

## بررسی ثبات ابعادی آلژینات‌های ایرالژین و آلژینوپلاست پس از ضدعفونی شدن با هیپوکلریت سدیم ۵/۲٪ به روش غوطه‌ورسازی و اسپری

دکتر مهرو وجدانی<sup>†</sup> - دکتر رضا درفشی<sup>\*\*</sup>

\*استادیار گروه آموزشی پروتز متحرک دانشکده دندانپزشکی دانشگاه علوم پزشکی شیراز

\*\*متخصص پروتزهای دندانی

**Title:** Evaluation of dimensional stability of Iralgin and Alginoplast alginates after disinfection by sodium hypochlorite (5.2%) with immersion and spraying methods

**Authors:** Vojdani M. Assistant Professor\*, Derafshi R. Prosthodontist

**Address:** \* Department of Prosthodontics. Faculty of Dentistry, Shiraz University of Medical Sciences.

**Background and Aim:** Infection control is an integral part of dentistry and dental impressions are considered an important issue in cross contamination. The aim of this study was to investigate the dimensional stability of two irreversible hydrocolloid materials, Alginoplast and Iralgin after disinfection with 5.2% sodium hypochlorite, used with immersion and spraying methods.

**Material and Methods:** In this experimental study, impressions were made of a master mandibular arch (Typodont) containing three stainless steel inserts on the occlusal surface of both mandibular first molars and in the lingual surface of the mandibular central incisors, which served as reference marks for making measurements. Two types of irreversible hydrocolloid (Iralgin and Alginoplast) were tested. 5.2% sodium hypochlorite was used in two methods of spraying and immersion to disinfect the samples. The control group was not disinfected. Casts were made of type III gypsum. Stone casts were measured with a Nikon profile projector. Kruskal-Wallis and Mann-Witney test were used for statistical analysis using  $p < 0.05$  as the limit of significance.

**Results:** Casts prepared from Alginoplast disinfected by spraying method, were 0.38 % larger in anteroposterior and 0.06% smaller in cross arch dimensions, whereas those prepared from Alginoplast immersed in hypochlorite were 0.47% larger in anteroposterior and 0.11% smaller in cross arch dimensions. Casts made from Iralgin were smaller after both methods of disinfecting, (0.01% smaller in anteroposterior and 0.001% smaller in cross-arch dimensions after spraying and 0.04% smaller in anteroposterior and 0.03% smaller in cross-arch dimensions after immersing in sodium hypochlorite).

**Conclusion:** Alginoplast and Iralgin impressions can be immersed or sprayed for disinfection without compromising the accuracy needed for diagnostic and opposing casts, as well as removable partial denture construction.

**Key Words:** Immersion; Spraying; Dimensional stability; Iralgin; Alginoplast; Alginate; Sodium hypochlorite

*Journal of Dentistry. Tehran University of Medical Sciences (Vol. 18; No. 4; 2006)*

### چکیده

**زمینه و هدف:** احتمال گسترش عفونت بین مطب و لابراتوار دندانپزشکی همواره مطرح می‌باشد و ضدعفونی کردن قالبها از اهمیت ویژه‌ای برخوردار است. از طرف دیگر آلژینات‌ها پرمصرف‌ترین مواد قالبگیری در دندانپزشکی هستند. هدف از مطالعه حاضر ارزیابی تأثیر

<sup>†</sup> مؤلف مسؤل: نشانی: شیراز - دانشگاه علوم پزشکی فارس - دانشکده دندانپزشکی - گروه آموزشی پروتز  
تلفن: ۰۹۱۷۱۱۳۱۸۴ پست الکترونیکی: vojdanim@sums.ac.ir