

Apnea Monitors

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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.

Introduction

Apnea monitors are addressed in this guideline.

Criteria

Apnea monitors are considered medically necessary when the individual is less than two years of age and **any** of the following criteria apply:

- The individual has had a documented episode of prolonged apnea (longer than 10 seconds) within the past three months which was associated with bradycardia, reflux, cyanosis, or pallor
- The individual has had documented apnea of longer than 20 seconds
- The individual is a sibling of a child who had sudden infant death syndrome (SIDS)
 - If the sibling was three months of age or less at time of death, apnea monitors are considered medically necessary up to six months of age
 - If the sibling was four months of age or older at time of death, apnea monitors are considered medically necessary up to three months beyond the age of the sibling at time of death
- The individual has had an event or events that required resuscitation within the past three months
- The individual has bronchopulmonary dysplasia and requires oxygen
- The individual has a tracheostomy

Evidence Discussion

A 2023 review by Avery analyzed 44 peer-reviewed studies published between 2018 and 2023 to evaluate the role of home apnea monitoring and remote patient monitoring for infants with apnea of prematurity following hospital discharge. The findings indicated that apnea of prematurity remained a significant contributor to infant morbidity and mortality, with a substantial proportion of preterm infants continuing to experience cardiorespiratory events after discharge; one cited study reported that 78% of preterm infants experienced such events, including 31% classified as severe. The review also highlighted discrepancies in monitoring practices and documentation, noting variability in alarm thresholds and inconsistent definitions of clinically significant apnea across institutions. Additionally, manual documentation of apnea events was found to be unreliable, with one study showing that only 7.7% of events recorded by nursing documentation were verified as true apnea compared with 50.4% detected by monitors. The results further demonstrated that home monitoring could assist in identifying ongoing respiratory instability but introduced challenges, including caregiver burden, anxiety, and potential overuse of healthcare services due to uncertainty in interpreting monitor data. The author concluded that integrating remote patient monitoring into home apnea monitoring programs could improve clinical oversight, reduce unnecessary in-person visits, and enhance care coordination, particularly in underserved regions. However, they emphasized the absence of standardized guidelines and the need for improved clinical support systems. Study limitations included reliance on heterogeneous literature with varying study designs, absence of randomized controlled trials, and regional focus, which limited generalizability and the ability to establish causal relationships.

A 1998 retrospective review (Côté et al.) evaluated the frequency, timing, and predictors of clinically significant cardiorespiratory events among 147 infants monitored at home using event-recording cardiorespiratory monitors. The results showed that 36% of infants experienced at least one significant event, with a total of 475 events recorded across the cohort. The majority of these events occurred early, with 87% of affected individuals experiencing their first event within the first month of monitoring and 69% of all events occurring during that same period. Bradycardia was identified as the most common event type, and former premature infants had the highest likelihood of recurrent events at 79%, compared with 33% in infants with apparent life-threatening events, 21% in siblings of sudden infant death syndrome, and 5% in those monitored due to parental anxiety. Hospital findings were strongly predictive of recurrence, as individuals with documented events during initial hospitalization had significantly higher rates of apnea and bradycardia at home, while those without prior events rarely experienced recurrence. The authors concluded that clinically significant apnea and bradycardia events most often occurred early in the monitoring period, emphasizing the importance of close follow-up immediately after initiation of home monitoring and consideration of

rehospitalization for individuals with recurrent or severe events. They also highlighted the value of objective event-recording monitors in improving detection accuracy compared with caregiver reports alone. Limitations included the retrospective design, heterogeneity of diagnostic groups, variability in monitoring duration, and reliance on impedance-based monitoring, which may have missed certain event types such as obstructive apnea or isolated hypoxemia.

Codes Addressed in This Guideline

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
A4556	Electrodes, (e.g., apnea monitor), per pair
A4557	Lead wires, (e.g., apnea monitor), per pair
E0618	Apnea monitor, without recording feature
E0619	Apnea monitor, with recording feature

References

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