

Supplemental Online Content

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eAppendix. National Study of Providers' Practices for Thyroid Cancer

This supplemental material has been provided by the authors to give readers additional information about their work.



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National Study of Providers' Practices for Thyroid Cancer

You can skip any questions that you do not want to answer. Please also feel free to write any additional comments you may have. For the purposes of this survey, *active surveillance* refers to performing serial physical exams, ultrasounds, and/or laboratory tests on a patient with biopsy-proven thyroid cancer, but who is not undergoing surgery at this time, also called “watchful waiting.”

1. The first several questions are about your practice.

Which of the following best describes your specialty?

- Endocrinology
- General surgery
- Otolaryngology
- Other → Please tell us:

2. Does your current practice include a focus on thyroid disease?

- Yes
- No

3. Since December 2015, have you cared for any patients with thyroid nodules or thyroid cancer?

- Yes
- No → Go to question 29

4. In the last 12 months, about how many new or established patients with thyroid cancer have you cared for?

- 5 or fewer
- 6 to 10
- 11 to 25
- 26 to 50
- More than 50

If you are a surgeon → Go to question 5

If you are not a surgeon → Go to question 7

5. In a 12 month period, about how many thyroid surgeries do you typically perform?

thyroid surgeries

6. Who primarily performs FNA on your patients with thyroid nodules?

- Myself
- Surgeon
- Endocrinologist
- Radiologist
- Other → Please tell us:

7. At what size do you recommend FNA of a thyroid nodule with features concerning for papillary thyroid cancer, such as microcalcifications, irregular borders, and increased vascularity?

Centimeters (1 cm = 10 mm) or larger

8. At what size do you recommend FNA of a thyroid nodule without any concerning features?

Centimeters (1 cm = 10 mm) or larger

9. The next questions are about management of low-risk thyroid cancer and factors that may influence your recommendations.

For this question, consider a healthy 45-year old female patient with a biopsy-proven, solitary papillary thyroid cancer. In addition, assume she has:

- No contralateral nodules
- No lymphadenopathy
- No extrathyroidal extension
- No family history of thyroid cancer or history of head and neck radiation

For each of the following scenarios, please indicate which management option you would recommend if you could recommend only one approach.

Would you recommend total thyroidectomy with central neck dissection, total thyroidectomy, thyroid lobectomy, or active surveillance for a cancer that is...

	Total thyroidectomy with central neck dissection	Total thyroidectomy	Thyroid lobectomy	Active surveillance
a. ...0.8 cm?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. ...0.8 cm and patient prefers total thyroidectomy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Think about your decision to recommend a particular treatment for patients with a solitary, low-risk thyroid cancer.

How much influence does each of the following factors have on your decision?

	None	A little	Some	Quite a bit	A great deal
a. Clinical characteristics, such as size of the cancer or patient age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Risks of complications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Risk of cancer recurrence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Ease of follow-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Patient reliability to follow-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Peace of mind from more extensive surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Need for life-long thyroid hormone replacement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Recommendation of referring provider	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Patient preference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Concern about doing less extensive surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Think about patients who initially underwent a thyroid lobectomy for an indeterminate nodule and were found to have a low-risk papillary thyroid cancer on final pathology.

For whom do you recommend a completion thyroidectomy?

- For all patients
- For most patients
- For select patients
- Only for patients who have an incidental positive lymph node on final pathology
- For no patients

12. Think about your decision whether to recommend a completion thyroidectomy for a patient with a low-risk papillary thyroid cancer.

How much influence does each of the following factors have on your decision?

	None	A little	Some	Quite a bit	A great deal
a. Clinical characteristics, such as size of the cancer or multifocality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Ability to perform radioactive iodine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Ability to follow thyroglobulin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Need for life-long thyroid hormone replacement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Patient preference for a completion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Patient preference for no further surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Concern about the remaining thyroid tissue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Think about patients with low-risk papillary thyroid cancer.

For whom do you recommend central neck dissection?

- For all patients
- For most patients
- For select patients
- Only for patients who have clinically positive lymph nodes on ultrasound or discovered intraoperatively
- For no patients

14. Think about patients with low-risk papillary thyroid cancer. For whom do you recommend RAI?

- For all patients
- For most patients
- For select patients
- Only for patients who have positive lymph nodes on final pathology
- For no patients

15. Think about your decision whether to recommend RAI for a patient with low-risk thyroid cancer.

How much influence does each of the following factors have on your decision?

	None	A little	Some	Quite a bit	A great deal
a. Clinical characteristics, such as size of the cancer or patient age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Risk of side effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Risk of cancer recurrence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Patient reliability to follow-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Peace of mind from treatment with RAI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Recommendation of other clinician	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Patient preference to not receive RAI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Concern about not giving RAI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. In your opinion, is each of the following treatments for low-risk thyroid cancer overused, appropriately used, or underused in the United States?

	Overused	Appropriately used	Underused
a. Radioactive iodine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Total thyroidectomy with central neck dissection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Total thyroidectomy alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Thyroid lobectomy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Active surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Finally, we have a few questions about you and your practice.

How many years have you practiced, since you finished your training?

years

18. What is your age? years

19. Which of the following describes how you think of yourself?

Female

Male

In another way: Please tell us:

20. Which of the following best describe your race or ethnicity? (Please check all that apply)

American Indian or Alaskan Native

Asian

Black or African American

Hispanic or Latino

Native Hawaiian or Other Pacific Islander

White

Other: Please tell us:

21. Which one of the following best describes the setting in which you practice?

Academic tertiary hospital

Academic-affiliated hospital

Community hospital

Private practice

Other setting Please tell us:

22. In your practice, do you...

	Yes	No	Not applicable
a. ...have access to a tumor board to discuss your patients?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. ...personally perform thyroid ultrasounds on your patients?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. ...ever refer your patients to a high-volume thyroid surgeon?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Do you use the following clinical guidelines in your practice?

	Yes	No
a. American Thyroid Association 2015	<input type="radio"/>	<input type="radio"/>
b. American Association of Clinical Endocrinologists 2016	<input type="radio"/>	<input type="radio"/>
c. National Comprehensive Cancer Network 2017	<input type="radio"/>	<input type="radio"/>
d. Other guidelines? <input type="text"/> Please tell us: <input type="text"/>		

24. What is the zip code where your practice is located?

5-digit zip code

Thank you for participating in this survey! Please return the questionnaire in the postage-paid envelope provided.