

17-Nov-2017

Canadian Nuclear Safety Commission  
P.O. Box 1046, Station B  
280 Slater Street  
Ottawa, ON, K1P 5S9

**Re: Feedback on Proposed Implementation of REGDOC-2.7.3 Radiation Protection Guidelines for Safe Handling of Decedents**

To whom it may concern:

Thank-you for the opportunity to comment on this proposed implementation.

The following feedback is given in our capacity as radiation safety officers (RSOs) for publicly funded, not-for-profit, medical facilities providing treatment to cancer patients.

***Radioisotopes Not Mentioned (Table 1, Table 2, Sections 5 and 6)***

While we understand that it is not feasible to include all radioisotopes that are currently in use for medical therapeutic procedures, this REGDOC does not mention Radium-223 or Lutetium-177 both of which are rapidly gaining popularity as therapeutic nuclear medicine agents.

In particular we recommend adding Radium-223 precautions in this REGDOC as currently there are no alpha-emitting radioisotopes mentioned. The addition of an alpha-emitter such as Radium-223 would enable users to “extrapolate” precautions to other alpha-emitters that may also gain traction in therapeutic nuclear medicine (such as Ac-225 or Bi-223).

Ideally this REGDOC should provide a generalized set of rules for determining precautions based on physical characteristics of the radioisotope (half-life, alpha vs. beta vs. gamma emitter, biological uptake, etc.). If feasible this would provide guidance on lesser used and novel radioisotope usage.

Another option to minimize the issue of radioisotopes not being mentioned in this REGDOC would be for CNSC to provide an online list of precautions for various radioisotopes that is separate from the REGDOC. This list could be updated regularly as the therapeutic landscape changes.

***Table 2: Timeframes for taking precautions discussed in sections 5 and 6***

It was noted that in this table the “Autopsy” and “Cremation” timelines for each radioisotope are the same with the exception of Strontium-89 where the autopsy timeline is listed as 2 years and the cremation timeline is listed as 1 year.

We are unsure if this is a clerical error or if the recommended timelines for autopsy and cremation timelines are different for Strontium-89.

**Section 5.1.2 Cremation (Iodine-125 and palladium-103)**

In regards to possible transfer of brachytherapy seeds from one decedent's remains to the next decedents who are cremated inside the cremation chamber, we have had a first-hand experience of this when a decedent who was treated at one of our facilities was cremated prior to the funeral home becoming aware of their I-125 implant. In this case, the next 2 decedents to be cremated in the cremation chamber had single brachytherapy seeds discovered in their remains. In this case the crematorium staff were unaware of the presence of the brachytherapy seeds and hopefully the precaution in the REGDOC to "Rake out the cremation chamber as thoroughly as possible ..." would minimize transfer to other decedents remains. This does however bring up the question of what is recommended if funeral home or autopsy staff become aware of the presence of a radioisotope implant or unsealed nuclear substance after cremation or an autopsy has already been performed. In the case of cremation it is possible that the remains were pulverized and that loose contamination may be present on equipment or that other decedent remains may contain activity. We recommend adding advice for such a situation to the REGDOC.

**Section 5.1.2 Cremation (Iodine-125 and palladium-103)**

In the section titled "Precautions for handling cremated remains" recommend to add the precaution that is used for therapeutic nuclear medicine isotopes namely:

- Do not directly handle/touch the cremated remains.

Thank-you again for the outreach concerning this proposed implementation and for the opportunity to comment.

Yours sincerely,

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