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An overview of the mechanical integrity of dental implants

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Dr. Keren Shemtov-Yona holds a B.Sc in Biology, and she completed her studies in Dentistry (DDS) at Tel Aviv University.

In 2013, she completed her M.Sc. on fatigue fracture of dental implants in the Technion Faculty of Medicine, under the joint supervision of Profs. E. Machtei and D. Rittel.

In 2014, Dr. Shemtov-Yona enrolled for a Ph.D at Technion (Mechanical Engineering), in which she further investigates the general issue of the mechanical reliability of dental implants. In parallel, she jointed the 4 year internship program in periodontology at the School of Dentistry (TAU). Dr. Shemtov-Yona has published 7 journal articles on the subject and has been awarded a prize for excellence in research during her M.Sc. in 2013.

Abstract

With the growing use of dental implants, so grows the incidence of implants' failures. Late treatment complications, after reaching full osseointegration and functionality, include mechanical failures, such as fracture of the implant and its components. Those complications are deemed severe in dentistry, albeit usually considered as rare, and therefore seldom addressed in the clinical literature.

The introduction of dental implants into clinical practice fostered a wealth of research on their biological aspects. By contrast, mechanical strength and reliability issues were seldom investigated in the open literature, so that most of the information to date remains essentially with the manufacturers.

Over the years, dental implants have gone through major changes regarding the material, the design, and the surface characteristics aimed at improving osseointegration. Did those changes improve the implants' mechanical performance?

This talk will present our results on various aspects of the mechanical integrity and failure of dental implants

Resumen disponible en **DIGITAL CSIC** <http://hdl.handle.net/10261/127408>

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