

Microneedle Drug Delivery Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The microneedle drug delivery systems market is projected to register a CAGR of 7.8% during the forecast period of 2022-2027.

The healthcare system has witnessed enormous challenges as a result of the COVID-19 pandemic. All outpatient treatments were postponed or restricted during the COVID-19 pandemic to reduce the risk of viral transmission as most chronic pain therapies were regarded as non-urgent. On the other hand, COVID-19 provides ample growth opportunities to the studied market, which is likely to dramatically increase patient footfall post-pandemic. Since then, the demand for COVID-19 vaccines is anticipated to increase, and the market for microneedle drug delivery systems is estimated to expand more quickly as these systems are non-invasive and painless.

Microneedle patch immunization has been extensively studied for its non-invasive technique. The vaccine hesitancy has been listed as one of the top ten threats to global health by the World Health Organization. A survey by Lazarus JV et al., in October 2020 showed that around 53.1% of the studied people opted not to be vaccinated or were not sure whether they should be vaccinated. The vaccine hesitancy is usually a result of needle phobia and fear of pain and complications. The growing demand for needle-less and pain-less microneedle patches is expected to propel the growth of the market.

Injectables have been a concern because of their invasive nature, thermo-stability issues, and necessity for highly skilled practitioners. Needlestick injuries (NSIs) are a serious concern to healthcare professionals. According to the World Health Organization, healthcare workers encounter more than two million NSIs annually. The complications associated with the injectables paved the way for the expansion of the microneedle or the microarray drug delivery systems market.

There has been a rise in the prevalence of chronic diseases such as diabetes, cancer, heart diseases, and stroke. Other

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lifestyle-related diseases such as chronic lung disease, chronic kidney disease, and Alzheimer's disease have also been on the rise over the past decade. In 2021, the Centers for Disease Control and Prevention listed that in the United States, six in ten adults have at least one chronic disease and four in ten adults have two or more. The increasing prevalence of such chronic diseases has also augmented the innovations in the microneedle drug delivery system. Thus, the microneedle drug delivery systems market is predicted to expand during the forecast period.

Microneedle Drug Delivery Systems Market Trends

The Dissolvable Microneedle Drug Delivery System Segment is Expected to Hold a Major Market Share

The dissolvable microneedle drug delivery systems are made mainly from dissolvable or biodegradable polymers. The dissolvable microneedles are a great option for the delivery of low molecular weight peptides, enzymes, drugs, vaccines, and biotherapeutics. The increased interest in the research of dissolvable microneedles is expected to boost the growth of the market.

For instance, in May 2021, HTL Biotechnology and Terasaki Institute of Biomedical Innovation announced an MOU that would help researchers in the microneedle and bioprinting technologies for application in dermatology and drug delivery. In October 2020, a team from the Terasaki Institute of Biomedical Innovation developed a novel biodegradable microneedle patch for gene therapy applications. The rise in recognition of dissolvable microneedle drug delivery systems by the government and healthcare research organizations is predicted to help the development of the segment in the market.

In September 2021, researchers from the National Science Foundation of China and Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, Chinese Academy of Sciences, fabricated a biodegradable microneedle patch for delivering DNA-based SARS-CoV-2 vaccine nanoparticles. The microneedle patches have a significant advantage over conventional vaccines in that they can be stored at room temperature for at least 30 days. This could improve the global accessibility of the COVID-19 vaccine.

The resilient, non-invasive, and efficient nature of the dissolvable microneedle drug delivery system is anticipated to aid in the advancement of the market during the forecast period.

North America is Expected to Hold a Significant Share in the Market

The rise in the adoption of highly advanced techniques and systems in the fabrication of microneedles and the technological advancements made in microneedle drug delivery are expected to boost the growth of the market in the North American region. The high awareness among the population of the availability of novel microneedle drug delivery systems in the market contributes to the high market growth in the region.

Also, the increasing prevalence of chronic diseases among people in the United States is expected to drive the demand for microneedle drug delivery systems in this region. According to the National Diabetes Statistics Report, in 2020, around 37.3 million people in the United States were found to have diabetes; around 96 million adults were found to have pre-diabetes. The National Kidney Foundation in 2020 has estimated that about 36 million adults in the United States have chronic kidney diseases. A report by the Centers for Disease Prevention and Control in 2020 showed that around 15.7 million Americans are affected by chronic lower respiratory disease. The massive incidence of chronic diseases among the population in the United States is expected to advance the expansion of the microneedle drug delivery systems market in the North American region.

Thus, the increasing awareness about the importance of microneedle drug delivery systems and increasing investments in the healthcare department are expected to propel the growth of the market in this region.

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Microneedle Drug Delivery Systems Market Competitor Analysis

The microneedle drug delivery systems market is fragmented and competitive and consists of several major players. In terms of market share, a few of the major players are currently dominating the market. Some of the companies currently dominating the market are 3M Company, Becton, Dickinson and Company, Raphas Co. Ltd, Nanopass Technologies, Corium Inc., Nitto Denko Corporation, Zealand Pharma AS, nanoBioSciences LLC, Micropoint Technologies, LTS Lohmann Therapie-Systeme AG, and others.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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