

Middle East & Africa Extracorporeal CO2 Removal Devices Market Size and Forecast (2021 - 2031)

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Abstracts

The Middle East & Africa (MEA) Extracorporeal CO2 Removal Devices Market is projected to grow significantly, reaching an estimated US\$ 4.8 million by 2031, up from US\$ 3.2 million in 2024, with a compound annual growth rate (CAGR) of 6.1% anticipated from 2025 to 2031.

Executive Summary and Market Analysis

The market for Extracorporeal CO2 Removal Devices (ECCO2R) in the MEA region is primarily segmented into key countries: the UAE, Saudi Arabia, South Africa, and the Rest of the Middle East & Africa. Currently, ECCO2R remains largely experimental, utilized selectively in urban, tertiary, or academic hospitals. There are limited institutional adoptions, with only a few documented case reports and pilot studies. For example, a notable case in Egypt involved a patient with severe Chronic Obstructive Pulmonary Disease (COPD) who, after failing non-invasive ventilation, was treated with a low-flow ECCO2R device (Hemolung), successfully avoiding intubation. This case, along with experiences from South Africa, highlights the potential for ECCO2R even in less-equipped settings.

Despite these promising instances, the adoption of ECCO2R is hindered by several factors. The lack of trained personnel in advanced life support beyond Extracorporeal Membrane Oxygenation (ECMO) poses a significant challenge, as ECCO2R requires specialized training. Furthermore, the regulatory and reimbursement landscape for ECCO2R in many MEA countries is unclear, with insufficient guidelines for its implementation in conditions like Acute Respiratory Distress Syndrome (ARDS) or COPD exacerbations.

On a positive note, the rising incidence of respiratory diseases, exacerbated by urban air pollution and the COVID-19 pandemic, has increased the demand for advanced respiratory support technologies. Some private and academic hospitals in the UAE, Saudi Arabia, South Africa, and Egypt are among the first to adopt ECCO2R technology, exploring its use not only as a last resort but also as a preventive measure against ventilator-induced lung injury.

Market Segmentation

The MEA Extracorporeal CO2 Removal Devices Market is segmented by product, application, and end user:

By Product: The market is divided into Extracorporeal CO2 Devices and Consumables, with the former dominating in 2024.

By Application: The primary applications include Chronic Obstructive Pulmonary Disease (COPD), Acute Respiratory Distress Syndrome (ARDS), and others, with COPD being the leading segment.

By End User: The market is segmented into Hospitals and Clinics, Ambulatory Surgical Centers, and others, where Hospitals and Clinics held the largest share in 2024.

Market Outlook

The increasing prevalence of respiratory diseases underscores the urgent need for innovative therapeutic solutions. Chronic respiratory diseases, particularly COPD, are among the leading global health challenges, causing approximately 4 million deaths annually, according to the Institute for Health Metrics and Evaluation (2019). Projections indicate that by 2050, the number of COPD cases could reach 600 million, driven by aging populations, pollution, and smoking.

Obesity, a significant risk factor for respiratory diseases, further complicates treatment outcomes. The World Health Organization reported that in 2022, around 2.5 billion adults were overweight, with over 890 million classified as obese. This trend is particularly concerning in low- and middle-income countries, where healthcare infrastructure may be less developed.

Manufacturers are responding to this health crisis by developing and marketing ECCO2R devices aimed at patients suffering from acute hypercapnic respiratory failure. These devices offer a critical intervention for patients experiencing elevated carbon dioxide levels in the blood, providing relief and improving prognoses.

The combination of rising respiratory disease cases, obesity-related complications, and advancements in ECCO2R technology is expected to drive market growth. As healthcare providers and manufacturers work together to address existing challenges, ECCO2R systems are likely to become integral to respiratory care, offering hope to patients amid a global health crisis.

Country Insights

By country, the market is segmented into Saudi Arabia, South Africa, the UAE, and the Rest of the Middle East & Africa, with Saudi Arabia holding the largest market share in 2024. Awareness of ECCO2R technology in Saudi Arabia is still developing, primarily associated with ECMO practices rather than as a standalone therapy. The Saudi Critical Care Society has recognized ECCO2R in national guidelines for ARDS, but practical protocols for its use remain underdeveloped.

Despite the challenges, including limited clinical trials and high device costs, the existing infrastructure for ECMO in Saudi Arabia provides a foundation for ECCO2R adoption. Training programs are being implemented to enhance healthcare professionals' skills, which may facilitate the integration of ECCO2R into clinical practice.

Company Profiles

Key players in the MEA Extracorporeal CO2 Removal Devices Market include Terumo Corp, Medtronic Plc, Baxter International Inc, LivaNova Plc, Getinge AB, Fresenius Medical Care AG & Co KGaA, Eurosets SRL, Aferetica s.r.l., Medica S.p.A., and ESTOR S.P.A. These companies are pursuing strategies such as expansion, product innovation, and mergers and acquisitions to enhance their market presence and offer innovative solutions to consumers.

Research Methodology

The report's data collection and analysis involved comprehensive secondary research, utilizing various sources, including company reports, industry publications, and government documents. Primary research included interviews with industry

stakeholders to validate findings and gain insights into market dynamics.

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