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## Medical Policy



**Joint Medical Policies are a source for BCBSM and BCN medical policy information only. These documents are not to be used to determine benefits or reimbursement. Please reference the appropriate certificate or contract for benefit information.**

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**Category: Medicine**

**\*Current Policy Effective Date: 9/1/10**

**Title: Daily Hemodialysis**

**\*\*Procedure Code(s):  
99512, S9335**

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### Description/Background

Dialysis is the mechanical cleansing of the body of wastes (products of nitrogen metabolism), water and minerals when the body's kidneys are unable to do so. If total kidney function drops below 10% of normal function and the impairment is irreversible and permanent, the condition is known as end-stage renal disease (ESRD).

Hemodialysis is a process during which a patient's blood is passed through an artificial kidney machine that removes the waste products and returns the blood to the body. Hemodialysis may be performed in an inpatient or outpatient facility or in the patient's home. Most hemodialysis patients in the United States undergo dialysis three times a week for three and a half to four hours at each setting. Some patients may receive this intermittent dialysis in the home. Medicare payment for dialysis, referred to as the "composite rate," is premised on intermittent hemodialysis performed three times per week.

There has been longstanding interest in exploring different schedules for hemodialysis to create a more normal physiologic approach to potentially lessen the morbidity and mortality associated with intermittent hemodialysis. Daily hemodialysis, defined as dialysis six to seven days a week, has been investigated in two different schedules:

- Nocturnal dialysis, in which the patient undergoes a long period of dialysis while asleep on a daily basis, or
- Daily hemodialysis sessions of two hours each, such that the total dialysis time is similar to the conventional three times a week schedule

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\*See policy history boxes for any previous effective dates if applicable

\*\*See section "CPT/HCPCS Level II Codes" for additional code(s) if applicable.

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While daily dialysis has been investigated in the clinical setting, both daily dialysis and nocturnal dialysis are more feasible in the home setting. It is also possible to combine daily and nocturnal home hemodialysis.

Two dialysis devices have received Federal Drug Administration (FDA) clearance with specific labeling for home use; the NxStage System One (NxStage Medical Inc.) and the PhD System (Aksys). The availability of these devices may create further interest in home daily dialysis. The FDA approval for both devices was based on data showing that hemodialysis delivered in the home setting was equivalent to that offered in the clinic setting in terms of the amount of therapy and the incidence of side effects. Patients served as their own controls.

Many reports indicate that patients using short daily and/or nocturnal hemodialysis:

- Take less medication to control blood pressure and anemia
- Take less medication to keep phosphorus under control to help prevent bone disease
- Have improvements in neuropathy (nerve damage) and suffer less frequently from “restless leg syndrome”
- Feel better during dialysis and less “washed out” after
- Have more energy for daily tasks
- Sleep better
- Have fewer and shorter hospital stays
- Have a better quality of life
- Live longer

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**CPT/HCPCS Level II Codes** *(Note: The inclusion of a code in this list is not a guarantee of coverage. Please refer to the medical policy statement to determine the status of a given procedure)*

**Established codes:**

99512                      S9335

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**Diagnoses/Medical Conditions**

End stage renal disease

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**Medical Policy Statement**

Daily hemodialysis is considered safe and effective to eliminate waste and restore balanced electrolyte levels (sodium, potassium and chloride). Daily hemodialysis enables the patient to receive treatment at home and maintain a level of independence and convenience.

## Rationale

In 2001, the National Institute of Diabetes, Digestive and Kidney Diseases convened a task force to address the issue of daily hemodialysis. This task force reported that daily hemodialysis was associated with an improvement in nutritional parameters, normalization of serum phosphate (particularly with nocturnal hemodialysis) and an improvement in blood pressure and hematocrit (with an associated decrease in transfusion requirements or erythropoietin dosages). The task force concluded that a randomized clinical trial was warranted to further explore outcomes. The task force also discussed the economic impact of daily dialysis and Medicare reimbursement. Recruitment for this study began in 2004 with the study scheduled to be completed by Fall 2008.

Williams and colleagues at the Mayo Clinic reported on the outcomes of 21 patients who were sequentially treated with intermittent and daily hemodialysis. Patients served as their own control. The daily dialysis schedule was associated with improvements in blood pressure, urea kinetics and symptoms between and during dialysis sessions. The authors concluded that this small short-term study demonstrated the feasibility of daily hemodialysis.

The London Daily/Nocturnal Hemodialysis Study was a prospective nonrandomized comparative study of daily (n=11) and nocturnal hemodialysis (n=12) with outcomes compared to matched controls receiving conventional hemodialysis. The following results were reported in a series of publications:

- There were no significant differences between the control group and the daily and nocturnal groups in numbers of hospital days or ER visits.
- Weekly urea clearance is improved in quotidian hemodialysis.
- Quotidian hemodialysis\* was associated with an improvement in symptoms both during and between dialysis sessions and all patients chose to remain on quotidian hemodialysis after switching from intermittent dialysis.
- Quotidian hemodialysis was associated with improvement in nutritional parameters.
- Due to the increased number of treatments, treatment supply costs for quotidian hemodialysis were twice that of the conventional groups, however there were cost savings related to the reduction in direct nursing time (after training in home hemodialysis was completed).

\*Note: Daily and nocturnal hemodialysis are collectively known as quotidian hemodialysis

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

Daily hemodialysis is a method of cleansing the blood of toxic substances when the kidneys can no longer perform that function. Daily hemodialysis is considered safe and effective to eliminate waste and restore balanced electrolyte levels (sodium, potassium and chloride). Daily hemodialysis enables the patient to receive treatment at home and maintain a level of independence and convenience.

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

### **Inclusions**

- Patient and caregiver(s) must be trained on hemodialysis.
- Patent access via fistula, graft or catheter.
- Patient home must be able to handle equipment, including adequate space and electrical and plumbing infrastructure.
- Available center and staff to provide services required to provide daily hemodialysis.

### **Contraindications**

- Severe cardiovascular disease with instability during dialysis.
  - Blindness (unless dialysis is done by caregiver).
  - Risk for bleeding, e.g., heparin use.
  - Lack of suitable living conditions.
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## **Related Policies**

Home Hemodialysis (retired)

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## **Medicare Information**

Home hemodialysis equipment and other medically necessary items for home dialysis prescribed by a physician are covered under Part B.

*(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicaid Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)*

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## **References**

- Blue Cross Blue Shield Association, "Daily Hemodialysis in the Home," *Medical Policy Reference Manual*, Policy #8.02.05, Issue 6:2008, original policy date 12/14/05.
  - Centers for Medicare & Medicaid, *Medicare Benefit Policy Manual*, Chapter 11, End Stage Renal Disease (ESRD), sections 50-60, (Rev. 83, 02-15-08).
  - *HAYES Medical Technology Directory*, "Home Hemodialysis," Lansdale, PA: HAYES, Inc., June 19, 2004, update search June 22, 2008.
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Medical Policy Title: Daily Hemodialysis

- McFarlane, Philip A., et al., "The Quality of Life and Cost Utility of Home Nocturnal and Conventional In-Center Hemodialysis," *Kidney International*, Vol. 64, 2003, pp. 1004-1011.
- Oreopoulos, D., "Home Dialysis as a First Option: A New Paradigm," *International Urology and Nephrology*, Vol. 41, No. 3, 2009, pp. 595-605.
- Pauly, R., "Nocturnal home hemodialysis and short daily hemodialysis compared with kidney transplantation: emerging data in a new era," *Advances in Chronic Kidney Disease*, Vol. 16, No. 13, 2009, pp. 169-172.
- Schiffel, Helmut, MD, et al., "Daily Hemodialysis and the Outcome Of Acute Renal Failure," *The New England Journal of Medicine*, Vol. 346, No. 5, January 31, 2002, pp. 305-310.

*The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through 5/20/10, the date the research was completed.*

**Joint BCBSM/BCN Medical Policy History**

<b>Policy Effective Date</b>	<b>BCBSM Signature Date</b>	<b>BCN Signature Date</b>	<b>Comments</b>
1/1/07	11/1/06	11/16/06	Joint policy established
1/1/09	10/13/08	12/30/08	Routine maintenance
9/1/10	6/15/10	6/15/10	Routine maintenance, policy retired.

Next Review Date: This is an established procedure and is no longer subject to routine review.

**Pre-Consolidation Medical Policy History**

<b>Original Policy Date</b>	<b>Comments</b>
BCN: N/A	Revised: N/A
BCBSM: N/A	Revised: N/A

**BLUE CARE NETWORK BENEFIT COVERAGE  
POLICY: DAILY HEMODIALYSIS**

**I. Short Description:**

Daily hemodialysis is a method of cleansing the blood of toxic substances when the kidneys can no longer perform that function. Daily hemodialysis is considered safe and effective to eliminate waste and restore balanced electrolyte levels (sodium, potassium and chloride). Daily hemodialysis enables the patient to receive treatment at home and maintain a level of independence and convenience.

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**II. Coverage Determination:**

<b>Commercial HMO (includes Self-Funded groups unless otherwise specified)</b>	Policy criteria apply.
<b>BCNA (Medicare Advantage)</b>	Please refer to Medicare section.
<b>BCN65 (Medicare Complementary)</b>	Coinsurance covered if primary Medicare covers the service.
<b>BlueCaid</b>	Please refer to Medicare section.

**III. Administrative Guidelines:**

- The member's contract must be active at the time the service is rendered.
- The service must be authorized by the member's PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Payment is based on BCN payment rules, individual certificate benefits and certificate riders.
- Appropriate copayments will apply. Refer to certificate and applicable riders for detailed information.
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.

**IV. Effective Dates:**

Policy updated: 1/1/09, 9/1/10 (policy retired)  
JUMP policy effective date: 1/1/07