



Understanding Radiation Q&A

During the webinar, the following question was asked in the Q&A section. Please email info@radiationsafety.ca if you wish to discuss this further or any have any other follow up question arising from the presentation.

Q: You stated that gamma emission is preceded by an alpha or beta but it was my understanding that technetium-99m only emitted a gamma photon. Is this correct?

A: Technetium-99m is an excited state of Technetium-99. The creation of technetium-99m is preceded by a beta emission by molybdenum-99. The Tc-99m will emit gamma relatively soon after to become Tc-99. A beta decay follows much, much later when the Tc-99 converts to Ru-99. So while Tc-99m does emit only gamma, it is both preceded and followed by beta emission.

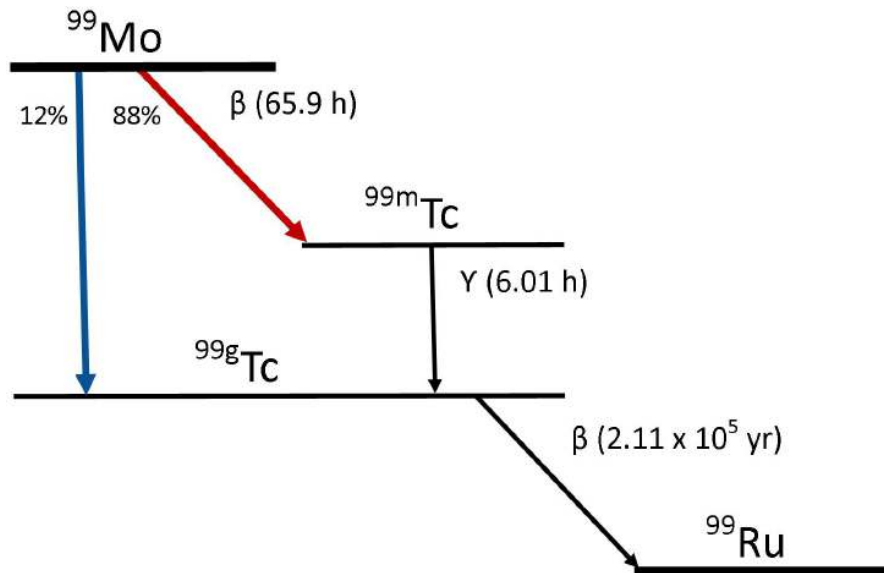


Figure 1 from *Molybdenum-99 for medical imaging: a report of The National Academies of Sciences, Engineering, Medicine*. (National Academies Press, 2016).