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Surface treatments applied on titanium implants

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Abstract. The aim of this systematic review was to identify new methods of surface treatments applied on titanium grafts and their clinical and histological outcomes, including different routes for surface treatments, respectively the results of *in vitro* or *in vivo* tests. These surface modifications analysed meet three main requirements: to prevent nonspecific absorption of denatured protein on the surface, to attract native tissue cells or progenitor cells capable of differentiation in an appropriate manner or to facilitate biochemical signals to induce biochemical healing mechanisms. Therefore, cells will recognize these surface modifications and will be influenced in their adhesion behavior, profiling and differentiation. This review summarizes some of the recent developments in coatings for medical field.

Keywords: surface treatments, calcium-phosphate, growth factors, collagen, chitosan.

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