

Lung Transplantation (LT) has enjoyed tremendous success and it is now a well-established live-saving procedure for patients suffering from end-stage lung diseases. Since the inception of clinical LT by Dr. Cooper and colleagues in Toronto in 1983 (first successful single lung transplant) and in 1986 (first successful double lung transplant) many advances have occurred in the field—thanks to many efforts from the transplant research community and braveness of patients undergoing novel high-risk procedures and treatments. Due to these advances, this highly complex procedure became very safe and in most centers early mortality is rare, and 1 year and 5-year survival have reached 90% and 60% respectively. However, two problems still challenge the full success of LT. First, the discrepancy between donor supply and wait list continues to widen. This results in a persisting large numbers of patients with chronic lung diseases not having access to live saving transplantation. This book addresses this problem by (I) discussing proper criteria for listing patients to LT, (II) using novel extra-corporeal technologies to maintain these patients alive until an organ becomes available, and (III) by creating strategies to significantly increase donor organ availability via normothermic ex vivo lung perfusion. Secondly, chronic lung allograft dysfunction (CLAD) is unfortunately a very common occurrence after LT and a major responsible why almost half of the patients either die or require a second transplant by 5 years after the procedure. Again, this book nicely addresses state of the art clinical strategies to prevent and treat CLAD, and importantly the recent development of experimental models of CLAD in murine transplantation. These models now open much opportunity not only for better understanding of pathways and mechanisms leading to CLAD but also to study efficacy of new interventions for this disease.



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