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Managing microbiology reports and requests, and storing biological material.

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The laboratory/Department of Clinical Microbiology has the fundamental aim of diagnosing infectious diseases and obtaining useful information about the health status of a person by applying a series of analytical procedures on samples originating from humans or inert material. This information may be used for several purposes, primarily diagnostic, but it also allows the evolution and prognosis of an infectious disease or the efficacy of a treatment or intervention to be assessed, or information on the epidemiology of an infectious disease or of the micro-organisms causing it to be provided.

In this document basic aspects of the pre-analysis phase are discussed, such as the management of microbiological analysis requests. The minimum recommended requirements, the types of request with particular attention to the electronic form, the range of services, and the regulations for sending and transporting samples are reviewed in general terms. In the post-analysis phase, once the technical and clinical validation of the results obtained in the analytical phase has been completed and their concordance verified, the clinical microbiologist must complete the results report accurately, rigorously and clearly. In this SEIMC procedure the characteristics that a microbiological report should contain and the form that it should take are reviewed. It will also be necessary to ensure that it is sent quickly and securely to those people who are authorised to receive and use the information contained in it. The use of clinical management platforms opens the possibility of interacting with the clinician and consulting with the clinical microbiologist, making the process faster through the use of electronic applications. Finally, and within the post-analysis process, the review of the transport of samples to reference, storage and security centres for biological material is also included in this procedure. A distinguishing feature of Clinical Microbiology is the need to keep the samples which are studied as long as the procedure keeps their biological properties from being altered. It is very important that biological material from live agents obtained through a culture is stored, as well as genetic material from the same source which might be produced through molecular methods. The Clinical Microbiology laboratory therefore becomes a repository for biological material with responsibility for its biosecurity. The purpose of keeping these sample collections, nucleic acids and strains obtained in the diagnostic process is based on 3 essential uses: (a) patient safety, allowing the repetition and comparative analysis of results in different samples from the same patient; (b) the general interests of public health, as it makes the analysis of retrospective samples possible, with the aim of checking the incidence and prevalence parameters of certain infectious agents in the population, as well as showing the emergence of certain infectious agents; and (c) legal and forensic uses, as it serves as a support for investigations and court injunctions which wish to show a transmission link between possibly related patients.

Three standard operating procedures (SOP) are included in the document; these may be adapted and used by Microbiology laboratories. The first refers to the pre-analysis process, the second to the writing, sending and consulting of reports sent by the laboratory, and the third to the post-analysis management of microbiological samples, including storage procedures and regulations. SEIMC microbiological procedure n.° 63, "Managing microbiology reports and requests, and storing biological material" (2nd edition 2018) is designed to be a tool to help with pre- and post-analysis management, as well as with suitable and responsible security and storage of samples and strains of micro-organisms (http://www.seimc.org/protocolos/microbiologia).

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