

Microbiology (Practical Exercise)

Session Objectives

- To discuss the relative advantages and disadvantages of the membrane filtration and multiple tube methods of analysis.
- To provide participants with a practical experience of the membrane filtration technique.
- To provide participants with a practical example of the use of different volumes of filtration for different qualities of water.
- To review results and discuss precision of analysis.

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Outline

NB: It is assumed that whoever takes this practical has a good working knowledge of microbiological techniques.

1. Collect two samples for testing (at least 1 litre of each) - one clean water and one contaminated water (from a river, stream, pond etc.).
2. Demonstrate the membrane filtration technique and describe dilution methods (e.g. to make a 1 per cent solution add 1ml of sample to 99ml of distilled water).
3. Highlight the advantages and disadvantages of both the membrane filtration and the multiple tube methods of analysis.
4. Ask the participants to prepare and filter the following samples: 100ml; 50ml; 10ml; and 1ml.
5. Ask the participants to read the results the following day and record and compare the results.
6. A demonstration of other techniques - e.g. colilert - may also be given if resources permit.