RO-ILS®
RADIATION ONCOLOGY
INCIDENT LEARNING SYSTEM
Sponsored by ASTRO and AAPM

CLARITY PSO
A Patient Safety Organization

RO-ILS Celebrates 2022 National Radiologic Technology Week

The house of medicine borrowed the phrase "stop the line" from the manufacturing industry in which workers had a means to stop the assembly process if something was or could go wrong. In radiation oncology this is a concept that should be leveraged by all members of the team, particularly radiation therapists. Therapists perform the final checks and are the last individuals who can catch upstream errors before administering treatment. They must be supported and encouraged to halt treatment until any and all safety questions are addressed. Given the irreversible nature of radiation, the power and importance of "stopping the line" is particularly critical in radiation oncology.

In the following good catch example, an attentive therapist recognized unreasonable monitor units (MUs) and stopped an incorrect treatment from being delivered.

- A patient was scheduled for five fractions of stereotactic body radiation therapy.
- On the first fraction, the patient could not finish the treatment. When a treatment is not completed, a partially completed fraction is generated, and a member of the physics team schedules the remaining incomplete fraction. When scheduling, a physicist less familiar with the equipment's workflow asked another physicist for help but they still used an incorrect workflow. Each physicist thought the other physicist had verified the MUs, but this was, in fact, not done.
- On the second fraction, as the radiation therapist was preparing to turn the beam on to treat the patient, they checked the MUs and noticed that it was out of the ordinary. They "stopped the line" and investigated.
- If not caught, the machine would have delivered almost *50 Gy in one fraction*!

Great Catch Therapy!

This event highlights the importance of:

- Clearly communicating and documenting the completion of tasks (e.g., physicist confirmation of MU verification).
- Appreciating the increased likelihood of error when workflow deviations occur.
- Performing comprehensive pre-treatment timeout.
- Avoiding confirmation bias (e.g., therapist did not simply dismiss the unreasonable MUs).
- **Instilling a culture where staff are comfortable asking questions and seeking guidance.**
- **Providing attention and focus to tasks at hand.**
- **Trusting one's intuition and stopping the line if something does not seem correct.**

The radiation therapist in this event leveraged their knowledge and experience to identify an error that could have resulted in significant harm to the patient! They should be admired and celebrated.

SAFETY CHECK

How does your practice empower radiation therapists to "stop the line?"

Radiation therapists have discovered more than 11,000 events that have been reported to RO-ILS! As the leading identifiers of errors, RO-ILS applauds the significant contributions and leadership by all therapists. Incident learning can only be successful if events are submitted and tracked. Therapists are foundational to this work and can serve as a model to motivate other team members to submit events. Therapists should also be encouraged to engage in additional safety activities and offered leadership opportunities such as through their practice's quality and safety committee.

At the national level, the American Society of Radiologic Technologists (ASRT) are proud supporters of the RO-ILS. Together, the sponsors and supporters enable U.S.-based practices to participate in the RO-ILS program for free, allowing learning to be shared openly with the radiation oncology community. Additionally, experienced therapists serve on the interdisciplinary, national Radiation Oncology Healthcare Advisory Council for RO-ILS and provide their unique insight on RO-ILS events and education.

Radiation therapists are critical members of radiation oncology teams at the practice and national level, and together, via partnership and collaboration, patient safety and quality can continue to improve.