Gentleness
in vitro study

In vitro assessments of dentin wear resulting from the use of the Sonicare sensitive brush head
Hix J, de Jager M, Contracted Dental Research Laboratory. Data on file, 2011

Objective
To evaluate dentin wear associated with the use of Sonicare sensitive and ProResults brush heads compared to a manual toothbrush using simulated clinical conditions.

Methodology
Twenty-four human dentin slices with a surface of 3x10 mm were embedded in temporary crown and bridge material and polished to render a smooth surface as starting condition. Samples were brushed with a sensitive or a ProResults brush head using externally powered Sonicare handles at 100 grams or brushed with an ADA reference manual toothbrush at 250 grams brushing load. (These brushing loads represent clinical use conditions.) All specimens were brushed using toothpaste slurry for a period representing six months (3,000 strokes) of clinical brushing. Dentin wear was determined before and after brushing using surface profilometry to establish the mean depth of induced surface wear from toothbrushing.

Results
The sensitive brush head resulted in significantly less dentin abrasion than the manual toothbrush (p<0.05).

Conclusion
In this in vitro study, the sensitive brush head was found to cause about 56% less dentin abrasion than a manual toothbrush.

Dentin Wear
Wear (µm)

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<th>ProResults Standard</th>
<th>Sensitive Standard</th>
<th>Manual toothbrush</th>
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<tbody>
<tr>
<td>Wear</td>
<td>27</td>
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*Results will vary with actual use