

**ABSTRACT FINAL ID: 2419****TITLE:** Wax Lining an Impression Tray, Will it Cause Distortion?**AUTHORS (FIRST NAME INITIAL LAST NAME):** R. O. Franco<sup>1</sup>, P. Hansen<sup>1</sup>, M. W. Beatty<sup>2, 1</sup>**AUTHORS/INSTITUTIONS:** R.O. Franco, P. Hansen, M.W. Beatty, University of Nebraska Medical Center - College of Dentistry, Lincoln, Nebraska, UNITED STATES;  
M.W. Beatty, VA Nebraska-Western Iowa Healthcare System, Omaha, Nebraska, UNITED STATES;**Group Author Abstracts:****ABSTRACT BODY:****Objectives:** Controversy exists as to whether or not lining a metal perforated impression tray with wax will yield a distorted alginate impression. Two current textbooks have completely different recommendations, but there is no evidence to support either theory. This project evaluates distortion in gypsum models that have been prepared from wax-lined and unlined metal impression trays.**Methods:** A dentoform was prepared with marks on the cusp tips of teeth 6 and 11 and distobuccal cusps of teeth 3 and 14. Using a standard maxillary rim lock impression tray, ten alginate impressions were made using a dentoform with no wax lining, wax lining the border of the tray, and wax lining the border and the palate. Casts were randomized. Six measurements were taken using a stereographic measuring microscope, from tooth #6 to #11, #11 to #14, #14 to #3, #3 to #6, #6 to #14, and #3 to #11. An acrylic template was used to position the cast in a reproducible position on the microscope.**Results:** See Table ANOVA/Tukey (p<0.05)**Conclusions:** Analysis of means shows a statistical difference only between the metal impression tray where wax is on the border and covering the palate. There is no difference between the metal tray with no wax, the metal tray with a wax around the border, and the dentoform.**TABLE TITLE:**

Millimeter Distances Between Prepared Teeth (mean±s.d.)

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	6-11	11-14	14-3	3-6	6-14	11-3
Dentoform	36.62(±.01) <sup>a</sup>	37.41(±.02) <sup>ab</sup>	57.31(±.004) <sup>a</sup>	37.9(±.005) <sup>bc</sup>	59.44(±.01) <sup>ab</sup>	59.18(±.01) <sup>a</sup>
No wax	36.66(±.03) <sup>a</sup>	37.32(±.29) <sup>ab</sup>	57.35(±.07) <sup>a</sup>	37.72(±.25) <sup>ab</sup>	59.19(±.25) <sup>a</sup>	59.12(±.27) <sup>a</sup>
Border	36.65(±.08) <sup>a</sup>	37.22(±.29) <sup>a</sup>	57.38(±.08) <sup>a</sup>	37.64(±.17) <sup>a</sup>	59.25(±.17) <sup>a</sup>	59.14(±.12) <sup>a</sup>
Border + Palate	37.14(±.05) <sup>b</sup>	37.56(±.20) <sup>b</sup>	57.87(±.22) <sup>b</sup>	38.01(±.14) <sup>c</sup>	59.79(±.26) <sup>c</sup>	59.72(±.34) <sup>b</sup>

**TABLE FOOTER:**

(No Image Selected)

**KEYWORDS:** impressions, alginate.**Support Funding Agency/Grant Number:** supplies were donated by Cavex Holland BV.**Financial Interest Disclosure:** The materials used in this study were donated by Cavex Holland BV.