

Global Minimally Invasive Biopsy Techniques Market Assessment, By Product Offered [Tests, Kits & Consumables, Instruments], By Technique [Liquid Biopsy, Optical Biopsy, Brush Biopsy, Pigmented Lesion Assays, Others], By Circulating Biomarker [Circulating Tumor Cells (CTCs), Cell Free DNA (cfDNA), Circulating Tumor DNA (ctDNA), Extracellular Vesicles, Others], By Application [Clinical, Therapeutic], By End-user [Hospitals & Clinics, Academic & Research Institutions, Ambulatory Care Centres], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Minimally Invasive Biopsy Techniques Market size was valued at USD 3.89 billion in 2022 which is expected to reach USD 6.93 billion in 2030 with a CAGR of 7.49% for the forecast period between 2023 and 2030. Significant growth in the market is driven by several factors such as the increasing prevalence of cancer worldwide and is marked by notable advancements. The development of imaging-guided biopsy techniques, such as ultrasound-guided and MRI-guided biopsies, has enhanced the precision and accuracy of tissue sampling. These techniques allow for real-time visualization of the biopsy site, enabling physicians to target specific lesions and obtain high-quality samples. Additionally, the integration of robotics and artificial intelligence (AI) has further refined the biopsy process, enhanced procedural efficiency, and reduced human error. Furthermore, there have been notable developments in the field

of liquid biopsy, which involves the analysis of circulating tumor cells, cell-free DNA, or other biomarkers in the blood.

For example, Roche launched the FoundationOne®Liquid CDx test, a comprehensive liquid biopsy assay. It employs next-generation sequencing to detect multiple genetic alterations in ctDNA extracted from blood samples. The test is designed to identify genomic alterations in solid tumors, aiding in the selection of targeted therapies and monitoring treatment response.

Minimally invasive biopsy techniques refer to procedures that enable the extraction of tissue samples for diagnostic purposes with minimal damage to surrounding tissues and reduced patient discomfort. Minimally invasive biopsy techniques offer a less invasive alternative to traditional open surgical biopsies, making them more appealing to patients and physicians.

Increase Demand for Early and Accurate Diagnosis

Early and accurate diagnosis is crucial for successful treatment outcomes in various medical conditions, including cancer. Minimally invasive biopsy techniques offer a less invasive and safer alternative to traditional biopsy techniques, making it a preferred choice for patients and healthcare providers. By detecting the presence of cancer cells at an early stage, the minimally invasive biopsy technique can help initiate timely and appropriate treatment, which can significantly improve patient outcomes. Therefore, increasing awareness among patients and healthcare providers about the benefits of early and accurate diagnosis through minimally invasive biopsy techniques can lead to a rise in demand for these techniques in the Global Minimally Invasive Biopsy Technique Market. Additionally, research and development to improve the accuracy and effectiveness of these techniques can further drive demand and market growth.

Technological Advancements

The Global Minimally Invasive Biopsy Techniques Market has seen significant technological advancements in recent years. One of the most notable developments has been the introduction of robotic-assisted biopsy systems that enable more accurate and less invasive procedures. Additionally, the development of advanced imaging technologies, such as ultrasound and magnetic resonance imaging (MRI), has improved the accuracy of biopsies and reduced the need for more invasive procedures. Other technological advancements, such as the use of disposable biopsy needles and the development of real-time image guidance systems, have also improved the safety and

efficiency of minimally invasive biopsies. These technological advancements are expected to continue to drive growth in the market in the coming years.

Liquid Biopsy Segment Leads the Market

Tissue biopsies are the gold standard for diagnosing cancer and profiling tumours. Despite this, biopsy procedures have been linked to a number of limitations, prompting a demand for less intrusive and more precise alternatives. Liquid biopsies are a promising contender for determining the prognosis and diagnosis of cancer in patients. Because of the large number of analytes flowing in the bloodstream that may be employed for liquid biopsy testing, it is a promising tool for the clinical care of oncological patients. Several companies focus on the launch of new liquid biopsy products in line with the same.

For example, BillionToOne, a molecular diagnostics company, launched a range of Oncology liquid biopsy products Northstar Response and Northstar Select in July 2022. Northstar Response offers a tissue-independent therapy response monitoring test, whereas Northstar Select is a thorough pan-cancer somatic mutation screening panel. Both items are now accessible for usage in research at a few prestigious academic cancer centres.

Cell Free DNA (cfDNA) Segment Dominates

The cell-free DNA segment is set to dominate the global market for minimally invasive biopsy procedures. cfDNA is the fragmented DNA delivered into the circulation by cells dying naturally or as a result of illnesses such as cancer. Several reasons contribute to this segment's dominance. For a start, cfDNA analysis provides an alternative to standard tissue biopsies, removing the necessity for invasive surgeries and decreasing patient suffering. Secondly, cfDNA analysis allows for real-time monitoring of disease progression, treatment response, and detection of genetic abnormalities, making it a valuable tool for personalized medicine. Furthermore, advancements in technology, such as next-generation sequencing (NGS) and digital PCR, have improved the sensitivity and accuracy of cfDNA analysis, further driving its adoption and market dominance. The widespread applicability and benefits of cfDNA analysis position it as a leading segment in the global minimally invasive biopsy techniques market.

Government Initiatives

In order to increase political commitment to cancer prevention and control on a

worldwide scale, WHO and IARC have worked together with other UN organizations. In addition to working with other UN organisations, such as the International Atomic Energy Agency, to track cancer prevalence (as part of the Global Initiative on Cancer Registries' activities), it aims to reach out to nations where data is scarce by conducting research on the causes of human cancer and the mechanisms of carcinogenesis.

Additionally, it focuses on identifying the 'best buys' and other high-priority, cost-effective cancer prevention and control measures, such as minimally invasive biopsy techniques, and it also offers guidelines and standards to guide the creation and implementation of programmes for cancer prevention, early detection, screening, treatment, palliative care, and survivorship care in both adults and children. The effort also include raising awareness about the use of minimally invasive biopsy methods to improve access to cancer therapies by supporting regional and governmental health systems.

Impact of COVID-19

The market for minimally invasive biopsy techniques has been significantly impacted by the COVID-19 Pandemic which disrupted the global supply chain of medical devices and equipment, resulting in a decrease in the availability of minimally invasive biopsy devices. The delay or cancellation of elective procedures has led to a decrease in demand for minimally invasive biopsy procedures. Additionally, the shift towards telemedicine and virtual consultations has also impacted the market. However, the pandemic has also increased the demand for diagnostic testing, including minimally invasive biopsies, to diagnose and monitor COVID-19-related complications.

Impact of Russia-Ukraine War

The Russia-Ukraine war had a limited impact on the global minimally invasive biopsy techniques market. While Ukraine is a significant manufacturer of medical devices, including minimally invasive biopsy devices, the global market has not been heavily affected. The war has disrupted the supply chain of medical devices and equipment in Ukraine, leading to a decrease in the availability of these devices in the region. However, the impact on the global market has been minimal as other countries continue to manufacture and supply these devices. It is worth noting that the ongoing conflict has also led to a decrease in demand for medical procedures in Ukraine, including minimally invasive biopsies, due to the strain on the healthcare system and limited access to medical facilities in conflict-affected areas.

Key Player Landscape and Outlook

Multiple prominent manufacturers are fighting for market share in the highly competitive market for minimally invasive biopsy procedures. The companies offer a wide range of minimally invasive biopsy devices and compete based on product quality, innovation, and pricing. In recent years, there has been a significant focus on product development and innovation, with companies investing in research and development to develop new and advanced minimally invasive biopsy devices. The market is also characterized by strategic collaborations, partnerships, and mergers and acquisitions, with companies seeking to expand their product portfolios and geographic reach.

For instance, Biocept is a prominent commercial supplier of testing services that allow doctors to discover and track cancer biomarkers in cerebrospinal fluid samples. Biocept's test menu, via CNSide™, emphasises cancer biomarkers that are clinically actionable according to clinical treatment criteria established by the NCCN® (National Comprehensive Cancer Network®).

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