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[\[PDF \(1172K\)\]](#) [\[References\]](#)**Radio-opacity of core materials for all-ceramic restorations**[Yuji OKUDA](#)¹⁾, [Makoto NODA](#)¹⁾, [Hiroshi KONO](#)²⁾, [Motoharu MIYAMOTO](#)³⁾, [Hideo SATO](#)⁴⁾ and [Seiji BAN](#)¹⁾

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Abstract:

The aim of this study was to investigate and compare the radio-opacity of core materials for all-ceramic restorations, such as zirconia (NANOZR and Y-TZP) and alumina, against commercially pure titanium (cpTi) and aluminum. X-ray images were taken under general settings using an X-ray film. The X-ray film images were scanned using a digital scanner, and the darkness at the central area of each specimen image was quantitatively analyzed using an image analysis software. Amongst the materials investigated, alumina showed the most transparency against X-rays. Conversely, both types of zirconia showed the highest radio-opacity, whereby that of NANOZR was slightly lower than that of Y-TZP. This was because NANOZR contained 30 vol% of alumina and its density was also slightly lower than that of Y-TZP.

Key words:[Radio-opacity](#), [Zirconia](#), [Alumina](#)



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