



Symposium 10 : 疫情後的全球急診感染防治策略：合作與創新

Global Strategies for Infection Prevention and Control in Post-Pandemic

Emergency Departments: Collaboration and Innovation

時間：2023 年 7 月 7 日(五) 15:30~17:00

會議室：401 會議廳

主持人：李建璋醫師(臺大醫院)

15:30~15:55 Post-Pandemic ED Infection Control & Technology in Infectious Disease: EU Perspective

主講人：Dr. Lorenzo Porta (ASST Grande Ospedale Metropolitano Niguarda)

主持人：李怡姿醫師(台北榮總)、韓仕聰醫師(林口長庚醫院)

15:55~16:20 微生物學分子快速診斷對急診感染症診療之應用

Application of Molecular Testings for the Rapid Diagnosis of Infectious Diseases in Emergency Departments

主講人：黃昱璵醫師(臺大醫院檢驗醫學部)

16:20~16:45 臨床預測模式與人工智慧於急診感染症診斷之展望

Clinical prediction model and artificial intelligence in diagnosing infectious disease in emergency medicine

主講人：陳冠甫醫師(基隆長庚醫院)

16:45~17:00 綜合討論

課程簡介

- **Post-Pandemic ED Infection Control & Technology in Infectious Disease: EU Perspective**

The recent COVID-19 pandemic highlighted the critical need for robust infection control measures and advanced technologies especially in Emergency Department (ED). In fact, the pandemic has exposed the limitations of traditional infection control methods, prompting the exploration of cutting-edge technologies, such as artificial intelligence (AI), Internet of Things (IoT), and telemedicine. AI-powered systems have shown promise in rapid identification and risk assessment of infectious diseases, enabling timely intervention and allocation of resources. IoT-based solutions have facilitated real-time monitoring of patient flows, optimizing ED capacity and minimizing overcrowding. Telemedicine platforms have



revolutionized healthcare delivery by enabling remote consultations, reducing patient exposure and ED visits for non-emergent cases.

The European Union has made significant strides in integrating these technologies into EDs, capitalizing on its robust digital infrastructure and collaborative networks. Collaborative initiatives have fostered the exchange of best practices and the development of standardized infection control protocols across EU member states. The European Centre for Disease Prevention and Control (ECDC) has played a pivotal role in providing evidence-based guidance, facilitating technology adoption, and supporting research in infection control.

- **微生物學分子快速診斷對急診感染症診療之應用**

Novel and rapid molecular diagnostic tools for sepsis and antimicrobial resistance (AMR) provide faster test results and, if applied correctly, will render more prompt delivery of adequate care to patients, particularly in critically-ill patients in Emergency Departments. Although molecular diagnostics hold great promise for improving patient care, clinicians must be aware of the appropriate use of these generally expensive tests and cannot overlook their potential disadvantages. Diagnostic stewardship means selecting the right test for the right patient at the right time, to optimize clinical care and antibiotic use. An increasing number of useful but expensive technologies, ranging from point-of-care tests (POCT) to multiplex PCR panels and metagenomic next-generation sequencing (mNGS) assays in the clinical microbiology laboratory, require cautious and judicious application by the physicians. The recent development of commercial panel-based molecular diagnostics for the rapid detection of pathogens (bacteria, fungi, parasites, and viruses) in positive blood culture bottles, respiratory specimens, stool, and cerebrospinal fluid has resulted in a remarkable progress in the diagnosis of different spectra of infectious diseases (bloodstream infection, upper respiratory tract infection, pneumonia, diarrheal diseases, and meningitis) and detection of important antibiotic resistance genes. However, the establishment of algorithms and guidelines for ordering and interpreting the results from these panels, developed by laboratory, clinical microbiology, and medical professionals, will be crucial to inform their effective use in clinical practice. Laboratories can benefit from input by clinicians to select correct and cost-effective diagnostic methods that best meet patients' needs.

- **臨床預測模式與人工智慧於急診感染症診斷之展望**

在這半小時的時間，講員將把最 state-of-the-art 的臨床預測模型和人工智慧如何被應用在急診醫學的感染症診斷做介紹，講員也會介紹最新的方向和可以介入的項目給會員參考。