

## ***An in vitro comparative analysis of glucose leakage for three contemporary single-cone obturation systems***

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### ***Abstract***

To compare the sealing ability of three innovative single-cone obturation systems. The roots of 90 maxillary incisors were prepared with ProTaper rotary files until reaching to size F4. The roots were divided into four experimental (n = 20 each) and two control groups (n = 5 each). The experimental groups were filled as follows: Group 1, Cold lateral condensation using gutta-percha/ AH Plus Jet; Group 2, Single-cone ProTaper gutta-percha/Guttaflow2; Group 3, Single-cone Propoint PT/Smartpaste; and Group 4, Single-cone Propoint PT/Smartpastebio. The sealing ability of root canal fillings was tested at different time intervals using the glucose leakage model. Glucose leakage values were measured (mg/dL) by a spectrophotometer and statistically analyzed. All experimental groups presented significantly different glucose leakage at all experimental periods (P < 0.05). There was a progressive increase in the glucose leakage during the experimental periods in all groups. During experimental periods, Groups 4 showed the lowest significant cumulative glucose leakage values (P < 0.05).

### ***Speaker Publications:***

1. "An in vitro comparative analysis of glucose leakage for three contemporary single-cone obturation systems." J Res Dent 2014; 2:1-5.

[35<sup>th</sup> International Conference on Dental and Oral Health;](#)  
Webinar- June 15-16, 2020.

### ***Abstract Citation:***

Mohamed Sulaiman Mubarak Balbahaith, An in vitro comparative analysis of glucose leakage for three contemporary single-cone obturation systems, Dental Management 2020, 35<sup>th</sup> International Conference on Dental and Oral Health; Webinar- June 15-16, 2020.

<https://dentalmanagement.dentalcongress.com/2020>



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