

Nanomaterial Analysis On Dental Implants

Simon Edwar Berso¹), Sri Poernomo Sari²),
Department of Mechanical Engineering, Faculty of Industrial Technology,
University of Gunadarma
Depok, Indonesia

Email: simonedwar8@gmail.com

Engineering Lecturer at Gunadarma University
Engineering student of Gunadarma University Machinery

ABSTRACT

Nano material is material or material that has components less than 100 nm in one dimension, such as Atom Group, *grain*, *fiber* and film with thickness less than 100 nm. Nano technology is used in dentistry materials such as composite materials, adhesive materials, printing materials, dental implants, orthodontic wire and toothpaste. It is closely related to the development of materials and dental care. This paper will explain the application of nano technology, manufacturing and purpose of nanotechnology in dentistry. Nanocomposite, nanoadhesive, nanoionomer, dental implant, nanoimpression material, denture, dentrifice and orthodontic wire are several materials in dentistry that have been using nanotechnology. Nanoparticle synthesis can be performed by using *top-down* and *bottom up* methodes. In conclusion, with the application of nanomaterials dental implants is one way to replace the lost teeth so that the ideal function of the stirring, aesthetic and comfort. The ingredient used in dental implant is titanium. Application of bioactive nanocrystal calcium phosphate on the surface of titanium can stimulate the aposide and bone healing so as to increase osseointegration as well as the excess in the installation of implants namely can improve speech, feel more comfortable, eat easier, improve confidence and maintain oral health. although there is still shortcomings such as pain, infections can occur, progressive loss of supporting bone, unbearable anaesthesia or parestasia, fractures (fractures) the bones.

Keywords: Nanomaterial, Dental implant, Dentistry
