Implementing a registration and analysis of events relating to actual or potential unintended exposure
- To prepare and deliver guidelines and education programmes to enable compliance with national legislation in the area
- To monitor European and international activities on an ongoing basis and update the ESTRO as appropriate
- To prepare and disseminate information to the public on how safety is already a key focus in radiotherapy generally and the on-going efforts to ensure safety issues remain central to radiotherapy practice.

Conclusion: The aim of the task force is to position ESTRO at the forefront of Safety and Risk Management in radiation therapy by
- Collaboration with professional societies within first of all in EU/Europe but also with other organisation within RO
- Preparation of guidelines and educational material
  - Information and dissemination of present and future EURATOM directives.

SP-0294
AAPM safety profile assessment results from the first year of use
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Purpose: Quality and safety improvement is a multidimensional problem. Many recommendations for best practices have been put forth in the last five years. A recent review of seven authoritative documents revealed no fewer than 117 separate recommendations. These recommendations span the spectrum from quality control to prospective risk assessment to incident learning and safety culture. With such a wealth of information, it is challenging to absorb and implement quality improvement recommendations in a busy clinical environment. To address this issue, the American Association of Physicists in Medicine (AAPM) has developed the Safety Profile Assessment (SPA), a freely-available online tool designed to probe key aspects of quality and safety. This report describes the development of the SPA and its first year of use.

Methods: The SPA was developed over a two year period by a multi-disciplinary panel of experts using a consensus process. The resulting tool consists of 92 indicator questions designed to gauge the most important dimensions of quality and safety. The SPA was pilot tested in 21 volunteer clinics and released for general use in July 2013. Anonymous survey data were collected to gauge users’ experience. The SPA was also analyzed with respect to the widely-accepted dimensions of quality from Donabedian.

Results: In the first year of use, 107 users completed the SPA. The online tool provides a (graphical) benchmarking of answers against all other respondents in the database and the ability to track responses over time. An annotated bibliography is available for each indicator question, and the user can download a safety and quality tracking spreadsheet to guide in the implementation of improvements. Classifying the indicator questions according to Donabedian’s quality categories yielded the following results: process issues (62%), structural issues (27%) and outcomes (8%). In pilot testing the SPA required an average of 1.3 hours to complete. The majority of respondents (99%) had assembled a multidisciplinary group to complete the SPA of 3.9 members on average. With a 69% response rate to the survey, respondents indicated that SPA was easy or very easy to use (70%) and that they would definitely or very probably complete the SPA again (63%).

Conclusions: The Safety Profile Assessment is a freely available online tool intended to provide a practical means for assessing the quality and safety environment in a radiation oncology clinic. The tool has been reviewed favorably by the first cohort of users.

SP-0295
MARR project for risk assessment results of the pilot test
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Purpose: The goal of the MARR project is to find a means to implement a risk analysis methodology among radiotherapy professionals. This project is coordinated by the Spanish Professional Societies of Radiotherapy Oncology (SEOR), Medical Physics (SEFM), Radiation Protection (SEPR) and Radiotherapy Technologists (AETR).

Materials and Methods: The risk methodology chosen was the simplified dedicated Radiotherapy Risk Matrix and its associated software tool SEVRRA, developed by Foro Iberoamericano de Organismos Reguladores (FORO). This method has been proved in 44 radiotherapy services of 7 different countries. The risk matrix is an easy to use semi-quantitative method that consists in analyzing all initiating events that can lead to an error in the treatment if the measures put in place to avoid it (barriers) fail. As a first stage in the MARR project, the initiating events and barriers were adapted to the current radiotherapy practice in Spain. The risk is defined as a combination of three parameters: the frequency of occurrence of the event, the severity of the potential consequences and the probability of failure of the set of existent barriers. The risk matrix provides the resulting risk level from this combination.

The methodology allows a second deeper analysis on those errors resulting in a higher associated risk. The MARR project was carried out in 10 Spanish Hospitals during the period 2013-2014 and involved:
- The training of the participating professionals (a working team composed by a radiotherapy oncologist-RO-, medical physicist-MP- and radiation therapy technologist-RTT- from each hospital) in the use of the risk matrix methodology and SEVRRA.
- The completion of the risk analysis in every hospital.
- The development of a risk analysis guide based on the results and the feedback provided, to facilitate the implementation of this method in other hospitals.

Results: The project is finished. In the following table a list of the initiating events, barriers and reducers where some modifications were introduced as a consequence of the feedback from participating hospitals is shown:

<table>
<thead>
<tr>
<th>category</th>
<th>Initial</th>
<th>Modified</th>
<th>Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating events</td>
<td>124</td>
<td>61</td>
<td>14</td>
</tr>
<tr>
<td>Barriers</td>
<td>104</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>Frequency reducers</td>
<td>47</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Consequence reducers</td>
<td>32</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

The main advantages of the methodology declared by the participants are:
The main drawbacks are mentioned by a lower percent of participants:
- There are no institutional support and resources to make the analysis (71% of RO, 56% of MP and 33% of RTT).
- Time needed (86% of RO, 44% of MP and 50% of RTT).
- Very few indicate that it cannot detect the safety weak points (14% of RO), results are qualitative and subjective (17% of RTT) or that the risk analysis has not the depth needed (33% of MP).

The software used (SEVRRA) was considered as a tool easy to use that facilitates the analysis by 71% of RO, 89% of MP and 67% of RTT.

Conclusions: The risk matrix is a proven tool for risk analysis in radiotherapy. To implement a risk methodology among radiotherapy professionals it is very important that everyone who takes part in the process is involved in the risk analysis. The working group needs basic training before they can start it and assistance from risk analysis experts.

Training a reduced number of radiotherapy centers, that can eventually act as reference centers at local level, is a feasible and effective way of spreading the use of these techniques at national level.

SP-0296
IAEA: Proactive and retrospective management with potential for benchmarking
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Introduction: Patient safety in radiotherapy is a comparatively new discipline that has rapidly risen to star status. This rise began in the late 1990s, with eye-opening reports documenting the scale of harm caused by medical errors. In 2010, the New York Times published a series of articles on medical errors elevating the awareness of accidents in radiotherapy. Safe radiotherapy requires a multi-disciplinary comprehensive approach to assure that an adequate safety system is in place. One aspect of a robust safety system is the identification of near misses and errors that occur in radiotherapy. The use of an incident learning system can capture data that can be used to identify weakness in safety and provide the institution with information in the use of effective safety barriers. Institutions can also look at the potential for harm and identify safety infrastructure needs using prospective risk analysis such as Failure Mode and Effects Analysis (FMEA). These types of analytical tools assist in understanding the adequacy of the safety system by addressing the potential for errors, the frequency of the errors and the severity of the errors. Both reporting and learning systems and prospective analysis have value in patient safety, but to elevate their effectiveness, the institution should consider looking at industry wide activities and results. Benchmarking can be used to compare one institution’s safety system and performance metrics to industry standards. The IAEA Safety

The first recorded use of heat to treat cancer was made some 5000 years ago, thus making it one of the oldest cancer therapies known. But, when using heat as a single agent therapy, tumour control is only likely when very high thermal ablation temperatures are achieved. At lower temperatures in the hyperthermia range (typically temperatures of up to around 43°C) tumour control is not possible. As a result, hyperthermia is often considered an experimental treatment with no realistic future in clinical cancer therapy. This is wrong. Although hyperthermia per se is probably only useful in palliative situations and has no role to play in the curative treatment of human tumours, there is definite evidence that when hyperthermia is combined with more conventional therapies significant improvements in clinical outcome are possible. This is especially true for the combination of hyperthermia and radiation, and in fact, hyperthermia is probably one of the most effective radiation sensitizers known. In this presentation, we will review the pre-clinical studies establishing the rationale for how hyperthermia should be combined with conventional therapies and present an update of the clinical results demonstrating the clear benefit of such combination treatments in patients with specific types of cancer. In addition, we will discuss what approaches are now being applied to further improve the efficacy of hyperthermia when combined with more conventional therapies.