

# Thyroid Cancer™

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U P D A T E

Conversations with Oncology Investigators  
Bridging the Gap between Research and Patient Care

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**INTERVIEWS**

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**CME**  
Certified



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## *Thyroid Cancer Update*

### A Continuing Medical Education Audio Series

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#### OVERVIEW OF ACTIVITY

Since the early 1970s, the incidence of thyroid cancer has more than doubled, and the current national disease prevalence is estimated at 300,000 affected people. Approximately 37,340 new cases of thyroid carcinoma will be diagnosed in the United States during 2008, with 1,590 deaths from the disease. Historically, cytotoxic chemotherapy has played a limited role in the management of this malignancy. Clinicians and researchers have recently gained an increased understanding of the biology of thyroid cancers. Concurrently, the availability of multiple novel molecular agents with the potential to impact the disease has resulted in the launch of several ongoing clinical studies evaluating the role of medical management for locally advanced or disseminated thyroid cancer. Exciting early efficacy and safety findings have been presented to the oncology community, offering new hope of beneficial treatments for patients with no prior therapeutic opportunity. In order to offer optimal patient care — including the option of clinical trial participation — the practicing medical oncologist must be well informed of these advances. To bridge the gap between research and patient care, *Thyroid Cancer Update* uses one-on-one conversations with leading oncology investigators discussing the interdisciplinary management of thyroid cancer. By providing access to the latest research developments and expert perspectives on the disease, this CME program assists medical oncologists in the formulation of up-to-date clinical management strategies.

#### LEARNING OBJECTIVES

- Describe the increasing incidence, long-term natural history and molecular characteristics of thyroid cancer.
- Develop a treatment algorithm for advanced, asymptomatic and symptomatic thyroid cancer.
- Recognize the acute and chronic side effects of radioactive iodine treatment, and identify the clinical and laboratory signs of iodine-refractory thyroid cancer.
- Communicate the rationale for the limited effectiveness of cytotoxic chemotherapy in the current management of advanced thyroid cancer.
- Appraise the emerging safety and efficacy data on multikinase inhibitor therapy for patients with advanced thyroid cancer.
- Recall the ongoing clinical trials evaluating molecular-targeted treatments for patients with thyroid cancer.
- Counsel appropriately selected patients about the availability of ongoing clinical trials.

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*This program is supported by educational grants from AstraZeneca Pharmaceuticals LP and Bayer Pharmaceuticals Corporation/Onyx Pharmaceuticals Inc.*

# Thyroid Cancer™

U P D A T E

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QUESTIONS (PLEASE CIRCLE ANSWER):

1. The incidence of thyroid cancer has been steadily increasing and the mortality rate has \_\_\_\_\_.
  - a. Increased
  - b. Declined
  - c. Remained stable
2. The etiology of thyroid cancer largely involves inherited or somatic genetic mutations.
  - a. True
  - b. False
3. What is the most common histologic subtype of thyroid cancer?
  - a. Differentiated
  - b. Medullary
  - c. Anaplastic
4. The response rate in trials of sorafenib monotherapy for advanced thyroid cancer is approximately \_\_\_\_\_.
  - a. 10 percent
  - b. 15 percent
  - c. 25 to 30 percent
  - d. 40 to 50 percent
5. The clinical benefit rate (clinical response with stable disease) of sorafenib monotherapy for advanced thyroid cancer is in excess of 50 percent.
  - a. True
  - b. False
6. Which of the following is a commonly observed side effect associated with sorafenib?
  - a. Diarrhea
  - b. Fatigue
  - c. Peripheral neuropathy
  - d. Both a and b
  - e. a, b and c
7. Which of the following is targeted by vandetanib?
  - a. VEGF
  - b. EGFR
  - c. RET
  - d. All of the above
8. Currently, doxorubicin is the only chemotherapy drug approved for the treatment of metastatic thyroid cancer.
  - a. True
  - b. False
9. Which of the following agents is believed to have both immunomodulatory and anti-angiogenic effects in thyroid cancer?
  - a. Axitinib
  - b. Doxorubicin
  - c. Lenalidomide
  - d. None of the above
10. Which of the following is a common long-term side effect of radioactive iodine therapy for thyroid cancer?
  - a. Xerostomia
  - b. Increased tearing
  - c. Rash
  - d. Both a and b
  - e. a, b and c
11. The clinical utility of FDG PET in thyroid cancer is that it \_\_\_\_\_.
  - a. May identify patients with progressive, iodine-refractory thyroid cancer
  - b. May provide prognostic information
  - c. Both a and b
12. Reported side effects of vandetanib include \_\_\_\_\_.
  - a. Hypertension
  - b. Prolonged QT interval
  - c. Photosensitivity
  - d. Skin rash
  - e. All of the above
13. A partial response rate of approximately \_\_\_\_\_ was reported in a Phase II study of vandetanib administered at 100 milligrams in patients with hereditary medullary thyroid cancer.
  - a. Five percent
  - b. 18 percent
  - c. 25 percent
  - d. 50 percent

**EDUCATIONAL ASSESSMENT AND CREDIT FORM**

*Thyroid Cancer Update — Issue 1, 2008*

Research To Practice is committed to providing valuable continuing education for oncology clinicians, and your input is critical to helping us achieve this important goal. Please take the time to assess the activity you just completed, with the assurance that your answers and suggestions are strictly confidential.

**PART ONE — Please tell us about your experience with this educational activity**

**BEFORE completion of this activity, how would you characterize your level of knowledge on the following topics?**

4 = Very good 3 = Above average 2 = Adequate 1 = Suboptimal

- Molecular biology and pathogenesis of thyroid cancer.....4 3 2 1
- Efficacy and tolerability of sorafenib from Phase II trials in advanced thyroid cancer...4 3 2 1
- Development of the multikinase inhibitor vandetanib in thyroid cancer.....4 3 2 1
- Long-term side effects of radioactive iodine treatment and the development of iodine-refractory thyroid cancer.....4 3 2 1
- Clinical utility of 18F-FDG PET scanning in advanced thyroid cancer.....4 3 2 1
- Considerations in timing the initiation of systemic therapy for advanced thyroid cancer.....4 3 2 1

**AFTER completion of this activity, how would you characterize your level of knowledge on the following topics?**

4 = Very good 3 = Above average 2 = Adequate 1 = Suboptimal

- Molecular biology and pathogenesis of thyroid cancer.....4 3 2 1
- Efficacy and tolerability of sorafenib from Phase II trials in advanced thyroid cancer...4 3 2 1
- Development of the multikinase inhibitor vandetanib in thyroid cancer.....4 3 2 1
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- Clinical utility of 18F-FDG PET scanning in advanced thyroid cancer.....4 3 2 1
- Considerations in timing the initiation of systemic therapy for advanced thyroid cancer.....4 3 2 1

**Was the activity evidence based, fair, balanced and free from commercial bias?**

Yes  No

If no, please explain: .....

**Will this activity help you improve patient care?**

Yes  No  Not applicable

If no, please explain: .....

**Did the activity meet your educational needs and expectations?**

Yes  No

If no, please explain: .....

**Please respond to the following LEARNER statements by circling the appropriate selection:**

4 = Yes 3 = Will consider 2 = No 1 = Already doing N/M = Learning objective not met N/A = Not applicable

**As a result of this activity, I will be able to:**

- Describe the increasing incidence, long-term natural history and molecular characteristics of thyroid cancer.....4 3 2 1 N/M N/A
- Develop a treatment algorithm for advanced, asymptomatic and symptomatic thyroid cancer.....4 3 2 1 N/M N/A
- Recognize the acute and chronic side effects of radioactive iodine treatment, and identify the clinical and laboratory signs of iodine-refractory thyroid cancer.....4 3 2 1 N/M N/A
- Communicate the rationale for the limited effectiveness of cytotoxic chemotherapy in the current management of advanced thyroid cancer.....4 3 2 1 N/M N/A
- Appraise the emerging safety and efficacy data on multikinase inhibitor therapy for patients with advanced thyroid cancer.....4 3 2 1 N/M N/A
- Recall the ongoing clinical trials evaluating molecular-targeted treatments for patients with thyroid cancer.....4 3 2 1 N/M N/A
- Counsel appropriately selected patients about the availability of ongoing clinical trials.....4 3 2 1 N/M N/A

**What other practice changes will you make or consider making as a result of this activity?**

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**EDUCATIONAL ASSESSMENT AND CREDIT FORM (continued)**

**What additional information or training do you need on the activity topics or other oncology-related topics?**

**Additional comments about this activity:**

**As part of our ongoing, continuous quality-improvement effort, we conduct postactivity follow-up surveys to assess the impact of our educational interventions on professional practice. Please indicate your willingness to participate in such a survey.**

- Yes, I am willing to participate in a follow-up survey.
- No, I am not willing to participate in a follow-up survey.

**PART TWO — Please tell us about the editor and faculty for this educational activity**

	4 = Very good	3 = Above average	2 = Adequate	1 = Suboptimal				
<b>Faculty</b>	<b>Knowledge of subject matter</b>				<b>Effectiveness as an educator</b>			
Marcia S Brose, MD, PhD	4	3	2	1	4	3	2	1
Steven I Sherman, MD	4	3	2	1	4	3	2	1
<b>Editor</b>	<b>Knowledge of subject matter</b>				<b>Effectiveness as an educator</b>			
Neil Love, MD	4	3	2	1	4	3	2	1

**Please recommend additional faculty for future activities:**

**Other comments about the editor and faculty for this activity:**

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**I certify my actual time spent to complete this educational activity to be \_\_\_\_\_ hour(s).**

Signature: ..... Date: .....

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Last review date: November 2008

Release date: November 2008

Expiration date: November 2009

Estimated time to complete: 1.5 hours