

2010

FRICITION AND WEAR MECHANISMS OF BIOMATERIAL AISI 316L SS

**FELLAH Mamoun, DJEDDI Nour Eddine, LABAÏZ Mohamed, ALLAOUI Abd
El Halim, HIDOUS ilyes, HIDOUS Abdelmadjid**

Abstract : The aim of this research is to study the Friction and wear mechanisms of a biomaterial Stainless steel AISI 316L, that we simulated work conditions of total hip prosthesis. The tribological behavior is evaluated by a wear test using (pin-on-disc and sphere-onplane) equipment with and without (Ringer's and 9 g.L⁻¹ NaCl) solution as lubricant. This tests consisted of measuring the weight loss, and the friction coefficient of each material (AISI316 SS, and ceramic) under the different conditions of charge (19.43, 28 et 44N) and sliding speed (600tr/min et 1020 tr/min). The tribological results obtained in this work shows that the Stainless steel AISI316L is a good choice to use as a material combination in artificial joints

Keywords : AISI316L SS, biomechanics, friction, wear, tribology