

## Clinical Policy: Triamcinolone ER Injection (Zilretta)

Reference Number: PA.CP.PHAR.371

Effective Date: 01/2019

Last Review Date: 01/2024

[Revision Log](#)

### Description

Triamcinolone acetonide extended-release injectable suspension (Zilretta™) is an extended-release synthetic corticosteroid.

### FDA Approved Indication(s)

Zilretta is indicated as an intra-articular injection for the management of osteoarthritis pain of the knee.

Limitation(s) of use: The efficacy and safety of repeat administration of Zilretta have not been demonstrated.

### Policy/Criteria

*Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.*

It is the policy of PA Health & Wellness® that Zilretta is **medically necessary** when the following criteria are met:

#### I. Initial Approval Criteria

##### A. Osteoarthritis of the Knee (must meet all):

1. Diagnosis of osteoarthritis of the knee supported by imaging (e.g., X-ray, MRI);
2. Prescribed by or in consultation with a rheumatologist, orthopedist, or sports medicine physician;
3. Age  $\geq$  18 years;
4. Failure of  $\geq$  4 week trial of one of the following (a or b), unless contraindicated or clinically significant adverse effects are experienced:
  - a. Oral nonsteroidal anti-inflammatory drug (NSAID) at continuous therapeutic dosing (prescription strength);
  - b. Topical NSAID\* if member is  $\geq$  75 years old or unable to take oral NSAIDs;  
*\*Prior authorization may be required for topical NSAIDs*
5. Trial of at least one other intraarticular glucocorticoid injection for the knee\* with a documented positive but inadequate response (e.g., inadequate pain relief, frequent need of rescue medications such as NSAIDs or opioids, need to decrease or inability to increase activity levels, adequate pain relief but with steroid-induced hyperglycemia);  
*\*Prior authorization may be required for intra-articular glucocorticoids*
6. Dose does not exceed 32 mg as a single intraarticular injection into the knee.

**Approval duration: 3 months (one dose per knee)**

**B. Other diagnoses/indications**

1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): PA.CP.PMN.53.

**II. Continued Therapy**

**A. Osteoarthritis of the Knee:**

1. Re-authorization is not permitted. Zilretta is not indicated for repeat administration in the same knee. For an untreated knee, members must meet the initial approval criteria.

**Approval duration: Not applicable**

**B. Other diagnoses/indications (must meet 1 or 2):**

1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): PA.CP.PMN.53.

**III. Diagnoses/Indications for which coverage is NOT authorized:**

- A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policy – PA.CP.PMN.53 or evidence of coverage documents.

**IV. Appendices/General Information**

*Appendix A: Abbreviation/Acronym Key*

FDA: Food and Drug Administration

MRI: magnetic resonance imaging

NSAID: non-steroidal anti-inflammatory drug

TA: triamcinolone acetonide

*Appendix B: Therapeutic Alternatives*

*This table provides a listing of preferred alternative therapy recommended in the approval criteria. The drugs listed here may not be a formulary agent for all relevant lines of business and may require prior authorization.*

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
<b>Oral NSAIDs</b>		
diclofenac	50 mg PO BID to TID	150 mg/day
etodolac (Lodine <sup>®</sup> )	400-500 mg PO BID	1200 mg/day
fenoprofen (Nalfon <sup>®</sup> )	400-600 mg PO TID to QID	3200 mg/day
ibuprofen (Motrin <sup>®</sup> )	400-800 mg PO TID to QID	3200 mg/day
indomethacin (Indocin <sup>®</sup> )	25-50 mg PO BID to TID	200 mg/day
indomethacin ER	75 mg PO QD to BID	150 mg/day
ketoprofen	25-75 mg PO TID to QID	300 mg/day
ketoprofen ER	200 mg PO QD	200 mg/day
meloxicam (Mobic <sup>®</sup> )	7.5-15 mg PO QD	15 mg/day
naproxen (Naprosyn <sup>®</sup> )	250-500 mg PO BID	1500 mg/day

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
<b>Oral NSAIDs</b>		
naproxen sodium (Anaprox DS <sup>®</sup> )	275-550 mg PO BID	1650 mg/day
oxaprozin (Daypro <sup>®</sup> )	600-1200 mg PO QD	1800 mg/day
piroxicam (Feldene <sup>®</sup> )	10-20 mg PO QD	20 mg/day
salsalate (Disalcid <sup>®</sup> )	1500 mg PO BID or 1000 mg PO TID	3000 mg/day
sulindac	150 mg-200 mg PO BID	400 mg/day
<b>Topical NSAIDs</b>		
diclofenac 1.5% solution	40 drops QID on each painful knee	160 drops/knee/day
diclofenac 2% solution (Pennsaid <sup>®</sup> )	40 mg (2 pumps) BID on each affected knee	160 drops/knee/day
diclofenac 1% gel (Voltaren <sup>®</sup> )	2-4 g applied to affected area QID	32 g/day
<b>Intraarticular Glucocorticoids</b>		
triamcinolone acetonide (Kenalog <sup>®</sup> )	40 mg (1 mL) for large joints	80 mg/treatment
Aristospan <sup>®</sup> (triamcinolone hexacetonide)	10-20 mg for large joints	20 mg/treatment
methylprednisolone acetate (Depo-Medrol <sup>®</sup> )	20-80 mg for large joints	80 mg/treatment
hydrocortisone acetate	25-50 mg for large joints	75 mg/treatment

*Therapeutic alternatives are listed as Brand name<sup>®</sup> (generic) when the drug is available by brand name only and generic (Brand name<sup>®</sup>) when the drug is available by both brand and generic.*

#### *Appendix C: Contraindications/Boxed Warnings*

- Contraindication(s): patients with hypersensitivity to triamcinolone acetonide or any component of the product.
- Boxed warning(s): none reported.

#### *Appendix D: General Information*

- Zilretta (extended-release triamcinolone acetonide [TA-ER]) is designed to deliver TA over 12 weeks using extended-release microsphere technology. In contrast, Bodick, et al., 2015, reports that, historically, immediate-release intraarticular glucocorticoids, while demonstrating a large initial analgesic effect, wane over one to four weeks.
- In an evaluation of TA-ER vs immediate-release triamcinolone acetonide (TA-IR) synovial and systemic pharmacokinetics, Krause, et al, 2017, reports that TA-ER demonstrated prolonged residency in the joint (through week 12) relative to TA-IR (through week 6), and consequently showed diminished peak plasma steroid levels relative to TA-IR through week 6. Russell, et al, 2017, reports that in patients with knee osteoarthritis and type-2 diabetes mellitus, TA-ER was associated with a significant and

clinically relevant reduction in blood glucose elevation relative to TA-IR 72 hours post-injection.

- In the Zilretta pivotal trial, Conaghan, et al, 2018, reported superiority of TA-ER versus placebo to 12 weeks in average daily pain (ADP) scores (primary endpoint) and continuing TA-ER activity out to 24 weeks. While TA-ER did not show superior outcomes relative to TA-IR over 12 weeks in ADP scores (secondary endpoint), it was superior to TA-IR at week 12 when evaluated using the exploratory endpoints Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)-A/B/C and Knee injury and Osteoarthritis Outcome Score Quality of Life (KOOS QoL) subscales.
- Conaghan also reports that patients treated with TA-ER used significantly less rescue medication than those treated with TA-IR.
- A phase 3b, open-label, single-arm study by Spitzer et al., 2019, evaluated the safety and efficacy of repeat administration of Zilretta in 208 patients, of whom 179 received a second injection of Zilretta after a median of 16.6 weeks. Additional injections after the second dose were not allowed.
  - The proportion of patients who experienced arthralgia in any joint was nearly doubled during the second injection period (19.0%) compared to the first injection period (10.6%); there were also slightly higher rates of index-knee treatment-emergent AEs during the second injection period (17.3%) compared to the first (14.0%).
  - The FDA highlights this concern in the Zilretta Prescribing Information, Section 6.1 Adverse Reactions – Clinical Studies, stating “The data from this study are insufficient to fully characterize the safety of repeat administration of Zilretta.” As a result, the label continues to retain a limitation of use concerning the unknown benefit of repeat administration.

## V. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
Osteoarthritis of the knee	32 mg (5 mL) as a single intra-articular extended-release injection	32 mg (5 mL)

## VI. Product Availability

Injectable suspension of microspheres (single-dose vial for reconstitution): 32 mg /5 mL.

## VII. References

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3. Kolasinski SL, Neogi T, Hochberg MC, et al. 2019 American College of Rheumatology/Arthritis Foundation guideline for the management of osteoarthritis of the hand, hip, and knee. *Arthritis Care Res.* 2020; 72(2): 220-233.
4. American Academy of Orthopaedic Surgeons. Management of osteoarthritis of the knee (non-arthroplasty) evidence-based clinical practice guideline (3<sup>rd</sup> edition). Available at: <https://www.aaos.org/quality/quality-programs/lower-extremity-programs/osteoarthritis-of-the-knee>. Published August 31, 2021. Accessed October 27, 2023.

5. Bannuru RR, Osani MC, Vaysbrot EE, et al. OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. *Osteoarthritis and Cartilage*. 2019 Nov;27(11):1578-1589. doi: 10.1016/j.joca.2019.06.011.
6. Bodick N, Lufkin J, Willwerth C, et al. An intra-articular, extended-release formulation of triamcinolone acetonide prolongs and amplifies analgesic effect in patients with osteoarthritis of the knee: a randomized clinical trial. *J Bone Joint Surg Am*. 2015; 97: 877-88. <http://dx.doi.org/10.2106/JBJS.N.00918>
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8. Rannou F, Peletier JP, Martel-Pelletier J. Efficacy and safety of topical NSAIDs in the management of osteoarthritis: Evidence from real-life setting trials and surveys. *Semin Arthritis Rheum*. 2016; 45:S18-S21.
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10. Conaghan PG, Hunter DJ, Cohen SB, et al. Effects of a single intra-articular injection of a microsphere formulation of triamcinolone acetonide on knee osteoarthritis pain. A double-blind, randomized, placebo controlled, multinational study. *J Bone Joint Surg Am*. 2018; 100(8): 666-677.
11. Langworthy MJ, Conaghan PG, Ruane JJ, et al. Efficacy of triamcinolone acetonide extended-release in participants with unilateral knee osteoarthritis: A post hoc analysis. *Adv Ther*. 2019; 36: 1398-1411.
12. Krause VB, Conaghan PG, Aazami HA, et al. Synovial and systemic pharmacokinetics (PK) of triamcinolone acetonide (TA) following intra-articular (IA) injection of an extended release microsphere-based formulation (FX006) or standard crystalline suspension in patients with knee osteoarthritis (OA). *Osteoarthritis and Cartilage*. 2018; 26: 34-42.
13. Spitzer AI, Richmond JC, Kraus VB, et al. Safety and efficacy of repeat administration of triamcinolone acetonide extended-release in osteoarthritis of the knee: A phase 3b, open-label study. *Rheumatol Ther*. Published online February 11, 2019. <https://doi.org/10.1007/s40744-019-0140-z>.
14. Hayashi D, Roemer FW, Guermazi A. Imaging for osteoarthritis. *Ann Phys Rehab Med* 2016 Jun;59(3):161-169. doi: 10.1016/j.rehab.2015.12.003.

**Coding Implications**

Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

HCPCS Codes	Description
J3304	Injection, triamcinolone acetonide, preservative-free, extended-release, microsphere formulation, 1 mg

<b>Reviews, Revisions, and Approvals</b>	<b>Date</b>
Policy created	01/2018
1Q 2020 annual review: modified NSAID trial duration to 4 weeks; references reviewed and updated.	01/2020
1Q 2021 annual review: references reviewed and updated.	01/2021
1Q 2022 annual review: added requirement for diagnosis to be confirmed by imaging and added sports medicine physician as acceptable specialist to align with existing requirements for hyaluronate derivatives; Added information regarding repeat administration to Appendix D; references reviewed and updated.	01/2022
1Q 2023 annual review: no significant changes; references reviewed and updated.	01/2023
1Q 2024 annual review: in Appendix B, added ketoprofen ER and diclofenac 2% solution and removed commercially unavailable branded products; references reviewed and updated.	01/2024