Please use this template to submit your Live SA-CME session learning objectives and to create your Live SA-CME assessment. Once you have finished, please email this to **Heather.Ranels@astro.org**.

***Use the area directly below this paragraph to write two to five learning objectives.***

**Learning Objectives:**

* Understand the structure by which medicine (e.g., AMA Council on Judicial and Ethical Affairs) and ASTRO address ethical issues.
* Understand a framework by which business, clinical research and publication questions are analyzed under a ‘medical ethics paradigm’.
* Understand how to access medical ethics resources.

**The following is an overview of how to write your SEVEN assessment questions and supporting information.**

* **Questions**
  + All questions must be in multiple choice format.
  + Your questions should address your learning objectives.
  + It is highly suggested that you use a case-based scenario for one of your questions if possible. This is not a requirement, but it helps the learner to show a change in competency, not just knowledge.
  + True/false questions are not acceptable.
* **Answers**
  + Each question must include FOUR answer choices.
  + There can only be ONE correct answer; avoid questions that have multiple interpretations.
  + Statements such as “All of the above” or “None of the above” should be used sparingly.
* **Feedback**
  + One to three sentences of feedback is required for each of the seven questions.
  + Your feedback should tell the learner why the correct answer is the only answer to the question you asked.
  + If desired, you may also include a sentence as to why the remaining four options are incorrect.
* **Location** 
  + Please state on which slide(s) your answer can be found in your presentation.
* **References**
  + List at least one cited reference that supports the answer to this question.

**Question 1:**

What is the role of ASTRO’s committee on ethics?

1. To report unethical behavior of individual members to The American Board of Radiology.
2. To serve as the judicial body of the society by reporting unethical behavior of individual members to the AMA Council on Judicial Affairs.
3. To oversee policies on conflict of interest and corporate relationships for its members.
4. **To strive to set standards and to provide guidance to its members**

**Feedback:**

ASTRO is not a policing or reporting body to the ABR, AMA, or anyone else. ASTRO has separate committee structures for conflict of interest and corporate relations, which fall outside that role of the Ethics Committee.

**Locations:**

Slides 8 and 9

**Reference:**

ASTRO website

*- - - End of Question 1 - - -*

**Question 2:**

The basic principle behind clinical ethics is which of the following:

1. All ethical issues of substance should go through the local ethics committee
2. One should follow the precept of “first do no harm”
3. **It is the duty of the physician to treat and manage disease in the best interest of the patient**
4. Council should define the appropriate action in questionable situations

**Location:**

Slide 5

**Feedback:**

Although there are various legal and social issues involved in the care of the patient, the overriding concern of the physician should always be to act in the best interest of the patient. This is an important guiding principle although this precept does not always clearly define a specific clinical approach. Help from ethics committees, legal counsel and others can help in making the determination of what clinical action should be taken.

*- - -End of Question 2 - - -*

**Question 3:**

Aggressive business practices between competing radiation oncologists are:

1. Acceptable, because any other arrangement would be “collective market action” in violation of the Sherman Anti-Trust Act.
2. Acceptable, because the practice of medicine is a business, like any other.
3. **Problematic as they result in deterioration in public confidence in the profession and erode an intra-disciplinary collegiality in ways that can negatively impact patient care.**
4. Too difficult to define in a way that would permit regulation.

**Feedback:**

Answer: “C” Per the ASTRO Code of Ethics; there is a long tradition that physicians should behave with mutual respect to each other and to help others improve the quality of the care that all radiation oncologists deliver.

*- - -End of Question 3 - - -*

**Question 4:**

In which field are scientists least confident in the reproducibility of their research?

1. Chemists
2. Physicists
3. **Medicine**
4. Biology
5. Earth and Environment

**Feedback:**

About half of all researchers in medicine, when questioned, feel that less than 50% of published research is reproducible. There is far higher confidence among those in the physical sciences.

**Reference:**

Begley CG, Ellis LM. Nature 2012 483: 531-33

*- - -End of Question 4 - - -*

**Question 5:**

Which of the following is true about published article retractions?

1. They are more common in lower impact journals
2. The retraction rate has been stable for over a decade
3. Honest errors are behind most retractions
4. **Of articles retracted for misbehavior, fraud is the most common reason**
5. Misbehavior has a strong, proven link to geography

**Feedback:**

In a review of all 2,047 biomedical and life-science research articles indexed by PubMed as retracted on May 3, 2012 Fang found that the majority were the consequence of misbehavior not honest error, with fraud the number one reason. There was little relationship to geography.

**Reference:**

Fang FC et al. PNAS 2012 109:17028-17033

*- - -End of Question 5 - - -*