 Department of Health Government of Nunavut		NURSING POLICY, PROCEDURE AND PROTOCOLS	
		Community Health Nursing	
TITLE:		SECTION:	POLICY NUMBER:
Nurse-Initiated X-Ray Requests		Diagnostics	08-019-00
EFFECTIVE DATE:	REVIEW DUE:	REPLACES NUMBER:	NUMBER OF PAGES:
August 21, 2020	August 2023	08-007-00 / 08-008-00	6
APPLIES TO:			
Community Health Nurses, Public Health Nurses			

1. BACKGROUND:

X-rays can provide valuable information to help differentiate a client's diagnosis; assess the clinical response to treatment; or rule out a potential diagnosis that would require further consultation out of the community. This policy provides an authorizing mechanism for Community Health Nurses and Public Health Nurses to initiate orders for basic radiography exams under the circumstances outlined in this policy.

2. MEDICAL DIRECTIVE:

2.1 The following client condition(s) apply, when initiating x-rays:

- Traumatic injuries of the extremities or clavicles when the x-rays are anticipated to have a direct and significant impact on the immediate management of the case; or
- Routine screening chest x-ray under TB surveillance protocols; or
- Diagnostic chest x-ray in periods of acute illness, as directed by the First Nations and Inuit Health Branch (FNIHB) Clinical Practice Guidelines or Department of Health (DH) protocols.

2.2 Based on these conditions, Community Health Nurses (CHN) may:

- Initiate a chest x-ray without a direct Physician or Nurse Practitioner (NP) order for children 6 years of age and older; or
- Initiate an extremity x-ray without a direct Physician or NP order, regardless of age.
- Initiate a chest x-ray regardless of age without a direct Physician or NP order in accordance with the Department of Health TB surveillance protocols as outlined in Policy 08-019-01 Initiating X-rays for TB Program.

2.3 Public Health Nurses (PHN) may:

- Initiate a chest x-ray regardless of age without a direct Physician or NP order in accordance with the Department of Health TB surveillance protocols as outlined in Policy 08-019-01 Initiating X-rays for TB Program.

PRACTICE NOTE: Due to the equipment and resources variances in the health centre setting, x-rays may be suboptimal, and care must be exercised in using them for clinical decision making.

3. RECIPIENT PATIENTS:

Patients in Community Health Centre and Public Health Settings

4. CONTRAINDICATIONS TO THIS MEDICAL DIRECTIVE:

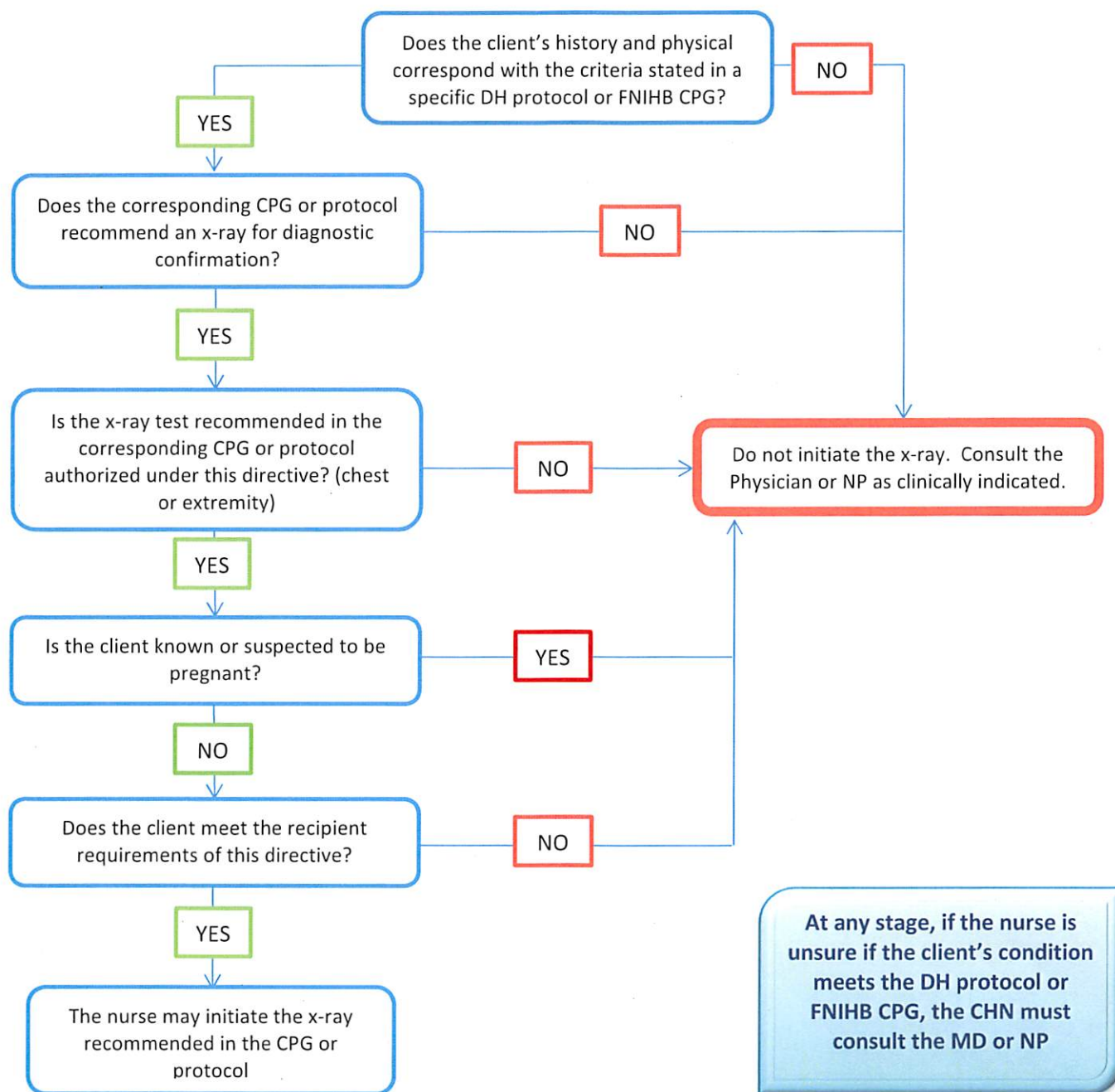
Consult the Physician or NP before initiating an x-ray when any of the following conditions exist:

- Patient is < 6 years of age and requires a chest x-ray, for non-TB related presentation.
- Patient is suspected or known to be pregnant.
- The nurse cannot confirm all conditions of this directive have been met.
- The patient's history or physical exam does not match the criteria set forth in a corresponding DH

- protocol or FNIHB clinical practice guideline.
- v. The x-ray test is not recommended as part of the diagnostic investigation within the FNIHB guideline or DH protocol, or the guideline recommends physician consultation first.
5. **AUTHORIZED IMPLEMENTERS:**
- 5.1 Community Health Nurses or Supervisors of Community Health Programs who possess the knowledge, skill and judgment to do so. The CHN is required to demonstrate competency to implement this medical directive through the standard orientation process.
 - 5.2 Public Health Nurses who possess the knowledge, skill, and judgement to do so. The PHN is required to demonstrate competency to implement this medical directive through the standard orientation process.
 - 5.3 Sub delegation is not permitted to another health care provider or staff.
6. **PRINCIPLES:**
- 6.1 CHNs and PHNs are expected to practice within their own level of competence and seek guidance from their supervisor, physician or NP as needed.
 - 6.2 Guidelines do not replace clinical judgement. Management decisions must be individualized.
 - 6.3 Children and fetuses are more radiosensitive and thus require additional consultation.
 - 6.4 The *Ottawa Knee Rules* and the *Ottawa Ankle Rules* allow nurses to be more selective and efficient in their use of radiography for clients with acute knee and acute ankle injuries.
7. **DEFINITIONS**
- 7.1 Nurse: Refers to Community Health Nurse, Supervisor of Community Health Programs, or Public Health Nurse.
8. **PROCEDURE:**
- 8.1 The nurse conducts a comprehensive history and physical assessment.
 - 8.2 The nurse is responsible for determining if the conditions of this directive have been met before enacting it. If the findings of the initial assessment suggest an x-ray is warranted for diagnostic determination or guiding treatment decisions, the nurse will reference the corresponding FNIHB clinical practice guideline or DH protocol to verify whether a specific x-ray test is recommended. Algorithm in *Figure 1* provides guidance to the nurse when determining if the medical directive is appropriate to enact.
 - 8.3 The guidelines included in the appendices of this policy are approved references to assist the nurse in the decision-making process for acute injuries. These include:
 - i. The Ottawa Ankle and Foot Rules
 - ii. The Ottawa Knee Rules
 - 8.4 The CHN will explain the procedure to the client and/or family, including any potential adverse outcomes. Obtain verbal consent.
 - 8.5 Complete all required fields on the x-ray requisition (enter in Meditech where available):
 - i. Client identifiers
 - ii. Reasons for requesting the x-ray exam (clinical findings and initial differential diagnoses)
 - iii. Ensure the name of the nurse who is initiating the x-ray is clearly stated as the ordering provider. Do not include the MD or NP name if a direct order was not obtained.
 - 8.6 The nurse ordering an x-ray test is accountable for providing timely follow up of test results, in accordance with CHN Manual Policies: 08-010-00 *Interpretation of X-rays*; 08-005-00 *Acknowledgement of Diagnostic Test Results*; and 08-006-00 *Follow up of Abnormal Diagnostic Test Results*.
Note: The MD on call must be consulted when there is an urgent need for an x-ray to be read. The MD must be consulted in the event of a known or **suspected** fracture. For greater clarity, the MD must be consulted before the x-ray report is available.
 - 8.7 At minimum, the following must be documented in the client's health record:
 - i. The client history and physical assessment findings
 - ii. The x-ray test ordered
 - iii. The indication / rationale for requesting the x-ray. The nurse must cite the Medical Directive Name PLUS the CPG or protocol used in enacting this medical directive.

Example: "PA/LAT chest x-ray ordered as per FNIHB CPG: Community Acquired Pneumonia under the CHN Initiated X-rays Medical Directive.

FIGURE 1: Algorithm for Assessing Appropriateness of the Medical Directive



9. RELATED POLICIES, PROTOCOLS AND LEGISLATION:

Appendix A: Ottawa Ankle and Foot Rules

Appendix B: Ottawa Knee Rules

Community Health Nursing Manual: 08-018-00 Performing X-rays
Community Health Nursing Manual: 08-010-00 Interpretation of X-rays
Community Health Nursing Manual: 08-019-01 Initiating X-rays for TB Program
Community Health Nursing Manual: 08-005-00 Acknowledgement of Diagnostic Test Results
Community Health Nursing Manual: 08-006-00 Follow up of Abnormal Diagnostic Test Results
Community Health Nursing Manual: 08-009-00 Radiographical Examination of Pregnant Women
Community Health Nursing Manual: 06-008-00 Documentation Standards Policy
Community Health Nursing Manual: 05-009-00 Transferred Functions Policy

FNIHB Clinical Practice Guidelines for Nurses in Primary Care

FNIHB Pediatric Clinical Practice Guidelines

Government of Nunavut TB Manual

10. REFERENCES

Health Canada (2011). *First Nations and Inuit Health Branch Pediatric Clinical Practice Guidelines for Nurses in Primary Care*.

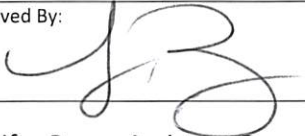
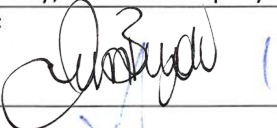
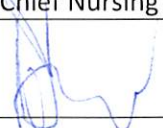
Government of Nunavut. Tuberculosis Manual.

Stiell, I.G., Wells, G. A., Hoag, R. H., Sivilotti, M. L., Cacciotti, T. F., Verbeek, P. R., et al. (1997).

Implementation of the Ottawa Knee Rule for the use of radiography in acute knee injuries. *JAMA* 278(23), 2075-2079.

Stiell, I., Wells, G., Laupacis, A., Brison, R., Verbeek, P., Vandernheer, K. et al. (1995). Multicentre trial to introduce the Ottawa ankle rules for use of radiography in acute ankle injuries. *BMJ* 311, 594-597.

CNO (2014). Reference Document: Legislation and Regulation. RHPA: Scope of Practice, Controlled Acts Model.

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	

APPENDIX A: Ottawa Ankle and Foot Rules

PRINCIPLES

- Ottawa Ankle and Foot Rules are applied to acute ankle injuries with the intention of reducing the excessive use of ankle x-rays.
- Fractures are diagnosed in only 7% to 36% of ankle injuries, even though most clients undergo a radiographic evaluation. Decreasing excessive radiographs would decrease client exposure to radiation and health care costs.
- Rules can only be applied to clients who are alert and are able to appropriately communicate their pain.

OTTAWA ANKLE RULES

A series of ankle x-ray films is required only if there is any pain in the malleolar zone **and** any of these findings:

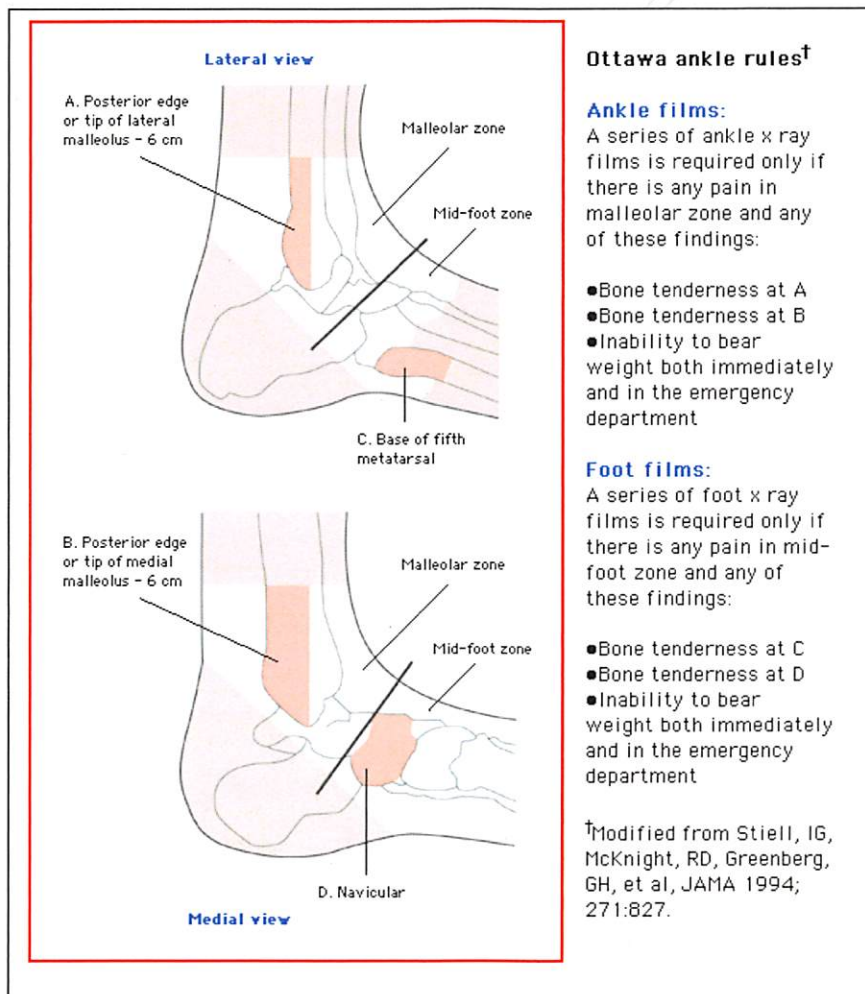
The client has pain near the malleoli, **and** if any of the following are true:

1. Bone tenderness at posterior edge or tip of lateral malleolus (identified as **A** on the figure below)
2. Bone tenderness at Posterior edge or tip of medial malleolus (identified as **B** on the figure below)
3. Inability to bear weight both immediately and in the emergency department.

OTTAWA FOOT RULES

A series of foot x-ray films is required only if there is any pain in mid-foot zone **and** any of these findings:

1. Bone tenderness at the base of the fifth metatarsal (identified as **C** on the figure below)
2. Bone tenderness on the navicular bone (identified as **D** on the figure below)
3. Inability to bear weight both immediately and in the emergency department.



APPENDIX B: Ottawa Knee Rules

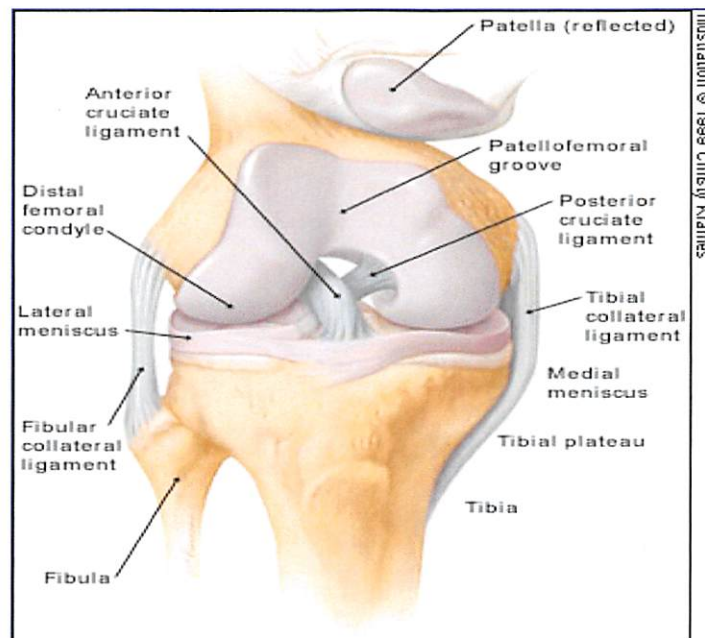
PRINCIPLES


- Ottawa Knee Rules are applied to acute knee injuries with the intention of reducing the excessive use of knee x-rays, by assisting the nurse or physician in the decision to use radiography.
- Decreasing excessive radiographs would decrease client exposure to radiation and health care costs.
- Rules can only be applied to clients who are alert and are able to appropriately communicate their pain.

OTTAWA KNEE RULES

A knee x-ray series is only required for knee injury patients with any of these findings:

1. Age 55 or older; **OR**
2. Isolated tenderness of patella (no bone tenderness of knee other than patella); **OR**
3. Tenderness of the head of fibula; **OR**
4. Inability to flex to 90°; **OR**
5. Inability to bear weight both immediately and in the emergency department for 4 steps (unable to transfer weight twice onto each lower limb regardless of limping)



 Department of Health Government of Nunavut		NURSING POLICY, PROCEDURE AND PROTOCOLS	
		Community Health Nursing	
TITLE:		SECTION:	POLICY NUMBER:
Initiating X-Rays for TB Program		Diagnostics	08-019-01
EFFECTIVE DATE:	REVIEW DUE:	REPLACES NUMBER:	NUMBER OF PAGES:
August 21, 2020	August 2023		5
APPLIES TO:			
Community Health Centres			

1. BACKGROUND:

X-rays are a vital tool used to screen for and diagnose pulmonary tuberculosis (TB) infections, as well as addressing the patient's clinical response to TB treatment. The Department of Health maintains two policies (08-018-00 and 08-019-00) which outline who is authorized to initiate an x-ray request and who is authorized to perform x-ray procedures in the health centre setting. Through these policies, Community Health Nurses (CHNs) are delegated the authority to initiate x-ray requests without a Physician or Nurse Practitioner (NP) order, but only with very strict parameters. As well, these policies permit CHNs, NPs, and Basic Radiology Technicians (BRT) to perform radiological procedures under specific guidelines.

The strict parameters set out in these medical guidelines were defined such that patient safety risks would be minimized, essential services would remain available in each community, and overall quality assurance of this activity could be easily monitored by the Department of Health. Although these policies remain relevant for general health centre use, they do present challenges when utilized in community-wide TB screening programs, which are primarily staffed with nurses working under the Public Health Nurse job description. This policy provides an authorizing mechanism for Public Health Nurses to additionally initiate orders for basic radiography exams under the community-wide TB screening program as outlined in this policy.

2. MEDICAL DIRECTIVE:

2.1 Community Health Nurses, Supervisors of Community Health Programs, and Public Health Nurses may initiate a chest x-ray request without a direct Physician or Nurse Practitioner (NP) order in accordance with the Department of Health TB surveillance protocols for:

- i. Patients of all ages who are being screened for TB disease as part of the Community-Wide TB Screening Program, or
- ii. Patients of all ages who are being monitored in follow-up for TB disease as part of the Community-Wide TB Screening Program, or
- iii. Patients of all ages, in the community health centre setting, who are being investigated and monitored for TB, in accordance with the Department of Health, TB Manual guidelines.

2.2 CHNs and PHNs are not authorized to initiate x-rays for patients who are pregnant; MD or NP order is required.

Practice Note: 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.

3. RECIPIENT PATIENTS:

Patients of all ages.

4. CONTRAINDICATIONS TO THIS MEDICAL DIRECTIVE:

Consult the Physician or NP before initiating an x-ray when any of the conditions exist:

- i. Patient is known or suspected to be pregnant.
- ii. The CHN/PHN cannot confirm all the conditions of this directive have been met.
- iii. The patient's history of physical exam does not match the criteria set forth in the Department of Health TB manual and protocols.
- iv. The x-ray test is not recommended as part of the diagnostic investigation as stated within the Department of Health TB Manual and protocols, or the protocols recommend physician consultation first.
- v. **The CHN/PHN must verify the date of the last chest x-ray and consult the physician if the x-ray was taken within a month of the proposed x-ray.**

5. AUTHORIZED IMPLEMENTERS:

5.1 Community Health Nurses, Supervisors of Community Health Programs, and Public Health Nurses who possess the knowledge, skill and judgement to do so and are following Department of Health TB Manual protocols. Demonstrated competency is required to implement this medical directive through the standard orientation process.

5.2 Sub delegation is not permitted to another health care provider or staff.

6. DEFINITIONS:

Nurse: Refers to Community Health Nurse, Supervisor of Community Health Programs, and Public Health Nurse.

7. PRINCIPLES:

7.1 Nurses are expected to practice within their own level of competence and seek guidance from their supervisor, physician, or NP as needed.

7.2 Guidelines do not replace clinical judgement. Management decisions must be individualized.

7.3 Children and fetuses are more radiosensitive and thus require special consideration.

8. PROCEDURE:

8.1 The nurse conducts a comprehensive history and physical assessment to determine if the conditions of this directive have been met. If the findings of the initial assessment suggest an x-ray is warranted as per the TB Manual, a chest x-ray may be initiated. Algorithm in *Figure 1* provides guidance to the nurse when determining if the medical directive is appropriate to enact.

8.2 The nurse will explain the procedure to the patient and/or family, including any potential adverse outcomes. Obtain verbal consent.

8.3 Complete all required fields on the x-ray requisition (enter in Meditech when available):

- i. Patient identifiers.
- ii. Reasons for requesting the x-ray exam (clinical findings and initial differential diagnoses).
- iii. Ensure the name of the nurse who is initiating the x-ray is clearly stated as the ordering provider. Do not include the MD or NP name if a direct order was not obtained.

8.4 The nurse ordering an x-ray test is accountable for providing timely follow-up of test results,

in accordance with CHN Manual policies: *Interpretation of X-Rays; Acknowledgement of Diagnostic Test Results; and Follow up of Abnormal Test Results.*

Note: The Physician On-Call must be consulted when there is an urgent need for an x-ray to be read.

8.5 At minimum, the following must be documented in the patient's health record:

- i. The patient history and physical assessment findings.
- ii. The x-ray test ordered and the medical directive name.

For example: "PA/LAT chest x-ray ordered as per 'X-rays for TB Screening' policy."

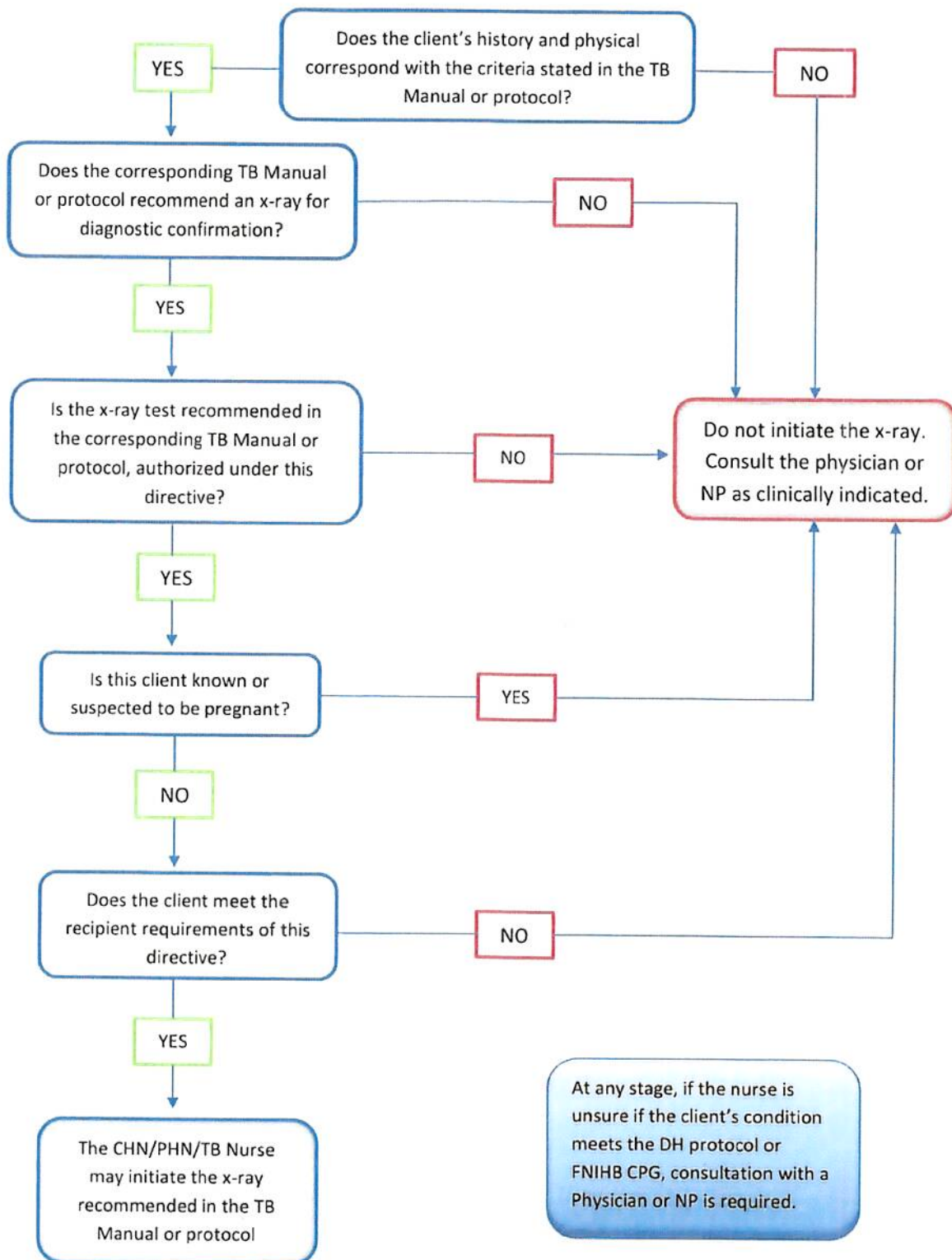
9. RELATED POLICIES, PROTOCOLS, AND LEGISLATION:

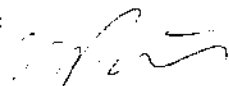
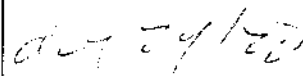

Community Health Nursing Manual: 08-019-00 Nurse Initiated X-ray Requests
Community Health Nursing Manual: 08-018-00 Performing X-rays
Community Health Nursing Manual: 08-010-00 Interpretation of X-rays
Community Health Nursing Manual: 08-005-00 Acknowledgement of Diagnostic Test Results
Community Health Nursing Manual: 08-006-00 Follow up of Abnormal Diagnostic Test Results
Community Health Nursing Manual: 08-009-00 Radiographical Examination of Pregnant Women
Community Health Nursing Manual: 06-008-00 Documentation Standards Policy
Community Health Nursing Manual: 05-009-00 Transferred Functions Policy
FNIHB Clinical Practice Guidelines for Nurses in Primary Care
FNIHB Pediatric Clinical Practice Guidelines
Government of Nunavut TB Manual

10. REFERENCES:

Government of Nunavut. Tuberculosis Manual.
Stelll, I.G., Wells, G.A., Hoag, R.H., Sivilotti, M.L., Cacciotti, T.F., Verbeek, P.R., et al. (1997).
CNO (2014). Reference document: Legislation and Regulation. RHPA: Scope of Practice, Controlled Acts Model.

Figure 1: Algorithm for Assessing Appropriateness of the Medical Directive



Approved By: 	Date: 
Dr. Michael Patterson, Chief Public Health Officer – Department of Health	
Approved By: 	Date: September 8, 2020
Monique Skinner, Chief Nursing Officer	