




Introduction

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Physicians feel TB is either very easy to treat with standard regimens or is too complex. This book provides trainees with basic TB management knowledge; offers insight into addressing complexities in individual patients; is a useful resource for experts. <http://ow.ly/zroQ30mipoT>

On 26 September 2018, the United National General Assembly agreed to take concerted action on TB. With over 10 million new TB cases (90% in adults and 9% in HIV co-infected individuals) and 1.6 million deaths (300 000 in HIV coinfecting persons) in 2017, TB is a global health priority [1]. Of particular concern for both clinicians and national TB programmes is MDR-TB: in 2017, WHO were notified of 558 000 new rifampicin-resistant cases and 460 000 confirmed MDR-TB cases [1]. Heads of state and government agreed to mobilise US\$13 billion a year by 2022 in order to ensure that TB care is received by 40 million people and preventive treatment is given to 30 million people [2].

Although the “white plague” has historically been studied in an extensive manner (it was “the” respiratory disease in the pre-antibiotic era), there is still much to learn about its prevention, diagnosis and treatment. TB is therefore a hot topic in respiratory medicine, attracting an increasing amount of interest from clinicians, scientists, public health officers and the pharmaceutical industry, given that new drugs are finally available after more than 40 years of neglect. The High-Level Meeting on the Fight to End Tuberculosis also agreed to fund a US\$2-billion research agenda [2].

With this *Monograph*, our aim is to provide an accessible resource that will help the young physician in training to recognise and treat TB in all its manifestations, as well as address a need for help with other mycobacterial diseases which might become apparent during the diagnostic process. Primarily providing clinical support, this book will also act as a reference resource for difficult TB. It will introduce topics of interest and scientific advances in TB that can be investigated by the interested reader at their leisure. Many of the chapters also indicate where TB management is going.

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This *Monograph* will discuss the main issues related to TB, with an innovative approach, beginning with a patient's perspective [3]. The role of patients is very important, given the burden of the disease on healthcare systems globally.

A chapter on the history of TB discusses recent advances in human and TB genetics and presents historical vignettes that are relevant to the current introduction of new treatments [4]. Social determinants are included in the chapter on epidemiology, so that the measures to control and eventually eliminate TB are more holistic [5]. Molecular biology has made significant advances since the last *ERS Monograph* on TB was published in 2012 [6], and clinically relevant material has been included in a number of chapters [4, 7–12]. The diagnostic aspects (clinical diagnosis, laboratory diagnosis, imaging, bronchoscopy and other invasive procedures) are reiterated and updated so that they are accessible to the physician in training [5, 9, 13, 14]. The treatment of drug-susceptible and drug-resistant cases, new and repurposed drugs, adverse events and the role of surgery are discussed, together with broad principles, so that physicians can apply these to the likely rapid changes in this area [15–18]. Specific patient groups (children, pregnant women and the elderly) are addressed [19]. Comorbidities have become an increasing problem in the management of TB, and diabetes, chronic renal impairment, liver disease and transplantation are addressed, in addition to coinfection with HIV [20]. The modern TB physician has to work with a team to manage homelessness, alcohol and opiate addictions, poverty and malnutrition and the disruptions caused by migration and fleeing war zones and persecutions [21].

A later chapter includes both treatment and therapeutic drug monitoring, noting that the latter will become increasingly important in personalised treatments regimens [22]. Rehabilitation after TB has become an important topic and receives its own chapter [23]. NTM have been included, as they are frequently diagnosed when TB is considered their increasing importance may merit an entire *Monograph* in the not-too-distant future [24]! Preventive issues have come to the fore, especially with the End TB Strategy and there are chapters on vaccines [10], infection control [25] and latent TB infection management [11]. Looking to the future, there is a chapter on research priorities [12], and one addressing the needs of the physician training [26].

Lastly, to emphasise the realities of managing TB, there are some clinical cases drawn from the experience of early career members with expertise in managing MDR-TB [27].

The developments and challenges over the last 6 years, since the publication of the first TB *Monograph* [6], have exceeded our expectations. We expect the recent pledges of world leaders to defeat TB will be met by a mixture of attention to patients' needs and scientific advances, in addition to those we have outlined in this *Monograph*. We hope the *Monograph* will encourage TB physicians and basic scientists to see the gaps and fill these with their own excellent research for the next TB *Monograph*.

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