

**Table 4.3.** Mechanical properties of human cortical bone. (Using data from [210])

Young's modulus, $Y$ (GPa)	
longitudinal	17.4
transverse	9.6
bending	14.8
shear modulus (GPa)	3.51
Poisson's ratio	0.39
yield stress (MPa)	
tensile – longitudinal	115
compressive – longitudinal	182
compressive – transverse	121
shear	54
ultimate stress (MPa)	
tensile – longitudinal	133
tensile – transverse	51
compressive – longitudinal	195
compressive – transverse	133
shear	69
bending	208.6
ultimate strain	
tensile – longitudinal	0.0293
tensile – transverse	0.0324
compressive – longitudinal	0.0220
compressive – transverse	0.0462
shear	0.33
bending	(0.0178 bovine)