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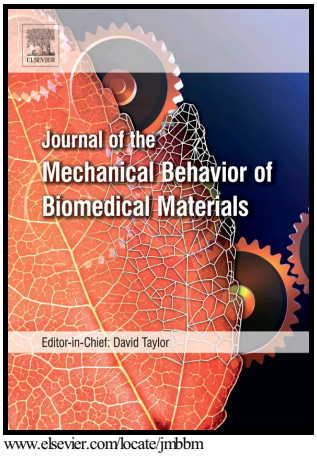

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APPLICATION OF STATIC FATIGUE TESTING TO THE BEHAVIOR OF ABSORBABLE SUTURES

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Abstract

Absorbable sutures, since their conception, have become the dominant method for surgical wound closure and are constantly being improved. However, despite their years of service, not all aspects of their performance are fully understood. In particular, suture absorption is usually characterized by immersing the suture in a model *in vitro* environment under zero stress followed by measurement of the residual tensile strength as a function of immersion time. When in use, absorbable sutures are exposed to mechanical stress, which may affect the absorption rate; however, this phenomenon has not been adequately studied. The present work reports results of static fatigue tests in which the suture material is subjected to a mechanical load while immersed in a controlled environment and the time to fracture is measured as a function of the applied load.

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