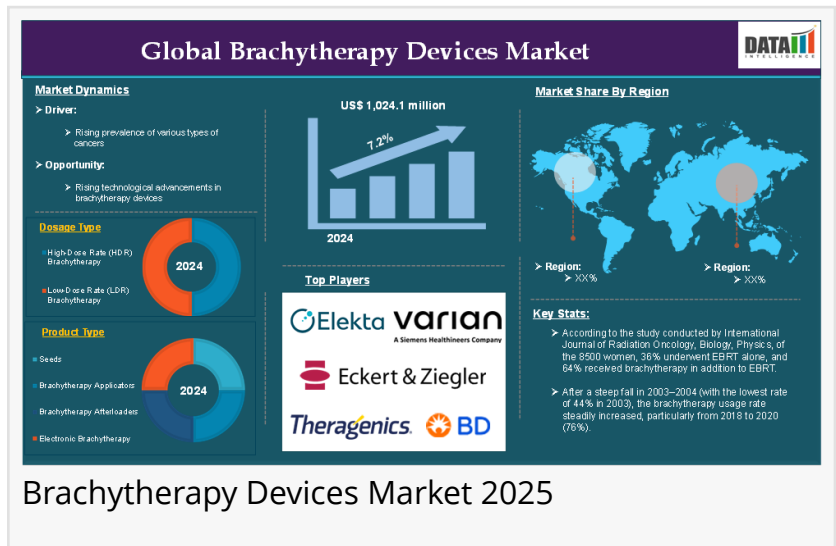


Brachytherapy Devices Market to Surpass US\$ 1.9 Billion by 2033, Driven by Rising Cancer Cases

Global brachytherapy devices market grows at 7.2% CAGR through 2033, fueled by cancer prevalence and tech advances.

LOS ANGELES, CA, UNITED STATES, July 23, 2025 /EINPresswire.com/ -- The [brachytherapy devices market size](#) was valued at approximately US\$ 1,024.1 million in 2024 and is projected to grow to around US\$ 1,902.7 million by 2033, registering a compound annual growth rate (CAGR) of 7.2% from 2025 to 2033.



Brachytherapy devices are specialized tools used in internal radiation therapy, where radioactive materials are placed inside or very close to a tumor. This technique allows for the direct delivery of high radiation doses to cancerous tissue while minimizing exposure to nearby healthy

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Brachytherapy enables precise, high-dose radiation delivery while minimizing harm to healthy tissues.”

DataM Intelligence

structures. Its targeted nature makes it especially effective for treating localized cancers. Brachytherapy is valued for its accuracy, reduced side effects, and shorter treatment durations, offering a compelling treatment option for certain cancer patients.

The global market for brachytherapy devices is witnessing notable growth, driven by a rising incidence of cancer,

ongoing technological innovations, and a growing preference for minimally invasive therapies.

For example, a study published in the International Journal of Radiation Oncology, Biology, Physics analyzed 8,500 women and found that 36% received only external beam radiation therapy (EBRT), while 64% underwent both EBRT and brachytherapy. Following a dip in 2003–2004 with the lowest usage at 44% in 2003 brachytherapy adoption has seen a steady increase, particularly between 2018 and 2020, when usage rose to 76%.

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Brachytherapy Devices Market Trends

Increasing Cancer Incidence

The growing global burden of cancer is a major factor propelling the expansion of the brachytherapy devices market, a trend expected to continue throughout the forecast period. Brachytherapy is especially effective in treating localized cancers such as those affecting the prostate, breast, cervix, and skin. This technique enables the precise delivery of high-dose radiation directly to tumors while limiting exposure to nearby healthy tissues a critical benefit for patients facing rising rates of these cancers.

According to the National Institutes of Health, cancer remains one of the leading causes of death worldwide, with an estimated 20 million new cases diagnosed globally in 2022. This number is projected to increase to nearly 29.9 million by 2040. In the case of prostate cancer specifically, brachytherapy is often preferred for treating early-stage tumors due to its targeted approach and reduced risk of damaging adjacent organs like the bladder and rectum. Supporting this trend, the American Cancer Society projects approximately 299,010 new cases of prostate cancer in the United States alone in 2024.

Brachytherapy Devices Market Segments:

- By Dosage Type (High-Dose Rate (HDR) Brachytherapy, Low-Dose Rate (LDR) Brachytherapy)
- By Product Type (Seeds, Brachytherapy Applicators, Brachytherapy Afterloaders, Electronic Brachytherapy)
- By Technique Type (Ultrasound-Guided Brachytherapy, Magnetic Resonance Imaging (MRI)-Guided Brachytherapy, Computed Tomography (CT)-Guided Brachytherapy, Positron Emission Tomography (PET)-Guided Brachytherapy, Others)
- By Application (Prostate Cancer, Skin Cancer, Gynecological Cancer, Breast Cancer, Cervical Cancer, Others)
- By End-User (Hospitals, Diagnostic Centers, Radiotherapy Centers, Ambulatory Surgical Centers, Others)

Brachytherapy Devices Market Regional Share:

North America holds a prominent position in the brachytherapy devices market, driven by its high cancer incidence rates and advanced healthcare infrastructure. The United States alone recorded around 1.9 million new cancer cases in 2023, with prostate, breast, and gynecological cancers being particularly common. Brachytherapy, especially high-dose rate (HDR) techniques, is a preferred treatment for localized cancers such as prostate cancer, which affects about 1 in 8 men in the U.S. The region benefits from widespread adoption of advanced technologies like real-time imaging, automated afterloaders, and sophisticated treatment planning systems. Leading companies such as Varian Medical Systems and Elekta, headquartered in North America,

continue to innovate and shape the future of brachytherapy devices.

In contrast, the Asia-Pacific (APAC) region is witnessing the fastest growth in the brachytherapy devices market, spurred by a sharp rise in cancer cases due to population growth, urbanization, and aging demographics. Accounting for nearly half of the global cancer burden, countries like China, India, and Japan are actively expanding their cancer care infrastructure. Governments across the region are investing in healthcare to improve access to advanced treatments like brachytherapy. The growing preference for minimally invasive and precise therapies among patients, particularly in countries like South Korea, is accelerating the adoption of HDR brachytherapy. This trend is further supported by reduced side effects, fewer hospital visits, and shorter recovery periods compared to conventional radiation therapies.

Brachytherapy Devices - Top Companies

Top Companies are Elekta AB, Varian Medical Systems, Inc., Eckert & Ziegler, Theragenics Corporation, Becton, Dickinson, and Company, BEBIG Medical, Sun Nuclear Corporation, CIVCO Medical Solutions.

Industry Recent Developments:

□ GT Medical Acquires Cesium-131 Assets from Isoray

In April 2024, GT Medical Technologies acquired Isoray's Cesium-131 brachytherapy seed assets to bolster its gamma-based therapy portfolio, enhancing its position in isotope supply and treatment options.

□ Varian & Maastro Launch 3D-Printed Rectal HDR Applicator

In April 2024, Varian Medical Systems collaborated with Maastro to release a 3D-printed applicator specifically for rectal HDR brachytherapy, delivering more uniform dose distribution and improved tumor contact.

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