EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)
MED202.038
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COVERAGE:

Extracorporeal Membrane Oxygenation (ECMO) may be considered medically necessary for coverage in neonates, infants, and children with cardiac or respiratory failure that is not expected to improve with conventional medical management. (medications and mechanical ventilation).

ECMO is considered medically necessary as an adjunct to (or in post) lung transplantation for infants, children and adults.

ECMO for adult patients, other than in post lung transplant, is considered experimental or investigational.

DESCRIPTION:

ECMO is the use of a near total cardiopulmonary bypass on infants and children suffering from severe heart and lung failure. It is used when the condition is believed to be potentially reversible but has been unresponsive to more conventional medical management including medication and mechanical ventilation. ECMO supports the activities of the heart and lungs until the organs can recover function. The intervention is expected to be bridge therapy to function recovery and is not curative. ECMO is usually continued for three to twenty-one days depending on the severity of the infant or child’s condition. The decision to discontinue ECMO is made when evaluation of lung shows that oxygenation and carbon dioxide elimination can be safely supported with a conventional ventilator. Most infants and children require ECMO support for five to seven days but, the duration depends upon the severity of the lung and/or heart disease.

“In lung transplantation, ECMO is utilized for respiratory support and stabilization. Typically, lung transplantation for pulmonary hypertension employs cardiopulmonary bypass with associated complete systemic anticoagulation, uncontrolled allograft reperfusion and aggressive ventilation. Intraoperative and prolonged post-operative use of ECMO allows avoidance of these factors and earlier allograft function recovery.”

RATIONALE:

Current literature has expanded the age limits of ECMO from the use of neonates only, to include infants over 30 days of age, and children with cardiac and respiratory failure. These limits have been expanded due to new technology within the ECMO system which limits the amount of heparinization necessary, therefore, limiting the problems with bleeding experienced in past studies. Research has shown that ECMO
does not cure lung or heart disease, but that it provides support for the infant or child to allow the organs to heal.

Current literature supports the use of ECMO for intra- and postoperatively prolonged support of lung transplantation for pulmonary hypertension. ECMO support provides excellent initial organ function due to optimal controlled reperfusion and non aggressive ventilation. This results in improved outcomes even in advanced forms of pulmonary hypertension.

Current literature does not support ECMO for the treatment of cardiac and/or respiratory failure in adult patients, (other than lung transplantation). This documentation does not verify the same improvement in post ECMO outcomes for adults, as has been shown with infants and children. The decrease in heparinization and the improvements in ECMO technology do not show a significant change in the tendency toward bleeding and thrombus development in adult patients. Additional study is needed.

PRICING:

ECMO is paid as a separate service from pediatric and neonatal critical care evaluation and management services.

REFERENCES:


• Levi, D., et al “Use of assist devices and ECMO to bridge pediatric


DISCLAIMER:

State and federal law, as well as contract language, including definitions and specific inclusions/exclusions, takes precedence over Medical Policy and must be considered first in determining coverage. The member's contract benefits in effect on the date that services are rendered must be used. Any benefits are subject to the payment of premiums for the date on which services are rendered. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

HMO Blue Texas physicians who are contracted/affiliated with a capitated IPA/medical group must contact the IPA/medical group for information regarding HMO claims/reimbursement information and other general policies and procedures.