Standard Operating Procedure (SOP)

ACP Bone Health Ward Round

Reader Information	
Primary Author / Contact Details	Mark Young @ mark.young@gov.im
Original Publication Date	December 2023
Last Review Date	n/a
Next Review Date	December 2025
Target Audience	All Staff involved in treating patients post hip fracture
Description	This SOP outlines the assessment and intervention for delivering a bone health service to the inpatient
Changes	New document

Version Control:

Version	Changes	Release Date
1.0	New document	December
1.1	IMOG feedback and ratification	15th February

1. Introduction

1.1. This SOP outlines the assessment and intervention for delivering a bone health service to the inpatient population.

1.2. This service is expected to expand over time, but will initially focus on delivering an antiresorptive medication (IV Zoledronate) to patients following a fractured neck of femur (NOF), who are within the criteria to receive this.

2. Background

2.1. Osteoporosis is a common disease that is characterized by low bone mass, microarchitectural disruption, and skeletal fragility, resulting in an increased risk of fragility fracture. A fractured NOF is usually related to a low trauma injury, such as a fall, in conjunction with poor bone mineral density. Fractured NOF's will often require hospitalisation and surgical intervention.

2.2. Currently in the UK and Ireland (and IOM), after a hip fracture most patients do not receive bone protection medication to reduce the risk of refracture. Yet randomised controlled trial data specifically examining patients with hip fracture have shown that intravenous Zoledronate reduces refracture risk by a third.

2.3. A consensus paper (Johansen, 2023), states that protocols to provide this treatment before patients leave hospital should be a standard of care. This SOP aims to translate those standards into our practice.

3. Objectives

3.1. To optimise inpatient intervention for people who have sustained a fractured NOF, by ensuring they are given bone health medication that will help to reduce further fractures by a third.

3.2. To ensure this is done opportunistically as an inpatient, to avoid the difficulties associated with oral bisphosphonates in both regime and compliance.

3.3. To optimise patients Calcium and Vitamin D levels, whilst an inpatient, to ensure the intravenous Zoledronate treatment is the most effective.

3.4. To provide communication to the patient's GP to ensure co-prescribing of bisphosphonates doesn't occur and any future interventions can be delivered by the practice.

4. Scope

4.1. This guidance relates to the Frailty Advanced Clinical Practitioner's prescribing role but could be extended to other Non-medical Prescribers involved in Bone Health assessments and treatments.

5. Policy

5.1. National or College guidelines

The National Osteoporosis Guideline Group (NOGG, 21), produced a set of clinical guidelines for the prevention and treatment of Osteoporosis. These Guidelines are NICE accredited and also support the NICE clinical guidance (CG146) from 2017 on Osteoporosis: assessing the risk of fragility fracture.

5.2. Local variations in practice

Johansen (2023), acknowledged local variations in practice and called for consensus on treating this patient population. This SOP provides a structure for working in line with these recommendations.

5.3. Identification of Key Performance Indicators (KPIs)

The National Hip Fracture Database (NHFD), provides a constant auditing tool for the standard of care received by hip fracture patients. Reviewing this will allow us to demonstrate if there has been a change/reduction in local hip fractures over time, acknowledging that this preventative measure will be observed over years, not months. A quarter of those who have broken a hip will break a further bone within 5 years. Administering IV Zoledronate can reduce these fractures by a third (Johansen, 2023).

5.4. **Encouraging independent practice and professional behaviour**

This SOP supports the expanded role of Non-medical Prescribers to deliver an evidence based treatment to a patient group that do not currently receive bone health treatment in line with recent guidance. It is also expected to reduce the burden on primary care follow-up.

6. Procedure

6.1. **Identify**

6.1.1. Identification of recent hip fracture, and current inpatient on the ward (likely ward 11). NOGG suggests IV Zoledronate as first line treatment if it can be delivered as an inpatient.

6.1.2. Request Calcium and Vitamin D to be tested pre-op to maximise the timeframe for delivery of intervention.

6.1.3. Complete a FRAX score, although a recent hip fracture put them at greatest risk of future hip fracture. NOGG suggests to treat these people prior to measuring Bone Mineral Density (BMD). (Appendix 1)

6.1.4. Consider the use of oral Bisphosphonates in those that would be able to follow the regime and instructions as second line treatment following a neck of Femur fracture.

6.2. **Criteria**

6.2.1. Patient has an acceptable creatinine clearance (Cockcroft-Gault > 35 mL/min).

6.2.2. Review levels of calcium (2.2 – 2.6mmol/L) (load if). If not hypercalcaemic and Vitamin D is <50 nmol/L or unknown then for Vitamin D loading 150,000 to 250,000 for 1-7 days. (Appendix 2)

6.2.2.1. Prescribe 40,000iU of Colecalciferol Vitamin D3 for 6 days and then IV Zoledronate for administration on the 7th day or as close to discharge as possible.

6.2.3. Ensure the patient is not being treated concomitantly with another bisphosphonate. Patients already on bisphosphonate management should have calcium and vitamin D levels reviewed but would be excluded from the inpatient IV Zoledronate pathway.

6.2.4. Review of current medications and possible interactions (particular risk of nephrotoxicity)

6.3. **Prescribe**

6.3.1. Discuss benefits and side effects of treatment with patient / carer and obtain verbal consent

6.3.2. Advise on maintenance of good oral hygiene and ask if dental implants / extractions are planned, ensuring patient is aware of the rare risk of osteonecrosis of the jaw (ONJ).

6.3.3. Give written information to the patient e.g. Royal Osteoporosis Society's Zoledronate leaflet (Appendix 3)

6.3.4. Prescribe calcium and vitamin D supplements as needed. Consider Calceos 1 BD (500mg/400units per tablet), or Adcal D3 or Evacal D3 1 BD (600mg/400units per tablet).

6.3.5. If Cr CL> 50 mL/min - Give 5mgs infusion of Zoledronate (IV) before discharge

6.3.6. If Cr CL <50 mL/min and >35 mL/Min give 5mgs infusion of IV Zoledronate but consider additional fluids or omission of regular diuretic and give more slowly (over 30 minutes) to minimise renal toxicity**.**

6.4. **Follow-up**

6.4.1. Consider organising a DXA scan for those who are likely to be able to engage in further osteoporosis management.

6.4.2. Any bone health recommendations after the DXA scan should be managed in general practice as is current practice.

6.5. **Documentation**

6.5.1. Document intervention in medical records, including any adverse response

6.5.2. Write a letter to the GP and the Fracture liaison service informing them of the treatment

6.5.3. Document a plan for subsequent Bisphosphonate management. In those patients that would likely be able to switch to an oral bisphosphonate after 24 months request that this be managed by their GP. Currently there is not a service to deliver IV Zoledronate as an outpatient.

7. Communication of Policy

7.1. This SOP will be agreed and ratified by the National Hip Fracture Database (NHFD) Working Group within Nobles.

7.2. This SOP will be agreed and ratified by the Integrated Medicines Optimisation Group (IMOG).

7.3. The SOP will be uploaded to the Manx Care share point.

7.4. A dedicated information session will be delivered to the staff on the ward who will be involved in administering the medicine.

7.5. An internal communication will be sent detailing the start of service and the creation of the policy

7.6. A physical copy will be made available on ward 11 as most hip fracture patients will be treated on this ward

8. References

8.1. Johansen et al. (2023) "Call to action: a five nations consensus on the use of intravenous Zoledronate after hip fracture" *Age and Ageing* 2023; 52: 1-9 Available at: https://doi.org/10.1093/ageing/afad172 [Last accessed: Dec 2023]

8.2. National Osteoporosis Guideline Group UK (NOGG) 2021: "Clinical guideline for the prevention and treatment of Osteoporosis", Available at : https://www.nogg.org.uk/full-guideline [Last accessed: Dec 2023]

8.3. N.I.C.E. Clinical Guidance CG146 (2017), "Osteoporosis: assessing the risk of fragility fracture", Available at: https://www.nice.org.uk/guidance/cg146 [Last accessed: Dec 2023]

8.4. FRAX Fracture risk assessment tool. Available at: https://frax.shef.ac.uk/FRAX/tool.aspx?country=1 [Last accesses: Dec 2023]

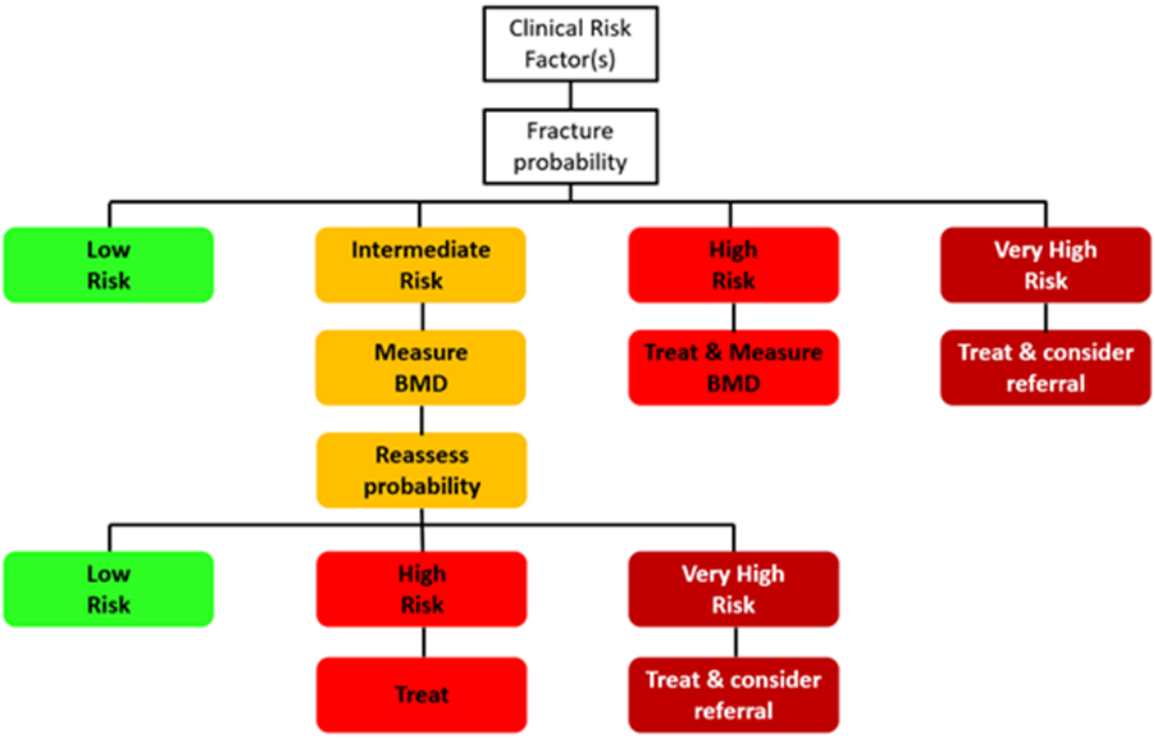
9. Appendices

9.1. Appendix 1: FRAX and NOGG guidelines on identifying fracture risk and prioritisation of investigations and/or treatment

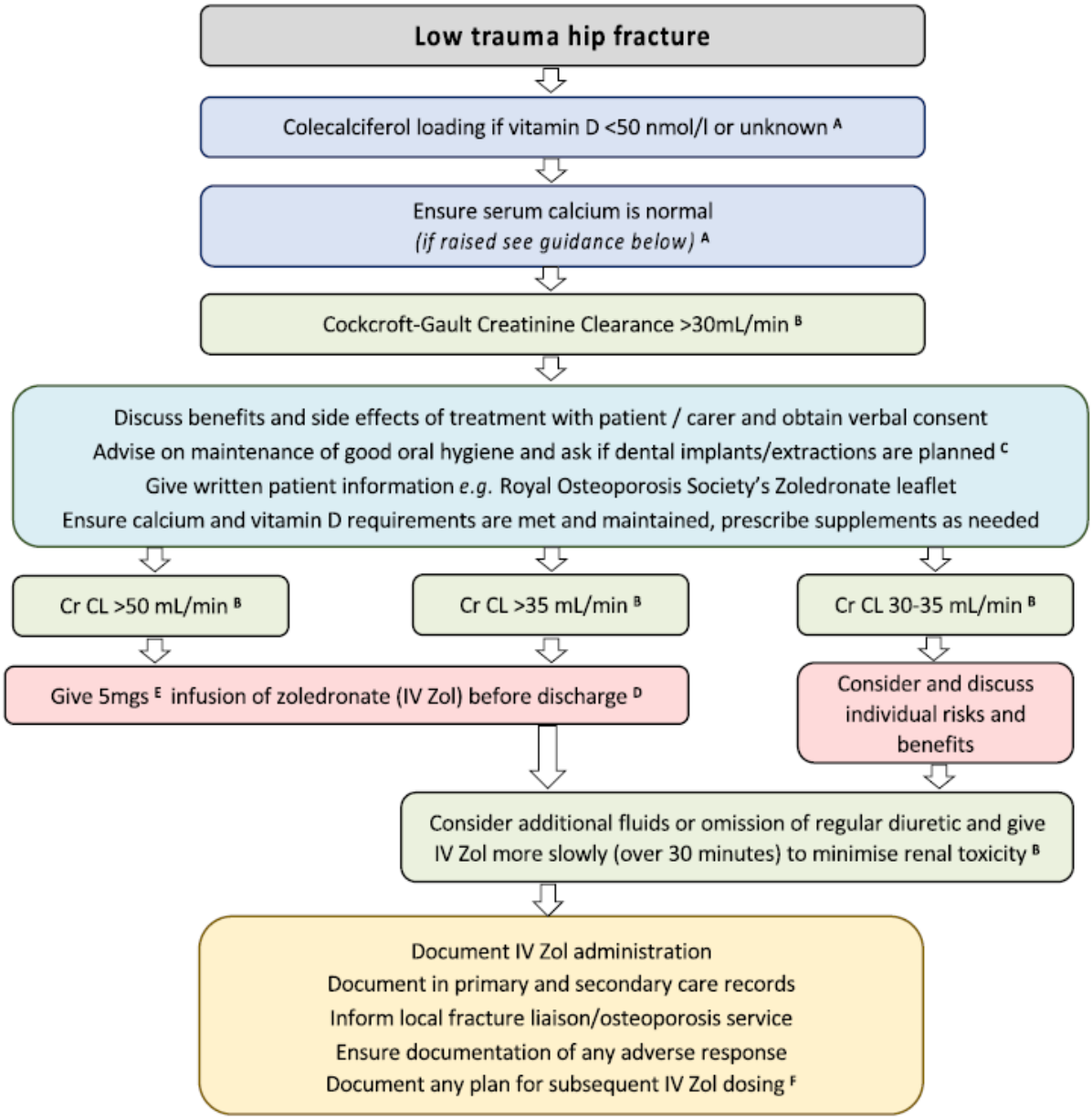
9.2. Appendix 2: Flow diagram of a suggested approach to intravenous Zoledronate after hip fracture – From Johansen (2023)

9.3. Appendix 3 – Royal osteoporosis Society Patient leaflet on Zoledronate

Appendix 1: FRAX and NOGG guidelines on identifying fracture risk and prioritisation of investigations and/or treatment



Appendix 2: Flow diagram of a suggested approach to intravenous Zoledronate after hip fracture – From Johansen (2023)



Appendix 3: Royal osteoporosis Society Patient leaflet on Zoledronate

https://strwebprdmedia.blob.core.windows.net/media/2cmhexi4/ros-zoledronate.pdf