

## Some flexural properties of a nylon denture base polymer

Type: Article

Abstract:

Nylon denture base material could be a useful alternative to poly (methyl methacrylate) (PMMA) in special circumstances such as patient allergy to the monomer. The aim of this study was to evaluate the flexural properties of a nylon denture base material (Lucitone FRS), a conventional compression-moulded heat-polymerized (Meliodent), a compression-moulded microwave-polymerized (Acron MC) and an injection-moulded microwave-polymerized (Lucitone 199) PMMA polymers. The effect of aldehyde-free, oxygen releasing disinfectant solution (Perform((R))) on these properties was also investigated. The flexural modulus and the flexural strength were assessed with a three-point bending test. Specimens were stored in water at a temperature of 37 degreesC for 30 days. For each material, half of the prepared specimens were randomly selected and immersed in the disinfectant 24 h prior to testing. Results were compared statistically at a confidence level of 95%. The result showed that in both the control and disinfected groups, the flexural modulus of nylon was significantly lower than the three PMMA polymers. The flexural strength of nylon was significantly lower than those of Meliodent and Acron MC but was comparable with Lucitone 199. A 24-h immersion in the disinfecting solution increased the rigidity of nylon denture base material.

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Source	Journal of Oral Rehabilitation
ISSN	0305-182X
DOI	10.1111/j.1365-2842.2004.01370.x
Volume (Issue)	32(1)
Page	65-71
Year	2005

Keyword:

Disinfectant, flexural modulus, flexural strength, microwave, polymerization, nylon, poly (methyl methacrylate), molded complete dentures, acrylic resins, microwave-energy, disinfection, procedures, dental prostheses, water, porosity, compression, accuracy

Please Cite As:

YUNUS, N., RASHID, A. A., AZMI, L. L. & ABU-HASSAN, M. I. 2005. **Some flexural properties of a nylon denture base polymer.** *Journal of Oral Rehabilitation*, 32, 65-71.

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