CANADIAN ASSOCIATION OF RADIOPHARMACEUTICAL SCIENTISTS

Newsletter **October 2018**

www.RadiopharmacyCanada.com

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To the CARS Membership,

In my capacity as CARS Past President, I am seeking nominations for the positions of Secretary, Treasurer and Executive Member-at-Large (M-a-L). The Secretary and M-a-L positions are for 2 years, with the Secretary expected to progress to President-Elect and then President every 2 years. The Treasurer position is for 5 years.

Deadline for nominations is October 19, 2018. We will have electronic elections soon thereafter as necessary and expect to install the new officials at the next CARS Annual General Meeting (AGM); in any case before end 2018.

Note that only CARS Members in good financial standing will be permitted to vote. A notice for membership dues and the AGM will be coming out shortly, so please feel free to nominate candidates regardless whether your dues have been paid.

Nominations and related enquiries should be sent to Kennedy Mang'era: pastpresident@radiopharmacycanada.com

An excerpt of the CARS Constitution and By-Law follows:
The officers of the Association are the (i) President, (ii) President-Elect, (iii) Past President (iii) Secretary, (iv) Editor/Treasurer and (v) Executive Member-at-Large.

The President is the principal officer of the Association, presides over all official functions of the Association, and is chairperson of the Board of Directors.

The President-Elect assists the President in any matters which may be delegated to him by the President.
The Secretary maintains the official records of the Association and the minutes of any business meetings. He shall arrange with the Editor/Treasurer for any balloting of the membership, announcements, etc. that are not included in the CARS Newsletters. Ballots from the membership will be received and tabulated by the Secretary.

For more information, please visit our website: http://radiopharmacycanada.com/

QUALITY SYSTEMS & SURVEY

In December 2017 a survey about GMP quality system usage and administration was emailed out to members and others in the community. There were 7 participants in the study all being persons with managerial GMP responsibilities at radiopharmaceutical production sites. The following points summarize the findings from the survey:

- All but **1** site operates with a **Health Canada Drug Establishment Licence**;
- Interestingly, asking if there is sufficient autonomy/independence of the Quality department from production and management indicates that these sites manage this GMP requirement differently:
    - **3** sites have a Quality department separate from **Management and Production**;
    - **1** site operates with the Quality department only separate from **Management only**;
    - **2** sites separate their Quality department from **Production only**;
    - **1** site claims there is **no separation** between the Quality department and other units.
- The respondents to the survey claim that Management commitment to GMP and Quality systems is on average 74% (lowest 20% and highest 100%)

A drug manufacturing facility cannot maintain regulatory compliance with a quality assurance group that is dependent on other organizational departments. Independence from manufacturing operations and adequate authority is what validates quality assurance as a non-biased quality manufacturing/organizational inspection system. This is according to the FDA and would be echoed by other mutually recognized regulatory authorities. Organizational freedom and independence do not necessarily require quality assurance to be a stand-alone group. However, there must be support from senior management and compliance throughout the organization to reduce any conflict of interest.

You asked for:

1. Timely communication of information that impacts GMP or any other regulatory updates;
2. Providing a contact for advice/simple consulting with respect to radiopharmaceutical regulatory requirements and achieving compliance in GMP inspections.

This newsletter was tailored to provide you with the most up-to-date information the CARS executive have with respect to regulatory changes in Canada. We also look forward to representing those of you who can't make it to the Regulatory Workshop this year and will disseminate the content and summaries of our discussions and collaborations with CANM and HC shortly thereafter. We also encourage you to send your GMP and regulatory questions to our executive to address in future newsletters or memos to the membership.

Thank you very much for your participation. We hope to continue this momentum and be an increasing Quality resource for the Radiopharmaceutical community.

REVIEW ARTICLE
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Development of ^{225}Ac Radiopharmaceuticals: TRIUMF Perspectives and Experiences

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A R T I C L E H I S T O R Y
Received: August 18, 2017
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10.2174/1874471011666180416161908

Abstract: ***Background:*** The development of radiopharmaceuticals containing 225Ac for targeted alpha therapy is an active area of academic and commercial research worldwide.

Objectives: Despite promising results from recent clinical trials, 225Ac-radiopharmaceutical development still faces significant challenges that must be overcome to realize the widespread clinical use of 225Ac. Some of these challenges include the limited availability of the isotope, the challenging chemistry required to isolate 225Ac from any co-produced isotopes, and the need for stable targeting systems with high radiolabeling yields.

Results: Here we provide a review of available literature pertaining to these challenges in the 225Acradiopharmaceutical field and also provide insight into how performed and planned efforts at TRIUMF -Canada's particle accelerator centre - aim to address these issues.

Keywords: Actinium-225, targeted alpha therapy, isotope production, radiochemistry, radiolabeling, TRIUMF.

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Contact a CARS executive or the BGTD to get more information about registration

Can't wait to see you there!!!

Health Canada's Regulatory Workshop on Radiopharmaceuticals

Theme: Innovation, Modernization and Harmonization

What?	The 2018 Regulatory Workshop on Radiopharmaceuticals
When?	Tuesday, November 20, 2018 - Wednesday, November 21, 2018
Where?	Library and Archives Canada, 395 Wellington Street, Ottawa, Ontario
Who should attend?	Members of the Radiopharmaceutical community: Industry, Research, Academia, Regulatory, etc.

A. Workshop

The Biologics and Genetic Therapies Directorate (BGTD) is extending an invitation to members of the radiopharmaceutical community to attend Health Canada's 2018 Regulatory Workshop on Radiopharmaceuticals being held November 20 & 21, 2018.

This event is co-hosted by the BGTD, the Regulatory Operations and Regions Branch (RORB), the Nuclear Medicine Alliance (NMA), the Canadian Association of Nuclear Medicine (CANM) and the Canadian Association of Radiopharmaceutical Scientists (CARS).

The objectives of the regulatory workshop are:
1) to engage with the radiopharmaceutical community on current and emerging regulatory initiatives stemming from across the Health Products and Food Branch and RORB, and
2) to discuss past experiences and current challenges with pre-market and post-market activities in the regulation of radiopharmaceuticals.
We anticipate that the open dialogue that is encouraged at this event will be well-representative of the views of members from all sectors of the radiopharmaceutical community.

Topics for the workshop include:

- Regulatory Modernization
- Theranostics
- Regulatory Innovation
- Radiopharmaceutical Training Programs
- Good Manufacturing Practices
- Compliance and Enforcement and Regulatory Oversight
- International Harmonization

Stay tuned as more is to be featured. The final version of the agenda will be made available to all participants soon.

USP <825> COMPOUNDING - RADIOPHARMACEUTICALS

Full proposed changes courtesy of Dr. Ingrid Kosolowski available for members only on our website

http://radiopharmacycanada.com/members.html

Type of Posting: General Announcement

Posting Date: 01–Jun–2017

Expert Committee: Chemical Medicines Monographs 4

Expert Panel: Radiopharmaceutical Compounding Panel

Input Deadline: August 31, 2017

Estimated proposal PF: *Pharmacopeial Forum* 44(6) [Nov.-Dec. 2018]

Background and objective(s): Radiopharmaceuticals represent a unique class of drug products where compounding activities include the use of radionuclide generators, the preparation of commercially-manufactured radiopharmaceutical kits, the dilution of FDA-approved multi-dose vials, the labeling of human blood products with radionuclides, the preparation of patient-specific doses, etc. These activities occur in an environment where individualized patient needs and the safe handling of radioactive materials demand a high level of professional care and clearly-defined standards that support these activities.

Since 2004, General Chapter <797> *Pharmaceutical Compounding—Sterile Preparations* has described standards for the entire spectrum of compounded sterile preparations. Standards for radiopharmaceuticals have been addressed at various levels within <797>, but it has been difficult to develop and maintain standards for radiopharmaceuticals in this manner due to the scope of <797> and the unique characteristics of radiopharmaceuticals.

On February 1, 2017, the USP hosted a roundtable discussion on compounding standards for radiopharmaceuticals. The roundtable was attended by stakeholders from the nuclear medicine community, regulatory agencies, and USP staff. During this day-long session, participants discussed potential approaches to address the challenges associated with this class of products. Based on this discussion, the stakeholders from the nuclear medicine community strongly favored the development of a new general chapter for radiopharmaceutical compounding. After considering these stakeholder inputs, the USP staff and Compounding Expert Committee agreed with the development of a separate chapter to effectively address these needs.

The objective of the new General Chapter <825> *Compounding—Radiopharmaceuticals* is to provide clear and effective USP public standards that meet patient and practitioner needs for compounded sterile radiopharmaceuticals today and in the future. The proposed new general chapter will delineate compounding activities for radiopharmaceuticals and provide standards associated with these activities. When complete, General Chapter <825> will contain standards for this class of products.

Description of scope and application: The Chemical Medicines Monographs 4 Expert Committee will form a new Expert Panel, which will be charged with drafting <825> *Compounding—Radiopharmaceuticals*. The Expert Panel will prepare a draft for review by the appropriate Expert Committees within the USP. Upon approval by these Expert Committees, the proposal will be published in *Pharmacopeal Forum* for public comments.

Anticipated proposed design phase activities: The background and concepts in this new general chapter are included in a white paper that was written by the Committee on Radiopharmaceuticals, which is a standing committee within the Society of Nuclear Medicine and Molecular Imaging. The white paper was shared with USP leadership and is also available at the following link: http://snmmi.files.cms-plus.com/SNMMI-USP-Recommendations-Final_2016.pdf. The proposed new general chapter will be published for comment in Pharmacopeial Forum 44(6) [Nov.–Dec. 2018].

Contact: Ravi Ravichandran, Principal Scientific Liaison (301-816-8330 or rr@usp.org).

LETTER FROM THE EDITOR

Dear members:

Happy fall everyone! We are happy to welcome you back to our CARS newsletter or give a friendly hello to our new readers. This edition was created to present the results of our second survey on Quality Management Systems (QMS), provide our members with new insights into the development of ^{225}Ac radiopharmaceuticals and provide you with updates on changes to the radiopharmaceutical regulatory affairs.

There have been many changes proposed in the regulation of radiopharmaceuticals in Canada and internationally. CARS members made it clear in our QMS survey that they would appreciate CARS keeping everyone apprised of any changes in regulations. The CARS Good Manufacturing Practices (GMP) working group just finished collating comments on Health Canada's proposed revisions to "Good manufacturing practices guide for drug products – Positron-emitting radiopharmaceuticals (GUI-0071". The consultative period closed October 5, 2018. For more information please contact an executive member of CARS.

Furthermore, although also closed for public comments, we also encourage our members to become aware of the proposed revisions to USP <825> (link to the full revision provided to members in this newsletter). We endeavor to provide a comparison of USP <797> and <825> in our upcoming newsletter.

Your executive will be in attendance at this year's Health Canada Regulatory Workshop on Radiopharmaceuticals. During this time CARS will also hold our annual general meeting and elections for the upcoming executive. The exact time and location of the AGM will be provided via email and social media to all of our members and followers.

As always please ensure your member information is up to date (email, mailing address, phone number(s)) and registration dues are paid up so that we keep you informed of activity in our radiopharm community. We also encourage you to reach out to us with recommendations to help you get the most out of your membership. Our motivation is to provide value for our members and share best practice guidance to our Radiopharmaceutical community.

Thank you for being a member of the Canadian Association of Radiopharmaceutical Scientists!

Cheers,
Shannon Colbert
Editor/Member-at-Large (CARS)

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