



# SAFRON

*A Newsletter on Patient Safety in Radiotherapy*

June 2015 Featured Case Study in this e newsletter "***DISTRACTIONS AND INTERRUPTIONS***"



**BONN CALL FOR ACTION**  
10 Actions to Improve Radiation Protection  
in Medicine in the Next Decade

## Are You Part of the Action to Improve Patient Safety in Radiotherapy?

Read more about how you can participate in the Bonn Call For Action at: [Bonn Call For Action](#) and what others organizations are doing to improve Radiation Protection of Patients at [Bonn Call For Action Activities](#).



## Mobile Phones And Distractions

Modern technology may be responsible for more of today's errors than we know. More errors are being attributed to interruptions from smart phones that allow notification of calls, text messages, email and other social media. Members of the radiotherapy team need to adhere to policies regarding the appropriate and inappropriate use of mobile phones. Management strategies will need to address appropriate use of mobile phone while minimizing the associated risk. Consideration should be given to develop a policy that limits inattentive behaviour related to use of mobile phones.

## Limiting Distractions and Interruptions

### Wait, wait what was I thinking?

It is probably hard to get through a single day without being distracted or interrupted. Distractions and interruptions are activities that draw away, disturb, or divert attention from the activity being performed to a new activity at least temporarily. Multi-tasking is expected from those being interrupted, and constant distractions and interruptions are generally accepted as the norm in healthcare. Attending to a new activity can increase the chance of error to the current or new activity or both resulting from cognitive fatigue. Radiation therapists treating patients have many tasks to perform to assure that the correct patient receives the correct treatment. Medical physicists performing equipment calibration can lose track of where in the process they are when they are interrupted. Medical physicist or dosimetrist performing complex treatment planning can forget documentation of wedges, angles and changes in isocentre if interrupted. Failure to return and check the task can lead to missteps. The argument that distractions and interruptions contribute to errors is persuasive in the literature. One study concerning administration of medication cited that interruptions increased medication errors by 12.7%.<sup>1</sup>

Most often people are the source of interruptions. They include healthcare staff, patients, and visitors. Other interruptions are devices such as medical devices, computers, infusion pumps, and phones. Disruptions can be visual or auditory. Interruptions occur for a variety of reasons, related to the treatment of the patient, treatment planning or QA on the equipment. Self-induced interruptions between health professionals themselves can be a frequent source of interruptions. Some interrupters are useful, especially those with alarms that provide patient specific information that requires immediate medical attention. Sometimes the alarms are ignored as alarm failures, if they are false alarm or nuisance alarms. Too many false alarms lead to ignoring the alarm when it might actually be warning of a serious problem. ECRI in 2013 listed caregiver distractions from mobile devices as one of the top 10 technology hazards.<sup>2</sup> Medication errors are not the only errors that occur with interruptions, SAFRON learning system reports indicate that errors occur when staff is distracted as described on the front page of SAFRON.

Links to IAEA Publication for Radiotherapy Training on  
Radiation Protection of Patients Website: [www.rpop.iaea.org](http://www.rpop.iaea.org)

- [Training Material](#)
- [Radiation Safety in External Beam](#)
- [Radiation Safety in Brachytherapy](#)

# Radiation Protection of Patients (RPOP)

## A Newsletter on Patient Safety In Radiotherapy

### What are the professionals saying:

“We still have not yet mastered the art of harnessing all available knowledge, both national and international, to reduce adverse events in healthcare.”

Sir Liam Donaldson. 2006 Annual Report of The Chief Medical Officer. On the State of Public Health. London: The Department of Health, 2007.

### Limiting Distractions through Education, Policies, Procedures and Workflow

**Staff education**-Staff needs to be aware of the effects of interruption especially when it can contribute to errors. Searches of events and near misses in radiotherapy incident learning systems can reinforce the need to adhere to the DND and NIZ locations. Management may need to plan times when communication with staff is possible by adding additional breaks, avoiding interruptions during the most complex aspects of a task. Staff also need to know when and how to interrupt when it is in the best interest of the patient.

**Time out**-Time out allows the professional an opportunity to verify the tasks that were to be performed and whether or not all of the sub tasks were performed. Sometimes a quick checklist can be used during timeout to aid the therapist.

**Scheduling**-Complicated tasks may need to be scheduled during off-hours for the centre. Many radiotherapy centres schedule equipment quality assurance test after or before patient treatment begins, allowing the medical physicist to perform the duties without interruptions. Some complicated treatment planning may also be performed after hours, especially when it comes to treatment verification of IMRT plans. Trying to perform these tasks during patient treatment time can lead to hurried activities and errors.

**Be prepared**-When performing a critical task, in order to minimize task disruption, ensure that all needed supplies and documents are available before preparing or administering radiotherapy. For example, treatment aids need to be gathered and verified prior to bringing the patient into the treatment room.

**System improvements**-Identifying the sources of common interruptions and remedy any system issues such as frequently missing treatment accessories. Standardization of treatment protocols will also help to overcome potential treatment errors.

**How about Alerts and Alarms?** “Reduce invalid, insignificant, or overly sensitive computer alerts and device alarms”. A significant error that attributed to a patient death was the ignoring of the high radiation area warning lights and associated audible alarm.<sup>4</sup> When alarms are false negative the value of the alarm is lost, repairs should be performed immediately or an alternative solution should be used while completion of the repairs or replacement.



IAEA SAFRON - Safety in Radiation Oncology

Home Process Steps Incident Reports Documents and Links Registrations Help

### Safety Reporting and Learning System for Radiotherapy

SAFRON is voluntary and aims to enable global shared learning from safety related events and safety analysis in order to improve the safe planning and delivery of radiotherapy. SAFRON is provided by the IAEA.

**Actions**

- Browse Safety Info by Process Step >
- Search for Incident Reports >
- Submit Incident Report >
- Search for Documents & Links >
- Request Registration >
- View Instructions >

**Featured Incident Reports**

- Couch height not re-set**  
Patient FSD set for Ant field for doctor to see on set - machine moved to treat oblique but couch height not reset - dose distribution worked out. (R0515 1055298175)
- ear packing not used**  
fraction two for patient - staff prepared packing but failed to get it in - distracted by issued around imaging used packing correctly for remainder of treatment

**Featured Documents & Links**

- Towards Safer Radiotherapy**  
This publication provides information to the reader on ways to reduce radiotherapy errors. The authors advise radiotherapy facilities to adopt 14 recommendations based on the review of 181 incidents...
- Unintended exposure in radiotherapy: identification of prominent causes**  
Unintended exposures in radiotherapy are likely to occur when certain conditions that favour such exposures exist. Based on the frequency of occurrence of various causes of 100 events of unintended...

### Limiting Distractions and Interruptions

(continued from page 1)

#### Preventing errors from disruptions

Distractions and interruptions cannot be fully eliminated in radiotherapy. Some suggested changes for radiotherapy centres to consider reducing the likelihood of errors from disruptions are discussed below:



**Quiet zone**-Visual reminders of the need to reduce the noise level can help in reducing verbal distractions. Signage similar to the photo could be used to remind workers to reduce the noise level thus reducing distraction for radiation therapist, dosimetrist and medical physicists.

**Do not disturb**- DND-This can be a visual signage for a particular area where radiotherapy professionals can go to prevent interruptions or it can be a button, tag or piece of clothing that is worn when certain task are being performed. Again it is a visual representation that the task being performed needs the full attention of the person performing the task. Personal badges can be used as a visual reminder to workers, patients and visitors.<sup>3</sup>



**No Interruption Zone (NIZ)** By establishing zones either physically or with signage can help to defined a discreet area where critical tasks are being performed. This is very similar to the

techniques used in aviation where the pilots are separated from the rest of the crew and passengers. For some task, tags and signage can be used on the individual to declare activities being performed by the individual require their undivided attention. Calibration or performing quality control checks on the machine are some activities where the treatment room would be a NIZ when performing these tasks.

#### References

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- ECRI. Top 10 technology hazards for 2013. *Health Devices.* 2012; 41(11):1-23.
- Available at: <http://www.zazzle.co.uk/kick+cancer+badges>
- Loss of an Iridium-192 Source and Therapy Misadministration at Indiana Regional Cancer Center Indiana, Pennsylvania, on November 16, 1992, US NRC,

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