



# Outpatient Electronic Meetings in Paediatric Sensitivity and Immunology

Ioannis Prassas\*

Department of Pathology and Laboratory Medicine, University of Mount Sinai, Canada

## INTRODUCTION

Immunology is a captivating field of science that explores the intricate mechanisms of the human body's defence system. The immune system is a complex network of cells, tissues, and organs that work together to defend the body against infections and other foreign invaders. Its primary objective is to recognize and differentiate between self and non-self-substances, thereby distinguishing harmful pathogens from healthy body cells. This ability to discriminate between self and non-self is critical to avoid attacking the body's own tissues and causing autoimmune diseases. These antibodies circulate throughout the body, binding to pathogens and neutralizing them or marking them for destruction by other immune cells. After the infection is cleared, some T and B cells transform into memory cells. Memory cells retain a memory of the specific pathogen encountered during the infection. If the same pathogen invades again, memory cells trigger a rapid and robust immune response, leading to a more efficient and quicker elimination of the threat. While the immune system is a remarkable defence mechanism, it is not without its challenges and potential pitfalls. Sometimes, the immune system can overreact or malfunction, leading to various immunological disorders. Autoimmune diseases occur when the immune system mistakenly targets and attacks the body's own cells and tissues.

## DESCRIPTION

Conditions like rheumatoid arthritis, lupus, and multiple sclerosis are examples of autoimmune disorders, where the immune system's self-recognition mechanisms fail, leading to chronic inflammation and tissue damage. Allergies are hypersensitivity reactions where the immune system overreacts to harmless substances like pollen, pet dander, or certain foods. This exaggerated immune response can lead to various symptoms ranging from mild itching to severe anaphylactic shock, which is life-threatening. Immunodeficiency disorders, on the other hand, occur when the immune system is weakened or

impaired, making the body more susceptible to infections. Primary immunodeficiency are usually genetic, while secondary immunodeficiency's can be caused by certain medications, infections, or other underlying conditions. Advances in immunology have paved the way for innovative therapies that harness the immune system's power to treat diseases. Immunotherapy, a form of treatment that stimulates the body's immune response, has revolutionized cancer treatment and other conditions. Cancer cells can sometimes evade the immune system's detection. Immunotherapy uses various approaches to help the immune system recognize and attack cancer cells. Some techniques involve checkpoint inhibitors, Chimeric Antigen Receptor (CAR) T-cell therapy, and cancer vaccines, among others. Vaccination is one of the most significant achievements of immunology. Vaccines prime the immune system by exposing it to weakened or inactivated pathogens or specific antigenic fragments.

## CONCLUSION

This exposure allows the immune system to develop memory cells and mount a rapid and robust response if the person encounters the pathogen in the future. Immunology continues to advance rapidly, fuelled by cutting-edge technologies and increased collaboration between scientists and clinicians. Some exciting areas of research include: As our understanding of the immune system improves, the potential for personalized immunotherapy increases. Tailoring treatments to an individual's specific immune profile and the unique characteristics of their disease holds tremendous promise for improved outcomes and reduced side effects. The microbiome, the collection of microorganisms residing in and on our bodies, plays a crucial role in regulating immune responses. Research exploring the interactions between the microbiome and the immune system may lead to novel therapeutic interventions and a deeper understanding of immunological disorders. The adaptive immune system, on the other hand, is specific and highly targeted.

<b>Received:</b>	31-May-2023	<b>Manuscript No:</b>	IPBJR-23-17419
<b>Editor assigned:</b>	02-June-2023	<b>PreQC No:</b>	IPBJR-23-17419 (PQ)
<b>Reviewed:</b>	16-June-2023	<b>QC No:</b>	IPBJR-23-17419
<b>Revised:</b>	21-June-2023	<b>Manuscript No:</b>	IPBJR-23-17419 (R)
<b>Published:</b>	28-June-2023	<b>DOI:</b>	10.35841/2394-3718-10.7.67

**Corresponding author** Ioannis Prassas, Department of Pathology and Laboratory Medicine, University of Mount Sinai, Canada, E-mail: i\_prassas@gmail.com

**Citation** Prassas I (2023) Outpatient Electronic Meetings in Paediatric Sensitivity and Immunology. Br J Res. 10:67.

**Copyright** © 2023 Prassas I. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.