

# Element that undergoes radioactive decay

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Elements that undergo radioactive decay Beneficial application One of the applications of radioactive elements can be best illustrated by Technetium. It is used in nuclear medicine by physicians to picture heart muscles in case of a stress test for the evaluation of a situation known as myocardial ischemia which is from an artery disease. The radioactive tracer is absorbed by the muscle of the heart in proportional direction to blood flow, then to the muscle area, during rest and in the post stress. The variation in myocardial absorption of technetium after and before stress identifies heart muscle areas that are considered ischemic or short of the flow of blood, and deduce the coronary artery flow that is blocked (E K , Jonge, F. and Pauwels 336) It is also applied in the imaging of parathyroid glands in determination of the presence of an overactive gland, a situation known as hyperparathyroidism. Iodine is also applicable in a thyroid uptake test imaging thyroid glands in order to find out hyperthyroidism causes. Its other isotope is applied in treating Graves' disease through destruction of thyroid tissues. In general, radioactive elements treat and diagnose medical diseases.

Technetium 99 isotope

This Isotope is of technetium that decays with 211, 000 years half life compared to a steady ruthenium 99, and hence emits beta rays rather than gamma rays (D. L and Heirsman, 164)

Decay equation

The isotope's role

Based on the criteria used, this isotope is attached to a chemical that moves it to a place that it is needed. For instance, technetium 99 if bounded to exametazime, it enables it to penetrate the barrier between the brain and

blood and circulate via the brain vessels for the imaging of cerebral blood circulation. The mixture is also applied in marking white corpuscles to image infection sites.

#### Works cited

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