Medical Policy

Blue Cross Blue Shield Blue Care Network of Michigan

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Category: Medicine

Title: Continuous Arteriovenous Hemofiltration

Procedure Code(s): 90945

Description / Background

Continuous renal replacement therapy is a general term describing a variety of techniques to provide acute renal support for patients with acute renal failure (ARF). In the past, ARF may have been treated with intermittent hemodialysis or peritoneal dialysis. However, the hemodynamic instability of ARF, in particular hypotension, frequently limits the ability of hemodialysis to accomplish the desired volume removal. Continuous arteriovenous hemofiltration (CAVH) was the first type of continuous renal replacement therapy developed, but over the next 20 years a variety of strategies were developed that offered improved clearance of drugs and solute. Continuous renal replacement therapies are differentiated according to:

- Access type (arteriovenous vs. venovenous)
- Clearance type (i.e., either convective or diffusive or a combination of the two)
- Filter type
- Fluid replacement requirement

Currently the venovenous systems, which eliminate the need for arterial catheterization, have gained widespread acceptance.

The following are abbreviations for the most common types of continuous renal replacement therapies:

- CAVH: continuous arteriovenous hemofiltration - The patient's own blood pressure is used to move blood through a highly permeable membrane via a circuit originating in an artery and terminating in a vein. Solute clearance occurs by convection. The ultrafiltrate is replaced with a replacement fluid.
- CVVH: continuous venous-venous hemofiltration - Similar to CAVH, except that the circuit originates and terminates in a vein. The patient's blood is pumped through the permeable

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membrane by a peristaltic pump. CVVH may be used when fluid overload is the principal problem.

- CAVHD: continuous arteriovenous hemodialysis
- CVVHD: continuous venous-venous hemodialysis
  The above two systems are similar to CAVH and CVVH, respectively, but also add a diffusive clearance component using a countercurrent dialysate flow. Fluid replacement is not routinely administered, since the solute clearance is primarily diffusive. These systems may be preferred when small solute removal is required, i.e., urea.
- CAVHDF: continuous arteriovenous hemodiafiltration
- CVVHDF: continuous venous-venous hemodiafiltration
  Both of the above systems use both convective and diffusive clearance of solutes. The convection component is greater than that of CAVHD and CVVH, and thus these systems typically require fluid replacement.

Currently CVVHD and CVVHDF are most commonly used methods of hemofiltration.

CPT / HCPCS Level II Codes and Description

90945	Dialysis procedure other than hemodialysis (e.g., peritoneal, hemofiltration), with single physician evaluation
90947	Dialysis procedure other than hemodialysis, requiring repeated evaluations with or without substantial revision of dialysis prescription

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Diagnoses / Medical Conditions

Codes are related to circulatory failure and renal insufficiency of many etiologies

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Medical Policy Statement

Continuous renal replacement therapy has been established as a safe and effective, supportive treatment for acute renal failure.

Rationale

Continuous hemofiltration is a safe and effective treatment for the treatment of acute renal failure (ARF). It allows for greater hemodynamic stability than intermittent dialysis for patients with ARF.

Medical Policy Position Summary (Non-clinical summary statement for customer use)

Continuous renal replacement therapy has been established as a safe and effective, supportive treatment for acute renal failure.

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Inclusionary and Exclusionary Guidelines (Clinically based guidelines that may support individual consideration and pre-authorization decisions)

Careful patient selection is critical, since the patient and/or caregivers need to understand the principles of the selected treatment and must be willing to comply with the medical regimen.

Hyperlink (Audit criteria)

Related Policies

N/A

Hyperlink

Medicare Information

End Stage Renal Disease (ESRD)

2230. TREATMENT OF END- STAGE RENAL DISEASE.

Approved Dialysis Settings -

A. Facility -Maintenance dialysis may be furnished in a provider-based or independently operated ESRD facility approved under the ESRD program.
B. Home--Patients who have been appropriately trained can dialyze at home. They may or may not require the assistance of another person who has also been appropriately trained. In the home setting all home dialysis supplies and equipment are covered, as well as home dialysis support services furnished by an ESRD facility approved under the ESRD program.

(The above Medicare information is current as of the review date for this policy. However, since Medicare coverage issues and policies may be updated or revised by Centers for Medicare & Medicare Services (CMS, formerly HCFA) on a frequent basis, the most current information may not be contained in this document. For the most current information, you should contact an official source.)

References

- Blue Cross Blue Shield Association Medical Policy # 8.02.01, “Continuous Renal Replacement Therapies”, effective 7/16/99, Archived 8/18/00.
- http://www.hcfa.gov/pubforms/14%5Fcar/3b2230.htm HCFA Carriers Manual Part 3 Chapter II - Coverage and Limitations, End Stage Renal Disease (ESRD); Treatment of End-Stage Renal Disease, Last updated June 15, 1999.

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Joint BCBSM/BCN Medical Policy History

Date	Rationale
7/10/02	Joint medical policy established
11/18/03	See comment below

Next Review: This policy is established and is no longer subject to periodic review.

Pre-Consolidation Medical Policy History

Original Policy Date		Comments
BCN	N/A	Revised: N/A
BCBSM	7/10/98	Revised: N/A

Hyperlink Secured for internal use only (Internal information, e.g., Medical Policy Committee minutes, etc.)

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