



**American Academy of Maxillofacial Prosthetics**  
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**Omni Austin Downtown, Austin, Texas**

**Program Speaker – Nina Ariana**

**Title**

Silicone Facial Prosthesis Microbiome Issues

**Abstract**

Facial defect as a consequence of trauma, malignancy or congenital malformation can hinder one's functional and social capabilities. Silicone facial prosthesis are often utilized to rehabilitate facial discontinuity when reconstructive surgery is not possible.

Microorganisms have tendencies to attach to surfaces and develop biofilms, including on the surface of facial prosthesis. Biofilms have great importance because of their role in certain infectious disease and a variety of device related infections. These biofilms are known to be difficult to eradicate, especially if not treated at early stage.

Interaction between silicone facial prosthesis and biofilms adhered to it is thought to contribute to limited lifetime of the prosthesis. A disadvantage of silicone is the presence of porosities which, together with the modification of the facial tissues as a result of the defect, may compromise the natural balance of the microbial flora, changing the skin microbiome and favour microbial colonization. Several studies have linked the presence of microorganisms on prostheses to local and systemic infections, and treatment with antibiotics sometimes needed.

Prosthesis and skin hygiene should be considered as a mean to prevent microbiome related problems. Maintaining hygiene of the prosthesis is important for the health of the soft tissue underneath the prosthesis and for preserving the prosthesis itself in a good condition. Cleaning facial prosthesis can be a difficult task especially for someone with limited visual or manual dexterity. There are also cases of soft tissue infections around the implants retaining the prosthesis. However, some studies on facial prostheses have shown potential negative effects of cleaning regime on some important silicone characteristics and even causing damage. This presentation will address available evidence on silicone facial prosthesis microbial composition and its interaction with tissues underneath as well as strategies to prevent / eradicate biofilms formation on facial prosthesis in order to overcome biofilms related problems and maximize silicone facial prosthesis lifetime.

## **Biography**

Dr. Nina Ariani graduated from Faculty of Dentistry, University of Indonesia (UI), Jakarta, Indonesia. She then finished her prosthodontic training at the same institution and received PhD degree (2015) from University of Groningen, The Netherlands for her dissertation on biofilms of silicone facial prostheses. Dr. Ariani works at the Department of Prosthodontics, Faculty of Dentistry University of Indonesia since 2007. From 2015-2016 she works for a year as Visiting Assistant Professor at Faculty of Dentistry University of Niigata, Niigata, Japan and afterwards resuming her work at UI. Currently she is the Director of Prosthodontics Specialty Program at Faculty of Dentistry, University of Indonesia and Co-coordinator of National Maxillofacial Prosthetic Education Program from Indonesian College of Prosthodontists. She also works in private practice providing Prosthodontics and Maxillofacial Prosthetics care.