

# Geisinger Health Plan Policies and Procedure Manual

Policy: MP069

Section: Medical Benefit Policy

Subject: Ultrafiltration

# **Applicable Lines of Business**

Commercial	X	CHIP	X
Medicare	X	ACA	X
Medicaid	X		

I. Policy: Ultrafiltration

# II. Purpose/Objective:

To provide a policy of coverage regarding Ultrafiltration

# III. Responsibility:

- A. Medical Directors
- B. Medical Management Department

# IV. Required Definitions

- Attachment a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
- 2. Exhibit a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
- 3. Devised the date the policy was implemented.
- 4. Revised the date of every revision to the policy, including typographical and grammatical changes.
- 5. Reviewed the date documenting the annual review if the policy has no revisions necessary.

## V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community;
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

## **Medicaid Business Segment**

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.
  - Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities,

taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age.

## **DESCRIPTION:**

Ultrafiltration therapy, also known as aquapheresis, is a method of removing excess plasma water as a treatment of decompensated heart failure. Blood is withdrawn and returned via the peripheral veins using a peristaltic pump. The blood passes through a filter that allows filtration of water and solutes of less than 50,000 daltons. This allows for rapid fluid removal while maintaining the electrolyte composition of the blood, maintaining heart rate and blood pressure.

#### INDICATIONS:

# **COMMERCIAL, MEDICARE and MEDICAID BUSINESS SEGMENT:**

Ultrafiltration is considered medically necessary for the treatment of decompensated heart failure when:

- The member exhibits signs and symptoms of fluid overload; and
- Dyspnea with minimal exertion or at rest; and
- Diuretic resistance or inadequate response to maximized therapeutic dose or a dose approaching the maximum recommended daily dose without incremental improvement in diuresis.

**EXCLUSIONS:** The Plan does **NOT** provide coverage for Ultrafiltration therapy for the treatment of decompensated heart failure not meeting the criteria outlined above because it is considered **experimental**, **investigational or unproven**. The Geisinger Technology Assessment Committee evaluated this technology and concluded that there is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this test on health outcomes when compared to established tests or technologies.

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in **MP 15 - Experimental Investigational or Unproven Services or Treatment.** 

# Medicaid Business Segment:

Any requests for services that do not meet criteria set in the PARP may be evaluated on a case by case basis

## **CODING ASSOCIATED WITH: Ultrafiltration**

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at <a href="https://www.cms.gov">www.cms.gov</a> or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

# **CPT Codes:**

90945 dialysis procedure other than hemodialysis with single physician evaluation

90947 dialysis procedure other than hemodialysis requiring repeated physician evaluations, with or without substantial revision of dialysis prescription

99356 prolonged physician service in the inpatient setting, requiring direct patient contact beyond the usual service; first hour

99357 each additional 30 minutes

37799

90999

0692T Therapeutic ultrafiltration

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

# LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

## **REFERENCES:**

Geisinger Clinic Technology Assessment Committee, "Ultrafiltration", January 8, 2003.

Geisinger Clinic Technology Assessment Committee, "Ultrafiltration", March 2010

Ellison DH," Diuretic Therapy and Resistance in Congestive Heart Failure", Cardiology, 96:132-143, 2001.

Argostoni PG, Marenzi GC, "Sustained Benefit from Ultrafiltration in Moderate Congestive Heart Failure", Cardiology, 96:183-189, 2001.

Sharma A, Hermann DD, Mehta RL, "Clinical Benefit and Approach of Ultrafiltration in Acute Heart Failure", Cardiology, 96:144-154, 2001.

Cadnapaphornchai MA, Gurevich AK, Weinberger HD, Schrier RW,"Pathophysiology of Sodium and Water Retention in Heart Failure", Cardiology, 96:122-131, 2001.

Sheppard R, Panyon J, Pohwani AL, Kapoor A, Macgowan G, McNamara D, Mathier M, Johnston JR, Murali S. Intermittent outpatient ultrafiltration for the treatment of severe refractory congestive heart failure. J Card Fail. 2004 Oct;10(5):380-3.

Liang KV, Hiniker AR, Williams AW, Karon BL, Greene EL, Redfield MM. Use of novel Ultrafiltration device as a treatment strategy for diuretic resistant, refractory heart failure; initial clinical experience in a single center. J Card Fail 2006 Dec; 12(9):707-14.

Constanzo MR, Guglin ME, Saltzberg MT, Jessuo ML, Bart BA. et al. Ultrafiltration versus intravenous diuretics for patients hospitalized for acute decompensated heart failure. J Am Coll Cardiol 2007;49:675-83.

Jessup M, Abraham WT, Casey DE, et al. writing on behalf of the 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult Writing Committee. 2009 Focused update: ACCF/AHA guidelines for the diagnosis and management of heart failure in adults: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. Circulation. 2009; 119:000–000 Available at: http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.109.192064v1.

Jaski BE, Romeo A, Ortiz B, et al. Outcomes of volume-overloaded cardiovascular patients treated with ultrafiltration. J Card Fail. 2008; 14(6):515-520.

Bart BA, Boyle A, Bank AJ, et al. Ultrafiltration versus usual care for hospitalized patients with heart failure. The Relief for Acutely fluid-overloaded Patients with Decompensated Congestive Heart Failure (RAPID-CHF) trial. J Am Coll Cardiol 2005;46:2043-2046

Bart BA. Treatment of congestion in congestive heart failure: Ultrafiltration is the only rational initial treatment of volume overload in decompensated heart failure. Circ Heart Fail. 2009; 2(5):499-504.

California Technology Assessment Forum (CTAF). Peripheral ultrafiltration for the management of acute decompensated heart failure: A technology assessment. San Francisco, CA: CTAF; June 20, 2007. Available at: <a href="http://ctaf.org/content/general/detail/740">http://ctaf.org/content/general/detail/740</a>. Accessed February 11, 2010

Costanzo, MR, Saltzberg, M, O'Sullivan, J, and Sobotka, P. Early ultrafiltration in patients with decompensated heart failure and diuretic resistance. *J Am Coll Cardiol*. 2005;46(11):2047-2051.

Costanzo MR. The role of ultrafiltration in the management of heart failure. Curr Treat Options Cardiovasc Med. 2006;8(4):301-309.

Costanzo MR, Guglin ME, Saltzberg MT, et al. Ultrafiltration versus intravenous diuretics for patients hospitalized for acute decompensated heart failure. J Am Coll Cardiol. 2007;49(6):675-683.

Dickstein K, Cohen-Solal A, Filippatos G, et al.; Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2008 of the European Society of Cardiology. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2008. Eur J Heart Fail. 2008;10(10):933-989.

Haas GJ, Pestritto VM, Abraham WT. Ultrafiltration for volume control in decompensated heart failure. Heart Fail Clin. 2008;4(4):519-534.

Heart Failure Society of America. Evaluation and management of patients with acute decompensated heart failure. J Card Fail. 2006;12(1):e86-e103. Available at: <a href="http://www.heartfailureguideline.com/">http://www.heartfailureguideline.com/</a>. Accessed February 11, 2010.

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. ICSI Healthcare Guidelines. Bloomington, MN: Institute for Clinical Systems Improvement (ICSI); August 2006. Available at: <a href="http://www.icsi.org/quidelines">http://www.icsi.org/quidelines</a> and more/guidelines order sets protocols/. Accessed February 11, 2010

Jaski BE, Romeo A, Ortiz B, et al. Outcomes of volume-overloaded cardiovascular patients treated with ultrafiltration. J Card Fail. 2008;14(6):515-520.

Rogers HL, Marshall J, Bock J, et al. A randomized, controlled trial of the renal effects of ultrafiltration as compared to furosemide in patients with acute decompensated heart failure. J Card Fail. 2008;14(1):1-5.

Wertman BM, Gura V, Schwarz ER. Ultrafiltration for the management of acute decompensated heart failure. J Card Fail. 2008;14(9):754-759.

Hanna MA, Tang WH, Teo BW, et al. Extracorporeal ultrafiltration vs. conventional diuretic therapy in advanced decompensated heart failure. Congest Heart Fail. Jan-Feb 2012;18(1):54-63.

Marenzi G, Muratori M, Cosentino ER, et al. Continuous ultrafiltration for congestive heart failure: the CUORE trial. J Card Fail. Jan 2014;20(1):9-17.

Wen H, Zhang Y, Zhu J, et al. Ultrafiltration versus intravenous diuretic therapy to treat acute heart failure: a systematic review. Am J Cardiovasc Drugs. Oct 2013;13(5):365-373.

Kwong JS, Yu CM. Ultrafiltration for acute decompensated heart failure: a systematic review and meta-analysis of randomized controlled trials. Int J Cardiol. Mar 15 2014;172(2):395-402.

De Vecchis R, Esposito C, Ariano C. Efficacy and safety assessment of isolated ultrafiltration compared to intravenous diuretics for acutely decompensated heart failure: a systematic review with meta-analysis. Minerva Cardioangiol. Apr 2014;62(2):131-146.

Mittal MK, Katta N, Alpert MA. Role of isolated ultrafiltration in the management of chronic refractory and acute decompensated heart failure. Hemodial Int. 2016 Oct;20 Suppl 1:S30-S39

Costanzo MR, Negoianu D, Fonarow GC, et al. Rationale and design of the Aquapheresis Versus Intravenous Diuretics and Hospitalization for Heart Failure (AVOID-HF) trial. Am Heart J. 2015 Sep;170(3):471-82.

Costanzo MR, Negoianu D, Jaski BE, et al. Aquapheresis versus intravenous diuretics and hospitalizations for heart failure. JACC Heart Fail. Feb 2016;4(2):95-105

Jain A, Agrawal N, Kazory A. Defining the role of ultrafiltration therapy in acute heart failure: a systematic review and meta-analysis. Heart Fail Rev. Sep 2016;21(5):611-619.

Morpurgo M, Pasqualini M, Brunazzi MC, et al. A multicenter feasibility study on ultrafiltration via a single peripheral venous access in acute heart failure with overt fluid overload. Int J Cardiol. 2017;240:253-257.

Kwok CS, Wong CW, Rushton CA, et al. Ultrafiltration for acute decompensated cardiac failure: A systematic review and meta-analysis. Int J Cardiol. Feb 01 2017;228:122-128.

Yancy CW, Jessup M, Bozkurt B, et al. 2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. Circulation. 2017 Aug 8;136(6):e137-e161.

Grossekettler L, Schmack B, Brockmann C, et al. Benefits of peritoneal ultrafiltration in HFpEF and HFrEF patients. BMC Nephrol. 2020;21(1):179.

Fudim M, Brooksbank Jet al. Ultrafiltration in Acute Heart Failure: Implications of Ejection Fraction and Early Response to Treatment From CARRESS-HF. J Am Heart Assoc. 2020 Dec 15;9(24):e015752

Yazdanyar A, Sanon J, Lo KB, et al. Outcomes with ultrafiltration among hospitalized patients with acute heart failure (from the National Inpatient Sample). Am J Cardiol. 2021;142:97-102

Writing Committee Members; ACC/AHA Joint Committee Members. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure. J Card Fail. 2022 May;28(5):e1-e167. Epub 2022 Apr 1.

Dunlay S and Colucci W. Management of refractory heart failure with reduced ejection fraction. In: UpToDate; updated October 2022.

Colucci, W. Treatment of acute decompensated heart failure: Specific therapies. In: UpToDate: updated May, 2022.

This policy will be revised as necessary and reviewed no less than annually

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clarify exclusion); 8/23 (revised criteria)

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CMS UM Oversight Committee Approval: 12/23, 11/8/24

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at https://www.geisinger.org/health-plan/providers/ghp-clinical-policies

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