# Formation of functional coating on Polydimethylsiloxane (PDMS) sheet

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A foley catheter made of medical silicone material is a thin tube used to pull unnecessary secretions out of the patient's body. This insertion of the foley catheter is a very useful and important procedure in the diagnosis and treatment of the patient, but it is considered to be one of the main pathways for the incidence of urinary tract infection in the hospital because the external material is inserted into the urethra. In addition, problems such as inconvenience of patients due to surface friction during insertion and damage to the urethral mucosa occur.

To solve these problems, a coating solution capable of imparting antibacterial and hydrophilic properties was prepared. The coating solution was prepared as a base coating solution for forming a polymer layer containing antibacterial on a stable silicon surface and a top coating solution for imparting hydrophilicity to reduce surface friction. The solution prepared hydrophilic coating film containing antimicrobial in order of base coating and top coating on Polydimethylsiloxane (PDMS) sheet. The coating was evaluated for contact angle and antibacterial test.