



# Topical Update – The Hong Kong College of Pathologists

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## Editorial note:

I hope you have all enjoyed the first issue of **Topical Update – The Hong Kong College of Pathologists** published by the Education Committee of the Hong Kong College of Pathologists. It is now time for the second issue. Any feedback and suggestions could be directed to Dr. Janice Lo (e-mail: janicelo@dh.gov.hk) of the Education Committee, the Hong Kong College of Pathologists. Opinions expressed are those of the authors or named individuals, and are not necessarily those of the Hong Kong College of Pathologists. Happy reading!

## The Roles and Expectations of the Specialist in Clinical Microbiology and Infection

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In the past three years, we have witnessed the revived recognition of the importance of the specialty of Clinical Microbiology and Infection. The SARS outbreak reminded the medical profession that the line of defence which we had built against infection was still not robust enough to handle major outbreaks. Three reports were published after the outbreak. They outlined the deficiencies found and recommended what should be done for the future.<sup>1-3</sup> Many of the recommendations are relevant and will impact on the future development of the specialty of Clinical Microbiology and Infection. Let me quote from the report of the Hospital Authority Review Panel, Paragraph 2.40: ‘... to control an outbreak of an unknown infectious disease ... rapid

implementation of measures to prevent spread and control the impact are vital, viz. 1) effective surveillance, data collection and sharing; 2) high level of awareness and implementation of effective infection control measures; 3) rapid and comprehensive contact tracing; and 4) timely declaration and enforcement of isolation and quarantine measures’.

Other than infection control issues, the SARS outbreak further reinforced the role of the Clinical Microbiologist in several aspects. Firstly, the clinical microbiology service supports not only clinical care of individual infected patients, but also supports the protection of the health of the general population. Besides possessing strong

command in the science of clinical microbiology, solid knowledge in epidemiology and crisis management to facilitate investigation and control of outbreaks is also essential. In the context of provision of the daily service, the Clinical Microbiologist has a consultative role in managing patients with infectious diseases, from the arrival at a presumptive diagnosis based on clinical and ancillary laboratory/radiological findings, to advising on the appropriate diagnostic microbiological investigations, to interpreting results based on clinical and epidemiological information, and to recommendation of management options. Apart from attending to the individual patient, the Clinical Microbiologist, as the infection control specialist, undertakes to decisively direct and advise on the consequent infection control issues, both within the institution and in the community. Synthesis of epidemiological data with knowledge of the infectious agent, such as transmission route, incubation period, duration of infectiousness and susceptibility to disinfection, will enable the microbiologist to recommend specific measures to define at risk groups for contact tracing and to implement measures to prevent and control further spread of the infection to ensure public health.

Secondly, to deliver a proficient service, it requires integration of a range of competencies, encompassing clinical practice, diagnostic laboratory science, laboratory management, infection control, research and development, which can best be provided by a multidisciplinary team working in close partnership with other clinical specialists. The Clinical Microbiologist, as a medically-qualified personnel with specialist training in both medical microbiology and infectious diseases well versed with the interaction between the worlds of the microbe and human, is in the ideal position to harness and ensure best application of all these knowledge and skills, especially in this cost-effectiveness conscious age. Taking stock of presently pressing needs, sound advice can be provided on various service developments, including the evolving scope of a quality microbiology laboratory service, establishment of epidemiological and laboratory surveillance programmes, administration of

infection control programmes such as antimicrobial stewardship, and public health policy development such as vaccination programmes. In particular, when antimicrobial resistance is spreading from the health care setting to the community, the Clinical Microbiologist is best equipped to take the lead in setting up surveillance of resistance trends, providing advice on and monitoring the use of antibiotics, and developing guidelines and strategies on empirical treatment of infections.

Thirdly, with the development of automated systems and technological advancement, an increasing number of front-line virology investigations can now be carried out in traditionally bacteriology laboratories, and test systems are in rapid evolution. The Clinical Microbiologist is expected to maintain an up-to-date perspective with an attitude to embrace and put into practical application various advances especially in the field of clinical virology.

Fourthly, there is increasing pressure for a more rapid turnaround time to support the clinical service and outbreak investigations. Again, the Clinical Microbiologist, with knowledge and experience in various laboratory techniques, coupled with the acumen on clinical applicability, is in the best position to ensure adoption and use of microbiological investigations in a cost-effective manner.

Fifthly, with the emergence of new infections and resurgence of some old ones, and burgeoning knowledge on the immunological interaction between our body system and intrusive agents, clinical microbiology is a dynamic subject. Among the frontiers of research are the host genetic susceptibility as a marker of risk of infection, and the use of immunomodulating agents for the treatment and prevention of infection. On the laboratory diagnosis front, the Clinical Microbiologist needs to constantly review and update investigation and management protocols. It may not be easily done by individual laboratories, but may be made possible by setting up a network of laboratories with an agreed standard of practice. In a similar vein, risk

assessment for pandemic planning and for handling potentially emerging infections are important areas which the Clinical Microbiologists should not overlook.

We specialists in Clinical Microbiology and Infection can well capitalize on these concerns and challenges, and position ourselves so that our contribution is appropriate to clinical service in the twenty-first century and to future emerging infections. As one of the founding specialties of the College, we have the responsibility to continually review the strengths and weaknesses of current situations; equally important is to look into the opportunities and threats encountered by the specialty. We need to undertake to map out the domain of practice of Clinical Microbiology and Infection and formulate the core competence required to bring forth a quality service.

While the senior management in both the government and institutional context recognizes that infection is everyone's responsibility and puts infection and infection control higher up the agenda, the specialty of Clinical Microbiology and Infection can take the opportunity and initiative to rejuvenate the clinical microbiology service. This will mean embracing new practices as described above, with our service to be delivered in innovative ways. New partnerships should be fostered and strengthened with both medical and

allied health colleagues, to ensure an optimum complement of expertise for the control and prevention of infectious diseases.

By consolidating our training and expertise in managing infectious diseases, together with experience gained from recent challenges, the specialist in Clinical Microbiology and Infection is well-positioned to take the lead in the renewed effort in the war between microbes and man.

## References

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