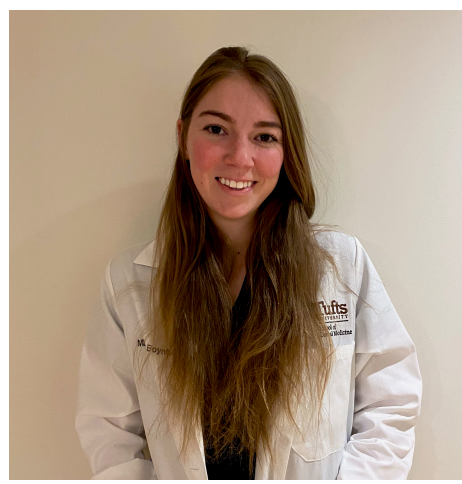


# The Gluten Free Endodontic Dental Visit

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## Introduction

Celiac disease is an autoimmune disorder in which oral exposure to gluten causes villous atrophy to the small intestine as well as more than 250 other symptoms.<sup>1</sup> Non-celiac gluten sensitivity also affects a large cohort of patients who often present with similar bodily symptoms as those with celiac disease.<sup>2</sup> Investigating the presence of gluten in dental materials will reassure patients they will not inadvertently get exposed to gluten during their visit.

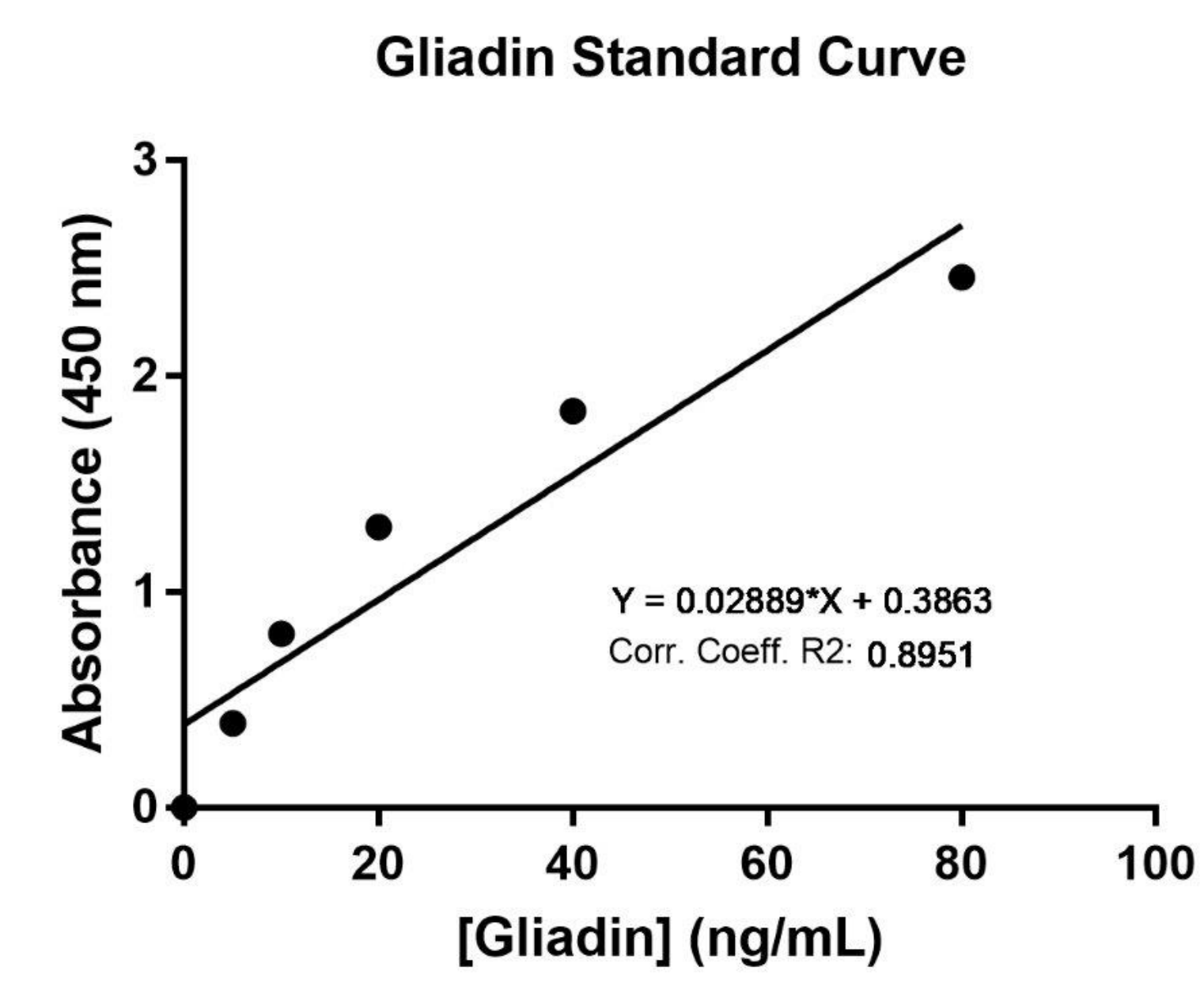
## Objective

A previous study conducted by our group at Tufts School of Dental Medicine (TUSDM), found operative and prophylactic dental materials to be absent of measurable amounts of gluten. The purpose of the present study was to measure the amount of gluten within materials used in the endodontic clinic along with hand lotions and soaps used throughout all TUSDM clinical floors.

## Methods

Fifteen dental materials, hand lotion and soap used at TUSDM clinic were tested in duplicate. Presence of gluten was then assayed using a competitive enzyme immunoassay (RIDASCREEN®) which detects the R5 and G12 antibodies specific to gluten. This ELISA test quantitates peptide fragments of prolamins from wheat (gliadins), rye (secalin) and barley (hordein).<sup>3</sup> A standard curve with increasing amounts (0-80 ng) of hydrolysate of wheat, rye and barley prolamins was used. In addition, a cookie was used as a positive control.

## Methods



Graph 1: Curve fit performed by ELISA reader software. Equation used to find concentrations of gliadin in samples based on standards given.

## Materials

Table 1: Materials Tested		
BC Root Repair Material by Brasseler USA®	Gutta Percha by Hygienic®	Geristore® Resin Modified Glass Ionomer by DenMat®
MTA Sealer by Brasseler USA®	RC Prep by Premier	Antimicrobial Skin Cleanser (Chlorahexidine Gluconate 2% Solution Antiseptic) by Provon
BC Sealer by Brasseler USA®	EDTA by Hygienic®	Hand Lotion by Hu Friedy
ProRoot MTA by Dentsply Sirona	Pulp Canal Sealer™ EWT by Kerr®	Protaper Gold Gutta Percha by Dentsply
GC Fuji IX GP by GC America	Ultracol™ by Ultradent	Ketac™ Fil Plus Aplicap™ by 3M ESPE
ISO Gutta Percha by Brassler USA®	Au Bon Pain Cookie	Ketac™ Sikver Aplicap™ by 3M ESPE

## Results

None of the materials tested, besides the positive control cookie, had measurable amounts of gluten.

## Results



Figure 1: RIDASCREEN® Enzyme Immunoassay Microwells (Blanks, standards, and materials tested — yellow represents positive value for the presence of gluten)

## Conclusion

Safety in treating patients at the dental office is paramount and our data demonstrated that the hand-lotion, soap, and endodontic materials were all gluten-free. We concluded that there is minimal risk of exposing individuals with celiac disease or gluten sensitivity. Due to celiac patient concerns about possible risks of gluten exposure it would be prudent to conduct further gluten content research in all departments of TUSDM to reassure patients will not inadvertently be exposed to gluten during their visit.

## References

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