

### 33. Evaluation and comparison of surface roughness levels, surface wettability, and surface configuration of commercially pure titanium surface

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The bonding between the living bone and the surface of the load-bearing implant is believed to be an important factor in the success of implants. A major consideration in designing implants has been to produce surfaces that promote desirable responses by the cells and tissue-contacting implants. The aim was to evaluate different methods of modification of titanium surface and to compare surface roughness levels, surface wettability, and surface configuration of various treated surfaces of commercially pure titanium. Commercially pure titanium (grade i) sheets of 0.2 mm thick and 10 × 3 × 10 mm were used. Total specimens were divided into six groups (groups a–f) according to the surface modification. And 10 samples were included in each group. Group f showed the highest mean roughness value among the tested samples of all groups (mean  $ra=3.231 \mu m$ ). Group c showed the lowest contact angle (mean contact angle—598). Surface roughness measurement with the help of surface profilometer revealed that samples treated with blasting with alumina (50  $\mu$ ) blasting followed by acid etching with 2% hydrofluoric acid showed the highest mean roughness value.

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