



# Enfermedades Infecciosas y Microbiología Clínica

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## Procedures in Clinical Microbiology (number 62, 2nd edition 2017)<sup>☆</sup>

## Procedimientos en Microbiología Clínica (número 62, 2.ª edición 2017)

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### Microbiological diagnosis of bacteraemia and fungaemia: blood cultures and molecular methods. 2017

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The aetiological diagnosis of bacteraemia and fungaemia is a priority in microbiology laboratories due to its enormous repercussions in managing patients with these pathologies. In addition, diagnostic speed, so important in current microbiology, has special relevance in these processes due to their severity. The current procedure is the third update to the Clinical Microbiology Procedures entitled "Blood cultures", published in 1993. Since then, significant changes have occurred in the incidence and aetiology of bacteraemia and fungaemia, as well as in the detection methods. Therefore, it was considered necessary to perform a review and bring this procedure up to date, taking into account all these aspects.

The procedure includes one scientific document and two technical documents. In the first, the clinical characteristics of these processes and their most common aetiology are described, including aspects such as the introduction of code sepsis. After a review of the biomarkers used in diagnosing these processes, the most important aspects of the pre-analytical phase are described, including taking and transporting blood cultures. Next, the procedures to use for isolation of common bacteria, those that require special procedures, and fungi are described, detailing recommendations for processing positive blood cultures. Additionally, diagnostic methods not based on the culture are reviewed. These are becoming more important every day and include methods based on detecting nucleic acids and those based on studying the microbial proteome. Also, the procedures for studying antibiotic sensitivity of the microorganisms involved in these processes are reviewed, using both phenotypic and genotypic methods, including the various systems currently marketed for this end.

The second part of the document brings together two standard operating procedures (SOP) adaptable to any microbiology laboratory: the first describes the general processing of blood cultures and the second refers to identifying microorganisms that cause bacteraemia and fungaemia via mass spectrometry, a method that has revolutionised the microbiological diagnosis of this pathology. The development of all these matters may be consulted in SEIMC microbiological procedure number 62: "Microbiological diagnosis of bacteraemia and fungaemia: blood cultures and molecular methods" (2nd edition 2017) ([www.seimc.org/protocolos/microbiologia](http://www.seimc.org/protocolos/microbiologia)).

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