# **Thyroid Case Scenarios**

## Instructions:

All cases are 2018 diagnosis year. If you do not have an AJCC 8th edition manual use the [staging forms](https://cancerstaging.org/references-tools/deskreferences/Pages/Cancer-Staging-Forms.aspx) (you will need the manual to assign stage to real cases, but for this exercise the staging forms may be used). Use [SEER RSA](https://staging.seer.cancer.gov/eod_public/list/1.0/) to code the grade fields and to assign summary stage 2018.

**Case Scenario 1**

## History & Physical

20 Year old white female presents with a left neck mass.

2/24 Thyroid US: FINDINGS: The right lobe of the thyroid is mildly enlarged. The left lobe of the thyroid is mildly enlarged. The largest right lobe mass measures about 3 cm in maximal dimension. A second right lobe mass measures about 2.7 cm. The largest left lobe mass measures about 3.2 cm. There are multiple right-sided lymph node metastases. No abnormal left cervical lymph nodes are seen.

IMPRESSION: Multifocal bilateral thyroid carcinomas with multiple right cervical lymph node metastases.

2/29 Bilateral thyroid FNA: Cytologic Diagnosis: Malignant cells consistent with carcinoma

## Operative Report

3/4 Total thyroidectomy, right neck dissection levels IIa-IV, mediastinal lymph node excisional biopsy, central neck dissection:

1. Lymph node, right level 3, excision:

* One lymph node involved by metastatic medullary thyroid carcinoma, largest metastatic focus measures 1.3 cm in greatest extent with no extracapsular extension identified (1/1)

1. Thyroid, total thyroidectomy:

* Multifocal medullary thyroid carcinoma, largest focus present in the left lobe measuring 4 cm in greatest extent, and two smaller masses located in the right lobe measuring 2.7 cm and 0.4 cm in greatest extent
* All tumors are confined to the thyroid gland and contain amyloid deposition and calcifications
* Lymphovascular invasion is identified
* No extrathyroidal extension identified
* All surgical margins are negative for carcinoma
* Background thyroid with nodular hyperplasia

1. Lymph nodes, right central compartment level 6, dissection:

* Six of seven lymph nodes involved by metastatic majority thyroid carcinoma, largest metastatic focus measures 1.4 cm in greatest extent with no extracapsular extension (6/7)

1. Lymph nodes, right neck levels 2A/ 3 and 4, dissection:

* Three of 10 lymph nodes involved by metastatic medullary thyroid carcinoma, largest metastatic focus measures 0.7 cm in greatest extent with no extracapsular extension (3/10)

1. Lymph node, left supramediastinal, excision:

* One lymph node involved by metastatic medullary thyroid carcinoma, largest metastatic focus measures 1.3 cm in greatest extent with extracapsular extension identified (1/1)

**\*\*\*SYNOPTIC REPORT\*\*\***

**Thyroid, total thyroidectomy:**

Specimen Site: Thyroid gland structure

Tumor Site: Thyroid gland structure

Procedure: Total thyroidectomy

Specimen Integrity: Intact

Specimen Size: Right lobe: 4.5 cm, 2 cm, 1.8 cm

Left lobe: 4.2 cm, 3 cm, 2.2 cm

Specimen Weight: 22 g

Tumor Focality: Multifocal, Bilateral

Tumor Laterality: Right lobe, Left lobe

Histologic Type: Medullary carcinoma

Lymph-Vascular Invasion: Present, focal extent (less than 4 vessels)

Perineural Invasion: Not identified

Tumor Size: Greatest Dimension: 4 cm

Tumor Capsule: Partially encapsulated

Tumor Capsular Invasion: Present, extent minimal

Extrathyroidal Extension: Not identified

Margins: Margins uninvolved by carcinoma, Second tumor present

Tumor Laterality: Right lobe

Histologic Type: Medullary carcinoma

Lymph-Vascular Invasion: Not identified

Perineural Invasion: Not identified

Tumor Size: Greatest Dimension: 2.7cm

Tumor Capsule: None

Tumor Capsular Invasion: Not identified

Extrathyroidal Extension: Not identified

Margins: Margins uninvolved by carcinoma

Lymph Node, Extranodal Extension: Present

## Treatment

The patient was started on levothyroxine post-operative.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Case Scenario 1** | | | | | | | | | |
| Primary Site | C73.9 | Histology | | | 8345 | Behavior | | 3 | |
| Clinical Grade | 9 | Pathological Grade | | | 9 | Post-therapy Grade | |  | |
| **Stage/ Prognostic Factors** | | | | | | | | | |
| Clinical T | | T2 | | Post-therapy T | | |  | | |
| Clinical T Suffix | | (m) | | Post-therapy T Suffix | | |  | | |
| Clinical N | | N1 | | Post-therapy N | | |  | | |
| Clinical N Suffix | |  | | Post-therapy N Suffix | | |  | | |
| Clinical M | | M0 | | Post-therapy M | | |  | | |
| Clinical Stage | | 99 | | Post-therapy Stage | | |  | | |
|  | |  | |  | | |  | | |
| Pathological T | | T3a | | Summary Stage 2018 | | | 3 | | |
| Pathological T Suffix | | (m) | | Tumor Size Summary | | | 040 | | |
| Pathological N | | N1b | | Regional Nodes Positive | | | 11 | | |
| Pathological N Suffix | |  | | Regional Nodes Examined | | | 19 | | |
| Pathological M | | M0 | |  | | |  | | |
| Pathological Stage | | 4A | |  | | |  | | |
| **Treatment** | | | | | | | | | |
| Diagnostic Staging Procedure | | | 00 | **Systemic Therapy Codes** | | | | |  |
| **Surgery Codes** | | |  | Chemotherapy | | | | | 00 |
| Surgical Procedure of Primary Site | | | 50 | Hormone Therapy | | | | | 00 |
| Scope of Regional Lymph Node Surgery | | | 5 | Immunotherapy | | | | | 00 |
| Surgical Procedure/ Other Site | | | 0 | Hematologic Transplant/ Endocrine Procedure | | | | | 00 |
|  | | |  | Systemic/Surgery Sequence | | | | | 0 |

# Thyroid Case

**Scenario 2**

History & Physical

78 Year old white male presents with a left thyroid mass. The patient presented for a left thyroidectomy and returned for a right thyroidectomy.

2/15 thyroid US:

Findings: The right lobe measures 4.6 x 2.7 x 2.1 cm and the left lobe measures 6.3 x 3.8 x 3.7 cm. The isthmus measures 0.4 cm. There are bilateral mixed echotexture thyroid nodules. On the right, the largest measures, 1.6cm and is located in the mid upper portion of the right lobe. On the left there is a 2.5cm nodule in the midportion and a 1.9 cm nodule in the lower aspect of the left lobe.

Doppler reveals some increased flow around the nodules. Differential considerations include both benign and malignant etiologies. An I-123 nuclear medicine thyroid scan may be helpful for further evaluation.

Biopsy

2/15 Left thyroid FNA:

Thyroid, Left, Fine Needle Aspiration:

-malignant cells suggestive of Hurthle Cell Neoplasm

Operative procedures

3/17 Left thyroidectomy

4/24 Right thyroidectomy

3/17 Final Pathologic Diagnosis

1. Thyroid, left, lobectomy:

* papillary thyroid carcinoma
* Greatest dimension 2.0 cm
* Lymphovascular invasion not identified
* Tumor is 0.1 cm away from the closest lower pole resection margin
* Background thyroid with nodular hyperplasia and Hurthle cell changes

Synoptic Report

A. Thyroid, left, lobectomy

* Specimen Site: Thyroid gland structure
* Tumor Site: Thyroid gland structure
* Procedure: Left thyroid lobectomy
* Specimen Integrity: Intact
* Specimen Size: Left Lobe 7 cm, 5 cm, 2.5 cm
* Specimen Weight: 35 mg
* Tumor Focality: Unifocal
* Tumor Laterality: Left Lobe
* Histologic Type: Papillary carcinoma, classical (usual)

Classical (papillary) architecture

* Lymph-Vascular Invasion: Not identified
* Tumor Size: Greatest Dimension: 2 cm
* Tumor Capsule: Totally encapsulated
* Tumor Capsular Invasion: Present, extent minimal
* Extrathyroidal Extension: Not identified
* Margins: Margins uninvolved by carcinoma
* Distance of invasive carcinoma to closest margin: 1mm

4/24 Final Pathologic Diagnosis

A. Thyroid, right lobectomy:

* Papillary thyroid carcinoma focally extending to inked resection margins
* Nodular hyperplasia with sclerosis
* Hypercellular parathyroid tissue

Synoptic Report

A. Thyroid, right hemi-lobectomy:

* Specimen Site: Thyroid gland structure
* Tumor Site: Thyroid gland structure
* Procedure: Right thyroid lobectomy
* Specimen Integrity: Fragmented
* Specimen Size: Right lobe: 5.5 cm 4.0 cm 2.0cm
* Tumor Focality: Unifocal
* Tumor Laterality: Right lobe
* Histologic Type: Papillary carcinoma, classical (usual)

Classical (papillary) architecture

Classical cytomorphology

* Histologic Grade: Not applicable
* Lymph-Vascular Invasion: Not identified
* Tumor Size: Greatest Dimension: 1.2cm
* Tumor Capsule: Partially encapsulated
* Tumor Capsular Invasion: Present, extent minimal
* Extrathyroidal Extension: Present, minimal
* Margins: Margin(s) involved by carcinoma

Site(s) of involvement: soft tissue resection margin

* Lymph Node, Extranodal Extension: No nodes submitted or found

Medical Oncology

Patient started on liothyronine sodium post operatively

Radiation

5/1 Patient received 160 mCi of I 131 orally

5/8: whole body I-131 scintigraphy: There is expected radioiodine localization within the thyroid bed. There is no definitive scintigraphic evidence to suggest regional or distant metastatic disease.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Case Scenario 2** | | | | | | | | | |
| Primary Site | C73.9 | Histology | | | 8260 | Behavior | | 3 | |
| Clinical Grade | 9 | Pathological Grade | | | 9 | Post-therapy Grade | |  | |
| **Stage/ Prognostic Factors** | | | | | | | | | |
| Clinical T | | cT1b | | Post-therapy T | | |  | | |
| Clinical T Suffix | | (m) | | Post-therapy T Suffix | | |  | | |
| Clinical N | | cN0b | | Post-therapy N | | |  | | |
| Clinical N Suffix | |  | | Post-therapy N Suffix | | |  | | |
| Clinical M | | cM0 | | Post-therapy M | | |  | | |
| Clinical Stage | | 1 | | Post-therapy Stage | | |  | | |
|  | |  | |  | | |  | | |
| Pathological T | | pT2 | | Summary Stage 2018 | | | 2- Regional by Direct Extension Only | | |
| Pathological T Suffix | | (m) | | Tumor Size Summary | | | 020 | | |
| Pathological N | | pNX | | Regional Nodes Positive | | | 98 | | |
| Pathological N Suffix | |  | | Regional Nodes Examined | | | 00 | | |
| Pathological M | | cM0 | |  | | |  | | |
| Pathological Stage | | 2 | |  | | |  | | |
| **Treatment** | | | | | | | | | |
| Diagnostic Staging Procedure | | | 00 | **Systemic Therapy Codes** | | | | |  |
| **Surgery Codes** | | |  | Chemotherapy | | | | | 00 |
| Surgical Procedure of Primary Site | | | 50 | Hormone Therapy | | | | | 01 |
| Scope of Regional Lymph Node Surgery | | | 0 | Immunotherapy | | | | | 00 |
| Surgical Procedure/ Other Site | | | 0 | Hematologic Transplant/ Endocrine Procedure | | | | | 00 |
|  | | |  | Systemic/Surgery Sequence | | | | | 3 |

* **Radiation volume for this case would be coded to:**
  + 00-No radiation treatment
  + 26-Thyroid
  + 93-Whole body
  + 98 Other