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### Effect of radiotherapy in altering the sealing capability of different root canal obturating materials

**Objectives:** Aim of this study was to assess the influence of radiotherapy on the sealing ability of three different obturating materials.

**Method:** 100 freshly extracted human maxillary anterior teeth were selected and decoronated before being randomly divided into two main groups; Control group and Experimental group. Depending on the presence or absence of irradiation, experimental group was divided into two groups. Both the experimental groups were further divided into four subgroups on the basis of different root canal obturating materials used (Resilon-Realseal, Beefill 2 in 1, Gutta percha with AD seal sealer and Gutta percha with Zinc Oxide Eugenol sealer). Control group was divided into positive control group (with radiotherapy) and negative control group (without radiotherapy). For the groups that received irradiation, a dose of 60 gray was delivered in fractions of 1.8 gray per day, 5 days a week for 7 weeks. The specimens were then analyzed by SEM for marginal gap width and the images obtained were recorded and evaluated using Orion 6.604 software. All analyses were performed on Statistica software using Tukey's post hoc test.

**Results:** In all the specimens receiving radiotherapy, mean marginal gap width was slightly higher when compared to those groups without irradiation, but was statistically insignificant ( $p > 0.05$ ) except in case of the Resilon obturating material which was statistically significant ( $p < 0.05$ ).

**Conclusion:** Radiotherapy significantly affects the sealing ability of Resilon.

### Biography

Aseem Prakash Tikku is currently the Head of the Department of Conservative Dentistry and Endodontics, King George's Medical University, Lucknow, India and has more than 30 years of post-graduate teaching experience. He has published more than 50 papers in reputed journals. He is former Dean Faculty of Dental Sciences, King George's Medical University and is the Member of Dental Council of India. He is also the Vice President of Indian Society of Dental Research and Past President Indian Endodontic Society. He has been a Guest Speaker at national conferences and various other scientific programs at state conferences.

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