



Patient Name: _____

Date of Birth: _____

PHYO

Zoledronic Acid (ZOMETA)

CMC85950-002NS Rev. 10/2022 Infusion Therapy Plan (Endocrinology)

Baseline Patient Demographic

To be completed by the ordering provider.

Diagnosis: _____ Height: _____ cm Weight: _____ kg Body Surface Area: _____ (m²)☐ NKDA - No Known Drug Allergies☐ Allergies: _____**Therapy Plan orders extend over time (several visits) including recurring treatment.**

Please specify the following regarding the entire course of therapy:

Duration of treatment: _____ weeks _____ months _____ unknown

Treatment should begin: ☐ as soon as possible (within a week) ☐ within the month****Plans must be reviewed / re-ordered at least annually. ******ORDERS TO BE COMPLETED FOR EACH THERAPY**☐ **Physician communication**

***This is a reminder to order prescriptions for calciTRIOL and calcium carbonate. Use the 'ADD ORDER' at the bottom of the Orders Only navigator and search for 'zometa'. A discharge prescription panel titled 'calciTRIOL and calcium carbonate prescriptions for zoledronic acid infusions panel' should show on the facility preference list under Ambulatory Medications.

ADMIT ORDERS☒ **Height and weight**☒ **Vital signs****HYPOTENSION DEFINE ADMIT**☒ **Nursing communication**

Prior to starting infusion, please determine the patient's threshold for hypotension as defined by the following parameters. This information will be needed in the event of an infusion reaction.

Hypotension is defined as follows:

1 month to 1 year - systolic blood pressure (SBP) less than 70

1 year to 11 years - systolic blood pressure (SBP) less than 70+ (2 x age in years)

11 years to 17 years - systolic blood pressure (SBP) less than 90

OR any age - systolic blood pressure (SBP) drop of more than 30% from baseline.

Baseline systolic blood pressure (SBP) x 0.7 = value below defined as hypotension.

☐ **Nursing communication**

Please send staff message to Dallas or Plano endo nurse pool upon patient arrival for zoledronic acid infusion.

NURSING ORDERS

Please select all appropriate therapy

IV START NURSING ORDERS☐ **Insert Peripheral IV**

Place PIV if needed or access IVAD if available.

☐ **lidocaine 1% BUFFERED (J-TIP LIDOCAINE)**

0.2 mL, INTRADERMAL, PRN

☐ when immediate procedure needed ☐ when procedure will take about 1 minute ☐ patient / family preference for procedure

Administration Instructions: NOTE: Do not use this medication in patients with bleeding disorders, platelets $\leq 20,000$, or in patients taking anticoagulants, when accessing implanted ports or using a vein that will be utilized for chemotherapy administration, nor for pre-term infants or neonates.

☐ **lidocaine - prilocaine (EMLA) cream**

TOPICAL, PRN

☐ when more than 60 minutes are available before procedure ☐ when procedure will take more than 1 hour☐ patient / family preference for procedure

Administration Instructions: NOTE: In children < 3 months of age, or < 5 kg in weight, maximum application time is 1 hour.

☐ **lidocaine with transparent dressing 4% kit**

TOPICAL, PRN

☐ when 20 - 30 minutes are available before procedure ☐ when procedure will take more than 1 hour☐ patient / family preference for procedure



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ORDERS TO BE COMPLETED FOR EACH THERAPY**NURSING ORDERS, CONTINUED**☐ **Heparin flush****heparin flush**

10 - 50 units, INTRAVENOUS, PRN, IV line flush. Per protocol, heparin should not be used to flush peripheral IVs. This heparin flush should be used with all central lines including IVADs, with the exception of de-accessing the IVAD.

heparin flush

100 - 300 units, INTRAVENOUS, PRN, IV line flush. Per protocol, heparin should not be used to flush peripheral IVs. For use only when de-accessing IVADs.

☐ **Sodium chloride flush****Sodium chloride flush 0.9% injection**

1 - 20 mL, INTRAVENOUS, PRN, IV line flush

Sodium chloride - preservative free 0.9% injection

1 - 30 mL, INTRAVENOUS, PRN, IV line flush

PRE-PROCEDURE LABS

☒ Calcium, Total Unit collect	INTERVAL: Every visit	DURATION: Until discontinued
☒ Phosphorus Unit collect	INTERVAL: Every visit	DURATION: Until discontinued
☐ Magnesium Unit collect	INTERVAL: Every visit	DURATION: Until discontinued
☐ Creatinine Unit collect	INTERVAL: Every visit	DURATION: Until discontinued
☐ Urinalysis Unit collect	INTERVAL: Every visit	DURATION: Until discontinued

PRE-MEDICATIONS☐ **Acetaminophen pre-medication 30 minutes prior (15 mg / kg, maximum 650 mg)****Nursing communication**

Administer only one of the acetaminophen orders, suspension or tablets, do not give both.

acetaminophen suspension

15 mg / kg, ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____

acetaminophen tablet

15 mg / kg ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____

☐ **Ibuprofen pre-medication 30 minutes prior (10 mg / kg, maximum 600 mg)****Nursing communication**

Administer only one of the ibuprofen orders, suspension or tablets, do not give both.

ibuprofen suspension

10 mg / kg, ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____

ibuprofen tablet

10 mg / kg ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____



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ORDERS TO BE COMPLETED FOR EACH THERAPY**PRE-MEDICATIONS, CONTINUED**☐ **Diphenhydramine pre-medication 30 minutes prior (1 mg / kg, maximum 50 mg)****Nursing communication**

Administer only one of the diphenhydrAMINE pre-medication orders, liquid, capsule or injection, do not give more than one of the orders as a pre-medication.

diphenhydrAMINE liquid

1 mg / kg, ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____**diphenhydrAMINE capsule**

1 mg / kg ORAL, for 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____**diphenhydrAMINE injection**

1 mg / kg, INTRAVENOUS, 1 dose pre-medication, give 30 minutes prior to infusion

Dose: _____**INTRA-PROCEDURE**☒ **Vital signs**

Check blood pressure, pulse, respirations, temperature and pain prior to the start of the infusion. Observe vitals every 30 minutes upon the initiation of the infusion for signs and symptoms and / or complaints of infusion related reactions.

☒ **Nursing communication**

Monitor fluid intake and urine output during the infusion and as needed.

☒ **Physician communication order**

Please enter the dose of zoledronic acid in 'mg' to facilitate prior authorization requirements:

First dose: 0.0125 mg / kg (maximum 4 mg) over 60 minutes.

Second and subsequent doses: start at 0.025 mg / kg (maximum 4 mg) over 60 minutes and titrate for efficacy.

(For doses of 0.05 mg / kg, medication should be prepared in 100 mL)

Default of 100 mL NS is selected, 50 mL can be selected based on provider discretion

(low dose and children less than 3 years old).

When a NS bolus is ordered, give over 30 minutes immediately before and after zoledronic acid infusion.

☐ **sodium chloride 0.9% for fluid bolus INTERVAL: Every visit**

INTRAVENOUS, administer over 30 minutes. Give 30 minutes prior to zoledronic acid infusion.

Dose: ☐ 10 mL / kg ☐ 20 mL / kg**Zoledronic Acid (initial dose for low and high dose)****Select one product below:**☐ **Zoledronic acid 0.0125 mg / kg INTERVAL: Once DEFER UNTIL: _____ DURATION: For 1 treatment in sodium chloride 0.9% 100 mL infusion**

INTRAVENOUS, ONCE, starting 0.5 hours after treatment start time, administer over 60 minutes. Zoledronic acid must not be mixed with calcium or other divalent cation-containing infusion solutions, such as Lactated Ringer's solution, and should be administered as a single intravenous solution in a line separate from all other drugs.

Dose: _____**Volume of Sodium Chloride:** ☐ 50 mL ☐ 100 mL☐ **Zoledronic acid 0.025 mg / kg INTERVAL: Day 1 of every 3 months DEFER UNTIL: _____ DURATION: Until discontinued in sodium chloride 0.9% 100 mL infusion**

INTRAVENOUS, ONCE, starting 0.5 hours after treatment start time, administer over 60 minutes. Zoledronic acid must not be mixed with calcium or other divalent cation-containing infusion solutions, such as Lactated Ringer's solution, and should be administered as a single intravenous solution in a line separate from all other drugs.

Dose: _____**Volume of Sodium Chloride:** ☐ 50 mL ☐ 100 mL



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- ☐ **Zoledronic acid 0.0375 mg / kg INTERVAL: Once DEFER UNTIL: _____ DURATION: For 1 treatment**
in sodium chloride 0.9% 100 mL infusion

INTRAVENOUS, ONCE, starting 0.5 hours after treatment start time, administer over 60 minutes. Zoledronic acid must not be mixed with calcium or other divalent cation-containing infusion solutions, such as Lactated Ringer's solution, and should be administered as a single intravenous solution in a line separate from all other drugs.

Dose: _____**Volume of Sodium Chloride:** ☐ 50 mL ☐ 100 mL**Zoledronic Acid (maintenance dose) (low dose - 0.025 mg / kg) OR (high dose-0.05 mg / kg)****starting at 6 months and then every 6 months****Select one product below:**

- ☐ **Zoledronic acid 0.025 mg / kg INTERVAL: Day 1 of every 6 months DEFER UNTIL: _____ DURATION: Until discontinued**
in sodium chloride 0.9% 100 mL infusion

INTRAVENOUS, ONCE, starting 0.5 hours after treatment start time, administer over 60 minutes. Zoledronic acid must not be mixed with calcium or other divalent cation-containing infusion solutions, such as Lactated Ringer's solution, and should be administered as a single intravenous solution in a line separate from all other drugs.

Dose: _____**Volume of Sodium Chloride:** ☐ 50 mL ☐ 100 mL

- ☐ **Zoledronic acid 0.05 mg / kg INTERVAL: Day 1 of every 6 months DEFER UNTIL: _____ DURATION: Until discontinued**
in sodium chloride 0.9% 100 mL infusion

INTRAVENOUS, ONCE, starting 0.5 hours after treatment start time, administer over 60 minutes. Zoledronic acid must not be mixed with calcium or other divalent cation-containing infusion solutions, such as Lactated Ringer's solution, and should be administered as a single intravenous solution in a line separate from all other drugs.

Dose: _____**Volume of Sodium Chloride:** ☐ 50 mL ☐ 100 mL☒ **Therapy Appointment Request****Please select department for the therapy appointment request:**

Expires in 365 days

☐ Dallas Special Procedures ☐ Plano Infusion Center ☐ Dallas Allergy ☐ Dallas Transplant ☐ Dallas Neurology**EMERGENCY MEDICATIONS**☒ **Nursing communication****1. Hives or cutaneous reaction only – no other system involvement PATIENT IS HAVING A DRUG REACTION:**

- Stop the infusion
- Give diphenhydramine as ordered
- Check vitals including blood pressure every 5 minutes until further orders from provider.
- Connect patient up to monitor (cardiac / apnea, blood pressure and oxygen saturation), if not already on one
- Notify provider for further orders

2. Hives or cutaneous reaction plus one other system, i.e. abdominal cramping, vomiting, hypotension, altered mental status, respiratory distress, mouth / tongue swelling PATIENT IS HAVING ANAPHYLAXIS:

- Stop the infusion
- Call code – do not wait to give epinephrine
- Give epinephrine as ordered
- Notify provider
- Check vitals including blood pressure every 5 minutes until the code team arrives.
- Connect patient up to monitor (cardiac / apnea, blood pressure and oxygen saturation), if not already on one.
- Give diphenhydramine once as needed for hives
- May repeat epinephrine every 5 minutes x 2 doses for persistent hypotension and respiratory distress with desaturation until code team arrives.
- May give albuterol as ordered for wheezing with oxygen saturations stable while waiting for code team, continue to monitor oxygen saturation.



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 1 year to 11 years – systolic blood pressure (SBP) less than $70 + (2 \times \text{age in years})$
 11 years to 17 years – systolic blood pressure (SBP) less than 90
 OR any age – systolic blood pressure (SBP) drop more than 30% from baseline.
 Baseline systolic blood pressure (SBP) $\times 0.7$ = value below defined as hypotension.

☒ **EPINEPHrine Injection Orderable For Therapy Plan**
(AMPULE / EPI - PEN JR. / EPI - PEN) 0.01 mg / kg

0.01 mg / kg, INTRAMUSCULAR, EVERY 5 MINUTES PRN, for anaphylaxis and may be repeated for persistent hypotension and respiratory distress with desaturation until the code team arrives, for 3 doses

Use caution with PIV administration. This solution has a pH < 5, or a pH > 9, or an osmolality > 600 mOsm / L.

Dose: _____

☒ **Cardio / Respiratory Monitoring**
Rationale for Monitoring: High risk patient (please specify risk)

- ☐ Clinically significant cardiac anomalies or dysrhythmias
- ☐ Recent acute life-threatening event
- ☐ Unexplained or acutely abnormal vital signs
- ☐ Artificial airway (stent, tracheostomy, oral airway)
- ☐ Acute, fluctuating or consistent oxygen requirements

Monitor Parameters (select all that apply): ☐ Heart rate ☐ Oxygen saturation ☐ Respiratory rate

Telemetry Required: ☐ Yes ☐ No

☒ **diphenhydramINE injection**

1 mg / kg, INTRAVENOUS, ONCE PRN, for hives or cutaneous reaction, for 1 dose. Maximum dose = 50 mg per dose, 300 mg per day.

Dose: _____

☒ **Albuterol for aerosol**

0.25 mg / kg., INHALATION ONCE PRN, for wheezing, but oxygen saturations stable while waiting for code team, continue to monitor oxygen saturation for 1 dose

Dose: _____

POST-PROCEDURE

☒ **Nursing communication**

Flush PIV or IVAD with 20 mL 0.9% sodium chloride (250 mL bag) at the completion of the infusion.
 Flush IVAD with saline and heparin flush per protocol prior to de-accessing IVAD.
 Discontinue PIV prior to discharge.

☐ **Sodium chloride 0.9% infusion**

INTRAVENOUS, at 0 - 25 mL / hour ONCE

Dose: _____ mL

☒ **Nursing communication**

Patient needs calcium and phosphorus labs to be drawn 24, 48 and 72 hours after zoledronic acid infusion. Please check with caregiver about preferred lab and select the appropriate lab orders and release from the therapy plan. This will ensure orders are available.

POST-PROCEDURE OUTPATIENT LAB DRAW

☐ **Children's** ☐ **LabCorp** ☐ **Quest** ☐ **Other External Lab**

Calcium and Phosphorus

☒ **Calcium, Total**

Expected: Day 1, Draw calcium 24 hours after zoledronic acid infusion.

☒ **Calcium, Total**

Expected: Day 2, Draw calcium 48 hours after zoledronic acid infusion.



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- ☒ Calcium, Total
Expected: Day 3, Draw calcium 72 hours after zoledronic acid infusion.
- ☒ Phosphorus
Expected: Day 1, Draw phosphorus 24 hours after zoledronic acid infusion.
- ☒ Phosphorus
Expected: Day 2, Draw phosphorus 48 hours after zoledronic acid infusion.
- ☒ Phosphorus
Expected: Day 3, Draw phosphorus 72 hours after zoledronic acid infusion.

(circle one):
MD DO_____
Signature of Provider_____
Credentials_____
Date_____
Time_____
Printed Name of Provider