

## **Nanometric prevention to combat bacterial infections in hospitals**

**LOCATION:**Málaga

**DURATION:**1'45''

**SUMMARY:** Researchers from the University of Málaga have developed a system that avoids the generation of bacteria in sanitary-use plastic surfaces in collaboration with the University of Buenos Aires. Bacterial infections produced in hospital are reduced with this new procedure.

### **VTR:**

A system that avoids the generation of bacteria in medical instruments such as probes. That's what researchers from the University of Málaga have developed with the collaboration of the University of Buenos Aires. It is a coating for sanitary-use plastics, such as PVC.

**Enrique Rodríguez Castellón**  
**Researcher University of**  
**Málaga**

*"Coating the surface of a polymer, which is used in the manufacturing of probes, with an anti-bacterial film. This antibacterial effect is generated by a molecule called guanidine. Guanidine is able to break the bacteria cell wall and stops bacterial growth."*

This system avoids infections caused by the apparition of bacteria and reduces potential infectivity in hospitals. Microbial infections are a problem that affects almost 7 % of hospital patients according to the Spanish Society of Preventive Medicine, Public Health and Hygiene.

**Enrique Rodríguez Castellón**  
**Researcher University of**  
**Málaga**

*"The devices used by patients, such as different types of probe, can be easily contaminated with bacteria."*

To analyse that external surface of PVC coated with the substance, they have used a technique able to work with sizes ten thousand times smaller than the width of a hair.

**M<sup>a</sup> Valle Martínez de Yuso**  
**Researcher University of**  
**Málaga**

*"We have used a surface characterization technique called X-Ray photoelectron spectroscopy, and is also known as XPS. We can identify the elements contained in that surface as well as the chemical environment."*

**Enrique Rodríguez Castellón**  
**Researcher University of**  
**Málaga**

*"It is a technique that has nanometric scale surface sensitivity that allows us to monitor the surface coating process."*

This study has been conducted by a multidisciplinary team composed of materials engineers, biochemists and microbiologists.

For more information or support please call +34 647 310 157 or email [info@andalusianstories.com](mailto:info@andalusianstories.com)