Course on the Identification of Dermatophytes

This one-day course will cover the basic principles in the isolation of fungi from skin, hair and nails including best practice for isolation, incubation, and microscopic diagnosis. Basic fungal structure will be introduced so that delegates can differentiate macro/microconidia, arthrospores and hyphae.

The opportunity to examine multiple fungal organisms side by side, in a small group provides an unrivalled, focussed training experience not generally encountered in many microbiology laboratories. The value in direct comparative morphology provides delegates with the ability to critically evaluate the key identifiable features and to be able to utilise these to confidently identify the main fungal organisms involved in dermatophytoses.

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 who are currently working in the laboratory and want to improve or refresh their knowledge and experience of handling and identifying fungi commonly isolated from dermatophytic lesions. This course requires a basic level of microbiology and some laboratory experience of the processing of diagnostic samples.

Course Outline

Total duration of learning activities 5 hrs:

Lecture: Introduction to the correct handling and processing of dermatological samples **(30 mins)**

Tutorial: Processing of dermatological samples for detection of fungal infection and visualisation of identifying features using fluorescence microscopy **(30 mins)**

Tutorial: Introduction to fungal morphology and classification, Practical tips for the identification of dermatophytes, **(1 hour)**

Practical: Identification of common dermatophytes and non-dermatophyte moulds with clinical significance to dermatology **(3 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 will be assessed. To achieve the certificate of competency for the identification of dermatophytes 80% accuracy with appropriate reasoning will be required.

Learning Objectives for the course

- To demonstrate to delegates the skills to process skin, hair, and nails to maximise recovery of fungal pathogens and reduce contamination.
- To enable delegates to explain the best practice process for the visualisation of fungal elements in skin, hair, and nails.
- To be able to identify common features seen in the direct microscopic examination of skin, hair, and nails such as arthrospores, hyphae, fronding, yeast cells and *Malassezia* spp. cells using fluorescence dyes.
- To provide delegates with the skills to identify the three main genus of fungi responsible for dermatophyte infections; Trichophyton, Microsporum and Epidermophyton and identify most common dermatophyte fungi recovered from clinical samples and enhance their confidence in the identification to species level.
- To recognise and identify examples of non-dermatophyte fungi which may also be a cause skin and nail infections.

CPD Credits available: 5