Zoledronic Acid Infusion Pathway for Osteoporosis

Purpose

To provide access to infusions for adults who have been diagnosed with Osteoporosis and meet the criteria for funded for Intravenous (IV) Zoledronate (Aclasta) infusion.

Osteoporosis affects more than half of women and on average one third of men over 60 years old. People more likely to get osteoporosis have higher risk factors which include family history, being underweight and long-term use of certain medicines.

IV Zoledronate infusions are used for both first and second line treatment for osteoporosis.

Eligibility Criteria

Meets one of the following:

- Māori or Pasifika or
- Other ethnicities with Community Service Card (CSC) holders
- Other ethnicity living in Quintile 4 & 5

AND

- Hawkes Bay resident, enrolled with a Hawkes Bay general practice **AND**
- Aged 45 years and over **AND**
- Has elected to have IV therapy in preference to oral therapy **AND**

- Patient has previously qualified for funding prior to SA being removed **OR**
- History of significant osteoporotic fracture demonstrated radiologically **OR**
- 10 year risk of hip fracture greater than or equal to 3%, calculated using published risk assessment algorithm (g FRAX or Garvan)
    - Garvan: https://fracturerisk calculator.com.au/calculator/
    - FRAX: https://frax.shef.ac.uk/FRAX/tool.aspx?country=23

Exclusions

Patients will not be eligible if they meet one of the following

- Patients living outside of Hawkes Bay
- Unenrolled patients
- Under the age of 45 years
- Funding does not include the GP visit identifying Zoledronate infusion as the best treatment option.

Funding

Claiming is through the Halcyon Provider Portal> Aclasta Infusion

Service	**Funding** (GST Excl)	**Funding** (GST Incl)

Administration of Zoledronate Infusion and follow up	$145	$ 166.75

Prescription Co-payment

Patients are responsible for the co-payment of the prescription for this service.

Zoledronic Acid Infusion Pathway

Prior to Administration

(See Checklist, page 4)

Discuss the potential for acute phase reaction with patient:

This occurs in up to 30% of recipients after their first treatment, but only 2-5% after subsequent treatments.

Symptoms:

i) usually mild and always self-limiting, but are occasionally debilitating and last several days

ii) include fever, musculoskeletal pain, fatigue

- Administration of Paracetamol prior to, and up to 72 hours following infusion reduces frequency of symptoms by about 50%.

Review Renal Function and Hydration:

a) If a patient has had an acceptable eGFR within the past 6 months, and has not had a significant illness or change in regular medication subsequently, there is no need to repeat the test.

b) Creatinine Clearance Calculator: http://www.aclasta.co.nz/hcp/creatinine-clearancecalculator-cockroft-gault-equation/

- eGFR > 35ml/min: Administer standard Zoledronate dose
- eGFR < 35ml/min: Do not administer Zoledronate.

c) Withhold diuretics and NSAIDs the morning of infusion to help prevent temporary renal impairment

d) Advise patients to drink an extra 2 glasses of fluid on day of infusion to ensure good hydration

Review serum Calcium levels

- Normal Calcium level: Administer standard Zoledronate dose
- Abnormal Calcium level: Do not administer Zoledronate. The reason for abnormal calcium level should be determined and calcium level corrected.

Replenish vitamin D if necessary.

- If not already receiving Cholecalciferol, prescribe: - 100,000IU (2 tablets) of Cal D Forte in the week prior to the infusion.
- Continue vitamin D supplementation by prescribing one tablet of 1.25mg cholecalciferol (vitamin D) once a month or two tablets of multivitamins daily

Administration of Zoledronate

1. The patient is responsible for the prescription fee.

2. Zoledronate comes ready to administer, in 100mls of normal saline.
   - Using a metriset, prime tubing carefully to minimise loss
   - Insert I.V. line and withdraw blood sample if required
   - Infuse contents of chamber over 15-30 minutes and on completion flush line with a further 20mls NaCl 0.9% through chamber

3. Consider co-administering 1g Paracetamol, as this tends to lessen the severity of acute phase reaction.

Post-procedure

Contact is made with the patient following procedure, as required.

Re-administration

Current evidence suggests that a dosing interval of 1.5-3 years is reasonable for most patients with osteoporosis. Consider more frequent dosing (12 monthly) or Specialist referral for patients

- with a very high fracture risk prior to treatment
- who have subsequent low-trauma/fragility fractures

Zoledronic Acid Infusion Checklist

Checklist		Response
1.	Has the patient had a Zoledronic acid infusion for osteoporosis within the last 12 months? More frequent infusions are not indicated.	Yes No
2.	Is the patient's creatinine clearance*≥ 35 mL per minute or eGFR ≥ 35 mL/min/1.73m²? *If not, do not proceed with infusion.*	Yes No
3.	Is the patient's serum calcium normal? *If not, do not proceed with infusion.*	Yes No
4.	Has the patient's current medication list been checked for nephrotoxic drugs and contraindications to Zoledronic acid? See NZ Formulary cautions.	Yes No
5.	Has the patient been instructed to stop taking any oral bisphosphonate tablets (e.g., alendronate, Fosamax) permanently?	Yes No
6.	Is the patient taking vitamin D or had a loading dose (2 x 1.25 mg tablets) of vitamin D if required? A younger person who is physically active and spends time outside in summer may not need a loading dose.	Yes No
7.	Has the patient had their normal fluid intake, e.g., tea, coffee, and water? Postpone infusion if patient is dehydrated. (Provide 2 large glasses of water for the patient to drink during the infusion).	Yes No
8.	Has the patient been provided with all relevant information and their questions answered?	Yes No
9.	Has the patient been given a prescription or been advised to take paracetamol as directed for the next 3 days?	Yes No
10.	Provide a blood form for renal function and serum calcium testing within a week of the infusion where relevant?	Yes No

*Cockcroft and Gault Formula

- Use actual body weight if lower than the ideal body weight
- Ideal body weight (males) = 50 kg + 0.9 kg for each cm over 150 in cm height.
- Ideal body weight (females) = 45 kg + 0.9 kg for each cm over 150 cm in height