ASTRO
AMERICAN SOCIETY FOR RADIATION ONCOLOGY

Radiation Therapy for Sarcoma

"Ask Me Anything"

RT Answers
ANSWERS TO YOUR RADIATION THERAPY QUESTIONS

RT Answers **Facebook Live**: July 20, 7:30 pm ET/6:30 pm CT

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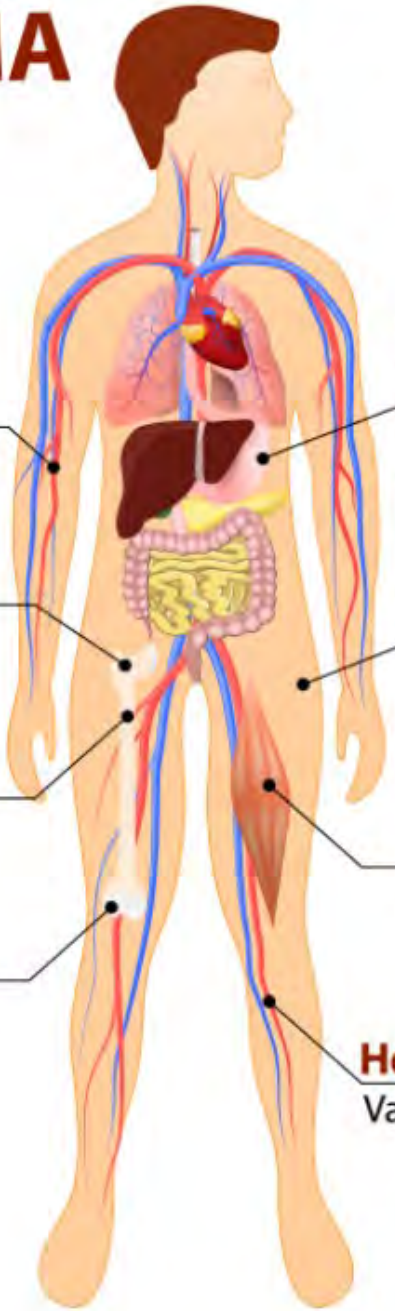
SARCOMA

Types



Angiosarcoma

Malignant neoplasm in the vessel walls

Osteosarcoma

Tumor in a bone

Ewing's sarcoma

Bone

Chondrosarcoma

Cartilage

Gastrointestinal stromal tumor

Mesenchymal neoplasms of the gastrointestinal tract

Liposarcoma

Fat cells

Fibrosarcoma

Fibrous connective tissue

Hemangioendothelioma

Vascular neoplasms

Question #1

What is the primary cause of sarcomas?

What causes the genome to change leading to sarcomas?”

Question #2

What is the average risk of causing a radiation-induced sarcoma?

Have risks decreased over the years due to new technology and techniques?

Question #3

What factors do you consider when deciding whether to treat soft tissue sarcoma tumors with radiation or not (either before or after surgery)?

Question #4

How does radiation therapy kill cells, and how is it used to treat sarcomas before and after surgery?

Question #5

What are the risks to the patient if they were to not have radiation therapy?

Patients with low- and high-grade sarcomas

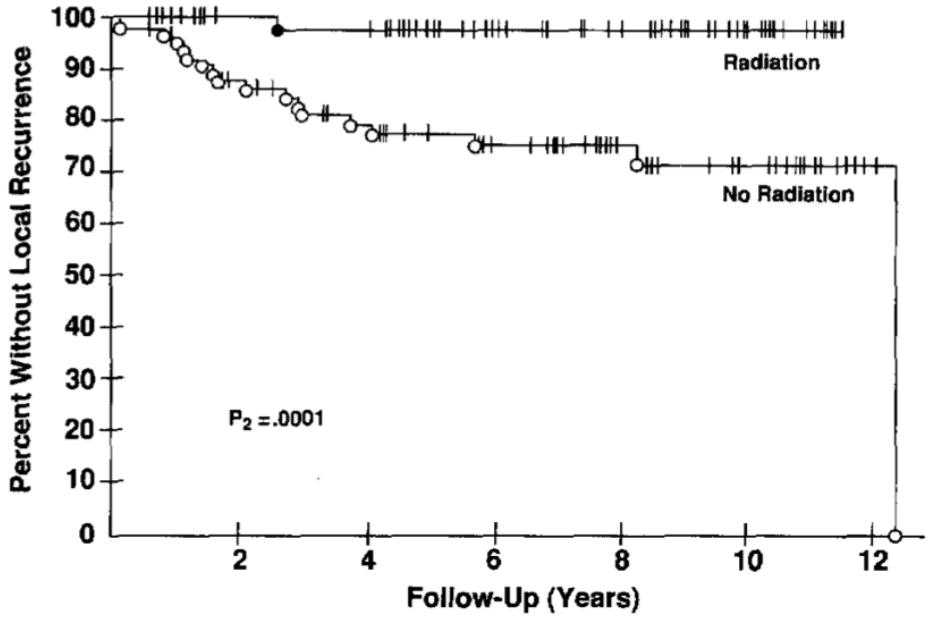


Fig 1. Local recurrence-free survival for all patients with soft tissue tumors of the extremity randomized to receive or not receive adjuvant postoperative external-beam XRT. Patients who develop metastatic disease are censored for LR.

Patients with high grade sarcomas who were treated with chemotherapy

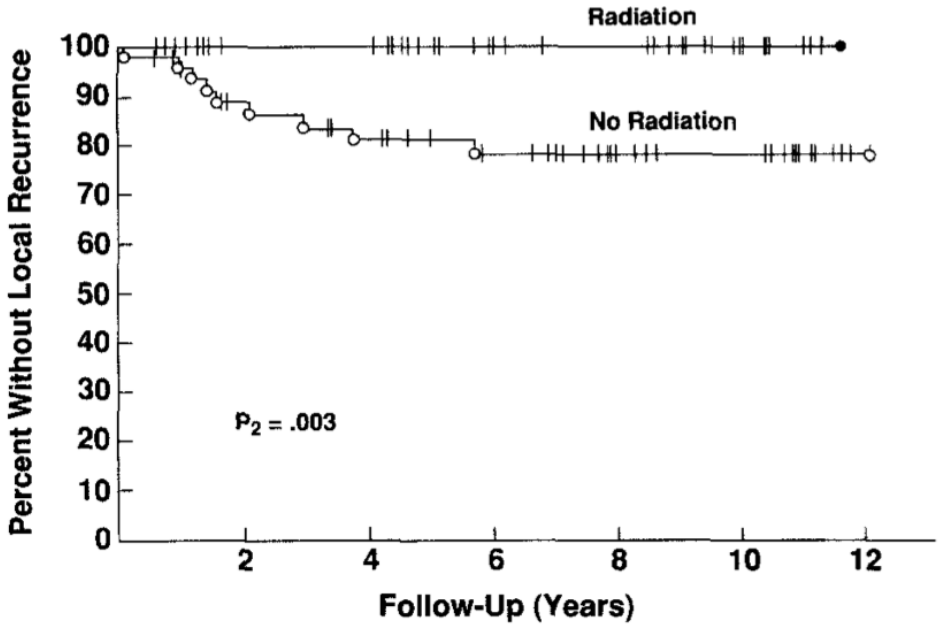


Fig 2. Local recurrence-free survival in patients with high-grade, locally resectable extremity soft tissue sarcomas randomized to treatment with surgery and adjuvant chemotherapy versus surgery, adjuvant chemotherapy, and postoperative XRT. LR occurred only in the absence of XRT.

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Yang et al., *JCO*, 1998

Question #6

Do you prefer to administer radiotherapy before or after surgery?

PLACE HOLDER FOR IMRT THIGH TUMOR SLIDE

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Question #7

What would you do if a tumor grows progressively bigger while on radiation treatment?

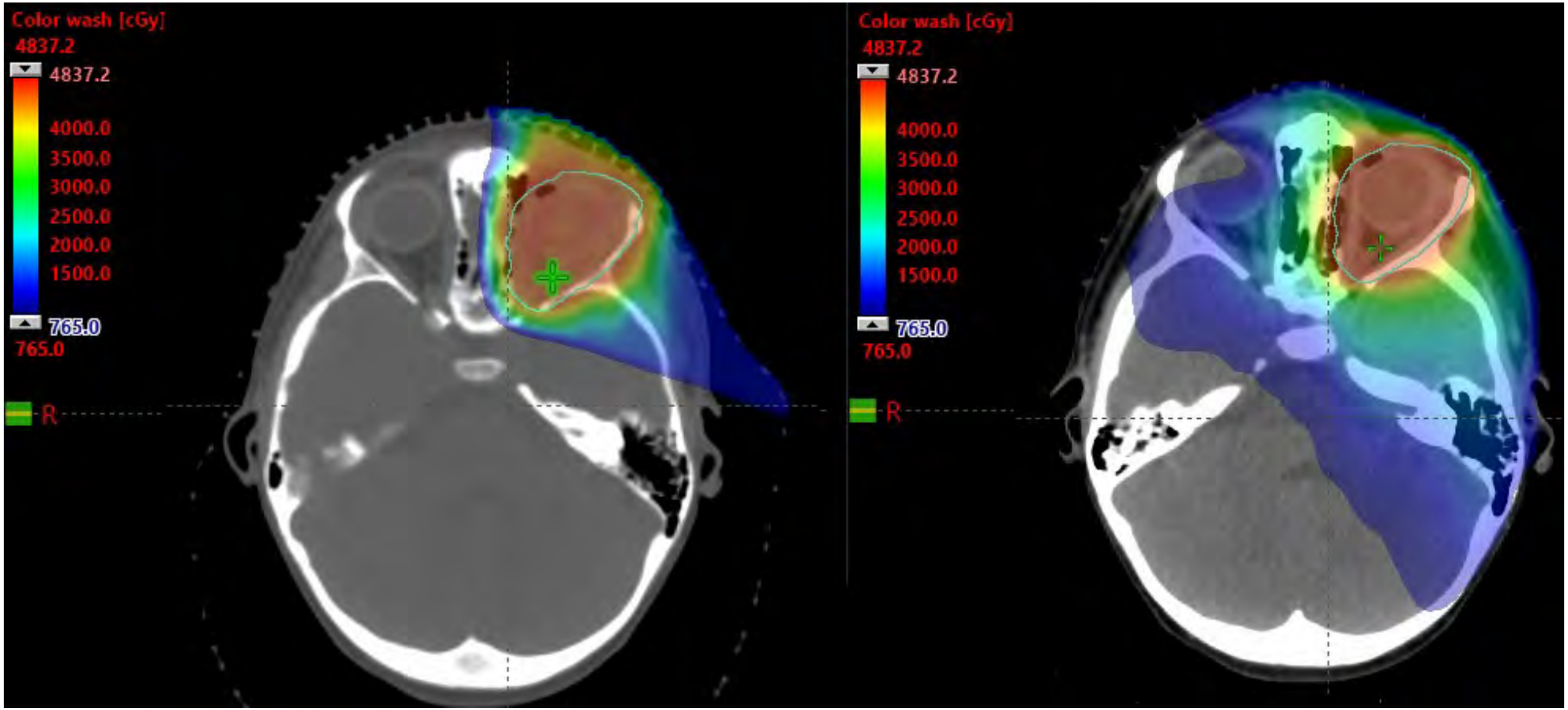
Question #8

Are there any alternatives to radiation therapy that might be safer?

What about proton therapy?

Protons

IMRT



Question #9

For chondrosarcomas, what about radiation therapy after surgery for tumors that are low grade and that had negative margins?

Is this true for most low-grade sarcomas as well?

Question #10

How might brachytherapy catheters be used during surgery for a retroperitoneal sarcoma that is touching the spinal bones or large blood vessels?

Question #11

How is definitive radiation used for sarcomas in pediatric patients or young adults that are unresectable, such as a Ewing's sarcoma of the pelvis?

Question #12

Can chemotherapy and radiation be combined for treatment of sarcomas?

Can it be used when a surgery is planned or when a surgery is not planned, or both?

Question #13

What about radiation therapy for the sarcoma tumors in the lungs, such as SBRT?

How many nodules can it attack? Is there a size limit?”

Question #14

“With school starting back up, what are your thoughts on kids going back to in-person learning who've recently completed treatment for Ewing's sarcoma, and received whole lung radiation?”

- “Is it okay for them to wear a mask all day?”

Question #15

Are there any special considerations for adults who have had lung radiation for sarcoma?

What about radiation elsewhere in the body?

Question #16

PLACE HOLDER FOR WHATS NEW?

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Survivorship | Treatment Team | Resources

Patient Education | Cancer Type | What is Radiation Therapy | Treatment Types

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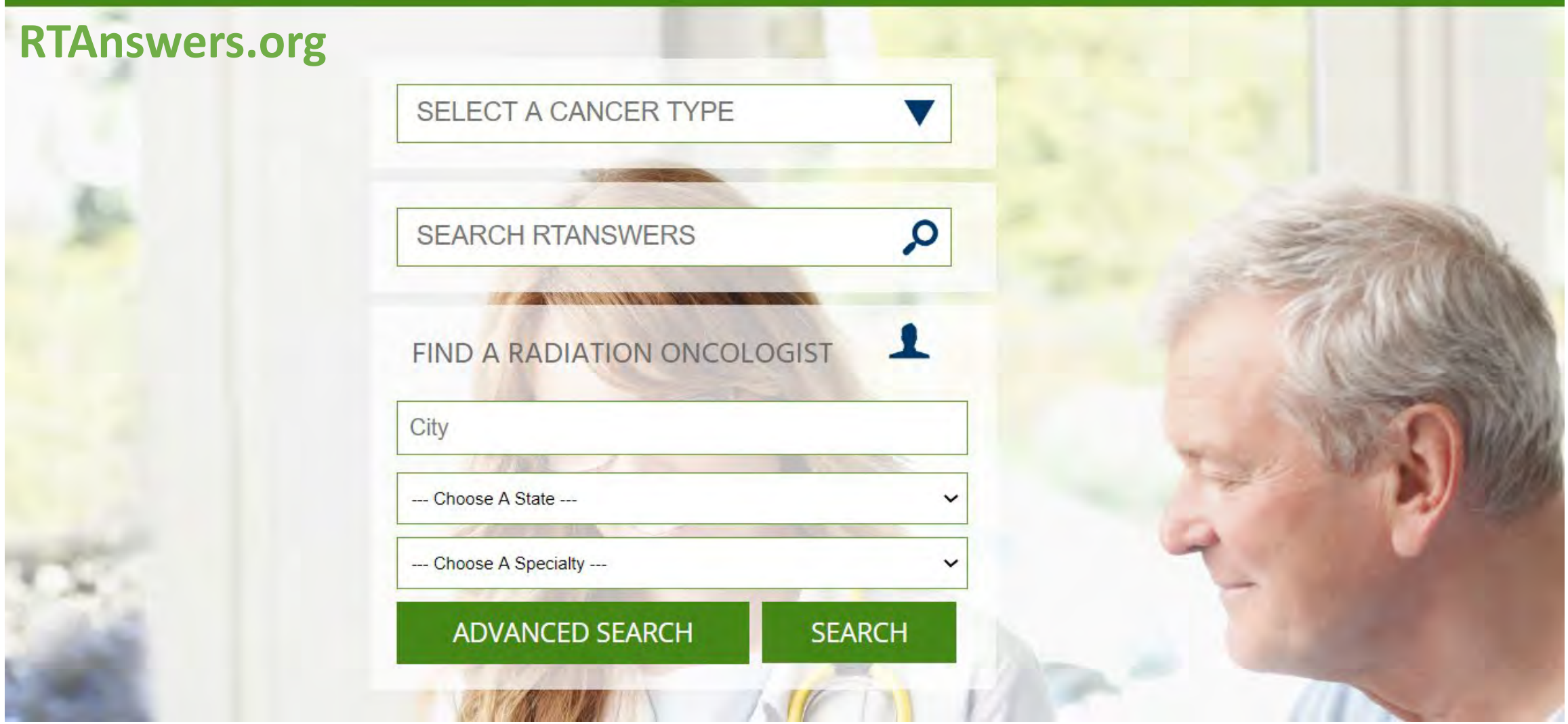

Sarcoma

Soft tissue sarcoma and radiation therapy

Soft tissue sarcomas are a group of cancers that come from the fat, muscles, blood vessels or nerves of your body. Sarcomas form when normal cells in these tissues change and become cancerous. Sarcomas that start in the bone are different from soft tissue sarcomas and are not reviewed here. Unlike some other cancers, the cause of most sarcomas is unknown. Exposure to cigarette smoke, alcohol and diet have not been associated with any sarcomas.

Many sarcomas are first noticed by patients as a “lump” or “bump” (called a tumor). While most tumors are not cancers, it is important to have them looked at early by a doctor. If a tumor or an area of concern is large, quickly growing or painful, it may be a sarcoma.

According to the National Cancer Institute, there will be 13,130 new cases of sarcoma in 2020. Sarcomas are very rare, making up less than 1% of new cancers. Adults and children can develop a sarcoma, but it is most common in adults.

Sarcomas can form anywhere in the body. The most common locations for sarcomas to form are in the arms or legs, but they can also form in the abdomen, chest or head and neck. Some more rare types of sarcoma can even form in the skin.

There are over 100 different types of soft tissue sarcoma. However, a few types make up most cases: