 Department of Health Government of Nunavut		NURSING POLICY, PROCEDURE AND PROTOCOLS	
		Community Health Nursing	
TITLE:		SECTION:	POLICY NUMBER:
Performing X-Rays – CHN, NP and BRT		Diagnostics	08-018-00
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APPLIES TO:			
All Community Health Staff and Physicians			

1. BACKGROUND:

Basic radiography services are considered an essential part of the basic health care services that must be available in each community. As it is not feasible to have a certified medical radiation technologist in every community, Community Health Nurses, Nurse Practitioners and Basic Radiography Technicians are delegated the authority to perform basic radiography exams under the circumstances outlined in this policy. Quality assurance practices are established in each region to ensure safe operation of equipment and limit unnecessary patient and staff exposure to radiation.

2. POLICY:

A limited range of x-ray procedures may be performed in the community health centre setting under specific conditions by authorized personnel:

2.1 Authorized staff to perform x-ray procedures in the health centre setting:

- Certified Medical Radiation Technologist (MRT)
- Community Health Nurses (CHN) and Nurse Practitioners (NP) who have successfully completed a program of instruction on x-ray procedures
- Staff member who has completed the Basic Radiology Technician (BRT) training program (or similar GN approved training program)

2.2 Authorized radiological examinations which can be performed by the CHN, NP and BRT:

- Chest (including ribs)
- Extremities (excluding hips)

2.3 Authorized providers for ordering x-rays:

- Pregnant Women: A Physician or NP order is required to initiate X-rays for any reason.
- Chest x-rays: Children < 6 years of age group require a physician or NP order; the only exception is for TB surveillance. X-rays are only to be ordered when they are anticipated to have a direct and significant impact on the immediate management of the case. The practitioner must be aware that due to the equipment and resources available in the health centre setting, the films may be suboptimal, and care must be exercised in using them for clinical decision making. When required, the patient may be transferred to an appropriate referral site for the x-ray, where an MRT and proper equipment are available to support quality imaging.
- Chest x-rays for TB Surveillance: CHNs and Public Health Nurses (PHN) may initiate a chest x-ray without a Physician or NP order; the exception would be for pregnant clients.
NOTE: PHNs are not authorized to PERFORM the x-ray.
- Extremity x-rays: CHNs may initiate extremity x-rays, regardless of age, without a Physician or NP order; the exception would be for pregnant clients. X-rays are only to be

ordered when they are anticipated to have a direct and significant impact on the immediate management of the case. The practitioner must be aware that due to the equipment and resources available in the health centre setting, the films may be suboptimal, and care must be exercised in using them for clinical decision making. When required, the patient may be transferred to an appropriate referral site for the x-ray, where an MRT and proper equipment are available to support quality imaging.

NOTE: FNIHB guidelines list the indications for physician consultation when suspecting a fracture: A physician must be consulted for all known or suspected fractures. The x-ray image must be transmitted to the physician. Do not wait for report confirmation.

2.4 Each health centre is required to participate in Health Canada's Radiation Monitoring Program through National Dosimetry Services and maintain an x-ray log-book.

3. PRINCIPLES:

3.1 X-ray procedures may be performed in a health centre when the result is anticipated to have a direct and significant impact on the management of the case.

3.2 Safe implementation of X-ray procedures is critical to ensure quality client care and safety is maintained. The CHN, NP and BRT will have access to appropriate radiology resources:

- i. Radiology personnel when questions regarding X-ray procedures exist
- ii. An X-ray manual in each community health centre

4. DEFINITIONS:

4.1 Requesting an X-ray:

- i. Authorized provider stated in Policy statement 2.3 completes an x-ray requisition.
NOTE: only the name of the provider directly ordering the x-ray is to be entered on the requisition. Do not enter the MD or NP name if a verbal or written order was not directly received; otherwise, enter the name of the CHN who initiated the request as per the medical directive: CHN initiated x-rays.

4.2 Women of Childbearing Age:

- i. Pregnancy status must be verified prior to imaging for all female clients of childbearing age.
- ii. If the client is unsure of the date of the last menstrual cycle, the CHN or NP shall be notified and a urine pregnancy test obtained prior to imaging.
- iii. A physician or NP order is required for initiating x-rays on pregnant women.

4.3 Fulfilling an x-ray request:

- i. CHN, NP and BRT are delegated the authority to perform a limited range of x-ray procedures. When the client requires an x-ray test not listed in policy statement 2.2, the patient will require transfer to another facility where the test can be performed – physician consultation is required to facilitate travel.

Practice Point: If a patient had the same procedure performed previously, reviewing the exposure technique documented in the log-book for that patient may help achieve good image quality and reduce the need for repeat exposures.

- ii. X-ray procedures will be performed in accordance with legislation, policies and procedures outlined by the technician's regulatory body and the Department of Health.

4.4 Protective and proper positioning equipment must be used for all x-ray procedures (e.g. lead aprons, piggy-o-stat equipment).

4.5 When the BRT, NP or CHN are unsure of what equipment or positioning is required, they

must consult an MRT, as per established regional consultation protocols.

4.6 All x-rays are to be sent to the radiologist as per established regional operating procedures.

4.7 Poor Image Quality:

If the quality of the x-ray image is deemed to be inadequate for safe interpretation:

- i. Pediatric patients: **Do not repeat the x-ray before consulting the physician.** If the physician requests the x-ray be repeated, consult an MRT prior to repeating exposure for guidance on how to improve image quality.
- ii. Adult patients: The x-ray may be repeated one time only without physician consultation; however, the MRT must still be consulted first before repeating the exam.

4.8 Following up on x-ray results:

- i. The nurse initiating any test is responsible and accountable for reviewing and following up the diagnostic test results, as per CHN Manual Policies: Interpretation of X-Rays, Acknowledgement of Diagnostic Test Results, and Follow up of Abnormal Diagnostic Test Results.
- ii. The MD/NP is responsible and accountable for reviewing and following up on diagnostic test results initiated by him/herself.

4.9 Documentation:

- i. It is the responsibility of the staff member performing the x-ray to ensure all mandatory information is recorded in the log-book, on the requisition and on the film or digital image.
- ii. The following information is to be recorded in the log-book:
 - Date
 - Radiology number
 - Client Name
 - Number of examinations performed
 - Number of films used
 - Type of examination
 - Patient measurement
 - Focal field distance (i.e. distance from tube to film)
 - Patient position (i.e. supine, upright, semi-upright, AP/PA)
 - Exposure factor used
 - Referring community health centre (if applicable)
 - Name of person who took the x-ray

4.10 Dosimetry:

- i. It is mandated by federal law that all practitioners who are exposed to x-ray radiation be monitored for radiation exposure. Every employee who participates in the process of taking x-rays must be registered with the National Dosimetry Service.
- ii. Each health care worker who performs x-ray procedures shall be assigned a radiation monitor badge. The badge is to be worn at all times when working in the clinical area and should not be worn outside of the immediate area. When not in use, all badges are securely stored in the x-ray area where it will not be exposed to radiation.
- iii. Each health centre shall retain a minimum of 2 badges assigned to visitors which are to be utilized by relief staff.
- iv. The Supervisor of Community Health Programs (SCHP) or designate will collect all badges on a quarterly basis and replace the monitoring disks as assigned by the Radiation Protection Bureau.
- v. All used and un-used disks for each quarter will be forwarded immediately to the

- Radiation Protection Bureau.
- vi. Returned reports from the Radiation Protection Bureau should be retained on file at the health centre for two years.

NOTE: If a CHN, NP, or BRT is pregnant, s(he) should inform the SCHP so that appropriate precautions can be taken to limit the exposure to radiation.

5. RELATED POLICIES, PROTOCOLS AND LEGISLATION:

Appendix A: Guidelines for X-ray Instruction for CHNs and NPs

Appendix B: Guidelines on Safe Use of a Pigg-O-Stat

CHN Manual Policy: Radiation Monitoring System

CHN Manual Policy: Nurse-Initiated X-rays


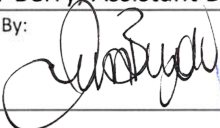
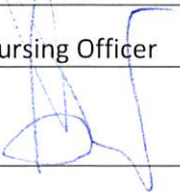
CHN Manual Policy: Acknowledgement of Diagnostic Test Results

CHN Manual Policy: Follow-up of Abnormal Diagnostic Test Results

CHN Manual Policy: Interpretation of X-rays

6. REFERENCES:

Health Canada. (2008). National Dosimetry Services. Retrieved from https://www.hcsc.gc.ca/e-wh-sem/occup-travail/radiation/dosim/index_e.html

Approved By: 	Date: Dec 10, 2020
Jennifer Berry, Assistant Deputy Minister, Operations – Department of Health	
Approved By: 	Date: Mar 08, 2021
Jenifer Bujold, A/ Chief Nursing Officer	
Approved By: 	Date:
Dr. Francois de Wet, Medical Chief of Staff, on behalf of the Medical Advisory Committee	

Background: Performing X-ray procedures is not part of the RN scope of practice and instruction is not included in the basic nursing program curriculum. Therefore, each CHN responsible for performing x-ray procedures must attend a program of instruction. The following guideline outlines the X-ray instruction that the CHN and NP shall receive during orientation. This includes, but is not limited to:

1. Care and use of equipment, including quality assurance practices
2. Underlying principles
3. Special considerations
4. Performance of X-rays
 - Loading film
 - Exposing film
 - Developing film
 - Anatomical positioning (including proper use of pigg-o-stat equipment)
5. Processor Training
6. Identification, handling, and forwarding of X-rays for radiological interpretation
7. Preliminary assessment of films
8. Radiation protection and monitoring systems
9. Safety Measures
 - *lead aprons*
 - *lead spot blockers*
lead gloves
 - *lead gonad screen*
lead screen
 - *lead collar*
 - *coning*
 - *logbook*
 - *dosette*

REFERENCES:

Health Canada. (2008). National Dosimetry Services from http://www.hc-sc.gc.ca/ewh-semt/occup-travail/radiation/dosim/index_e.html

Health Canada. (1999). *X-Ray Equipment in Medical Diagnosis Part A: Recommended Safety Procedures for Installation and Use - Safety Code 20A*.

APPENDIX B: Guidelines on the Use of Pigg-o-stat

The Pigg-o-stat is to be used for pediatric clients who require immobilization during x-ray examinations.

1. Prepare x-ray machine controls, position and film.
2. Remove the child's clothing, except for the diaper.
3. Open the supports on the Pigg-o-stat immobilizer (like opening a book).
4. Adjust the seat to the lowest level possible so the child's mouth is at the level of the opening in the front.
5. Place the child on the seat and instruct someone (may be the parent) to hold the child's arms in a vertical position touching the ears. The arms should firmly immobilize the head.
6. Then adjust the supports firmly against the child and fasten locks on the base and leather straps at the top.
7. Re-adjust the child if he/she is not in a perfectly erect position.
8. The child must be completely immobilized before letting go of the arms and head. If it is required for the parent to remain with the child during the test, he/she must be given appropriate protective equipment.
9. Avoid using device for children who are too large.
10. Adjust film to the proper height and in contact with supports.
11. Remove child from the immobilizer.
12. Disinfect after each use.



Note: Use care to avoid hard blows or dropping the supports.