COLLEGE OF PHYSICIANS AND SURGEONS OF BRITISH COLUMBIA

Diagnostic Accreditation Program

ACCREDITATION STANDARDS

Nuclear Medicine Safety

Diagnostic Accreditation Program
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Introduction

In addition to the general safety (DSA) standards, patient safety (DPS) standards and all requirements as identified by the CNSC, the nuclear medicine safety standards provide additional modality specific requirements for the delivery of safe and quality nuclear medicine services. Appropriate and sufficient resources should be allocated to support the medical imaging service's implementation of staff and patient safety priorities and goals. Nuclear medicine safety applies to all nuclear medicine imaging (e.g. gamma, SPECT/CT, PET/CT).

Minimizing radiation exposure to pregnant and/or breastfeeding patients

No.		Description	Risk	Reference	Change
NMPTS2.0		**APPROPRIATE MEASURES ARE IN PLACE TO PREVENT UNNECESSARY RADIATION EXPOSURE TO PREGNANT AND/OR BREASTFEEDING PATIENTS**			New
NMPTS2.1		**Mechanisms are in place to prevent unnecessary radiation to pregnant patients.**			New
NMPTS2.1.1	**M**	There is clear signage posted in the reception, changing, and waiting areas to alert patients who may be pregnant to notify the technologist.	M	NM-AC-21 PET-AC-23	New
NMPTS2.2		**Procedures are in place to protect patients of childbearing age.**			New
NMPTS2.2.1	**M**	Patients of childbearing potential (ages 11 to 55) are asked about their pregnancy status. *Guidance: If a patient's pregnancy status is uncertain, additional precautionary measures must be taken prior to imaging. These precautions may include obtaining and documenting last menstrual period or conducting and recording the results of a pregnancy test.*	H	NM-AC-21 PET-AC-23	New
NMPTS2.2.2	**M**	If an examination is requested on a pregnant or potentially pregnant patient, there are documented procedures on how to proceed with the examination request.	H	NM-AC-21 PET-AC-23	New
NMPTS2.2.4	**M**	Pregnant and or breastfeeding patients are provided with post-nuclear medicine service radiation precaution guidance. *Guidance: Depending on the radiopharmaceutical given, patient instructions may include maintaining distance from others, control of body fluids, handling of potentially radioactive household trash, limiting interactions with the pediatric population, and the duration of these restrictions. Additionally, if relevant, guidance concerning breastfeeding or the cessation thereof is also included.*	H	NM-AC-21 PET-AC-23	New

Canadian Nuclear Safety Commission

No.		Description	Risk	Reference	Change
					New
NMPTS5.0		**CANADIAN NUCLEAR SAFETY COMMISSION**			
NMPTS5.1		**The nuclear medicine service is licensed and in good standing with Canadian Nuclear Safety Commission (CNSC).**			New
NMPTS5.1.1	**M**	The nuclear medicine service has current CNSC licence(s) in good standing.	H	NM-AC-21 PET-AC-23	New
NMPTS5.1.2	**B**	The nuclear medicine service conducts routine internal audits to ensure compliance with CNSC requirements. *Guidance: Reference CNSC Type II Inspection Worksheets (i.e. 872 for nuclear medicine and 862 for diagnostic nuclear medicine).*		NM-AC-21 PET-AC-23	New

Safety practices and laboratory equipment

No.		Description	Risk	Reference	Change
					New
NMPTS6.0		**NUCLEAR MEDICINE LABORATORY EQUIPMENT SAFETY**			
NMPTS6.1		**Centrifuges are used safely.**			New
NMPTS6.1.1	**M**	Centrifuges have safety-capped cups or rotor enclosures that provide aerosol containment.	M		New
NMPTS6.1.2	**M**	Centrifuge lids or doors are locked when the motor is energized and remain locked until the centrifuge stops.	M		New
NMPTS6.1.3	**M**	Centrifuge loads are balanced by distributing samples evenly.	M		New
NMPTS6.1.4	**M**	Centrifuges are cleaned and properly maintained as per manufacturer's recommendations. This maintenance is documented.	M		New
NMPTS6.1.5	**M**	Procedures for centrifugation are expressed in relative centrifugal force units (RCF/g).	M		New
NMPTS6.2		**Fume hoods are operated in a manner that protects staff.**			New
NMPTS6.2.1	**M**	There is a marking on the sash to indicate the maximum height to which the face can be opened and still maintain the required flow rate.	M		New
NMPTS6.2.2	**M**	Fume hood face velocity is checked at least annually, after installation, after movement of the unit, and after any repair or maintenance that could affect the airflow of the hood.	M		New
NMPTS6.2.3	**M**	Fume hood operation ensures optimal conditions are maintained (e.g. proper sash height, free of obstructions).	M		New
NMPTS6.2.4	**M**	All new fume hood installations have an alarm capable of indicating when the average face velocity falls below the minimum average face velocity.	H		New
NMPTS6.3		**Biological safety cabinets (BSC) are operated in a manner that protects staff.**			New
NMPTS6.3.1	**M**	BSCs are certified to ensure filters are functioning properly and that airflow meets specifications on installation.	H		New
NMPTS6.3.2	**M**	BSCs are certified to ensure filters are functioning properly and that airflow meets specifications annually.	H		New

No.		Description	Risk	Reference	Change
NMPTS6.3.3	**M**	BSCs are certified to ensure filters are functioning properly and that airflow meets specifications after change of the HEPA filter.	H		New
NMPTS6.3.4	**M**	BSCs are certified to ensure filters are functioning properly and that airflow meets specifications after movement of the unit.	H		New
NMPTS6.3.5	**M**	BSCs are certified to ensure filters are functioning properly and that airflow meets specifications after any repair or maintenance that could affect the seal of the HEPA filter.	H		New
NMPTS6.3.6	**M**	Certification of BSCs is conducted by an individual with knowledge, training and experience. *Guidance: Consult with WorkSafeBC for guidance on confirming that an individual has the knowledge, training and experience as acceptable to WorkSafeBC.*	H		New
NMPTS6.3.7	**M**	Records of certification are retained.	M		New
NMPTS6.3.8	**M**	BSCs are operated in a manner that ensures optimal conditions are maintained (e.g. proper sash height, clutter-free, free of grill obstructions).	H		New
NMPTS6.3.9	**M**	The airflow at the face of the BSC is monitored and recorded daily. *Guidance: Refer to the WorkSafeBC Laboratory Health and Safety Handbook for acceptable face velocities for different designs of biological safety cabinets.*	H		New

References

Abbreviation	Citation
PET-AC-23	2023-2027 DAP Nuclear Medicine Positron Emission Advisory Committee Recommendation
NM-AC-21	2021-2025 DAP Nuclear Medicine Single Photon Emission Advisory Committee Recommendation

Bibliography

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