

Medical Tubing Market Report by Product (Silicone, Polyolefins, Polyvinyl Chloride, Polycarbonates, Fluoropolymers, and Others), Structure (Single-Lumen, Co-Extruded, Multi-Lumen, Tapered or Bump Tubing, Braided Tubing), Application (Bulk Disposable Tubing, Drug Delivery Systems, Catheters, Biopharmaceutical Laboratory Equipment, and Others), End User (Hospitals and Clinics, Ambulatory Surgical Centers, Medical Labs, and Others), and Region 2024-2032

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## **Abstracts**

The global medical tubing market size reached US\$ 13.6 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 23.6 Billion by 2032, exhibiting a growth rate (CAGR) of 6.2% during 2024-2032. The rising prevalence of cancer, arthritis, and cardiovascular conditions, along with the widespread usage of medical tubing in catheterization, is propelling the medical tubing market growth.

# Medical Tubing Market Analysis:

Major Market Drivers: Technological advancements, rising geriatric population, surging incidence of chronic diseases, and expanding home healthcare market are stimulating the industry growth. Additionally, higher healthcare expenditures support the adoption of advanced medical technologies, thereby further supporting the medical tubing market demand.

Key Market Trends: The growing inclination towards miniaturization of medical tube devices, demand for customization and personalization, focus on patient comfort and



safety, etc., are some of the key market trends. Moreover, there's increasing interest in the use of biocompatible and bioresorbable materials for medical tubes. These materials minimize the risk of adverse reactions and tissue damage, and they can degrade safely within the body over time, eliminating the need for removal procedures, thereby further escalating the industry growth.

Geographical Landscape: According to the report, North America accounted for the largest market share. North America is a hub for medical technology innovation, with a strong focus on developing advanced medical devices, involving medical tubes. In addition, continuous advancements in tube materials, manufacturing techniques, and design contribute to the growth of the market by improving the performance, safety, and efficacy of medical tubes.

Competitive Landscape: Some of the leading medical tubing market companies are ATAG spa, Avient Corporation, Bentec Medical, Hitachi Ltd., Microlumen Inc., NewAge Industries Inc., Nordson Corporation, Optinova, Spectrum Plastics Group, TE Connectivity Ltd., Trelleborg AB, and Vanguard Products Corporation, among many others.

Challenges and Opportunities: Strict regulatory requirements, cost pressures, rising concern for product quality and safety, and infection risk are some of the key challenges that the market is facing. However, the rising inclination towards personalized medicine opens up numerous medical tubing market opportunities for customized medical tube solutions tailored to individual patient needs. Technologies like 3D printing enable the production of bespoke medical tubes based on patient-specific anatomical variations and clinical requirements, thereby further escalating the market demand.

Medical Tubing Market Trends:
Rising Demand for Minimally Invasive Procedures

The increasing demand for medically invasive procedures indeed contributes significantly to the growth of the medical tubing market. For instance, according to the January 2022 article "Microelectronic Catheter for Minimally Invasive Surgery of the Future," catheters play a major role in minimally invasive surgery because they make it easy to remove blood clots, insert implants, or administer drugs precisely where they are needed. They are also designed to be especially gentle on patients. Moreover, medical tubing plays a crucial role in various applications within healthcare settings, including surgical procedures, diagnostic processes, drug delivery systems, and intravenous therapies, among others. As advancements in medical technology continue to evolve, the need for specialized and advanced medical tubing also rises. For instance, in September 2023, Zeus, an advanced polymer solutions provider around the world, created AbsorvTM XSE oriented tubing, the newest addition to its line of



bioabsorbable products. Absorv XSE is a highly adjustable platform for design that offers an alternative to metallic items implanted permanently in the human body. It is available in a variety of resins and increased size ranges. Moreover, the aging population and the increasing prevalence of chronic diseases worldwide contribute to the demand for invasive procedures. Conditions, such as cardiovascular diseases, cancer, and neurological disorders often require interventions that rely on medical tubing for precise delivery of treatments. For instance, according to the article published by MD Anderson Cancer Center in April 2024, cancer patients might need a feeding tube if they have trouble swallowing due to cancer in the head or neck area or are malnourished before or during cancer treatment, including surgery, chemotherapy, and radiation therapy. These factors are further contributing to the medical tubing market share.

# Increasing Geriatric Population

The aging population is increasing significantly owing to longer life expectancy. For instance, according to the World Health Organization, the number of people aged 60 and up in the population is increasing. In 2019, there were one billion people aged 60 and over. This figure will rise to 1.4 billion by 2030, and 2.1 billion by 2050. As the elderly population grows, there's an increased demand for various medical services and devices, including those that utilize medical tubing. Medical tubing is used in a wide range of applications, such as intravenous (IV) lines, catheters, respiratory tubing, and feeding tubes, which are commonly required by older individuals for managing various health conditions. According to an article published by the National Library of Medicine, nasogastric feeding is often used in elderly patients (over the age of 65) due to dysphagia and malnutrition. Dysphagia in older adults is usually multifactorial. Moreover, the aging population often requires ongoing medical care and support, leading to higher consumption of medical tubing products. Additionally, advancements in medical technology have led to the development of specialized tubing for different medical procedures, thereby further bolstering the medical tubing market revenue. For instance, in December 2022, Freudenberg Medical launched a new product, HelixFlex, at the CPhI and PMEC India. The product is a high-purity thermoplastic elastomer TPE tubing intended for use in biopharmaceutical fluid transfer applications.

## Surging Incidences of Chronic Diseases

The incidence of chronic diseases such as cardiovascular, diabetes, cancer, etc., is experiencing a significant surge, thereby further driving the demand for medical tubing. According to a report published by the Institute for Health Metrics and Evaluation in



June 2023, in every country, men, women, and children of all ages are affected by diabetes, which affects more than half a billion people globally. In the next 30 years, that figure is expected to more than double to 1.3 billion people, with an increase in every country. Medical tubing plays a crucial role in the delivery of medications, fluids, and nutrition, as well as in monitoring and managing these conditions. Moreover, many chronic conditions require ongoing medication to manage symptoms, control disease progression, or prevent complications. These factors are influencing the medical tubing market's recent prices. Medical tubing, such as intravenous (IV) lines and infusion sets, facilitates the safe and efficient delivery of medications, including chemotherapy drugs, insulin, antibiotics, and pain relievers. For instance, according to the Parkinson's Foundation's 2022 data update, 90,000 individuals in the U.S. are expected to receive a PD diagnosis each year, and by 2030, about 1.2 million Americans are expected to have the disease. In line with this, it gets difficult to control the symptoms when someone is suffering from this disease as brain cells don't absorb levodopa and store dopamine. It becomes crucial to take the drug during the time, infusion therapy delivers medication more continuously and provides more consistent and reliable symptom relief. These factors are further positively influencing the medical tubing market forecast.

# Medical Tubing Industry Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global medical tubing market report, along with forecasts at the global, regional, and country levels from 2024-2032. Our report has categorized the market based on product, structure, application, and end user.

#### Breakup by Product:

Silicone
Polyolefins
Polyvinyl Chloride
Polycarbonates
Fluoropolymers
Others

Currently, polyvinyl chloride holds the majority of the total market share

The report has provided a detailed breakup and analysis of the market based on the product. This includes silicone, polyolefins, polyvinyl chloride, polycarbonates, fluoropolymers and others. According to the medical tubing market report, currently, polyvinyl chloride holds the majority of the total market share.



According to the medical tubing market overview, polyvinyl chloride (PVC) medical tubing finds widespread usage across various medical applications due to its favorable properties, such as flexibility, durability, biocompatibility, and affordability. PVC tubing is extensively used in IV therapy for delivering fluids, medications, and blood products directly into the bloodstream. It is available in various lengths and diameters to accommodate different clinical needs. As healthcare spending continues to rise globally, there's a parallel demand for PVC medical tubing. Moreover, PVC tubing is often preferred for its cost-effectiveness compared to other materials like silicone or polyurethane, especially in applications where disposable tubing is used, further driving its adoption. For instance, in May 2021, Benvic, a PVC compound and ecological biopolymers specialist, announced that it would use its ModenPlast subsidiary in Northern Italy to look for material synergies and innovative products for the global medical markets.

# Breakup by Structure:

Single-Lumen
Co-Extruded
Multi-Lumen
Tapered or Bump Tubing
Braided Tubing

A detailed breakup and analysis of the market based on the structure has also been provided in the report. This includes single-lumen, co-extruded, multi-lumen, tapered or bump tubing, and braided tubing.

Single-Lumen tubing consists of a single hollow channel and is commonly used in applications where a single fluid or gas needs to be transported, such as in IV lines, oxygen delivery systems, or simple drainage tubes. While co-extruded tubing involves the simultaneous extrusion of multiple layers of materials with different properties. Moreover, multi-lumen tubing contains multiple channels within the same tube. It is commonly used in medical devices where separate channels are needed for various functions, such as in catheters with separate lumens for medication delivery. Furthermore, tapered or bump tubing is designed with a gradual decrease or increase in diameter along its length, creating a tapered or bump feature. Also, braided tubing consists of multiple layers of materials with fibers braided around the inner tube. This construction provides increased strength, kink resistance, and burst pressure compared to non-braided tubing.



Breakup by Application:

Bulk Disposable Tubing
Drug Delivery Systems
Catheters
Biopharmaceutical Laboratory Equipment
Others

Bulk disposable tubing currently exhibits a clear dominance in the market

The report has provided a detailed breakup and analysis of the market based on the application. This includes bulk disposable tubing, drug delivery systems, catheters, biopharmaceutical laboratory equipment, and others. According to the report, bulk disposable tubing exhibits a clear dominance in the market.

As per the medical tubing market overview, bulk disposable tubing offers cost advantages due to its mass production and single-use nature. Healthcare facilities can purchase these tubes in large quantities at competitive prices, reducing overall expenses. Moreover, disposable tubing minimizes the risk of cross-contamination and nosocomial infections compared to reusable tubing. After a single use, the tubing is discarded, eliminating the need for sterilization and reducing the chances of transmitting pathogens between patients. Furthermore, this tubing meets stringent regulatory requirements for medical devices, ensuring adherence to quality and safety standards. Manufacturers produce disposable tubing using materials that comply with regulatory standards for biocompatibility and sterility, providing reassurance to healthcare providers and patients. For instance, in November 2020, Olympus partnered with Ruhof Corporation to launch the Olympus Procedure Kits, and Hybrid Tubing, two new single-use and single-day devices that alleviate the possibility of cross-contamination.

Breakup by End User:

Hospitals and Clinics
Ambulatory Surgical Centers
Medical Labs
Others

Currently, hospitals and clinics account for the largest market share



A detailed breakup and analysis of the market based on the end-user has also been provided in the report. This includes hospitals and clinics, ambulatory surgical centers, medical labs, and others. According to the report, currently, hospitals and clinics account for the largest market share.

Hospitals and clinics are primary settings for patient care and treatment, where medical tubing is extensively used in various medical procedures and therapies. From intravenous therapy and respiratory support to surgical interventions and diagnostic procedures, medical tubing plays a vital role in delivering fluids, medications, and gases to patients. Moreover, hospitals and clinics require medical tubing for a diverse range of applications across different departments and specialties. This includes intravenous administration sets, catheters, drainage tubes, endotracheal tubes, feeding tubes, and more. Each department within a hospital, such as emergency, intensive care, surgery, and obstetrics, relies on specific types of tubing tailored to their clinical needs. For instance, in November 2023, the Medical Research Council awarded the University of Nottingham ?1.1 million to conduct human trials for the world's first endotracheal tube integrated with an optical fiber sensor.

## Breakup by Region:

North America

**United States** 

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others



Latin America
Brazil
Mexico
Others
Middle East and Africa

North America currently dominates the global market

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America currently dominates the global market.

According to the medical tubing market statistics, North America boasts one of the highest healthcare expenditures globally. The continuous rise in healthcare spending, driven by factors such as an aging population, increasing prevalence of chronic diseases, and advancements in medical technology, contribute significantly to the growth of the medical tubing market. The region is a hub for medical innovations and technological advancements. Moreover, manufacturers are constantly developing new materials, designs, and manufacturing processes to enhance the performance, biocompatibility, and safety of medical tubing. These advancements attract investment and drive the market growth as healthcare providers seek cutting-edge solutions. For instance, in March 2022, Shockwave Medical, Inc., received FDA permission and introduced the Shockwave M5+ peripheral IVL catheter. The Shockwave M5+ catheter is specifically developed to reduce Intravascular Lithotripsy (IVL) treatment time, offer alternate access options, and expand IVL therapy to patients with bigger vessel diameters.

#### Competitive Landscape:

The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

ATAG spa
Avient Corporation
Bentec Medical
Hitachi Ltd.



Microlumen Inc.
NewAge Industries Inc.
Nordson Corporation
Optinova
Spectrum Plastics Group
TE Connectivity Ltd.
Trelleborg AB
Vanguard Products Corporation

(Please note that this is only a partial list of the key players, and the complete list is provided in the report.)

Medical Tubing Market Recent Developments:

May 2024: Si-Bone released its innovative iFuse Bedrock Granite Implant System and performed the first surgical procedures with the technology.

April 2024: Putnam Plastics launched silicon-free FEP heat shrink tubing that offers expanded inner diameters up to 0.375 and an expansion rate of up to 1.7 times the original size.

December 2023: The EQT X fund signed an agreement to acquire Zeus, a fluoropolymer tubing provider for medical devices.

Key Questions Answered in This Report

- 1. What was the size of the global medical tubing market in 2023?
- 2. What is the expected growth rate of the global medical tubing market during 2024-2032?
- 3. What are the key factors driving the global medical tubing market?
- 4. What has been the impact of COVID-19 on the global medical tubing market?
- 5. What is the breakup of the global medical tubing market based on the product?
- 6. What is the breakup of the global medical tubing market based on the application?
- 7. What is the breakup of the global medical tubing market based on the end user?
- 8. What are the key regions in the global medical tubing market?
- 9. Who are the key players/companies in the global medical tubing market?



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