

## Five Things Physicians and Patients Should Question

1

### Don't initiate whole breast radiotherapy as a part of breast conservation therapy in women age $\geq 50$ with early stage invasive breast cancer without considering shorter treatment schedules.

- Whole breast radiotherapy decreases local recurrence and improves survival of women with invasive breast cancer treated with breast conservation therapy. Most studies have utilized "conventionally fractionated" schedules that deliver therapy over 5–6 weeks, often followed by 1–2 weeks of boost therapy.
- Recent studies, however, have demonstrated equivalent tumor control and cosmetic outcome in specific patient populations with shorter courses of therapy (approximately 4 weeks). Patients and their physicians should review these options to determine the most appropriate course of therapy.

2

### Don't initiate management of low-risk prostate cancer without discussing active surveillance.

- Patients with prostate cancer have a number of reasonable management options. These include surgery and radiation, as well as conservative monitoring without therapy in appropriate patients.
- Shared decision-making between the patient and the physician can lead to better alignment of patient goals with treatment and more efficient care delivery.
- ASTRO has published patient-directed written decision aids concerning prostate cancer and numerous other types of cancer. These types of instruments can give patients confidence about their choices, improving compliance with therapy.

3

### Don't routinely use extended fractionation schemes ( $>10$ fractions) for palliation of bone metastases.

- Studies suggest equivalent pain relief following 30 Gy in 10 fractions, 20 Gy in 5 fractions, or a single 8 Gy fraction.
- A single treatment is more convenient but may be associated with a slightly higher rate of retreatment to the same site.
- Strong consideration should be given to a single 8 Gy fraction for patients with a limited prognosis or with transportation difficulties.

4

### Don't routinely recommend proton beam therapy for prostate cancer outside of a prospective clinical trial or registry.

- There is no clear evidence that proton beam therapy for prostate cancer offers any clinical advantage over other forms of definitive radiation therapy. Clinical trials are necessary to establish a possible advantage of this expensive therapy.

5

### Don't routinely use intensity modulated radiotherapy (IMRT) to deliver whole breast radiotherapy as part of breast conservation therapy.

- Clinical trials have suggested lower rates of skin toxicity after using modern 3-D conformal techniques relative to older methods of 2-D planning.
- In these trials, the term "IMRT" has generally been applied to describe methods that are more accurately defined as field-in-field 3-D conformal radiotherapy.
- While IMRT may be of benefit in select cases where the anatomy is unusual, its routine use has not been demonstrated to provide significant clinical advantage.

## Five More Things Physicians and Patients Should Question

6

### Don't recommend radiation following hysterectomy for endometrial cancer patients with low-risk disease.

- Patients with low-risk endometrial cancer including no residual disease in hysterectomy despite positive biopsy, grade 1 or 2 with <50% myometrial invasion and no additional high risk features such as age >60, lymphovascular space invasion or cervical involvement have a very low risk of recurrence following surgery.
- Meta-analysis studies of radiation therapy for low-risk endometrial cancer demonstrate increased side effects with no benefit in overall survival compared with surgery alone.

7

### Don't routinely offer radiation therapy for patients who have resected non-small-cell lung cancer (NSCLC) negative margins N0-1 disease.

- Patients with early stage NSCLC have several management options following surgery. These options include: observation, chemotherapy and radiotherapy.
- Two meta-analysis studies of post-operative radiotherapy in early NSCLC with node negative or N1 disease suggest increased side effects with no benefit for disease-free survival or overall survival compared to observation.
- Patients with positive margins following surgery may benefit from post-operative radiotherapy to improve local control regardless of status of their nodal disease.

8

### Don't initiate non-curative radiation therapy without defining the goals of treatment with the patient and considering palliative care referral.

- Well-defined goals of therapy are associated with improved quality of life and better understanding on the part of patients and their caregivers.
- Palliative care can be delivered concurrently with anti-cancer therapies.
- Early palliative care intervention may improve patient outcomes, including survival.

9

### Don't routinely recommend follow-up mammograms more often than annually for women who have had radiotherapy following breast conserving surgery.

- Studies indicate that annual mammograms are the appropriate frequency for surveillance of breast cancer patients who have had breast conserving surgery and radiation therapy with no clear advantage to shorter interval imaging.
- Patients should wait 6-12 months after the completion of radiation therapy to begin their annual mammogram surveillance.
- Suspicious findings on physical examination or surveillance imaging might warrant a shorter interval between mammograms.

10

### Don't routinely add adjuvant whole brain radiation therapy to stereotactic radiosurgery for limited brain metastases.

- Randomized studies have demonstrated no overall survival benefit from the addition of adjuvant whole brain radiation therapy (WBRT) to stereotactic radiosurgery (SRS) in the management of selected patients with good performance status and brain metastases from solid tumors.
- The addition of WBRT to SRS is associated with diminished cognitive function and worse patient-reported fatigue and quality of life. These results are consistent with the worsened self-reported cognitive function and diminished verbal skills observed in randomized studies of prophylactic cranial irradiation for small cell or non-small-cell lung cancer.
- Patients treated with radiosurgery for brain metastases can develop metastases elsewhere in the brain. Careful surveillance and the judicious use of salvage therapy at the time of brain relapse allow appropriate patients to enjoy the highest quality of life without a detriment in overall survival. Patients should discuss these options with their radiation oncologist.

## How This List Was Created (1–5)

Following approval of the participation of the American Society for Radiation Oncology (ASTRO) in the *Choosing Wisely* campaign, a survey was sent to ASTRO committees and panels related to health policy, government relations, and clinical affairs and quality in order to identify potential items for inclusion in the list. A work group, comprised of seven physicians drawn from these three areas, was also selected and convened. The work group members were asked to pick their top eight items from the total of 34 topics that had been suggested in the initial survey. The results were tabulated and a list of the highest scoring items generated, creating a short list of 13 draft items.

Three conference calls were subsequently held to further refine the list and finalize the wording of the items based on input from ASTRO's Board of Directors. A literature review was conducted for each topic by ASTRO staff and each work group member took the lead on writing text and selecting references for one or more draft items. The final items for submission were selected by ASTRO's Board of Directors. ASTRO's disclosure and conflict of interest policy can be found at: [www.astro.org](http://www.astro.org).

## How This List Was Created (6–10)

In January 2014, the American Society for Radiation Oncology (ASTRO) formed a group to develop its second *Choosing Wisely* list, which included representatives from health policy, government relations, and clinical affairs and quality. The work group began by narrowing a list of 28 draft concepts to nine potential *Choosing Wisely* items. Next, an electronic anonymous survey was sent to the ASTRO membership to rate the value and relevancy of each of the items. The survey also included an open text box for members to comment on the suggested items and to provide additional ideas for *Choosing Wisely* items. Based on the survey results, the work group submitted a short list of eight items to the ASTRO Board of Directors, from which the Board chose five items to move forward.

Literature reviews were conducted for the five *Choosing Wisely* items selected by the Board and the group drafted verbiage, bullet points and references for each item. Following a second review by the Board of Directors, one of the items was replaced with an alternate item from the short list. The final list received approval from the Board and was then submitted to the ABIM Foundation. ASTRO's disclosure and conflict of interest policy can be found at: [www.astro.org](http://www.astro.org).

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### About the ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.



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### About the American Society for Radiation Oncology

ASTRO is the premier radiation oncology society in the world, with more than 10,000 members who are physicians, nurses, biologists, physicists, radiation therapists, dosimetrists and other health care professionals that specialize in treating patients with radiation therapies. As the leading organization in radiation oncology, the Society is dedicated to improving patient care through professional education and training, support for clinical practice and health policy standards, advancement of science and research, and advocacy. To learn more about ASTRO, visit [www.astro.org](http://www.astro.org).



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