Differentiated Thyroid Cancer Treatment Pathway Map
Version 2017.04

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Pathway Map Considerations

- Primary care providers play an important role in the cancer journey and should be informed of relevant tests and consultations.
- Ongoing care with a primary care provider is assumed to be part of the pathway map. For patients who do not have a primary care provider, Health Care Connect is a government resource that helps patients find a doctor or nurse practitioner.

Throughout the pathway map, a shared decision-making model should be implemented to enable and encourage patients to play an active role in the management of their care. For more information see Person-Centered Care Guidance.

Hyperlinks are used throughout the pathway map to provide information about relevant CCO tools, resources and guidance documents, including documents from CCO’s Evidence-Based Series.

We acknowledge that not all recommendations are congruent with the American Thyroid Association 2015 guideline; however, the experts on the Thyroid Cancer Pathway Map Working Group believe they are appropriate modifications for use in Ontario.

Patients should be informed of and be given the opportunity to discuss all treatment plans with their health care provider, and to participate in decision-making as appropriate.

Pathway Map Legend

**Primary Care**

**Palliative Care**

**Pathology**

**Diagnostic Assessment Program (DAP)**

**Surgery**

**Radiation Oncology**

**Medical Oncology**

**Radiology**

**Multidisciplinary Cancer Conference (MCC)**

**Endocrinology**

**Nuclear Medicine**

**Psychosocial Oncology**

Pathway Map Notes

- Conversion factor for Tg ng/mL to pmol/L: 1 ng/mL Tg = ~1.515 pmol/L
- When measuring Thyroglobulin (Tg), include measurement of Thyroglobulin antibodies as well

Pathway Map Disclaimer

This pathway map is a resource that provides an overview of the treatment that an individual in the Ontario cancer system may receive.

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Note. EBS#19-3* Older than 3 years is currently listed as ‘For Education and Information Purposes’. This means that the recommendations will no longer be maintained but may still be useful for academic or other information purposes.
### Staging of Papillary and Follicular Thyroid Carcinoma

#### Age < 65 years old

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<th>T</th>
<th>N</th>
<th>M</th>
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<td>Any N</td>
<td>M0</td>
</tr>
<tr>
<td>II</td>
<td>Any T</td>
<td>Any N</td>
<td>M1</td>
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</tbody>
</table>

#### Age > 65 years old

<table>
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<th>T</th>
<th>N</th>
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</tr>
<tr>
<td>IVB</td>
<td>Any T</td>
<td>Any N</td>
<td>M1</td>
</tr>
</tbody>
</table>

**AJCC Cancer Staging Manual 8th edition**

**UICC The TNM Classification of Malignant Tumours, 8th Edition**
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Screen for psychosocial needs, and assessment and management of symptoms. Click here for more information about symptom assessment and management tools

Consider the introduction of palliative care, early and across the cancer journey. Click here for more information about palliative care.

Low Risk:
- Total Thyroidectomy
- Minimally invasive follicular pathology
- Non-invasive encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) or noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP)
- pT1 and any age, or pT2 and <55 years of age
- Microscopic pN1 disease (<2mm with up to 5 nodes)
- No adverse histopathological features

Low Intermediate Risk:
- Total Thyroidectomy, and if N1a include Central Lymph Node Dissection to R0
- Clinical T1-2, N1b
- Gross extrathyroidal extension with no macroscopic disease (Assessment by Cross-Sectional Imaging; e.g. CT with IV contrast or MRI)
- Unstimulated Post-Operative Thyroglobulin (Tg) Test (At earliest 1 month after surgery)

High Intermediate Risk:
- Measurable Tg post-op >5ng/mL
- Adverse histopathological features
- Central lymph node metastases, tumor >3cm
- Central lymph node metastases
- Multiple central compartmental lymph node metastases (5 or more) and ≥55 years of age

High Risk:
- Gross extrathyroidal extension with no macroscopic residual disease

Highest Risk:
- Gross residual disease or metastases

1 Patient should be referred to a surgeon with thyroid cancer treatment expertise.
2 Pre-operative laryngeal exam should be performed on all patients undergoing thyroid surgery who are at high risk for nerve injury (e.g. pre-operative voice abnormalities, history of cervical or upper chest surgery, thyroid cancer with known posterior extension or extensive cervical node metastases).
3 Adverse histopathological features: angioinvasion (excluding lymphatic invasion), tall cell (>30%), hobnail cell (>30%), columnar cell change in >30% of tumor, solid growth (>30%), widely invasive growth, any level of dedifferentiation, intrathyroidal psammomatous [Consensus].
4 Central lymph node dissection must include at least the removal of the prelaryngeal, pretracheal, and paratracheal lymph nodes (EBS 5-13).
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**Low Risk**

- Minimally invasive follicular carcinoma
- Non-invasive encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) or noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP)
- pT1 and any age, or pT2 and <55 years of age
- Microscopic pN1 disease (<2mm with up to 5 nodes)
- No adverse histopathological features

**Thyroid Function Tests**

2-3 months post-treatment to check adequacy of thyroid hormone replacement therapy

**Ultrasound Neck**

If post-operative Tg is elevated

**Blood Work**

TSH, Serum Tg (stimulated)

**MCC**

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3 Adverse histopathological features: angioinvasion (excluding lymphatic invasion), tall cell (>30%), hobnail cell (>30%), columnar cell change in >30% of tumor, solid growth (>30%), widely invasive growth, any level of dedifferentiation, intrathyroidal psammomatous [Consensus].

5 Suppress TSH to normal range [Consensus].

1 Adverse histopathological features: angioinvasion (excluding lymphatic invasion), tall cell (>30%), hobnail cell (>30%), columnar cell change in >30% of tumor, solid growth (>30%), widely invasive growth, any level of dedifferentiation, intrathyroidal psammomatous [Consensus].

1 Suppress TSH to normal range [Consensus].

**Surveillance**

Every 1-2 years for 5 years, then discharge to primary care provider

**Physical Exam**

Blood Work

TSH, Serum Tg

Ultrasound Neck

Some patients may require more frequent follow up, i.e. every 6 months

**From Page 4**

**To Return to primary care provider for follow-up**

**To Proceed to Page 8**

**Progression or Recurrence**
Differentiated Thyroid Cancer Treatment Pathway Map

Intermediate Risk

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**Differentiated Thyroid Cancer Treatment Pathway Map**

**High Risk**

**Gross residual disease or metastases** [Consensus]

1. **Resectable**
   - **Assessment of Resection Margins**
   - **Radiation Oncologist**
   - **Endocrinologist**
   - **Nuclear Medicine**

2. **Not resectable**
   - **External Beam Radiation Therapy (EBRT) to neck** [Consensus] [Page 4: Peer Review]
   - **Radioactive Iodine** (150-200mCi)

**Post-Treatment Radioiodine Imaging** [Consensus]

**6 Months Post-Treatment**

- **Physical Exam**
- **TSH, FT4, Serum Tg**
- **TSH-stimulated Tg**
- **High sensitivity Tg assay**
- **Ultrasound Neck**
- **PET-CT**

**10 Years Post-Treatment**

- **Diagnostic Whole Body RAI Scan**
- **PET-CT**
- **Ultrasound Neck**
- **If patient has elevated serum Tg (>10 ng/ml) and any negative imaging**
- **CT Neck Thorax**
- **If previously positive**

**If CT is positive, consider further radioactive iodine** (150 - 200mCi)

**High Risk: Gross extrathyroidal extension with no macroscopic residual disease** [Consensus]

1. **Resectable**
   - **Assessment of Resection Margins**
   - **Radiation Oncologist**
   - **Endocrinologist**
   - **Nuclear Medicine**

2. **Not resectable**
   - **EBRT to neck** [Page 4: Peer Review]
   - **Radioactive Iodine** (200mCi)

**6 Months Post-Treatment**

- **Physical Exam**
- **Blood Work**
- **TSH, FT4, Serum Tg**
- **TSH-stimulated Tg**
- **High sensitivity Tg assay**
- **Ultrasound Neck**
- **If post-operative Tg is elevated**
- **If patient has elevated serum Tg (>10 ng/ml) and any negative imaging**
- **CT Neck Thorax**
- **If previously positive**

**If CT is positive, consider further radioactive iodine** (150 - 200mCi)

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Differentiated Thyroid Cancer Treatment Pathway Map

Recurrent Disease or Progression

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13 Patients should be referred to a surgeon with thyroid cancer treatment expertise at a tertiary or quaternary centre.
17 Suspicious features that warrant nodal biopsy:
- On ultrasound: rounded shape, hypoechoic, cystic, small foci of calcification, or central necrosis
- On CT: rounded shape, enhancement, cystic, small foci of calcification, or central necrosis

13 Size: size is only of consideration if there are suspicious features present, there is no need to biopsy on size alone. In presence of suspicious features, biopsy is recommended if the shortest dimension in the axial plane is >8mm.
18 Duration of surveillance depends on patient’s risk group. Low risk and low intermediate risk patients should be followed annually for 5 years, then discharged to their primary care provider. High intermediate risk and all high risk patients should be followed annually for 10 years prior to discharge.
19 Indications for PET Scan include: recurrent or persistent disease suspected on the basis of an elevated and/or rising thyroglobulin level(s) but standard imaging studies, including I-131 scan and/or neck ultrasound, are negative or equivocal
20 In certain circumstances, patient may be treated in a similar manner to patients with locoregional recurrence disease.
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End of Life Care

- Revisit Advance Care Planning
  - Ensure the patient has determined who will be their Substitute Decision Maker (SDM)
  - Ensure the patient has communicated to the SDM his/her wishes, values and beliefs to help guide that SDM in future decision making

- Discuss and document goals of care with patient and family
  - Assess and address patient and family's information needs and understanding of the disease, address gaps between reality and expectation, foster realistic hope and provide opportunity to explore prognosis and life expectancy, and preparedness for death
  - Introduce patient and family to resources in community (e.g., day hospice programs)

- Develop a plan of treatment and obtain consent
  - Determine who the person wants to include in the decision making process (e.g., substitute decision maker if the person is incapable)
  - Develop a plan of treatment related to disease management that takes into account the person’s values and mutually determined goals of care
  - Obtain consent from the capable person or the substitute decision maker if the person is incapable for an end-of-life plan of treatment that includes:
    - Setting for care
    - Resuscitation status
    - Having, withholding and or withdrawing treatments (e.g., lab tests, medications, etc.)

- Screen for specific end of life psychosocial issues
  - Specific examples of psychological needs include: anticipatory grief, past trauma or losses, preparing children (young children, adolescents, young adults), guardianship of children, death anxiety
  - Consider referral to available resources and/or specialized services

- Identify patients who could benefit from specialized palliative care services (consultation or transfer)
  - Discuss referral with patients and family

- Proactively develop and implement a plan for expected death
  - Explore place-of-death preferences and assess whether this is realistic
  - Explore the potential settings of dying and the resources required (e.g., home, residential hospice, palliative care unit, long term care or nursing home)
  - Anticipate/Plan for pain & symptom management medications and consider a Symptom Response Kit (SRK) for unexpected pain & symptom management
  - Preparation and support for family to manage
  - Discuss emergency plans with patient and family (who to call if emergency in the home or long-term-care or retirement home)

- Home care planning
  - Connect with CCAC early (not just for last 2-4 weeks)
  - Ensure resources and elements in place
  - Consider a Symptom Response Kit (SRK) with access to pain, dyspnea and delirium medication
  - Identify family members at risk for abnormal/complicated grieving and connect them proactively with bereavement resources

- Screen, Assess, Plan, Manage and Follow-Up

- End of Life Care planning and implementation
  - Collaboration and consultation between specialist-level care teams and primary care teams

Triggers that suggest patients are nearing the last few months and weeks life

- ECOG/Patient-ECOG/PRFS = 4 OR
- PPS ≤ 30
- Declining performance status/functional ability
- Gold Standards Framework indicators of high mortality risk

Pathway Map Target Population:
Individuals with cancer approaching end of life, and their families.

While this section of the pathway map is focused on the care delivered at the end of life, the palliative care approach begins much earlier on in the illness trajectory. Refer to Screen, Assess & Plan within the Psychosocial & Palliative Care Pathway Map.

For more information on the Gold Standards Framework, visit http://www.goldstandardsframework.org.uk/
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At the time of death:
- Pronouncement of death
- Completion of death certificate
- Allow family members to spend time with loved one upon death, in such a way that respects individual rituals, cultural diversity and meaning of life and death
- Implement the pre-determined plan for expected death
- Arrange time with the family for a follow-up call or visit
- Provide age-specific bereavement services and resources
- Inform family of grief and bereavement resources/services
- Initiate grief care for family members at risk for complicated grief
- Encourage the bereaved to make an appointment with an appropriate health care provider as required

Bereavement Support and Follow-Up
- Offer psychoeducation and/or counseling to the bereaved
- Screen for complicated and abnormal grief (family members, including children)
- Consider referral of bereaved family member(s) and children to appropriate local resources, spiritual advisor, grief counselor, hospice and other volunteer programs depending on severity of grief

Provide opportunities for debriefing of care team, including volunteers