

# Indian Scientist

## Tapan Misra



(Born On 20 January 1961)

What if doctors could treat brain tumours **without opening the skull**, without long hospital stays, and with extreme precision? This idea may sound futuristic, but it is already a reality—thanks to advances in **medical physics and radiation science**. One of the Indian scientists who helped bring this life-saving technology to patients is **Tapan Mishra**.

Tapan Mishra worked in the field of **radiation physics**, which combines physics, medicine, and engineering to treat diseases—especially cancer. While most students associate physics with equations on a blackboard, Mishra showed how physics can directly **save lives**.

He is best known for introducing and advancing **Gamma Knife radiosurgery** in India. Despite the name, the Gamma Knife is not a knife at all. It is a highly advanced medical machine that uses **focused gamma radiation** to treat brain tumors and certain neurological disorders. Instead, He is best known for introducing and advancing Gamma Knife radiosurgery in India. Despite the name, the Gamma Knife is not a knife at all. It is a highly advanced medical machine that uses focused gamma radiation to treat brain tumors and certain neurological disorders.

Instead of cutting through the body, doctors use hundreds of tiny radiation beams aimed precisely at a tumor. The tumor is destroyed, while the surrounding healthy brain tissue remains safe.

This technology has a real-life impact that students can easily relate to. Gamma Knife treatment means:

- **No open surgery** and no stitches
- **Less pain and faster recovery**
- Patients often return home the same or next day
- Safer treatment for tumors deep inside the brain

Before such technologies were available in India, many patients had to travel abroad for treatment, which was expensive and stressful. Tapan Mishra played a key role in making this advanced care **accessible within the country**, helping thousands of patients and families.

Mishra's work also highlights how **physics enters hospitals**, not just laboratories. Concepts students learn in school - like radiation, energy, waves, and precision measurement - are used in MRI scans, CT scans, cancer therapy, and nuclear medicine. His career showed that physics can be a powerful tool for healing, not just discovery.

Apart from his technical contributions, Tapan Mishra was deeply committed to **medical education and teamwork**. He worked closely with doctors, engineers, and researchers, showing that solving real-world problems often requires people from different fields working together. His efforts helped strengthen India's capacity in radiation oncology and medical technology.