# tiopronin (Thiola®; Thiola EC®)

EOCCO POLICY

## Policy Type: PA/SP  Pharmacy Coverage Policy: EOCCO158

### Description

Tiopronin (Thiola) is an active reducing agent which undergoes thiol-disulfide exchange with cystine to form tiopronin-cystine disulfide, which is more water soluble than cystine. As a result, the amount of sparingly soluble cystine in the urine is decreased and the formation of cystine calculi is reduced.

### Length of Authorization

- Initial: Six months
- Renewal: 12 months

### Quantity Limits

| Product Name | Dosage Form | Indication | Quantity Limit |
|---|---|---|---|
| tiopronin (Thiola) | 100 mg tablet | Nephrolithiasis (cystine), prevention | 450 tablets/30 days |
| tiopronin (Thiola EC) | 100 mg delayed release tablet | | 450 tablets/30 days |
| | 300 mg delayed release tablet | | 150 tablets/30 days |

### Initial Evaluation

I. Tiopronin (Thiola; Thiola EC) may be considered medically necessary when the following criteria below are met:
   A. Member is 18 years of age or older; **OR**
      1. Younger than 18 years of age and weighing 20 kg or greater; **AND**
   B. Medication is prescribed by, or in consultation with, a nephrologist or urologist; **AND**
   C. A diagnosis of **severe homozygous cystinuria** when the following are met:
      1. Urinary cystine levels greater than 500 mg/day; **AND**
      2. Member has <u>not</u> been responsive to <u>all</u> of the following:
         i. High fluid intake
         ii. Urinary alkalinization
         iii. Diet modification (e.g. restriction of sodium and protein intake)

II. Tiopronin (Thiola; Thiola EC) is considered <u>investigational</u> when used for all other conditions.

### Renewal Evaluation

I. Member has received a previous prior authorization approval for this agent through this health plan; **AND**
II. Member is not continuing therapy based off being established on therapy through samples, manufacturer coupons, or otherwise. Initial policy criteria must be met for the member to qualify for renewal evaluation through this health plan; **AND**
III. Member has exhibited improvement or stability of disease symptoms as indicated by a reduction in cystine stone production <u>OR</u> a urinary cystine concentration less than 250 mg/L.

## Supporting Evidence

I. Tiopronin (Thiola; Thiola EC) is a reducing-agent that helps form tiopronin-cystine disulfide, which is more readily excreted by the body, as it is more water soluble.
II. Topronin (Thiola; Thiola EC) is FDA-approved to prevent cystine stone formation in adults and pediatric patients 20 kg and greater with severe homozygous cystinuria, who are unresponsive to high fluid intake, alkali, and diet modification.
III. The recommended initial dose in adult patients is 800 mg/day. In clinical studies, the average dose was about 1,000 mg/day.
IV. The recommended initial dose in pediatric patients 20 kg and greater is 15 mg/kg/day. Doses greater than 50 mg/kg per day should be avoided in pediatric patients. Pediatric patients receiving greater than 50 mg/kg tiopronin per day are at greater risk of proteinuria and nephrotic syndrome.
V. Tiopronin (Thiola; Thiola EC) tablets are not approved for use in pediatric patients weighing less than 20 kg as safety and efficacy has not been established in this population.
VI. Urinary cystine levels should be measured one month after initiation of tiopronin (Thiola; Thiola EC) and every three months thereafter. The dose should be adjusted to maintain a urinary cystine concentration of less than 250 mg/L.

## Investigational or Not Medically Necessary Uses

I. Tiopronin (Thiola; Thiola EC) has not been sufficiently evaluated outside of severe homozygous cystinuria.

## References


1. Thiola [prescribing information]. San Antonio, TX: Mission Pharmacal Company; June 2019.
2. Thiola EC [prescribing information]. San Antonio, TX: Mission Pharmacal Company; June 2019.
3. UpToDate, Inc. Cystine stones. UpToDate [database online]. Waltham, MA. Last updated March 01, 2019 Available at: http://www.uptodate.com/home/index.html.


## Policy Implementation/Update:

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| Date Created | December 2019 |
| Date Effective | December 2019 |
| Last Updated | December 2019 |
| Last Reviewed | 12/2019 |

| Action and Summary of Changes | Date |
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