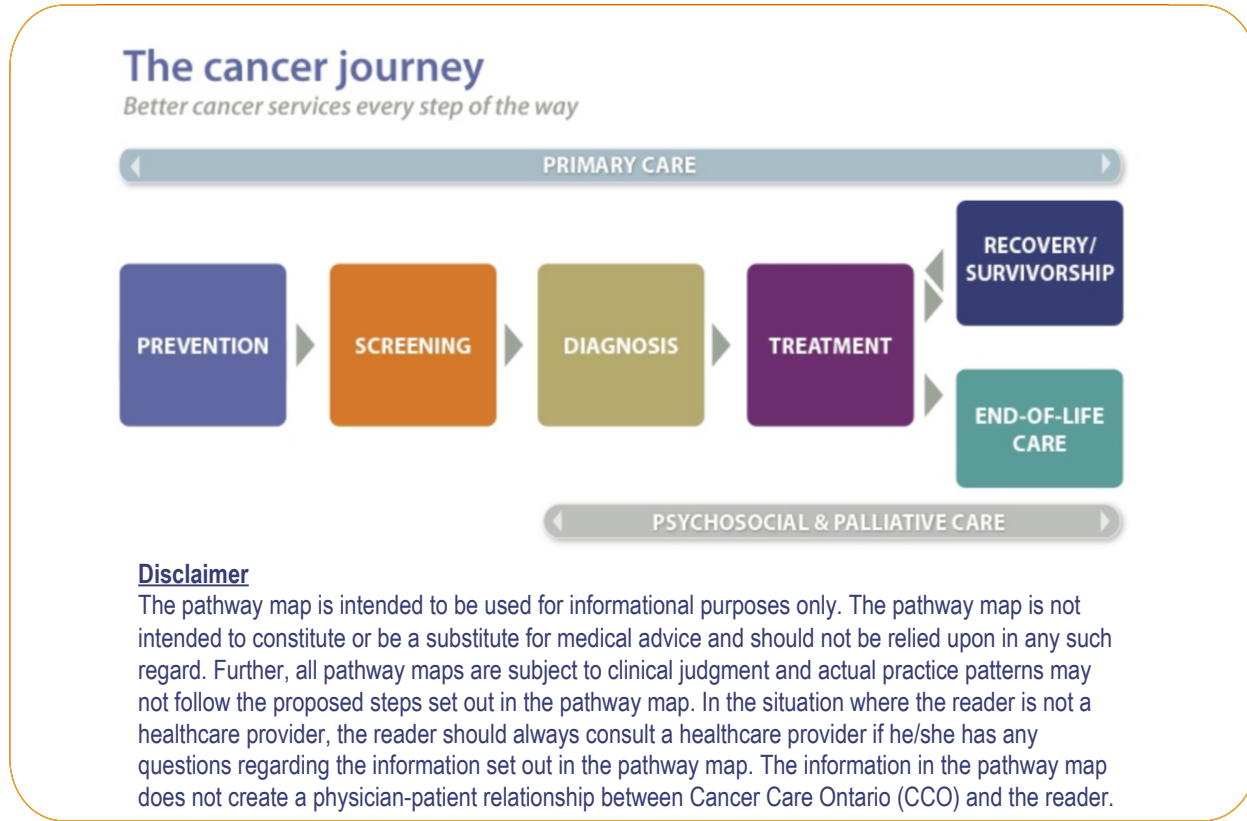


Differentiated Thyroid Cancer Treatment Pathway Map

Version 2017.04



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 Guideline](#).
- 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 (EBS).
- 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 modification for use in Ontario.
- The term 'health care provider', used throughout the pathway map, includes primary care providers and specialists, nurse practitioners, endocrinologists, and emergency physicians.
- In Ontario, various specialties have taken on an expanded role in the management of differentiated thyroid cancers. Throughout the pathway, specialist referrals imply a physician with specific expertise in that particular aspect of the management of thyroid cancer
- Multidisciplinary Cancer Conferences provide a forum for discussing patients with thyroid cancer about whom there are complexities regarding diagnosis and management. For more information on Multidisciplinary Cancer Conferences visit [MCC Tools](#)
- For more information on wait time prioritization, visit: [Surgery Wait Time Prioritization](#)
- Clinical trials should be considered for all phases of the pathway map.
- Psychosocial oncology (PSO) is the interprofessional specialty concerned with understanding and treating the social, practical, psychological, emotional, spiritual and functional needs and quality-of-life impact that cancer has on patients and their families. Psychosocial care should be considered an integral and standardized part of cancer care for patients and their families at all stages of the illness trajectory. For more information, visit [EBS #19-3*](#)
- The following should be considered when weighing the treatment options described in this pathway map for patients with potentially life-limiting illness:
 - Palliative care may be of benefit at any stage of the cancer journey, and may enhance other types of care – including restorative or rehabilitative care – or may become the total focus care
 - Ongoing discussions regarding goals of care is central to palliative care, and is an important part of the decision-making process. Goals of care discussions include the type, extent and goal of a treatment or care plan, where care will be provided, which health care providers will provide the care, and the patient's overall approach to care
- For more information on the systemic treatment QPB please refer to the [Quality-Based Procedures Clinical Handbook for Systemic Treatment](#)













* **Note.** [EBS#19-3](#) is older than 3 years and 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.

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 Legend



Colour Guide

	Primary Care
	Palliative Care
	Pathology
	Diagnostic Assessment Program (DAP)
	Surgery
	Radiation Oncology
	Medical Oncology
	Radiology
	Multidisciplinary Cancer Conference (MCC)
	Endocrinology
	Nuclear Medicine
	Psychosocial Oncology

Shape Guide

	Intervention
	Decision or assessment point
	Patient (disease) characteristics
	Consultation with specialist
	Exit pathway
	Off-page reference
	Patient/Provider Interaction
	Referral
	Wait time indicator time point

Line Guide

	Required
	Possible

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.

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

While care has been taken in the preparation of the information contained in the pathway map, such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability.

CCO and the pathway map's content providers (including the physicians who contributed to the information in the pathway map) shall have no liability, whether direct, indirect, consequential, contingent, special, or incidental, related to or arising from the information in the pathway map or its use thereof, whether based on breach of contract or tort (including negligence), and even if advised of the possibility thereof. Anyone using the information in the pathway map does so at his or her own risk, and by using such information, agrees to indemnify CCO and its content providers from any and all liability, loss, damages, costs and expenses (including legal fees and expenses) arising from such person's use of the information in the pathway map.

This pathway map may not reflect all the available scientific research and is not intended as an exhaustive resource. CCO and its content providers assume no responsibility for omissions or incomplete information in this pathway map. It is possible that other relevant scientific findings may have been reported since completion of this pathway map. This pathway map may be superseded by an updated pathway map on the same topic.

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

Staging of Papillary and Follicular Thyroid Carcinoma

Age <55 years old			
Stage I	Any T	Any N	M0
Stage II	Any T	Any N	M1

Age ≥55 years old			
Stage I	T1a,T1b,T2	N0	M0
Stage II	T3	N0	M0
	T1-3	N1	M0
Stage III	T4a	Any N	M0
Stage IVA	T4b	Any N	M0
Stage IVB	Any T	Any N	M1

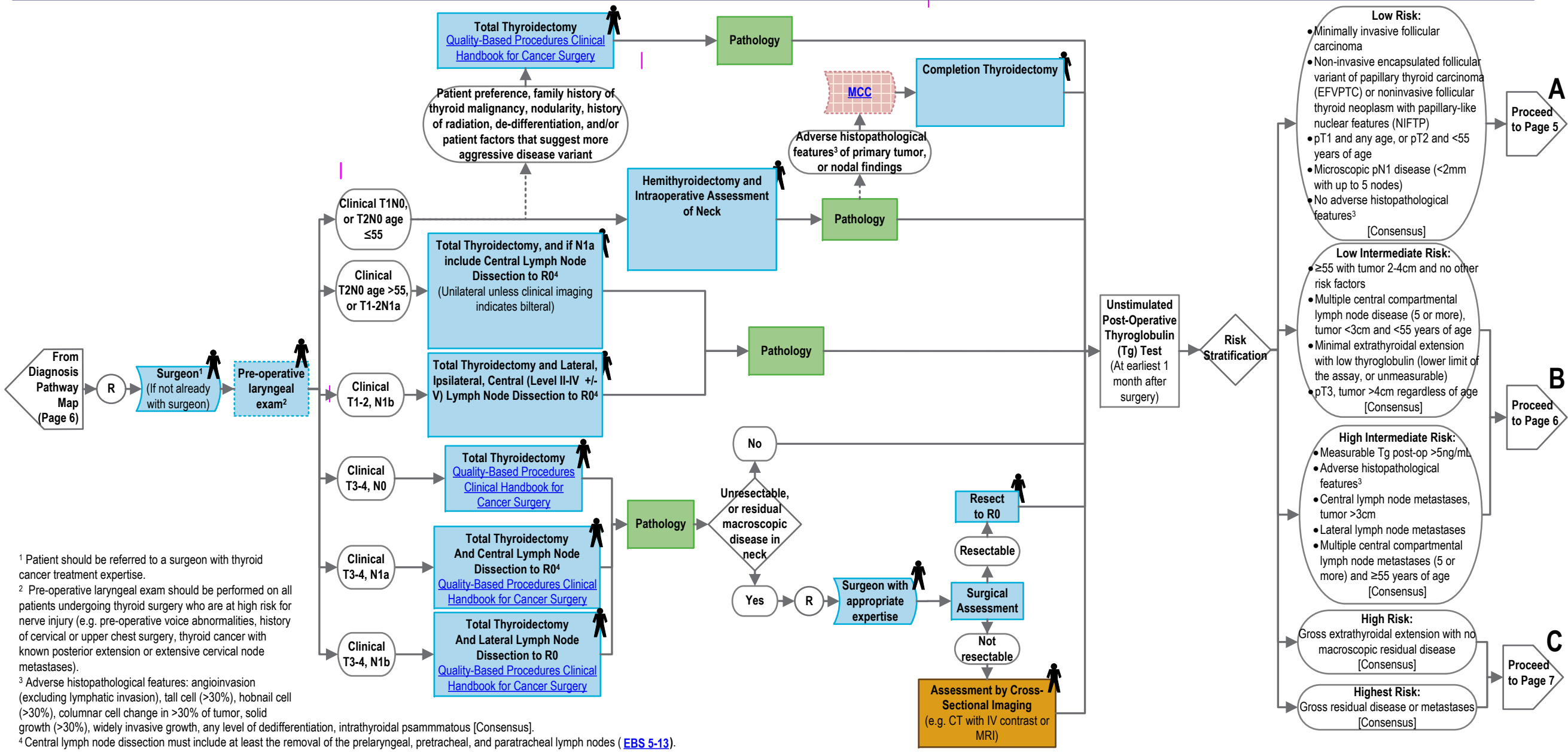
AJCC Cancer Staging Manual 8th edition

UICC The TNM Classification of Malignant Tumours, 8th Edition

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)

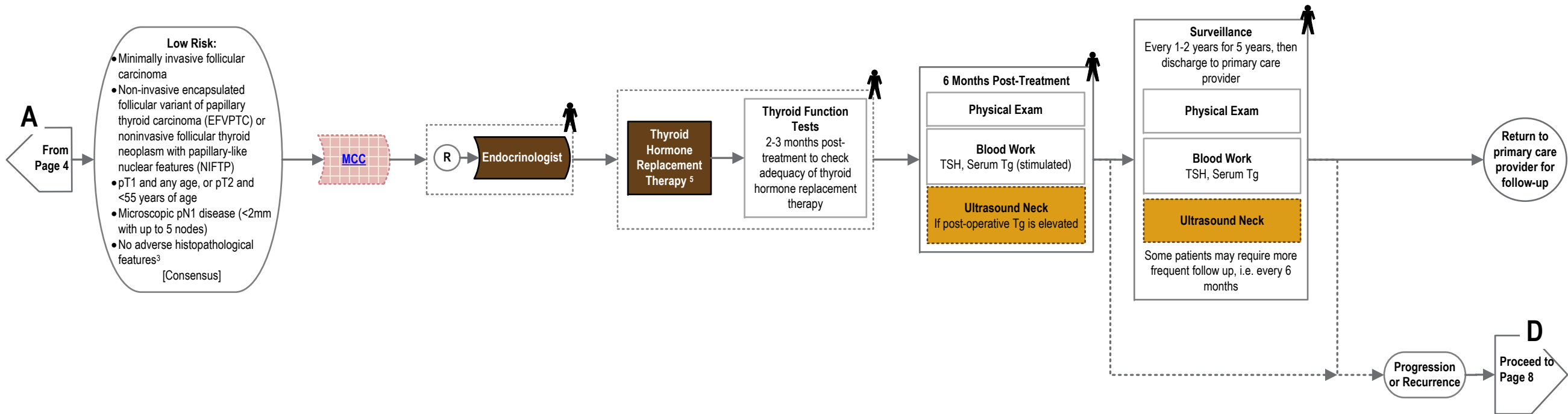


¹ Patient should be referred to a surgeon with thyroid cancer treatment expertise.
 ² Pre-operative laryngeal exam should be performed on all patients undergoing thyroid surgery who are at high risk for nerve injury (e.g. pre-operative voice abnormalities, history of cervical or upper chest surgery, 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).

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)



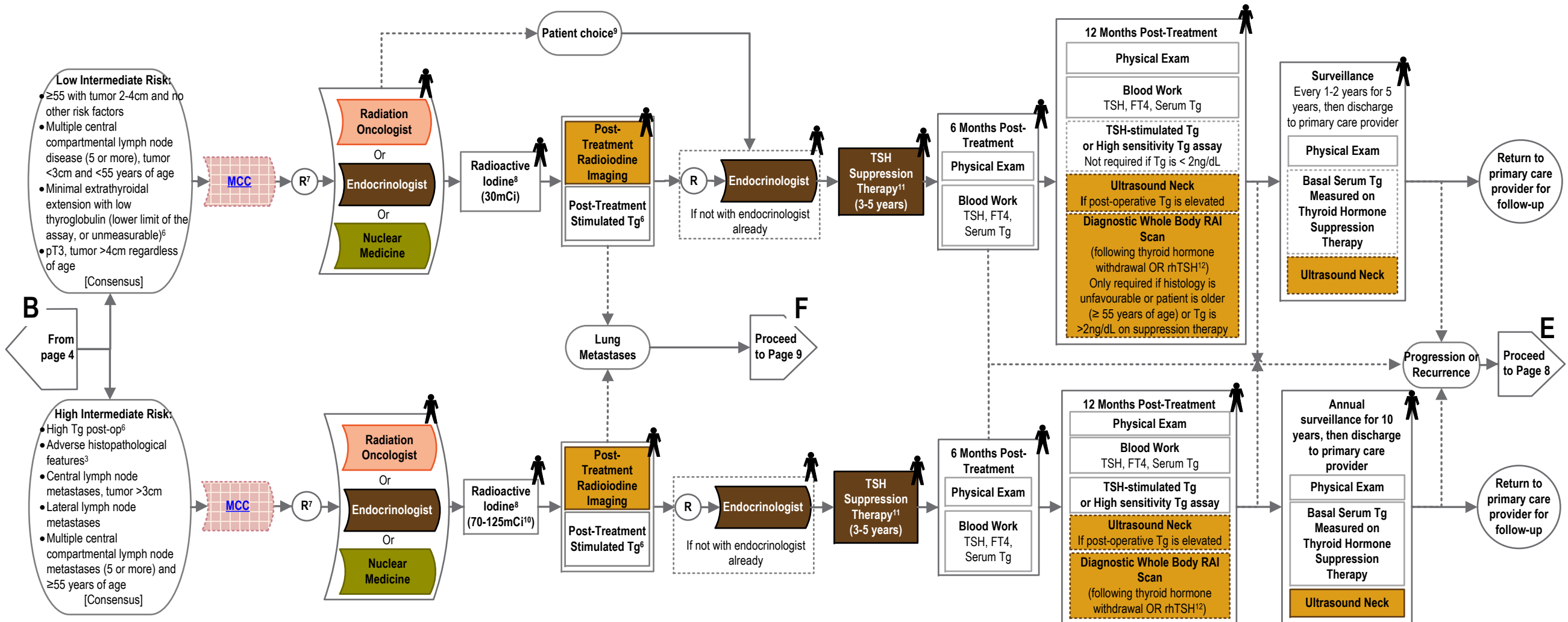
³ Adverse histopathological features: angioinvasion (excluding lymphatic invasion), tall cell (>30%), hobnail cell (>30%), columnar cell change in >30% of tumor, solid growth (>30%), widely invasive growth, any level of dedifferentiation, intrathyroidal psammomatous [Consensus].

⁵ Suppress TSH to normal range [Consensus].

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)



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].

⁶ Tg level is assay dependent. Centres may vary on what they consider to be low-intermediate vs. high-intermediate risk, dependent on the assay they use and TSH level at time of measurement. [Consensus].

⁷ Patient may also be referred to other thyroid oncologist with expertise in the care of thyroid cancer.

⁸ Preparation for radioactive iodine (RAI) should include: thyrogen or thyroid hormone withdrawal, low iodine diet (with education by Registered Dietitian or Registered Nurse as required), pre-treatment thyroglobulin and thyroglobulin antibodies, and TSH. Follow with post RAI whole body scan and therapeutic iodine (1-3 months post contrast CT) [Consensus].

⁹ Upon careful discussion with the patient, patients aged ≥55 with tumor between 2-4cm and no other risk factors may opt to not receive radioactive iodine.

¹⁰ Appropriate radioactive iodine dosage should be proportional to risk. The high intermediate risk group is a heterogenous group, which warrants a broader range of appropriate dosages.

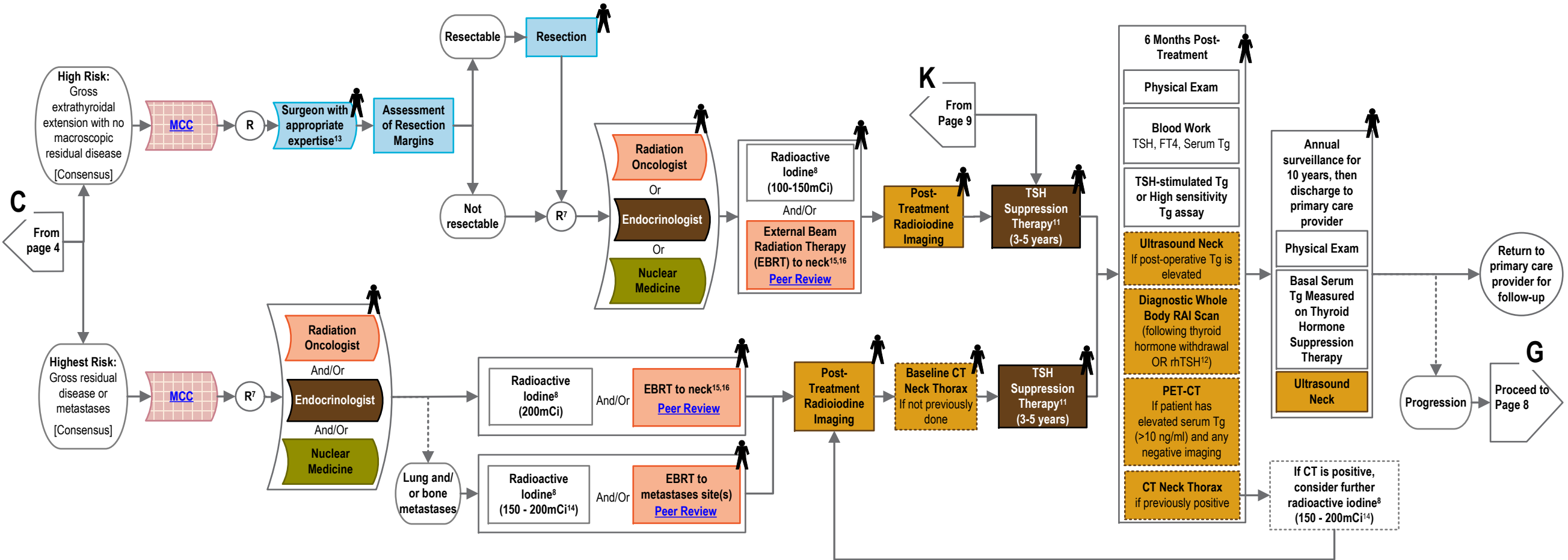
¹¹ Both the level and duration of TSH suppression is dependent on assessment of potential benefit patient factors such as comorbidities and potential risks. Initial TSH suppression should be within 0.1-0.5mIU/L for intermediate risk patients, though <0.1mIU/L may be considered in the higher end risk of the high intermediate risk group. For patients >70, TSH levels should be higher [Consensus].

¹² Recombinant TSH is provincially not funded but may have been performed in the place of thyroid hormone withdrawal if patient is insured, is over the age of 65, or patient paid out of pocket. Recombinant TSH should be utilized if possible [Consensus].

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)



⁷ Patient may also be referred to other thyroid oncologist with expertise in the care of thyroid cancer.

⁸ Preparation for radioactive iodine (RAI) should include: thyrogen or thyroid hormone withdrawal, low iodine diet (with education by Registered Dietitian or Registered Nurse as required), pre-treatment thyroglobulin and thyroglobulin antibodies, and TSH. Follow with post RAI whole body scan and therapeutic iodine (1-3 months post contrast CT) [Consensus].

¹¹ Both the level and duration of TSH suppression is dependent on assessment of potential benefit patient factors such as comorbidities and potential risks. Initial TSH suppression for low risk patients should be within 0.1-0.5mU/L, and suppressed to below 0.1mU/L for high-risk and intermediate risk thyroid cancer. For patients >70, TSH levels should be higher [Consensus].

¹² Recombinant TSH is provincially not funded but may have been performed in the place of thyroid hormone withdrawal if patient is insured, is over the age of 65, or patient paid out of pocket. Recombinant TSH should be utilized if possible [Consensus].

¹³ Patients should be referred to a surgeon with thyroid cancer treatment expertise at a tertiary or quaternary centre.

¹⁴ In presence of lung metastases, consider age, number of lesions, and risk for fibrosis when determining RAI dosage. Avoid >150mCi for over patients over 70 (EBS 5-13); a dosage of 150mCi should be considered for older patients and those with higher risk of fibrosis, and a dosage of 200mCi should be considered for young, healthy patients with a greater number of lesions. Qualify with a glomerular filtration rate (GFR) Test [Consensus].

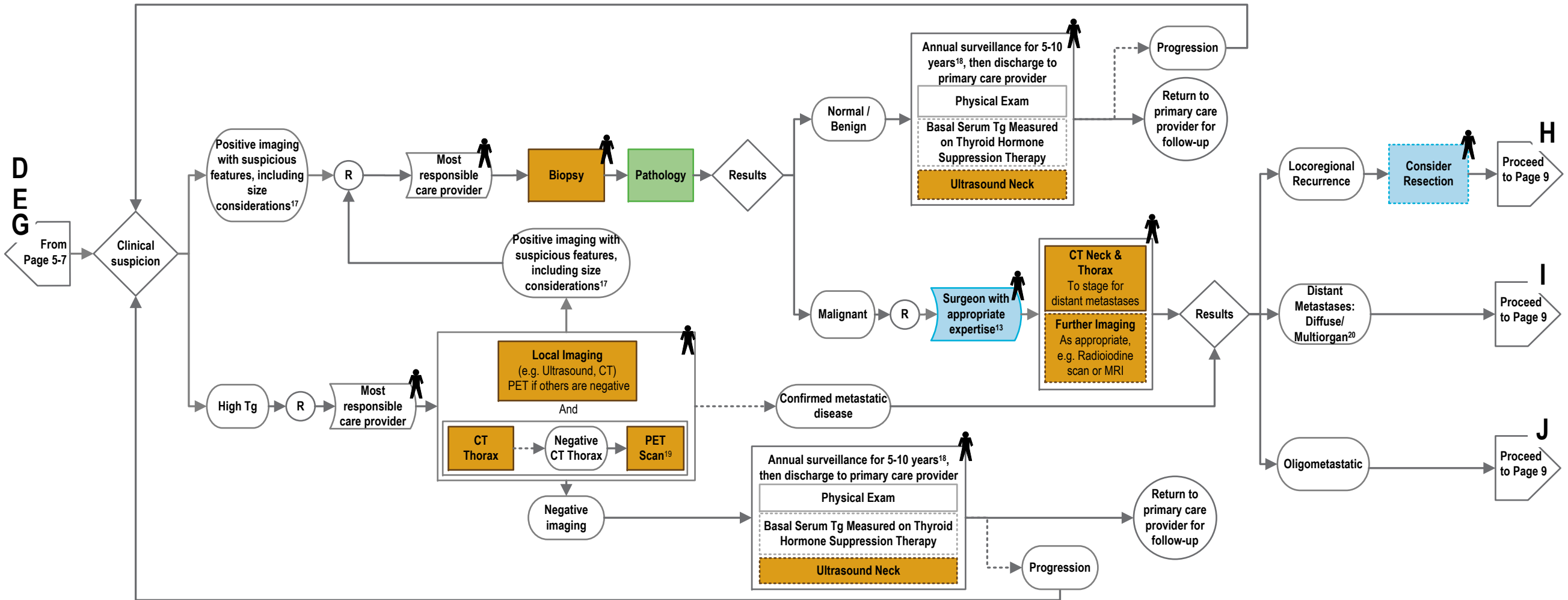
¹⁵ EBRT is rarely appropriate in young patients. It may be considered in select patients ≥55 years old with high likelihood of microscopic residual disease and low likelihood of responding to RAI. It is recommended for patients with gross residual or unresectable locoregional disease, unless patient is <55 years of age with limited gross residual disease that is RAI-avid.

¹⁶ Patient receiving EBRT should be referred to a Registered Dietitian and Speech Language Pathologist.

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)



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
- 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.

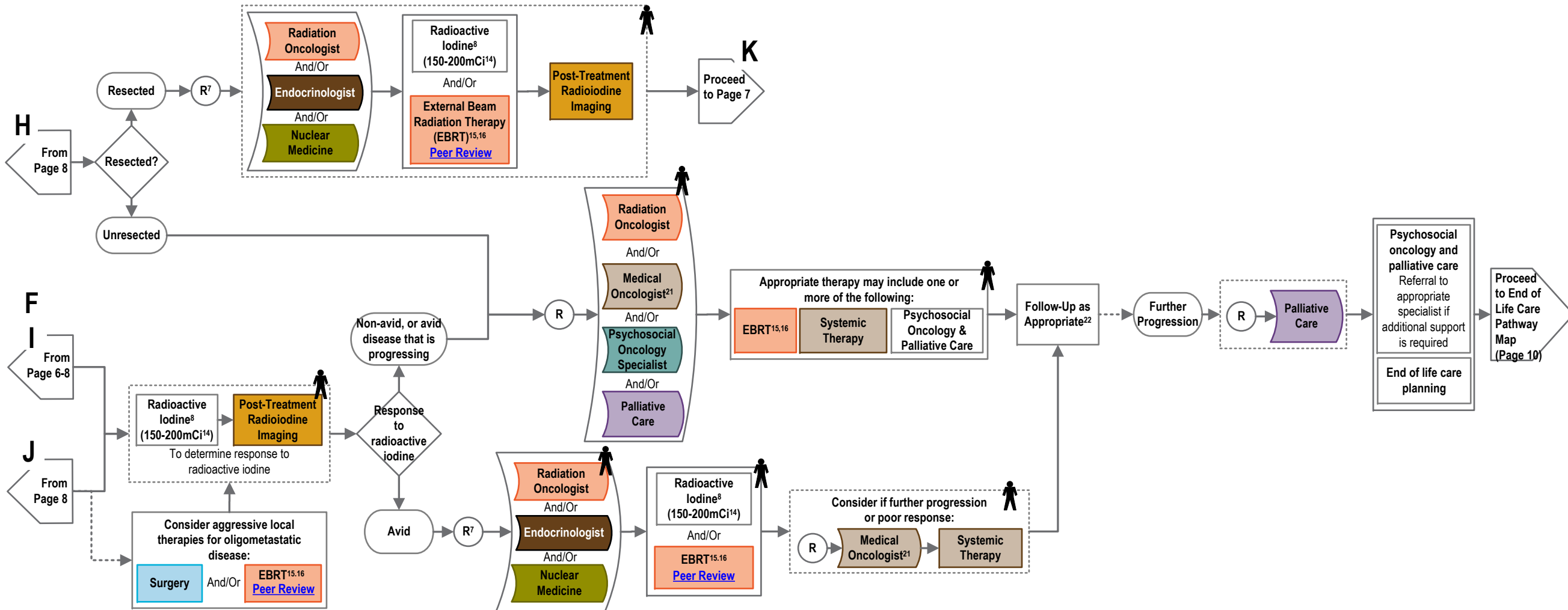
¹⁹ Indications for PET Scan include: recurrent or persistent disease suspected on the basis of an elevated and/or rising thyroglobulin level(s) but standard imaging studies, including I-131 scan and/or neck ultrasound, are negative or equivocal

²⁰ In certain circumstances, patient may be treated in a similar manner to patients with locoregional recurrence disease.

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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](#)



⁷ Patient may also be referred to other thyroid oncologist with expertise in the care of thyroid cancer.

⁸ Preparation for radioactive iodine (RAI) should include: thyrogen or thyroid hormone withdrawal, low iodine diet (with education by Registered Dietitian or Registered Nurse as required), pre-treatment thyroglobulin and thyroglobulin antibodies, and TSH. Follow with post RAI whole body scan and therapeutic iodine (1-3 months post contrast CT) [Consensus].

¹⁴ In presence of lung metastases, consider age, number of lesions, and risk for fibrosis when determining RAI dosage. Avoid >150mCi for over patients over 70 (EBS 5-13); a dosage of 150mCi should be considered for older patients and those with higher risk of fibrosis, and a dosage of 200mCi should be considered for young, healthy patients with a greater number of lesions. Qualify with a glomerular filtration rate (GFR) Test [Consensus].

¹⁵ EBRT is rarely appropriate in young patients. It is recommended for patients with gross residual or unresectable locoregional disease, unless patient is <55 years of age with limited gross residual disease that is RAI-avid, and may be considered in select patients older than 55 years old with high likelihood of microscopic residual disease and low likelihood of responding to RAI.

¹⁶ Patient receiving external beam radiation therapy (EBRT) should be referred to a Registered Dietitian and Speech Language Pathologist.

²¹ Patients should be referred to an oncologist with expertise in treating thyroid cancer.

²² Patient group is complex; follow-up care should be provided based on the individual needs of the patient

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

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

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

[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

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

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Cancer Care Ontario (CCO) and the reader.

