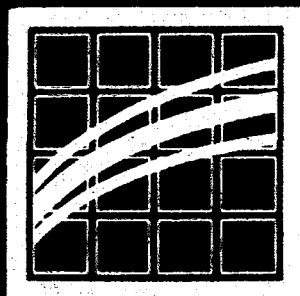


Nestlé Nutrition  
Workshop Series  
Volume 8



NESTLÉ NUTRITION



**TRACE ELEMENTS IN NUTRITION  
OF CHILDREN**

# Nestlé Nutrition Workshop Series

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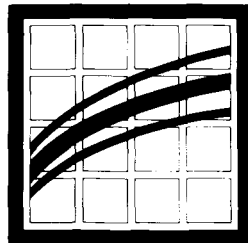
# Trace Elements in Nutrition of Children

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Volume 8



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# Preface

The rapid and logarithmic increase in our knowledge of trace elements has created the need for a critical appraisal of the state of the art and the identification of those areas that require greater attention. Less than a decade ago, only seven trace elements were considered essential for man. Today, the list approximates 15. Recent studies have documented that a large number of enzymes regulating key metabolic pathways depend on the presence of trace elements. Virtually all organs are influenced by trace element deficiencies. Such disturbances in nutrient balance may be primary (e.g., zinc deficiency in acrodermatitis enteropathica) or secondary to other diseases (e.g., zinc deficiency in inflammatory bowel disease). In both situations, deleterious effects are discernible and can be corrected by appropriate amounts of oral or parenteral supplements. It has also become clear that excessive intake of "essential" trace elements can result in adverse effects.

The contributors to the present volume represent a unique mixture of pediatricians, internists, nutritionists, immunologists, epidemiologists, biochemists, and scientists with primary interests in other biomedical fields. Many have made pioneering, original contributions to the field of trace elements in nutrition. The contributions, which were presented at the eighth Nestlé Nutrition Workshop, cover a wide range of topics, such as bioavailability, growth and development, metabolic effects, immunological aspects, and physiological and pathological states with altered trace element status.

The chapters contained in *Trace Elements in Nutrition of Children* epitomize the current thinking in this rapidly expanding field and should prove useful to pediatricians, physicians, nutritionists, and scientists.

RANJIT KUMAR CHANDRA

# Acknowledgment

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# Foreword

With the publication of Volume 1 in a new series, there is naturally some concern with the quality of future volumes. By the time Volume 8 has been reached, however, the need for this concern has lessened somewhat. Now one's concern is with the quality of the series as a whole and whether it is up to the very high level desired from the beginning. After reviewing Volume 8, we are reassured that the leadership, the quality of the contributions, the sharpness of the questions from the audience, and the richness of the discussions make this one of the outstanding volumes in the *Nestlé Nutrition Workshop Series*.

At the conclusion of the meeting from which this volume is drawn, the participants expressed the desire to meet again in 1987 to discuss the progress in knowledge of trace elements that would inevitably occur during the intervening years. Having achieved such a level of excellence with Volume 8, we are certainly ready to organize a new workshop gathering the same participants, who, in addition, have become a group of friends.

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