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Coverage Policy Number **IP0330**

Teriparatide

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Related Coverage Resources

INSTRUCTIONS FOR USE
The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This policy supports medical necessity review for the following teriparatide products:

- **Forteo®** 600 mcg/2.4 mL (teriparatide) subcutaneous injection
- **Teriparatide** 600 mcg/2.4 mL subcutaneous injection
- **Teriparatide** 620 mcg/2.48 mL subcutaneous injection

Additional criteria that support the review for medical necessity exceptions of non-covered products are located in the Non-Covered Product Table by the respective plan type and drug list where applicable.

Receipt of sample product does not satisfy any criteria requirements for coverage.

Medical Necessity Criteria

Teriparatide (Forteo) is considered medically necessary when ONE of the following is met:

1. **Glucocorticoid-Induced Osteoporosis – Treatment.** Individual meets **ALL** of the following criteria:
    A. Initiating or continuing chronic systemic glucocorticoids (for example, prednisone)
    B. Documentation of **ONE** of the following:
        i. Failure (for example, osteoporotic or fragility fracture while receiving bisphosphonate therapy, ongoing and significant loss of BMD, or lack of a BMD increase) to at least **ONE** of the following oral **OR** intravenous bisphosphonate products unless contraindicated or intolerant:
            a. alendronate tablets or oral solution (Fosamax)
            b. ibandronate intravenous injection or tablets (Boniva)
            c. risedronate tablets/delayed release tablets (Actonel/Atelvia)
            d. zoledronic acid intravenous infusion (Reclast)
        ii. Individual is at very high risk for fracture (for example, recent fracture within past 12 months, fractures while on approved osteoporosis therapy, multiple fractures, fractures while on drugs causing skeletal harm [e.g., long-term glucocorticoids], very low T-score [e.g., less than − 3.0], high risk for falls or history of injurious falls, and very high fracture probability by FRAX® [fracture risk assessment tool] [e.g., major osteoporosis fracture > 30%, hip fracture > 4.5%])
    C. Will not exceed a total of 24 months of therapy with parathyroid hormone analogs [abaloparatide (Tymlos) or teriparatide (Forteo)]
    An exception can be made for those individuals who remain at or have returned to having a high risk of fracture. Examples of high risk for fracture include, a previous osteoporotic fracture or fragility fracture, receipt of medications that increase the risk of osteoporosis, advanced age, or a very low bone mineral density.
    D. Non-Covered Product Criteria is met, refer to below table(s)

2. **Osteoporosis Treatment for a Postmenopausal Woman.** Individual meets **ALL** of the following criteria:
    A. **ONE** of the following conditions:
        i. Bone mineral density (BMD) T-score (current or at any time in the past) at or below -2.5 at the lumbar spine, femoral neck, total hip and/or 33% (one-third) radius (wrist)
        ii. Had an osteoporotic fracture or a fragility fracture
        iii. **BOTH** of the following:
            a. Low bone mass [for example, a T-score (current or at any time in the past) between -1.0 and -2.5 at the lumbar spine, femoral neck, total hip, and/or 33% (one third) radius (wrist)]
            b. Prescriber determines that the individual is at high risk for fracture [for example, the FRAX (fracture risk assessment tool) 10-year probability for major osteoporotic fracture is at least 20% or the 10-year probability of hip fracture is at least 3%]
    B. Documentation of **ONE** of the following:
        i. Failure (for example, osteoporotic or fragility fracture while receiving bisphosphonate therapy, ongoing and significant loss of BMD, or lack of a BMD increase) to at least **ONE** of the following oral **OR** intravenous bisphosphonate products unless contraindicated or intolerant:
            a. alendronate tablets or oral solution (Fosamax)
            b. ibandronate intravenous injection or tablets (Boniva)
            c. risedronate tablets/delayed release tablets (Actonel/Atelvia)
            d. zoledronic acid intravenous infusion (Reclast)
        ii. Individual is at very high risk for fracture (for example, recent fracture within past 12 months, fractures while on approved osteoporosis therapy, multiple fractures, fractures while on drugs causing skeletal harm [e.g., long-term glucocorticoids], very low T-score [e.g., less than − 3.0], high risk for falls or history of injurious falls, and very high fracture probability by FRAX® [fracture risk assessment tool] [e.g., major osteoporosis fracture > 30%, hip fracture > 4.5%])
    C. Will not exceed a total of 24 months of therapy with parathyroid hormone analogs [abaloparatide (Tymlos) or teriparatide (Forteo)]

An exception can be made for those individuals who remain at or have returned to a high risk of fracture. Examples of high risk for fracture include a previous osteoporotic fracture or fragility fracture, receipt of medications that increase the risk of osteoporosis, advanced age, or a very low bone mineral density.

D. Non-Covered Product Criteria is met, refer to below table(s)

3. **Osteoporosis – (to Increase Bone Mass) in Men with Primary or Hypogonadal Osteoporosis.** Individual meets **ALL** of the following criteria:
   A. **ONE** of the following conditions:
      i. Bone mineral density (BMD) T-score (current or at any time in the past) at or below -2.5 at the lumbar spine, femoral neck, total hip and/or 33% (one-third) radius (wrist)
      ii. Has had an osteoporotic fracture or a fragility fracture
      iii. **BOTH** of the following:
         a. Low bone mass [for example, a T-score (current or at any time in the past) between -1.0 and -2.5 at the lumbar spine, femoral neck, total hip, and/or 33% (one third) radius (wrist)]
         b. Prescriber determines that the individual is at high risk for fracture [for example, the FRAX (fracture risk assessment tool) 10-year probability for major osteoporotic fracture is at least 20% or the 10-year probability of hip fracture is at least 3%]
   B. Documentation of **ONE** of the following:
      i. Failure (for example, osteoporotic or fragility fracture while receiving bisphosphonate therapy, ongoing and significant loss of BMD, or lack of a BMD increase) to at least **ONE** of the following oral **OR** intravenous bisphosphonate products unless contraindicated or intolerant:
         a. alendronate tablets or oral solution (Fosamax)
         b. ibandronate intravenous injection or tablets (Boniva)
         c. risedronate tablets/delayed release tablets (Actonel/Atelvia)
         d. zoledronic acid intravenous infusion (Reclast)
      ii. Individual is at very high risk for fracture (for example, recent fracture within past 12 months, fractures while on approved osteoporosis therapy, multiple fractures, fractures while on drugs causing skeletal harm [e.g., long-term glucocorticoids], very low T-score [e.g., less than − 3.0], high risk for falls or history of injurious falls, and very high fracture probability by FRAX® [fracture risk assessment tool] [e.g., major osteoporosis fracture > 30%, hip fracture > 4.5%])
   C. Will not exceed a total of 24 months of therapy with parathyroid hormone analogs [abaloparatide (Tymlos) or teriparatide (Forteo)]
      An exception can be made for those individuals who remain at or have returned to having a high risk of fracture. Examples of high risk for fracture include a previous osteoporotic fracture or fragility fracture, receipt of medications that increase the risk of osteoporosis, advanced age, or a very low bone mineral density.
   D. Non-Covered Product Criteria is met, refer to below table(s)

4. **Chronic Hypoparathyroidism.** Individual meets **ALL** of the following criteria:
   A. Cannot be well-controlled on calcium supplements and active forms of vitamin D alone
   B. 25-hydroxyvitamin D stores are sufficient (before initiating therapy)
   C. Serum calcium concentration is greater than 7.5 mg/dL (before initiating therapy)
   D. Documentation of **ONE** of the following:
      i. Failure to Natpara (parathyroid hormone subcutaneous injection), unless contraindicated or intolerant
      ii. Inability to obtain Natpara (parathyroid hormone subcutaneous injection)
   E. Medication is being prescribed by, or in consultation with, an endocrinologist
   F. Non-Covered Product Criteria is met, refer to below table(s)

Employer Group Non-Covered Products and Criteria:

Non-Covered Product	Criteria
Forteo 600 mcg/2.4 mL (teriparatide) subcutaneous injection	Documented trial of **teriparatide 600 mcg/2.4 mL subcutaneous injection** (the bioequivalent generic product) AND cannot take due to a formulation difference in the inactive ingredient(s) which would result in a significant allergy or serious adverse reaction
Teriparatide 620 mcg/2.48 mL subcutaneous injection [by Alvogen]	Documented trial of **teriparatide 600 mcg/2.4 mL subcutaneous injection** (generic for Forteo 600 mcg/2.4 mL) AND cannot take due to a formulation difference in the inactive ingredient(s) which would result in a significant allergy or serious adverse reaction

Individual and Family Plan Non-Covered Products and Criteria:

Non-Covered Product	Criteria
Forteo 600 mcg/2.4 mL (teriparatide) subcutaneous injection	Documented failure, contraindication, or intolerance to Tymlos (abaloparatide) subcutaneous injection [may require prior authorization]
Teriparatide 600 mcg/2.4 mL subcutaneous injection	Documented failure, contraindication, or intolerance to Tymlos (abaloparatide) subcutaneous injection [may require prior authorization]
Teriparatide 620 mcg/2.48 mL subcutaneous injection [by Alvogen]	Documented failure, contraindication, or intolerance to Tymlos (abaloparatide) subcutaneous injection [may require prior authorization]

When coverage is available and medically necessary, the dosage, frequency, duration of therapy, and site of care should be reasonable, clinically appropriate, and supported by evidence-based literature and adjusted based upon severity, alternative available treatments, and previous response to therapy.

Reauthorization Criteria

Continuation of teriparatide subcutaneous injection (Forteo) is considered medically necessary for continued use when **ONE** of the following is met:

1. **Osteoporosis (Glucocorticoid-Induced, Treatment in Postmenopausal Women, or in Men with Primary or Hypogonadal Osteoporosis).** For continued use beyond 24 months, the individual meets the following criteria:
    A. The above medical necessity criteria are met
    B. There is documentation that the individual remains at or has returned to a high risk for fracture (for example, a previous osteoporotic fracture or fragility fracture, receipt of medications that increase the risk of osteoporosis, advanced age, or a very low bone mineral density)
    C. The prescriber has determined the potential benefit of continued therapy outweighs the risk

2. **Chronic Hypoparathyroidism.** The individual meets the following criteria:
    A. The above medical necessity criteria are met

B. There is documentation of beneficial response (for example, reduction in the individual's oral calcium dose; reduction in the individual's active vitamin D dose; maintenance of a stable albumin-corrected total serum calcium concentration)

Authorization Duration

Initial approval duration:

- Glucocorticoid-Induced Osteoporosis: up to 24 months
- Osteoporosis Treatment for a Postmenopausal Woman: up to 24 months
- Osteoporosis – Men with Primary or Hypogonadal Osteoporosis: up to 24 months
- Chronic Hypoparathyroidism: up to 12 months

For osteoporosis indications, the initial approval duration should not exceed the necessary duration to complete a total of 24 months of therapy with parathyroid hormone analogs [abaloparatide (Tymlos) or teriparatide (Forteo)].

Reauthorization approval duration: up to 12 months for all indications

Conditions Not Covered

Any other use is considered experimental, investigational, or unproven including the following (this list may not be all inclusive):

1. **Concurrent Use with Other Medications for Osteoporosis.**
   Note: Examples include Prolia (denosumab subcutaneous injection), oral bisphosphonates (e.g., alendronate, risedronate, ibandronate), intravenous bisphosphonates (zoledronic acid intravenous infusion [Reclast], ibandronate intravenous injection), calcitonin nasal spray (Miacalcin/Fortical), Tymlos (abaloparatide subcutaneous injection), and Evenity (romosozumab-aqqg subcutaneous injection).

2. **Osteoporosis Prevention.**
   Teriparatide products have not been studied in this patient population. The benefits and risks of building bone with teriparatide products in a condition in which substantial bone loss has not occurred have not been investigated.[1]

3. **Acute Post-Surgical Hypoparathyroidism.**
   Teriparatide was not studied in this patient population. Teriparatide is one of two main alternatives recommended in a joint guidance statement from the American Society for Bone and Mineral Research and Endocrine Society for patients with hypoparathyroidism transitioning from Natpara.[12]

4. **Hypoparathyroidism Caused by Calcium-Sensing Receptor Mutations.**
   Teriparatide was not studied in this patient population. Teriparatide is one of two main alternatives recommended in a joint guidance statement from the American Society for Bone and Mineral Research and Endocrine Society for patients with hypoparathyroidism transitioning from Natpara.[12]

Background

OVERVIEW
Teriparatide products, recombinant human parathyroid hormone (PTH) [1-34], are **indicated for the following uses:** [1,2]

- **Glucocorticoid-induced osteoporosis (treatment)**, in men and women at high risk for fracture associated with sustained systemic glucocorticoid therapy (daily dosage equivalent to 5 mg or greater of prednisone).
- **Osteoporosis, treatment of postmenopausal women** at high risk for fracture.

- **Osteoporosis, to increase bone mass in men with primary or hypogonadal osteoporosis** at high risk for fracture.

In general, for all indications, patients at high risk for fracture are defined as those with a history of osteoporotic fractures, have multiple risk factors for fracture, or have failed or are intolerant to other osteoporosis therapy.[1,2]

Teriparatide has been used for patients with hypoparathyroidism.[3-10] Natpara® (parathyroid hormone subcutaneous injection) is indicated as an adjunct to calcium and vitamin D to control hypocalcemia in patients with hypoparathyroidism.[11] However, there is a recall of Natpara and teriparatide is one of two main alternatives recommended in a joint guidance statement from the American Society for Bone and Mineral Research and Endocrine Society for patients with hypoparathyroidism transitioning from Natpara.[12] It is notable that if teriparatide therapy is used in this clinical scenario, twice daily or even three times daily injections are usually needed.

Dosing and Availability
For the treatment of postmenopausal women with osteoporosis, increase of bone mass in men with primary or hypogonadal osteoporosis, and for glucocorticoid-induced osteoporosis.[1]

- The recommended dose is 20 mcg subcutaneously once a day

Forteo is available for subcutaneous injection as a single-patient-use, multi-dose prefilled pen that delivers 28 daily doses, each containing 20 mcg of teriparatide.

Guidelines
Teriparatide is addressed in various clinical guidelines.[13-15]

- **Glucocorticoid-Induced Osteoporosis (GIO):** The American College of Rheumatology updated guidelines for the prevention and treatment of GIO (2017).[15] In various clinical scenarios, teriparatide is recommended after trial of other agents (e.g., oral bisphosphonates, intravenous bisphosphonates).
- **Postmenopausal Osteoporosis:** Teriparatide products are mentioned in guidelines for postmenopausal osteoporosis by the Endocrine Society (2019)[13] and the American Association of Clinical Endocrinologists and the American College of Endocrinology (2020)[14]. Teriparatide is one of among several agents cited as an alternative for patients at very high risk for fractures or among those who cannot tolerate oral therapy.

Safety
An increased incidence of osteosarcoma was noted in male and female rats who received teriparatide.[1] Osteosarcoma has been reported in patients treated with teriparatide in the post marketing setting, however, an increased risk of osteosarcoma has not been observed in observational studies involving humans. There are limited data evaluating the risk of osteosarcoma beyond 2 years of teriparatide use. Avoid use of teriparatide in patients with a baseline risk of osteosarcoma. Use of teriparatide for more than 2 years during a patient's lifetime should only be considered if a patient remains at or has returned to having a high risk for fracture.

References

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