

<b>Care Directive Title:</b>	Fracture Liaison Service Diagnostic Test Ordering	
<b>Applies To:</b>	Fracture Liaison Service Registered Nurses (FLS RNs)	
<b>Approved:</b>	<b>Effective:</b>	<b>Next Review:</b>
September 23, 2024	October 1, 2024	September 23, 2028
<b>Sponsor:</b>	Noella Whelan, Senior Director, Primary Health Care and Chronic Disease Management  Dr. Maria Alexiadis, Senior Medical Director, Primary Health Care and Chronic Disease Management	
<b>Approval Authority:</b>	HAMAC	
<b>Number:</b> CD-PHC-055	<b>Manual:</b>	Care Directives

## PURPOSE

This care directive provides the conditions under which the Fracture Liaison Service (FLS) RN may order diagnostic tests listed in Appendix B for the eligible Patient presenting with Fragility Fractures. This care directive is in alignment with Osteoporosis Canada’s [Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada \(OC Guidelines\)](#).

## COMPETENCY REQUIREMENTS

1. The FLS RN must complete a practicum of at least five days’ duration in an FLS under the guidance of the FLS Clinical Nurse Educator (CNE), and in the absence of a CNE under the guidance of an competent FLS RN.
2. The FLS RN must demonstrate in-depth knowledge and understanding of:
  - Osteoporosis Canada’s current Clinical Practice Guidelines as they pertain to the management of fracture Patients.
  - Osteoporosis Canada’s current FLS Toolkit.
  - 2.1. The FLS RN must successfully complete a Fracture Risk Assessment Quiz and proficiency skills checklist.

3. The FLS RN must maintain competency by attending periodic updates in osteoporosis and FLS science, typically available in web-based and webinar-based formats. Where available, the FLS RN will attend in-person updates on osteoporosis and FLS.

## POLICY STATEMENTS

1. The FLS RN is authorized to identify Patients through proactive case-finding.
  - 1.1. The FLS RN reviews emergency admission lists, inpatient census lists, and orthopedic clinic lists to screen Patients.
2. **Inclusion Criteria:** The FLS RN is authorized to implement this CD if the Patient presents with **both** of the following inclusion criteria:
  - The Patient's fracture is diagnosed by a physician, usually an orthopedic surgeon or radiologist.
  - Patients 50 years or older who have Fragility Fractures of the wrist (distal radius), proximal humerus, hip, pelvis, or the spine (thoracic or lumbar).
3. **Exclusion Criteria:** The FLS RN is **not authorized** to implement this CD if the Patient presents with **any** of the following exclusion criteria:
  - Palliative care Patients
  - Renal dialysis Patients
  - Patients with a fracture suspicious of an atypical femur fracture as determined by the Nova Scotia Health FLS Medical Director.
  - Patients with a stress, peri-prosthetic, pathological or avulsion fracture
4. The FLS RN must follow [Nova Scotia College of Nursing \(NSCN\) Care Directive - Guidelines for Nurses](#).
5. A physician/authorized prescriber (AP)/MRHCP must be available for consultation and follow up as needed (in person/remotely).
6. The FLS RN may order specific bloodwork and diagnostic imaging as per [Appendix B](#) (Diagnostic Test Ordering Criteria).
7. The FLS RN must follow the most recent version of the [Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada](#).
8. Diagnostic test results must be reviewed by an AP.
  - Patients who do not have a primary health care provider will have their results reviewed by the Medical Director, Fracture Liaison Service or an AP identified by local procedure.

## PRINCIPLES AND VALUES

1. Inter-professional practice: The system needs to support and allow for sharing and collaboration between primary care and specialty care. Using a Fracture Liaison Service to address osteoporosis care has been shown to effectively reduce the care gap for Fragility Fracture Patients.
2. Fracture Liaison Service is the only intervention shown to meaningfully reduce the post fracture care gap. FLS has been shown to reduce future fractures, mortality, and health care costs in the Fragility Fracture population.

## PROCEDURE

1. Follow the procedure outlined in the clinical support tool available to FLS RNs.

## DOCUMENTATION

1. Document all treatment and tests ordered on the [Fragility Fracture Patient Care Checklist NSFFPCC](#). Include reference to this care directive.
2. If writing an order on the physician order sheet, include reference to this care directive.

**Example:** "Bone Mineral Density Test (BMD), as per the FLS CD. (Signature, date)".

## REFERENCES

- Ganda K., Puech, M., Chen, J., Speerin, R., Bleasel, J., Center, J., Eisman, J., March, L., & Seibel, M.(2013). Models of care for the secondary prevention of osteoporotic fractures: a systematic review and meta-analysis. *Osteoporos International*, 24, 393-406.  
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- Leslie, W., Majumdar, S., Lix, L., Josse, R., Johansson, H., Oden, Al, McCloskey, E., & Kanis, J. (2016). Direct comparison of FRAX® and a simplified fracture risk assessment tool in routine clinical practice: a registry-based cohort study. *Osteoporosis International*, 27, 2689-2695.  
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- Morin SM, Feldman SF, Funnell L, et al. for the Osteoporosis Canada 2023 Guideline Update Group (2023) Clinical practice guideline for management of osteoporosis and fracture prevention in Canada: 2023 update CMAJ October 10, 2023 195 (39) E1333-E1348; DOI:  
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- Sale, J., Beaton, D., Posen, J., Elliot-Gibson, V., & Bogoch, E. (2011). Systematic review on interventions to improve osteoporosis investigation and treatment in fragility fracture Patients.*Osteoporos International*, 22, 2067-2082.<https://doi.org/10.1007/s00198-011-1544-y>
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<https://doi.org/10.1016/j.bone.2018.03.018>

## RELATED DOCUMENTS

[Fragility Fracture Patient Care Checklist NSFFPCC](#)

### Appendices

Appendix A: Definitions

Appendix B: Diagnostic Test Ordering Criteria

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**Appendix A: Definitions**

<b>Fragility Fracture</b>	A fracture which occurs spontaneously or from a simple activity such as reaching, bending, twisting, coughing or sneezing. It can also occur following a minor injury such as a fall from standing height or less at walking speed or less.
<b>Patient</b>	Patient refers to any Patient with a Fragility Fracture.

**Appendix B: Diagnostic Test Ordering Criteria**

Test	Indication
Bone Mineral Density Test (BMD)	If not completed in the past 12 months
Lateral Views of the thoracic and lumbar spine	<p>If the Patient has not had any imaging of the lateral spine in the past 12 months</p> <p>Irrespective of a recent spine x-ray if the patient has since had a new fall with clinical signs of undiagnosed vertebral fracture (new back pain, kyphosis, loss of height).</p>
Alk Phos, total calcium and albumin, phosphate, TSH, eGFR	<p>If not completed in the past 90 days</p> <p>For hospitalized patients with an acute hip fracture, an ionized calcium level may be ordered instead of the total calcium and albumin.</p>
25 Hydroxyvitamin D	If the patient is indicated for osteoporosis pharmacotherapy.
Serum protein electrophoreses	For patients with a recent vertebral fracture (within the past 12 months) caused by activities of daily living including light lifting.

## VERSION HISTORY

Version:	Effective:	Approved by:	What's changed:
Original	2016-10-17		
Standard Review	2020-10-20	HAMAC	
Standard Review	2024-10-01	Senior Medical Director, Primary Health Care and Chronic Disease Management  Senior Director, Primary Health Care and Chronic Disease Management	<ul style="list-style-type: none"> <li>○ Revisions made to align with the updated national guidelines:                             <ul style="list-style-type: none"> <li>• Updated exclusion criteria.</li> <li>• Added criteria for ordering x-rays of thoracic and lumber spine</li> <li>• Removed CBC serology test</li> <li>• Added phosphate serology test</li> <li>• Changed criteria for when to order 25 Hydroxyvitamin D</li> </ul> </li> <li>○ Added additional requirements recommended by NSCN re: Documentation and AP availability if needed.</li> <li>○ Updated link to the OC Guidelines</li> <li>○ Updated references</li> <li>○ Changed title to FLS RNs</li> </ul>



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