

Clinical Policy: Protein C Concentrate, Human (Ceprotin)

Reference Number: PA.CP.PHAR.330

Effective Date: 01/18

Last Review Date: 01/19

[Coding Implications](#)

[Revision Log](#)

Description

Protein C Concentrate, Human (Ceprotin®) is an enzyme manufactured from human plasma.

FDA Approved Indication(s)

Ceprotin is indicated in pediatric and adult patients with severe congenital Protein C deficiency for the prevention and treatment of venous thrombosis and purpura fulminans.

Policy/Criteria

It is the policy of health plans affiliated with Pennsylvania Health and Wellness® that Ceprotin is **medically necessary** when the following criteria are met:

I. Initial Approval Criteria

A. Congenital Protein C Deficiency (must meet all):

1. Diagnosis of congenital protein C deficiency;
2. Prescribed by or in consultation a hematologist or physician with expertise in inherited thrombophilias*;
3. One of the following (a or b):
 - a. Prescribed for use in an acute setting**;
 - b. Lab result confirming low protein C activity (due to low protein C levels or function or both).

Approval duration: 6 months

B. Other diagnoses/indications: Refer to PA.CP.PMN.53

II. Continued Approval

A. Congenital Protein C Deficiency (must meet all):

1. Previously received this medication via Pennsylvania Health and Wellness benefit or member has previously met all initial approval criteria; or the Continuity of Care policy (PA.LTSS.PHAR.01) applies;
2. Member is responding positively to therapy;
3. If not previously determined, lab result confirms baseline low protein C activity (due to low protein C levels or function or both)

Approval duration: 12 months

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

1. Currently receiving medication via Pennsylvania Health and Wellness benefit and documentation supports positive response to therapy; or the Continuity of Care policy (PA.LTSS.PHAR.01) applies;

Approval duration: Duration of request or 6 months (whichever is less); or

2. Refer to PA. CP.PMN.53

**Common causes of inherited thrombophilias include Factor V Leiden, prothrombin gene mutation, and deficiencies in protein S, protein C, and antithrombin.*

***Treatment should not be delayed by testing requirements in the acute setting nor should testing be performed in the presence of acute thrombosis or initial anticoagulation therapy (at least three months) as these factors will influence the results.*

Background

Description/Mechanism of Action:

Ceprotin (Protein C Concentrate [Human]) is manufactured from human plasma purified by a combination of filtration and chromatographic procedures, including a column of immobilized mouse monoclonal antibodies on gel beads.

Protein C is the precursor of a vitamin K-dependent anticoagulant glycoprotein (serine protease) that is synthesized in the liver. It is converted by the thrombin/thrombomodulin-complex on the endothelial cell surface to activated Protein C (APC). APC is a serine protease with potent anticoagulant effects, especially in the presence of its cofactor protein S. APC exerts its effect by the inactivation of the activated forms of factors V and VIII, which leads to a decrease in thrombin formation. APC has also been shown to have profibrinolytic effects.

The Protein C pathway provides a natural mechanism for control of the coagulation system and prevention of excessive procoagulant responses to activating stimuli. A complete absence of protein C is not compatible with life. A severe deficiency of this anticoagulant protein causes a defect in the control mechanism and leads to unchecked coagulation activation, resulting in thrombin generation and intravascular clot formation with thrombosis.

I. Appendices/General Information

Appendix A: Abbreviation/Acronym Key

FDA: Food and Drug Administration

Appendix B: Therapeutic Alternatives

Not applicable

Appendix C: Contraindications/Boxed Warnings

None reported

II. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
Acute episode/short-term prophylaxis	Initial dose: 100-120 IU/kg Subsequent 3 doses: 60-80 IU/kg Q6 hours Maintenance dose: 45-60 IU/kg Q6 or 12 hours	Individualized
Long-term prophylaxis	Maintenance dose: 45-60 IU/kg Q12 hours	Individualized

III. Product Availability

Lyophilized powder for IV injection: 500 IU per vial; 1000 IU per vial

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
J2724	Injection, protein C concentrate, intravenous, human, 10 IU

Reviews, Revisions, and Approvals	Date	Approval Date
Diagnosis specified. References reviewed and updated.	02/18	
1Q 2019 annual review: references reviewed and updated.	01/19	

References

1. Ceprotin prescribing information. Westlake Village, CA: Baxalta US, Inc.; September 2015. Available at http://www.shirecontent.com/PI/PDFs/CEPROTINPATIENT_USA_ENG.pdf. Accessed November 7, 2018.
2. Stevens SM, Woller SC, Bauer KA, et al. Guidance for the evaluation and treatment of hereditary and acquired thrombophilia. J Thromb Thrombolysis. January 2016; 41(1): 154-164.