

Impact of Physics on Nuclear Medicine

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Received: July 2, 2021; Accepted: July 16, 2021; Published: July 23, 2021

Citation: Hutton BF (2021) Impact of Physics on Nuclear Medicine. J Med Phys and Appl Sci Vol.6 No.4:e013.

EDITORIAL NOTE

Physics is a natural science that has the study of matter and its motion over space and time, along with linked theories such as energy and force. More generally, it is the study of nature in an effort to understand how the universe acts. Nuclear physics is the arena of physics that studies atomic nuclei and their elements and interactions, in addition to the study of other methods of nuclear matter. Findings in nuclear physics have led to applications in many fields. This includes nuclear weapons, nuclear power, magnetic resonance imaging and nuclear medicine, industrial and agricultural isotopes, radiocarbon dating in geology and archaeology, ion implantation in materials engineering. Such applications are deliberate in the arena of nuclear engineering.

Nuclear physics deals with different arenas one of them is Nuclear medicine. Nuclear medicine is a specialized area of radiology that uses very small amounts of radiopharmaceuticals, or radioactive materials, to examine body part function and structure. Nuclear medicine imaging is a combination of many different chastisements. Nuclear medicine processes are used in diagnosing and treating certain disorders. These processes use radioactive resources called radiopharmaceuticals. Examples of illnesses treated with nuclear medicine procedures are thyroid cancer, hyperthyroidism, lymphomas, and bone ache from some types of cancer. The very nature of nuclear medicine rest on physics since it treaties with the interaction of the radiation released from within the patient with the detectors used to afford the images as well as with the patient him or herself.

Nuclear medicine physicists work with nuclear imaging equipment and energy dosimeter. They are considered specialists in dealing with the interactions between ionizing energy and matter. Many of them also have capability in computer science and image handling. There are marginal risks in having a nuclear medicine study. These are allergic responses and radiation hazard. Allergic responses have been defined, but are very rare and almost always slight. Ionizing radiation is created through nuclear reactions and can be very dangerous to human health. Nuclear reactions can be naturally arising, or artificial. The nuclear imaging cause is out of your system within 60 hours, but it is always decomposing so it becomes negligible in a reasonably short period of time. Very rare people get side effects from a nuclear medicine exam. Allergic responses are very rare. Any adversarial reactions are passing quickly, usually slight, and need little or no medical treatment. The physicist may also have capability in image renovation and data analysis and thus can support in determining the optimal approaches to be used for handling different types of nuclear medicine studies. Thus the nuclear medicine physicist shows an integral role in the nuclear medicine team. In adding, physicists and engineers work in examination labs, both in academe and industry, developing the new instruments and data analysis approaches for the next generation of nuclear medicine and molecular imaging. Physics plays important role in manufacturing of nuclear medicine. When there is new deviations are take place in physics it defiantly affects the nuclear medicine.