

For the simulation of bone a comparative study of several materials for photon (1 to 20 MeV), pion (5 to 100 MeV), proton (5 to 200 MeV) and alpha particle or He ion (10 to 800 MeV) therapy beams are performed. In these studies using the recently reported data, the ratio of mass attenuation coefficients or mass stopping powers of these materials to those of bone in the energy region of typical clinical interest for these beams is considered as a figure of merit. This ratio should be unity or at least constant in the entire energy region so that a constant correction factor can be used. In this regard, it is noticed that for most of these materials the constancy of the ratio is better for pions, protons and alpha particles or He ions than for photons in the entire energy region. For each beam, materials whose ratio remains constant within 2% or less in the entire energy region of clinical interest are identified. These materials can be used for the simulation of bone with a constant correction factor. The data will be presented with a brief discussion.