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[\[PDF \(405K\)\]](#) [\[References\]](#)**Effect of Fluoride Released from Fluoride-containing Dental Restoratives on NiTi Orthodontic Wires**[Yong Hoon KWON^{1\)}](#), [Chang-Min JANG^{1\)}](#), [Jae-Hyeok JANG^{1\)}](#), [Joo-Hee PARK^{1\)}](#), [Tae-Hyong KIM^{1\)}](#) and [Hyung-II KIM^{1\)}](#)

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Abstract:

The present study investigated the effect of fluoride released from dental restoratives on orthodontic NiTi wires. Five different restoratives (four fluoride-containing and one non-fluoride-containing) and four different NiTi wires were examined in this study. The pH of artificial saliva (AS) was adjusted to 2.5 and 6. Content of released fluoride was determined daily for 10 days. The morphology of wires was observed using a scanning electron microscope. After immersion for 10 days, the initial microhardness of the wires decreased by 0.3—5.6% depending on the test solution. Dyract AP (DA) and F2000 (F2) (compomers) released significantly more fluoride than the other resin products (composite resins) regardless of the test solution. In pH 2.5 solution, both DA and F2 released 40—45 ppm/day fluoride for five to six days. As for the wires in contact, they did not show any visible modification in surface morphology. Therefore, despite the released fluoride, wires in contact with the fluoride-containing restoratives were not damaged regardless of the pH value of test solution.

Key words:[Fluoride](#), [Composite resins](#), [NiTi wires](#)[\[PDF \(405K\)\]](#) [\[References\]](#)

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