Course on the Identification of Common Pathogenic Fungi

This one-day course will cover the basic principles used in in the identification of fungi isolated in the diagnostic laboratory. Basic fungal structure will be introduced, and the focus of this course will be enteroblastic fungi. Delegates will learn how to identify and recognise core fungal morphology including conidia, conidiophores, phialides, metulae and some specialised structures such as annellides, Hülle cells and chlamydospores, and how such attributes can be used in the identification of fungi.

Who would benefit from this course

This course is designed for microbiologists at all levels including but not limited to biomedical/healthcare scientists and medical microbiologists currently working in the laboratory and want to improve or refresh their knowledge and experience of handling and identifying fungi commonly associated with infection. A basic level of microbiology knowledge and experience is required (e.g., work within microbiology laboratory, BSc in allied science subject).

Course Outline

Total duration of learning activities 6 hrs:

Lecture: Introduction to clinically relevant pathogenic fungi; how to isolate, identify and diagnose **(1 hour)**

Tutorial: Practical aspects of microscopy and culture of fungi (including mounting techniques and their benefits/disadvantages, the use of specialised or semi-selective media) **(30 mins)**

Practical: Identification of common enteroblastic fungi isolated in clinical laboratories with an emphasis on those implicated in disease **(4 hours)**.

Assessment: At the end of the course, competency will be assessed by examination of a selection of unlabelled example cultures **(30 mins)**.

Delegates will be required to highlight through textual and drawn descriptions, key morphological features of each unknown culture which have led them to their identification. The ability to handle, prepare, and examine microscopic preparations will be observed and provided commentary on their approach to each specimen will be assessed. To achieve the certificate of competency for the identification of common pathogenic fungi 80% accuracy with appropriate reasoning will be required.

Learning Objectives for the course

- To facilitate delegates with the skills to handle and approach the identification of potentially pathogenic fungi.

- To demonstrate the different methods for the preparation of microscopic mounts, the benefits/disadvantages to different approaches
- Be able to recognise the key morphological features seen in enteroblastic fungi including conidia, conidiophores, phialides and metulae.
- To enable the identification of common pathogenic fungi recovered from clinical samples, enhance confidence in the identification to species level and to be able to distinguish these from some environmental organisms with similar morphological features.
- Delegates will be able to separate *Aspergillus* spp. from *Penicillium* spp. and Penicillium-like enteroblastic fungi.

<u>CPD Credits available: 6</u>