



Extracorporeal Membrane Oxygenation (ECMO) for the Treatment of Cardiac and Respiratory Failure in Adults

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IMPORTANT REMINDER

The Medicare Advantage Medical Policy manual is not intended to override the member Evidence of Coverage (EOC), which defines the insured's benefits, nor is it intended to dictate how providers are to practice medicine. Physicians and other health care providers are expected to exercise their medical judgment in providing the most appropriate care for the individual member.

The Medicare Advantage Medical Policies are designed to provide guidance regarding the decision-making process for the coverage or non-coverage of services or procedures in accordance with the member EOC and the Centers of Medicare and Medicaid Services (CMS) policies, when available. In the event of a conflict, applicable CMS policy or EOC language will take precedence over the Medicare Advantage Medical Policy. In the absence of CMS guidance for a requested service or procedure, the health plan may apply their Medical Policy Manual or MCG™ criteria, both of which are developed with an objective, evidence-based process using scientific evidence, current generally accepted standards of medical practice, and authoritative clinical practice guidelines.

Medicare and EOCs exclude from coverage, among other things, services or procedures considered to be investigational, cosmetic, or not medically necessary, and in some cases, providers may bill members for these non-covered services or procedures. Providers are encouraged to inform members in advance when they may be financially responsible for the cost of non-covered or excluded services.

DESCRIPTION

Extracorporeal Membrane Oxygenation (ECMO), also referred to as extracorporeal life support (ECLS), or extracorporeal lung assist (ELA), is a complex treatment which utilizes a modified cardiopulmonary bypass circuit for temporary life support as a treatment for reversible cardiac and/or respiratory failure. ECMO is used for prolonged time periods (days to weeks) and involves removing a portion of the patient's blood, pumping it through a membrane oxygenator, removing carbon dioxide, rewarming the blood, and returning it to the patient. Due to its complexity, ECMO requires a specialized staff and specific equipment.

MEDICARE ADVANTAGE POLICY CRITERIA

Note: This policy does not address the use of ECMO in children or neonates, which may be considered medically necessary. In addition, this policy does not address the use of short-term extracorporeal support, including ECMO, such as during surgical procedures. The

Policy Guidelines section within the health plan’s medical policy includes information regarding weaning and/or discontinuation of ECMO (use the hyperlink in the “Medical Policy Manual” row below).

CMS Coverage Manuals*	None
National Coverage Determinations (NCDs)*	None
Noridian Healthcare Solutions (Noridian) Local Coverage Determinations (LCDs) and Articles*	None
Medical Policy Manual	<i>Medicare coverage guidance is not available for extracorporeal membrane oxygenation, or ECMO. Therefore, the health plan’s medical policy is applicable.</i>

Extracorporeal Membrane Oxygenation (ECMO) for the Treatment of Cardiac and Respiratory Failure in Adults, Medicine, [Policy No. 152](#) (see “NOTE” below)

NOTE: If a procedure or device lacks scientific evidence regarding safety and efficacy because it is investigational or experimental, the service is noncovered as not reasonable and necessary to treat illness or injury. ([Medicare IOM Pub. No. 100-04, Ch. 23, §30 A](#)). According to Title XVIII of the Social Security Act, §1862(a)(1)(A), only medically reasonable and necessary services are covered by Medicare. In the absence of a NCD, LCD, or other coverage guideline, CMS guidelines allow a Medicare Advantage Organization (MAO) to make coverage determinations, applying an **objective, evidence-based process, based on authoritative evidence**. ([Medicare IOM Pub. No. 100-16, Ch. 4, §90.5](#)). The Medicare Advantage Medical Policy - Medicine Policy No. M-149 - provides further details regarding the plan’s evidence-assessment process (see Cross References).

POLICY GUIDELINES

REQUIRED DOCUMENTATION

The information below **must** be submitted for review to determine whether policy criteria are met. If any of these items are not submitted, it could impact our review and decision outcome:

- Documentation of respiratory or cardiac failure that is potentially reversible;
- Documentation of any possible contraindications, if applicable.

CROSS REFERENCES

[Investigational \(Experimental\) Services, New and Emerging Medical Technologies and Procedures, and Other Non-Covered Services](#), Medicine, Policy No. M-149

REFERENCES

None

CODING

Codes	Number	Description
CPT	33946	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; initiation, veno-venous
	33947	; for initiation of veno-arterial;
	33948	; for one day of daily management of veno-venous;
	33949	; for one day of daily management of veno-arterial;
	33952	; for percutaneous insertion of peripheral cannula(e) in patients 6 years of age or older;
	33954	; for open insertion of peripheral cannula(e) in patients 6 years of age or older;
	33956	; for insertion of central cannula(e) by sternotomy or thoracotomy 6 years of age or older;
	33958	; for percutaneous repositioning of peripheral cannula(e) 6 years of age or older;
	33962	; for open repositioning of peripheral cannula(e) 6 years of age or older;
	33964	; for repositioning of central cannula(e) by sternotomy or thoracotomy 6 years of age or older;
	33966	; for percutaneous removal of peripheral cannula(e) 6 years of age or older;
	33984	; for open removal of peripheral cannula(e) 6 years of age or older;
	33986	; for removal of central cannula(e) by sternotomy or thoracotomy 6 years of age or older;
	33987	; an add-on code for arterial exposure with creation of graft conduit for arterial perfusion;
	33988	; for insertion of left heart vent by thoracic incision
33989	; for removal of left heart vent by thoracic incision	
ICD-9 PCS Facility	39.65	Extracorporeal membrane oxygenation [ECMO]
ICD-10 PCS Facility	5A15223	Extracorporeal Membrane Oxygenation, continuous
HCPCS	None	

***IMPORTANT NOTE:** Medicare Advantage medical policies use the most current Medicare references available at the time the policy was developed. Links to Medicare references will take viewers to external websites outside of the health plan's web control as these sites are not maintained by the health plan.