SAFRON

SAFety in Radiation ONcology

https://rpop.iaea.org/SAFRON/Default.aspx

A Newsletter on Patient Safety in Radiotherapy

August 2016

CHECK, REVIEW AND REPORT

Check Review and Report delivering safe radiotherapy

The IAEA recently published a trifold to remind radiotherapy professionals that they are responsible for ensuring patient safety. This publication provides a series of simple questions to be answered before the patient is treated at four different stages:

1. During patient care,
2. Equipment management,
3. Treatment planning, and
4. Treatment delivery.

These timely reminders can be used as part of the peer review process or second verification to assure that the patient treatment is performed as prescribed or equipment management is performed as necessary. There is also a "quick check" list to be considered during time out. Effective reviews and reports complete the task requiring feedback and follow up to all team members. Review and report is part of the continuous improvement process where radiotherapy facilities acknowledge that errors can occur if staff do not constantly pay attention to activities.

The trifold was developed from reviewing events in the SAFRON learning system to determine the type of errors reported, the cause of the errors and the corrective actions that could be in place to prevent the likely reoccurrence of the error.

What are the Professionals saying?

"Accurate treatment planning in radiotherapy is of critical importance for patient safety, and must be carried out by staff who are appropriately trained, using the correct written procedures, and with appropriate checks and verification of data to ensure that any errors that might arise are clearly identified and corrected."

Unintended overexposure of a patient during radiotherapy treatment at the Edinburgh Cancer Centre, in September 2015. Available at: http://www.gov.scot/Publications/2016/07/8854

Radiotherapy facilities are encouraged to report anomalies in the treatment process to a learning system for further evaluation. Supporting an international system such as SAFRON expands the learning opportunities to all radiotherapy facilities. Those radiotherapy facilities interested in safety and quality should consider participating in an incident learning system to expand their knowledge on potential errors that might have negative outcomes to include patient harm from an inappropriate treatment to poor quality outcomes and missed control of disease.

Calculating and independently checking all dose calculations using an approved method is one of the steps. However when the calculation check is inconsistent with the expected outcome, there should be a method to report the discrepancy within the radiotherapy centre. These concerns are not isolated to only an individual radiotherapy centre. By reporting to an incident learning system the information can be shared with others. Even if the event had been detected with an electronic dose calculation system the reporting of this event may have prevented others from making similar assumptions.

Radiotherapy Events

Recent events in Scotland remind us that variations or unexpected outcomes should be checked, reviewed and reported to others for clarification. SAFRON incident reports can be reviewed and similar events to the one in Scotland can be identified. By simply following a few steps, significant errors can be prevented. Similar reports in SAFRON of situations that could have been identified through the process of Check, Review, Report are provided below.

Lessons learned?

Sharing of experiences including near misses and events expands the ability to evaluate areas where potential harm can be caused. Check, Review, Report at the local level allows for the sharing of information and validation that the patient treatment is correct. Sharing of events at the international level provides the radiotherapy professionals with information on what might or could happen to help address the potential in their own facilities. To prevent similar types of events, radiotherapy facilities must learn and make changes in how they perform their tasks. Check, Review, Report is a simple reminder of the day-to-day activities professionals can do to support patient safety.

Patient treated with 4 Gy fractions instead of 2 Gy fractions to the whole brain.	
Patient prescribed for 2 Gy fractions to 24 Gy. Planning RTs assumed standard prescription of 4 Gy fractions to 20 Gy and verbally asked treatment RTs request confirmation of the prescription (which was not obtained). MUs were calculated for 4 Gy fractions but record and verify system parameters were entered such that 2 Gy per fraction was logged. Treating RTs also logged 4 Gy per fraction daily (concentrated on number of fractions).	
Causes of the incident	1.3 Standard/Procedure/Practice not followed 4.3 Conflicting prioritise/planning/programming 4.5 Inadequate documentation 5.3 Inadequate direction/information
Describe contributing factors to the incident:	Inadequate attention to detail. Over-reliance on technology. Lack of adequate time-out procedures.
Suggest preventive action(s):	Improved quality control process during treatment. No verbal instructions.

Patient received 3 Gy fractions instead of 2 Gy fractions to a total of 30 Gy (correct total dose).	
Patient was prescribed for 2 courses of radiation 30 Gy followed by 20 Gy in 2 Gy fractions. The first course was delivered in 3 Gy fractions owing to an incorrect transcription of the dose per fraction per field. The incorrect MUs were therefore calculated and delivered.	
What safety barrier might have identified the incident?	In vivo dosimetry Regular independent chart checks
Describe contributing factors to the incident:	Inadequate attention to detail.
Suggest preventive action(s):	Improved chart check protocol for pre- and on-treatment checks.

EXPLAINING THE CHECK, REVIEW AND REPORT PROCESS

INDIVIDUAL CHECKS

As part of the time-out procedure, all team members should ask these questions:

- Correct Patient?
- Correct Prescription?
- Correct Plan?
- Correct Site?
- Correct Set-up?

TEAM REVIEW

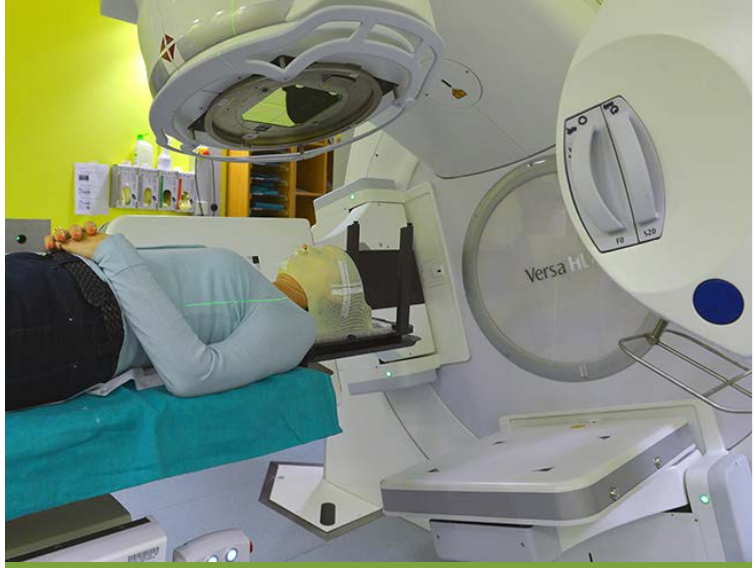
The Team Review process requires timely and continuous communication among all of the radiotherapy team members that are involved, especially when changes are required. Team reviews comprise a follow-up process that should be established in the course of radiotherapy to assess appropriateness of treatment plans, dose calculations, and treatment delivery for individual patient.

REPORT

Know the policies for reporting any unacceptable activity to other team members. Internal or external reporting on near misses or incidents is encouraged. Through evaluating information in the reports, the radiotherapy team can derive valuable lessons that can lead to a stronger safety culture and improved patient outcome.

FOR MORE INFORMATION VISIT:

https://rpop.iaea.org



MORE RESOURCES

Safety in Radiation Oncology (SAFRON) is IAEA's web-based learning and voluntary reporting system. SAFRON helps you to improve patient safety by allowing you to share and learn about safety-related events. It provides users with opportunities to share their information with radiotherapy facilities worldwide and gain useful resources for preventing future incidents — for free!

For more information, please visit:
https://rpop.iaea.org/SAFRON/

Division of Radiation, Transport and Waste Safety
Department of Nuclear Safety and Security
International Atomic Energy Agency
Vienna International Centre, PO Box 100
1400 Vienna, Austria

IAEA 60 Years
Atoms for Peace and Development

CHECK, REVIEW AND REPORT

Delivering safe radiotherapy is in your hands

DID YOU KNOW?

14 million new cancer cases occur every year.

8.2 million cancer-related deaths every year.

7000 radiotherapy centres exist in the world.

5.1 million courses of radiotherapy treatments administered yearly between 1997-2007.

50 % of all cancer patients would benefit from the use of radiotherapy if it was available to them.

3000 patients have been affected by radiotherapy incidents and accidents over the last 3 decades.

WHO IS RESPONSIBLE FOR ENSURING PATIENT SAFETY?

Patient safety is an essential and vital component of quality care. Each radiotherapy professional is encouraged to commit to patient safety as part of their professional responsibilities.

The team approach toward patient safety is critical. Each team member must be fully aware of their responsibilities individually and within the team to achieve the ultimate goal of safe and effective radiotherapy.

Build patient safety into every system of care by using the CHECK, REVIEW AND REPORT method.

CHECK, REVIEW AND REPORT

DURING PATIENT CARE, HAVE YOU...

- Explained treatment procedures to patients?
- Described the possible side effects of treatment and management of these to the patients?
- Monitored, assessed and recorded the changes in patients throughout treatment?
- Provided support to patients to help them cope with any physical and emotional effects of treatment?
- Notified the radiation oncologist whenever you discovered an unusual response to treatment or other health condition?
- Encouraged your patients to speak up about their health conditions and treatment and listened to them?

DURING EQUIPMENT MANAGEMENT, HAVE YOU...

- Ensured that all new planning systems and treatment equipment is commissioned and acceptance testing is performed and independently verified prior to clinical use?
- Confirmed that the planning systems and treatment equipment is routinely calibrated and independently verified?
- Performed comprehensive quality assurance on all planning and treatment equipment?
- Reported and investigated any unusual equipment faults or failures?

DURING TREATMENT PLANNING, HAVE YOU...

- Checked that you are using correct images for correct patient when developing treatment plans?
- Ensured the appropriateness of the treatment prescription and organ dose, balancing the treatment of target volume to the irradiation of normal tissue?
- Confirmed the medical history such as co-morbidities and concurrent treatments of the patient?
- Established evidence-based protocols for treatment and verification?
- Calculated and independently checked all dose calculations with an approved method?
- Verified that the treatment plans of patients who need special care have been approved and communicated to the treatment team?

DURING TREATMENT DELIVERY, HAVE YOU...

- Ensured that the correct treatment plan and the correct treatment setup are used for the correct patient?
- Ensured that the daily quality checks have been performed and are within tolerance before clinical use?
- Checked the treatment plan been authorised and agreed?
- Assessed the patient is fit for treatment prior to set-up?
- Maintained daily treatment records for each patient?
- Performed time-out to assure the correct set up prior to machines switch on?