

**Clinical Policy: Minocycline ER (Solodyn, Ximino, Minolira),  
Microspheres (Arestin), Foam (Zilxi)**

Reference Number: CP.PMN.80

Effective Date: 06.01.17

Last Review Date: 05.21

Line of Business: Commercial, HIM\*, Medicaid

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

**Description**

Minocycline ER [extended release] (Solodyn<sup>®</sup>, Ximino<sup>™</sup>, Minolira<sup>®</sup>), microspheres (Arestin<sup>®</sup>), and foam (Zilxi<sup>™</sup>) are tetracycline-class drugs.

*\*For Health Insurance Marketplace (HIM), if request is through pharmacy benefit, Arestin is excluded and should not be approved using these criteria.*

**FDA Approved Indication(s)**

Solodyn, Ximino, and Minolira are indicated to treat only inflammatory lesions of non-nodular moderate to severe acne vulgaris in patients 12 years of age and older.

Limitation(s) of use: Solodyn, Ximino, and Minolira did not demonstrate any effect on non-inflammatory acne lesions. Safety of these drugs have not been established beyond 12 weeks of use. These formulations of minocycline have not been evaluated in the treatment of infections. To reduce the development of drug-resistant bacteria as well as to maintain the effectiveness of other antibacterial drugs, Solodyn, Ximino, and Minolira should be used only as indicated.

Arestin is indicated as an adjunct to scaling and root planing procedures for reduction of pocket depth in patients with adult periodontitis. Arestin may be used as part of a periodontal maintenance program which includes good oral hygiene and scaling and root planing.

Zilxi is indicated for the treatment of inflammatory lesions of rosacea in adults.

Limitation(s) of use: Zilxi has not been evaluated in the treatment of infections. To reduce the development of drug-resistant bacteria as well as to maintain the effectiveness of other antibacterial drugs, Zilxi should be used only as indicated.

**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 health plans affiliated with Centene Corporation<sup>®</sup> that Solodyn, Ximino, Minolira, Arestin, and Zilxi are **medically necessary** when the following criteria are met:

**I. Initial Approval Criteria**

**A. Acne Vulgaris (must meet all):**

1. Diagnosis of acne vulgaris;
2. Request is for Solodyn, Ximino, or Minolira;
3. Age  $\geq$  12 years;
4. Member must use immediate-release minocycline, unless contraindicated or clinically significant adverse effects are experienced;
5. Failure of a  $\geq$  4 week trial of one additional preferred oral tetracycline antibiotic (e.g., immediate-release doxycycline), unless clinically significant adverse effects are experienced or all are contraindicated;
6. Dose does not exceed 135 mg per day.

**Approval duration:**

**Medicaid/Commercial** – 12 weeks

**HIM** – 12 weeks

**B. Periodontitis (must meet all):**

1. Diagnosis of chronic periodontitis (also known as adult periodontitis);
2. Request is for Arestin;
3. Prescribed by or in consultation with a periodontist;
4. Age  $\geq$  18 years;
5. Intolerance or contraindication to oral doxycycline hyclate at a sub-antimicrobial dose (20 mg PO twice a day) (e.g., unable to swallow capsules, allergic to a doxycycline product excipient, history of gastrointestinal disease);
6. Prescribed as an adjunct to a scaling and root planing procedure to reduce pocket depth (applied during procedure);
7. Dose is individualized depending on the size, shape, and number of pockets being treated.

**Approval duration:**

**Medicaid/Commercial** – 1 procedure

**HIM** – Arestin is excluded

**C. Rosacea (must meet all):**

1. Diagnosis of rosacea with inflammatory lesions (papules and pustules);
2. Request is for Zilxi;
3. Age  $\geq$  18 years;
4. Failure of  $\geq$  6 consecutive weeks of two of the following (*see Appendix B*) at maximally tolerated doses, unless clinically significant adverse effects are experienced or all are contraindicated: oral doxycycline, topical metronidazole, topical ivermectin, topical azelaic acid;
5. Dose does not exceed 1 can per month.

**Approval duration:**

**Medicaid/HIM** – 12 months

**Commercial** – Length of Benefit

**D. 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): CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid.

**II. Continued Therapy**

**A. Acne Vulgaris (must meet all):**

1. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
2. Request is for Solodyn, Ximino, or Minolira;
3. Member is responding positively to therapy;
4. If request is for a dose increase, new dose does not exceed 135 mg per day.

**Approval duration:**

**Medicaid/Commercial – 12 weeks**

**HIM – 12 weeks**

**B. Periodontitis (must meet all):**

1. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
2. Request is for Arestin;
3. Member has not received 4 scaling and root planing procedures in the last 365 days;
4. Dose is individualized depending on the size, shape, and number of pockets being treated.

**Approval duration:**

**Medicaid/Commercial – 1 procedure**

**HIM – Arestin is excluded**

**C. Rosacea (must meet all):**

1. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
2. Request is for Zilxi;
3. Member is responding positively to therapy;
4. If request is for a dose increase, new dose does not exceed 1 can per month.

**Approval duration:**

**Medicaid/HIM – 12 months**

**Commercial – Length of Benefit**

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

1. Currently receiving medication via Centene benefit and documentation supports positive response to therapy.

**Approval duration: Duration of request or 12 weeks (whichever is less); or**

2. 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): CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid.

**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 policies – CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid, or evidence of coverage documents.

**IV. Appendices/General Information**

*Appendix A: Abbreviation/Acronym Key*

FDA: Food and Drug Administration

*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
doxycycline (Vibramycin®)	Acne Vulgaris Adults, adolescents, and children 8 years and older weighing 45 kg or more: 100 mg PO every 12 hours on day 1, then 100 mg PO once daily Children 8 years and older and adolescents weighing less than 45 kg: 2.2 mg/kg/dose PO every 12 hours on day 1, then 2.2 mg/kg/dose PO once daily	Varies
minocycline (Minocin®)	Acne Vulgaris Adults: 200 mg PO initially, then 100 mg PO every 12 hours as adjunctive therapy. Alternatively, if more frequent oral doses are preferred, 100 to 200 mg PO initially, then 50 mg PO every 6 hours Children ≥ 8 years and adolescents: 4 mg/kg PO (max: 200 mg) initially, then 2 mg/kg/dose PO every 12 hours (max: 100 mg/dose) as adjunctive therapy	200 mg/day
tetracycline	Acne Vulgaris Adults: 1 g/day PO in divided doses, then decrease slowly to 125 to 500 mg PO daily or every other day Children ≥ 9 years and adolescents: 1 g/day PO in divided doses, then decrease slowly to 125 to 500 mg PO daily or every other day	Varies
doxycycline (Periostat®)	Periodontitis 20 mg BID (subantimicrobial-dose) for 3 to 9 months	40 mg/day
metronidazole (Metrocream® 0.75%, Metrogel® 1%, Metro lotion® 0.75%)	Rosacea Apply thin film topically to affected area QD for 1% and BID for 0.75%	Not applicable

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
azelaic acid (Finacea® 15% gel)	Rosacea Apply in a thin film topically to the affected area BID Reassess if no improvement in 12 weeks	Not applicable
doxycycline (Oracea®)	Rosacea 40 mg PO once daily in the morning (1 hour before or 2 hours after a meal)	300 mg/day PO; 40 mg PO/day for Oracea
Soolantra® (ivermectin cream)	Rosacea Apply pea size amount to the affected areas of the face QD	1 g/day

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

*Appendix C: Contraindications/Boxed Warnings*

- Contraindication(s): hypersensitivity to minocycline or any tetracyclines
- Boxed warning(s): none reported

*Appendix D: General Information*

- Arestin is a variable dose product, dependent on the size, shape, and number of pockets being treated. In US clinical trials, up to 122 unit-dose cartridges were used in a single visit and up to 3 treatments, at 3-month intervals, were administered in pockets with pocket depth of 5 mm or greater.
- The 2015 American Dental Association guidelines rank the following drug therapies as adjuncts to scaling and root planing for chronic periodontitis (rankings in order of strength are 1) strong, 2) in favor, 3) weak, 4) expert opinion for, 5) expert opinion against, 6) against):
  - “In favor”:
  - Systemic subantimicrobial-dose doxycycline
  - “Weak”:
  - Systemic antimicrobials at standard doses (similar benefit to subantimicrobial doses but increased risk of adverse effects)
  - Chlorhexidine chips (locally applied)
  - Photodynamic therapy with diode laser
  - “Expert opinion for”
  - Doxycycline hyclate gel (locally applied)
  - Minocycline microspheres (locally applied)

**V. Dosage and Administration**

Drug Name	Indication	Dosing Regimen	Maximum Dose
Minocycline extended release tablets (Solodyn)	Acne vulgaris	The recommended dosage is approximately 1 mg/kg PO once daily for 12 weeks. The following table shows tablet strength and body weight to achieve approximately 1 mg/kg:	1 mg/kg/day PO up to 135 mg/day PO

Drug Name	Indication	Dosing Regimen				Maximum Dose
		Wt. (lbs)	Wt. (kg)	Tablet Strength (mg)	Actual mg/kg dose	
		99-109	45-49	45	1-0.92	
		110-131	50-59	55	1.10-0.93	
		132-157	60-71	65	1.08-0.92	
		158-186	72-84	80	1.11-0.95	
		187-212	85-96	90	1.06-0.94	
		213-243	97-110	105	1.08-0.95	
		244-276	111-125	115	1.04-0.92	
		277-300	126-136	135	1.07-0.99	
Minocycline extended release capsules (Ximino)	Acne vulgaris	The recommended dosage is approximately 1 mg/kg PO once daily for 12 weeks. The following table shows capsule strength and body weight to achieve approximately 1 mg/kg:				
		Wt. (lbs)	Wt. (kg)	Capsule Strength (mg)	Actual mg/kg dose	
		99-131	45-59	45	1-0.76	
		132-199	60-90	90	1.5-1	
		200-300	91-136	135	1.48-0.99	
Minocycline microspheres (Arestin)	Periodontitis	<p>Arestin is a variable dose product, dependent on the size, shape, and number of pockets being treated. In US clinical trials, up to 122 unit-dose cartridges were used in a single visit and up to 3 treatments, at 3-month intervals, were administered in pockets with pocket depth of 5 mm or greater.</p> <p><i>Arestin is provided as a dry powder, packaged in a unit-dose cartridge with a deformable tip, which is</i></p>				Dose is variable depending on size, shape, and number of pockets being treated.

Drug Name	Indication	Dosing Regimen	Maximum Dose
		<i>inserted into a spring-loaded cartridge handle mechanism to administer the product. The oral health care professional removes the disposable cartridge from its pouch and connects the cartridge to the handle mechanism.</i>	
Minocycline extended release tablets (Minolira)	Acne vulgaris	The recommended dosage is approximately 1 mg/kg PO once daily for 12 weeks. The following list shows tablet strength and body weight to achieve approximately 1 mg/kg:  Weight (kg): tablet strength (mg) 45-59 kg: half of the 105 mg tablet 60-89 kg: half of the 135 mg tablet 90-125 kg: 105 mg 126-136 kg: 135 mg	1 mg/kg/day PO up to 135 mg/day PO
Minocycline foam (Zilxi)	Rosacea	Apply as a thin layer to affected areas of the face once daily. Gently rub into skin.	One application/day

## VI. Product Availability

Drug Name	Availability
Minocycline extended release tablets (Solodyn)	Extended-release tablets: 45 mg <sup>†</sup> , 55 mg, 65 mg, 80 mg, 90 mg <sup>†</sup> , 105 mg, 115 mg, and 135 mg <sup>†</sup>
Minocycline extended release capsules (Ximino)	Extended-release capsules: 45 mg, 90 mg, and 135 mg
Minocycline extended release tablets (Minolira)	Extended-release tablets: 105 mg and 135 mg
Minocycline microspheres (Arestin)	Unit-dose cartridge: minocycline hydrochloride microspheres equivalent to 1 mg of minocycline free base (1 or 12 unit-dose cartridges per box)
Minocycline foam (Zilxi)	Foam: 1.5% (30 g can)

<sup>†</sup>Available as generic only

## VII. References

1. Arestin Prescribing Information. Bridgewater, NJ: OraPharma, a division of Valeant Pharmaceuticals North America LLC. June 2020. Available at: <http://www.valeant.com/Portals/25/Pdf/PI/arestin-pi.pdf>. Accessed March 1, 2021.
2. Minolira Prescribing Information. Princeton, NJ: Promius Pharma, LLC.; June 2018. Available at: <http://173.203.188.208/live/minolira/wp-content/uploads/2019/03/MinoLira-PI.pdf>. Accessed March 1, 2021.
3. Solodyn Prescribing Information. Bridgewater, NJ: Valeant Pharmaceuticals North America LLC; September 2017. Available at: <http://www.solodyn.com/>. Accessed March 1, 2021.
4. Ximino Prescribing Information. Princeton, NJ: Sun Pharmaceuticals; November 2020. Available at: <http://www.ximinorx.com/>. Accessed March 1, 2021.

5. Zilxi Prescribing Information. Bridgewater, NJ: Foamix Pharmaceuticals Ins.; May 2020. Available at: [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2020/213690s000lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/213690s000lbl.pdf). Accessed March 1, 2021.
6. Zaenglein AL, Pathy AL, Schlosser BJ, et al. Guidelines of care for the management of acne vulgaris. J Am Acad Dermatol. 2016; 74(5):945-973.
7. Clinical Pharmacology [database online]. Tampa, FL: Gold Standard, Inc.; 2020. Available at: <http://www.clinicalpharmacology-ip.com/>.
8. Smiley CJ, Tracy SL, Abt E, et al. Systematic review and meta-analysis on the nonsurgical treatment of chronic periodontitis by means of scaling and root planing with or without adjuncts. JADA 2015; 146(7): 508-524.e5.
9. Smiley CJ, Tracy SL, Abt E, et al. Evidence-based clinical practice guideline on the nonsurgical treatment of chronic periodontitis by means of scaling and root planing with or without adjuncts. JADA 2015; 146(7): 525-535.
10. Thiboutot D, Anderson R, Cook-Bolden F, et al. Standard management options for rosacea: The 2019 update by the National Rosacea Society Expert Committee. J Am Acad Dermatol 2020; 82: 1501-10.
11. Del Rosso JQ, Tangchetti E, Webster G, et al. Update on the Management of Rosacea from the American Acne & Rosacea Society (AARS). J Clin Aesthet Dermatol. 2019; 12(6): 17-24.

Reviews, Revisions, and Approvals	Date	P&T Approval Date
<p>Policy split from CP.PMN.51 Tetracycline Antibiotics (Solodyn, Doryx, Oracea)</p> <ul style="list-style-type: none"> <li>-Modified criteria related to trial and failure of PDL oral antibiotics to specifically require tetracycline class of antibiotics, one of which must be immediate-release minocycline, as they are considered first-line for systemic antibiotic therapy for acne for <math>\geq 4</math> weeks</li> <li>-Converted to new template</li> <li>-Added no documentation of hypersensitivity to tetracyclines per PI</li> <li>-Added duration of trial to requirements related to trial and failure of topical therapies for clarity</li> <li>-Removed age requirement since tetracycline antibiotics on the PDL are not subjected to age restrictions</li> <li>-Updated references</li> </ul>	03.17	05.17
<p>2Q 2018 annual review: policies combined for commercial and Medicaid lines of business; added Arestin and criteria for periodontitis</p> <p>Commercial: split from CP.CPA.210 doxycycline hyclate (Acticlate, Doryx), doxycycline (Oracea), and minocycline (Solodyn); acne vulgaris: modified “failure of both generic immediate release minocycline and doxycycline” requirement to the following: “Medical justification supports inability to use immediate-release minocycline (e.g., member experienced clinically significant adverse effects to immediate-release minocycline or has contraindication(s) to the excipients in immediate-release minocycline) and “Failure of a <math>\geq 4</math></p>	02.06.18	05.18



Reviews, Revisions, and Approvals	Date	P&T Approval Date
week trial of one additional preferred oral tetracycline antibiotic (e.g., immediate-release doxycycline) unless clinically significant adverse effects are experienced”; modified initial/continued approval duration from length of benefit to 12 weeks/up to 12 weeks of total treatment/365 days, respectively as safety of Solodyn has not been established beyond 12 weeks of use; Medicaid: Acne vulgaris: added age; removed criteria related to topical treatments and hypersensitivity to tetracyclines; added max dose; specified request is for Solodyn. Re-auth: modified approval duration from “up to 12 weeks of total treatment” to “up to 12 weeks of total treatment/365 days”; references reviewed and updated.		
No significant changes: added Ximino back to the policy as it was unintentionally omitted during 2Q 2018 annual review.	06.20.18	
To align with the newly approved Seysara policy – for continuation of therapy, removed the limit of one course of therapy per 365 days, leaving just an approval duration of 12 weeks. Removed the requirement that the member has waited for one year between treatment courses.	11.13.18	
2Q 2019 annual review: no significant changes; references reviewed and updated.	02.25.19	05.19
RT4: added new dosage form Minolira to the policy.	06.21.19	
2Q 2020 annual review: updated dosage and administration table; added Arestin exclusion under HIM LOB; references reviewed and updated.	02.10.20	05.20
RT2: added Zilxi to criteria with corresponding criteria set for rosacea indication.	06.11.20	11.20
2Q 2021 annual review: no significant changes; revised requirement for IR minocycline for acne vulgaris to “must use” language; revised HIM.PHAR.21 to HIM.PA.154; references reviewed and updated.	03.01.21	05.21

**Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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**Note:**

**For Medicaid members**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

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