

Infusion Pumps

DME.SU.103.A

v1.0.2027

Introduction

This guideline addresses infusion pumps.

Health Equity Consideration

Health equity is the highest level of health for all individuals; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which individuals are born, grow, live, work, and age. Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include the following: safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

Criteria

An external infusion pump and related supplies are considered medically necessary for an individual when **both** of the following criteria are met:

- There is documentation that an individual requires an external infusion pump for **any** of the following:
 - enteral and parenteral nutrition
 - parenterally administered medications (e.g., chemotherapy, antivirals, antifungals, narcotic analgesics, epoprostenol or treprostinil, and antibiotics other than vancomycin)
- The external infusion pump and related supplies are required to safely administer the medication or nutrition at home.

Supplies

When an external infusion pump is considered medically necessary, all associated supplies required for its effective use are also considered medically necessary.

An IV pole is considered medically necessary when an individual uses a medically necessary stationary infusion pump.

Not Medically Necessary

Use of an infusion pump for the administration of vancomycin is considered not medically necessary as there is insufficient evidence to support the medical necessity of using an external infusion pump instead of a disposable elastomeric pump or the gravity drip method.

An implantable infusion pump is considered not medically necessary as it does not meet the definition of Durable Medical Equipment (DME).

Evidence Discussion

A 2021 study conducted by García-Queiruga et al. evaluated the use of elastomeric infusion pumps (EIPs) for continuous intravenous antibiotic therapy in a hospital-at-home setting. Researchers analyzed 106 outpatient parenteral antibiotic therapy episodes involving 102 individuals over two years with common antibiotics including piperacillin/tazobactam, ceftazidime, and meropenem. The average treatment duration was about 13 days, and the clinical cure rate reached 84%, demonstrating effectiveness comparable to inpatient care. Respiratory infections were the most frequent indication, followed by urinary tract and skin/soft tissue infections. Overall, the findings suggested that EIPs provide a safe and effective alternative to traditional hospitalization for continuous antibiotic infusion.

A systematic review by Diamantis et al. (2021) found that outpatient parenteral antimicrobial therapy (OPAT) using elastomeric pumps enabled continuous or prolonged infusion of time-dependent antibiotics, improving pharmacokinetic/pharmacodynamic (PK/PD) profiles and reducing resistance risk, while also enhancing individual mobility and quality of life. Clinical efficacy appeared comparable to inpatient care, lessened with observational studies reporting cure rates above 90%. However, the authors noted that OPAT generally lacks rigorous monitoring, increasing risks of therapeutic failure and adverse events, which occurred in about 11% of individuals in one study.

Barrera et al. (2023) conducted an open-label study evaluating the safety and patient-reported outcomes of home-based ocrelizumab infusions. Ninety-nine individuals with multiple sclerosis (MS) received a 600mg ocrelizumab infusion at home over approximately 2.5 hours, following premedication and under nurse supervision. Infusion-related reactions occurred in 25.3% of individuals, all mild or moderate, with no severe (greater than or equal to Grade 3) reactions reported. Adverse events were common but non-serious, affecting 66.7% of participants; the most frequent were itch, fatigue, and grogginess. No medication errors or serious adverse events occurred. Patient-reported outcomes indicated significantly higher satisfaction with home infusions compared to prior infusion center experiences, including improved confidence in care, comfort, and feelings of safety. Participants also expressed a strong preference for home-based treatment. These results suggested that at-home ocrelizumab infusion

using a shortened protocol is safe, feasible, and associated with enhanced individual satisfaction.

Diaz-Manera et al. (2024) reported on the feasibility and safety of administering enzyme replacement therapy (ERT) at home for individuals with Pompe disease. Across three clinical trials (NEO-EXT, COMET, and Mini-COMET), 17 participants received a total of 419 home infusions under healthcare professional supervision. Adverse event rates during home infusions were comparable to those in clinic settings (0.028 vs. 0.039 participants with events per infusion), and infusion-associated reactions were rare (0.003 vs. 0.006 per infusion). No medication errors were reported. Most adverse events were unrelated, non-serious, and resolved without complications. Immunogenicity analysis showed that anti-drug antibody status did not correlate with infusion reactions. The study concluded that home infusion of ERT was feasible and safe for appropriately selected individuals, offering potential benefits such as improved quality of life, reduced treatment burden, and enhanced adherence. Real-world evaluations and post-authorization safety studies are necessary to confirm these findings.

Current literature does not demonstrate superior clinical outcomes for vancomycin administration using external infusion pumps compared to disposable elastomeric pumps or gravity drip methods. While continuous infusion may improve pharmacokinetic control and potentially reduce nephrotoxicity, these benefits can be achieved with elastomeric devices without requiring an electronic pump. No randomized trials or systematic reviews confirm that external pumps provide additional safety or efficacy for vancomycin beyond simpler, lower-cost alternatives. Therefore, in the absence of documented need for prolonged infusion or precise rate control to prevent toxicity, the use of an external infusion pump for vancomycin is considered not medically necessary.

Codes

The inclusion of any code in this table does not imply that the code is under management or requires prior authorization. Refer to the applicable health plan for management details. Prior authorization of a code listed in this table is not a guarantee of payment. The Certificate of Coverage or Evidence of Coverage policy outlines the terms and conditions of the member's health insurance policy.

HCPCS code descriptions

HCPCS Code	Description
A4220	Refill kit for implantable infusion pump

HCP Code	Description
A4221	Supplies for maintenance of non-insulin drug infusion catheter, per week (list drugs separately)
A4222	Infusion supplies for external drug infusion pump, per cassette or bag (list drugs separately)
A4223	Infusion supplies not used with external infusion pump, per cassette or bag (list drugs separately)
A4228	Supplies for maintenance of noninsulin, device-drug combination infusion catheter, per week
A4602	Replacement battery for external infusion pump owned by patient, lithium, 1.5 volt, each
E0459	Chest wrap
E0776	IV pole
E0779	Ambulatory infusion pump, mechanical, reusable, for infusion 8 hours or greater
E0780	Ambulatory infusion pump, mechanical, reusable, for infusion less than 8 hours
E0781	Ambulatory infusion pump, single or multiple channels, electric or battery operated, with administrative equipment, worn by patient
E0788	Ambulatory infusion pump, specific device-drug combination, single or multiple channels, electric or battery operated, with administrative equipment, worn by patient
E0791	Parenteral infusion pump, stationary, single or multi-channel
K0455	Infusion pump used for uninterrupted parenteral administration of medication, (e.g., epoprostenol or treprostinol)
K0552	Supplies for external non-insulin drug infusion pump, syringe type cartridge, sterile, each
K0601	Replacement battery for external infusion pump owned by patient, silver oxide, 1.5 volt, each
K0602	Replacement battery for external infusion pump owned by patient, silver oxide, 3 volt, each

HCP Code	Description
K0603	Replacement battery for external infusion pump owned by patient, alkaline, 1.5 volt, each
K0604	Replacement battery for external infusion pump owned by patient, lithium, 3.6 volt, each
K0605	Replacement battery for external infusion pump owned by patient, lithium, 4.5 volt, each

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