- Maximum tumour dimension (largest tumour) mm
- Additional dimensions (largest tumour) mm x mm

**HISTOLOGICAL TUMOUR GRADE**

- Low grade
- High grade
- Not determined
- Not applicable (i.e., atypical neoplasm/adenoma, UMP)\(^a\)

**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

**LYMPHOVASCULAR INVASION**

- Not identified
- Present
  - Vascular invasion
  - Lymphatic invasion

**PERINEURAL INVASION**

- Not identified
- Present

**NECROSIS**

- Not identified
- Present

**MITOTIC COUNT**

- per 2 mm\(^2\) \(^b\)

\(^b\) 2 mm\(^2\) 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
## Ancillary Studies
(Select all that apply)

- **Not performed**
- **Immunohistochemistry performed**
  - Ki-67, specify results and method
  - %
  - Paraffinum (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

## 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**

## 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**

## Pathological Staging (AJCC TNM 8th 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
- **Tis** Atypical parathyroid neoplasm (neoplasm of UMP)
- **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