Mr Gerber, who as this year's Humanitarian Award honoree joined a distinguished list of past recipients including former Chrysler Chairman *Lee Iacocca* and National Broadcasting Company (NBC) Head *Robert Wright*, expressed great pride in the accomplishments of the Sight and Life program. In concluding, he complimented the Foundation for its continuing pursuit of knowledge, discovery and the preservation of vision, which he called "one of life's most precious gifts".

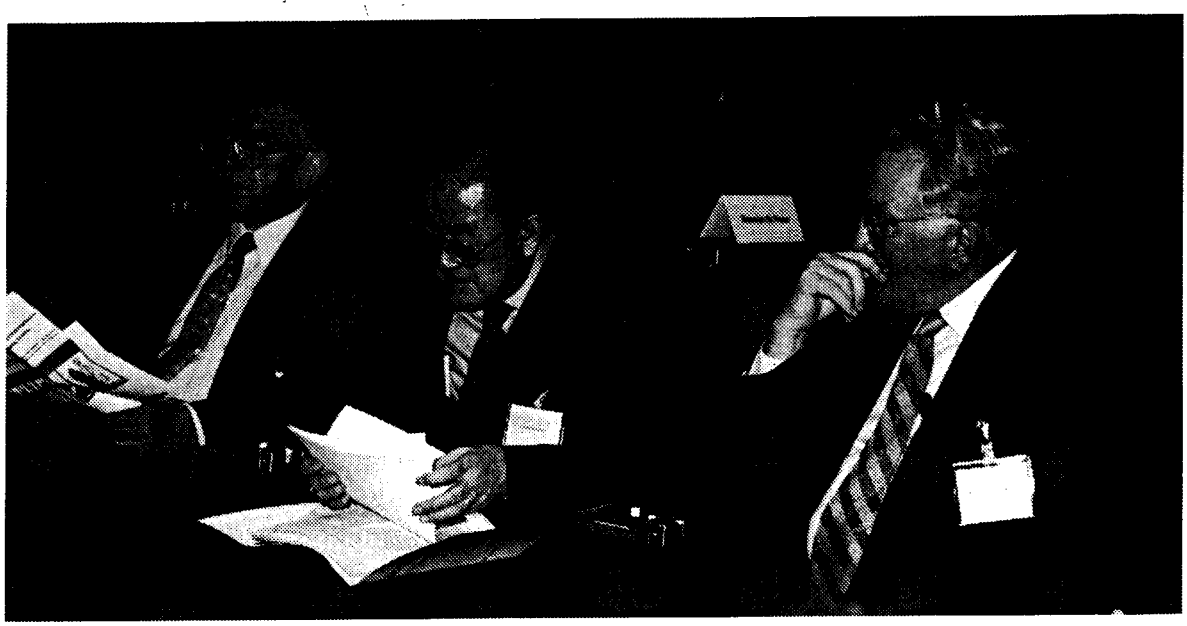
Martin D. Hirsch
Public Policy and Communications
Roche Nutley

Preventable vitamin A deficiency; Red Cross symposium at Roche Basel

Preventable vitamin A deficiency is a world-wide problem causing much concern to the World Health Organisation (WHO) and other international organisations. Vitamin A deficiency (VAD) in developing countries was the topic of a symposium held on 6 June at Roche Basel. The event was organised by the Swiss Red Cross (SRC), which for years has been fighting blindness in Asia and Africa. In this work it has long cooperated with the Task Force Sight and Life, a Roche initiative.

Nutritional blindness or VAD is still a public health problem in many developing countries. Updated statistics show that 250,000 to 500,000 children go blind annually and that more than 250 million are in danger of health impairment, morbidity and mortality due to VAD.

In his opening address, *Mr Fritz Gerber*, Roche Chairman and Chief Executive Officer, expressed his delight that Roche, the leading manufacturer of vitamins, was hosting the symposium. The company's involvement in the fight against vitamin A deficiency is in line with Roche's traditions. In 1947 the company



From left to right: Dr Andres F. Leuenberger, Dr Hiroshi Nakajima and Mr Fritz Gerber

Speakers at the symposium answering questions: from left to right, Dr Serge Resnikoff, Ms Gabriela Neuhaus, Ms Christa Sprecher (meeting administration), Mr Claude-André Ribaux (Swiss Red Cross) and Dr Florentino Solon

developed an industrially feasible synthesis of vitamin A that made it possible to use the vitamin in the field. Then, ten years ago, Roche established the Task Force Sight and Life, which is particularly dedicated to the fight against VAD. With this humanitarian initiative Roche is helping to work towards the goal set by the international community: to eliminate VAD by the year 2000.

Dr Hiroshi Nakajima, Director General of the WHO, confirmed that his organisation is still aiming at that goal; he expressed his confidence that through joint efforts much progress can be made. Dr Nakajima also confirmed the commitment of his organisation to continue to support non-governmental organisations (NGO's) and governments by coordinating and guiding their efforts.

The next speaker, *Dr Barbara Underwood* from the Nutrition Unit of the WHO, said that the extent of the VAD problem and its adverse consequences for vision, health and survival of children are now well recognised. The most recent compilation of the available data revealed that 22% of WHO member states still have a clinically significant problem, and 25% of them have a subclinical public health problem. From many states the data are still missing or are inadequate. "Obviously we are in a dynamic situation", Dr Underwood said. There is increased awareness as a result of international efforts and the growing visibility of the problem, and there are many activities being carried out by NGO's and governments.

In developing countries, VAD or the resulting eye disease xerophthalmia is still the leading preventable cause of severe visual impairment and blindness. *Dr Serge Resnikoff,* former director of the African Institute for Ophthalmology in Mali, compared the importance of different diseases in terms of "blind years". In this comparison xerophthalmia and cataract account for more or less the same number of years of disability. Xerophthalmia in West Africa still has a very bad prognosis due to factors such as lack of appropriate management, of awareness and of health care. VAD is often associated with diseases and other forms of malnutrition. Harmful traditional practices like putting crushed snail shells, caustic lime, juice of aloe plants, tree roots or cow's or goat's urine into the eyes may have toxic effects and even cause blindness.

Dr Martin Frigg, the secretary of Sight and Life, then presented some basic information on vitamin A. As he pointed out, it is good to know that the complexities revealed by biochemical and molecular biology research into vitamin A both parallel and confirm the complexities that work in the field has revealed in the vitamin's role in the maintenance of health. A normal vitamin A status can reduce the risk

Dr Hiroshi Nakajima (left) with Dr Martin Frigg

of severe diseases and child mortality; the reduction in measles fatalities, for example, is impressive.

It was generally agreed that the vitamin A problem must be integrated into overall health strategies. ***Mr Martin Fuhrer*** from the SRC presented his organisation's experiences with eye care programmes. He emphasised in particular that the active involvement of the local population is a key strategy.

Preformed vitamin A is found only in foodstuffs derived from animals such as liver, meat, egg yolk and dairy products. However, precursors are found in plants. The beta-carotene, and to a lesser degree other carotenoids, contained in green vegetables and red and yellow fruits and vegetables can be converted in the body into vitamin A. However the rate of conversion and the bioavailability of the carotenoids is still a hotly debated research topic. A recently completed study produced evidence that beta-carotene from green vegetables was much less bioavailable than synthetic beta-carotene. The results will have to be verified and investigations extended to different sources of vitamin A and different population groups. Furthermore, it is most important to evaluate just how variable the bioavailability is and to identify the factors influencing it.

It is clearly the goal of all nutrition programmes to improve nutrition in such a way that the food consumed contains all the macro- and micronutrients necessary. Such an ideal goal may not be achieved for everyone in the near future; less ambitious aims must therefore be targeted and approached in small steps.

This means that, in addition to such short-term measures as supplementation with vitamin A capsules, the fortification of commonly used processed foods must be considered a useful strategy. Great strides have already been made in sugar fortification in a number of countries in Central and South America. The fortification of foods has the advantage of being a "passive" intervention. People do not have to change their behaviour. However, food fortification requires that most of the people in a country use processed foods, that there is an infrastructure to deliver these foods to those most in need, and that the food chosen is technically and financially affordable. Food fortification, adapted to local requirements, is an area in which a great deal of applied research will be needed in the near future.

Dr Florentino Solon, Director of the Philippines Nutrition Centre, presented very recent results on fortification of margarine and wheat flour. These projects were well accepted by the consumers as well as by the industry. The analytical data on stability tests look promising: even after baking, the losses are within an acceptable range. A combined effort by all parties involved is necessary to elucidate the potential for food fortification as a straightforward strategy to contribute to the sustainable elimination of vitamin A deficiency.

Because conditions vary so much, different approaches have to be worked out for different countries, sometimes even for different regions, so it is important that organisations work together. This symposium was an example of such a collaboration, contributing as it did to an increase in VAD awareness and to the exchange of experiences and information.

In his concluding remarks, *Dr Andres F. Leuenberger*, President of Sight and Life and Vice-Chairman and Delegate of the Roche Board of Directors, pointed out that the efforts devoted to the fight against VAD have undoubtedly made an impact. The prevalence of clinical, and also – even more important – subclinical, VAD has been recognised, and as a result numerous governments have taken up the challenge. In view of the serious health consequences of subclinical VAD, it is clear however that the work being done to combat this condition will have to be continued.

Dr Martin Frigg
Task Force Sight and Life

AMPLICOR HIV-1 MONITOR™ Test receives FDA approval for marketing

The US Food and Drug Administration (FDA) has approved for marketing Roche's AMPLICOR HIV-1 MONITOR™ Test, the first commercial test to accurately and precisely measure quantities of HIV-1 RNA in the blood (viral "load"). The AMPLICOR HIV-1 MONITOR™ has been available in most European countries since 1994.

The test uses polymerase chain reaction (PCR) technology, a process that allows the amplification and identification of specific DNA or RNA sequences. It is intended for use in conjunction with clinical presentation and other laboratory markers as an indicator of disease prognosis. Research suggests that viral load may be predictive of the clinical progression of HIV disease. The test has also been used as an aid in assessing viral response to antiretroviral treatment as measured by changes in plasma HIV RNA levels.

The AMPLICOR HIV-1 MONITOR™ test quantitates viral loads over a broad dynamic range and to levels as low as 400 HIV RNA copies/mL. The test measures the amount of virus in a sample by comparison to a reference standard containing a known quantity of synthetic RNA that is added to each specimen. The test requires fewer steps and is less time-consuming than alternative methods, with results available in less than six hours. As the first standardized system that includes all reagents needed for quantitative PCR, the AMPLICOR HIV-1 MONITOR™ Test provides reliable results quickly, permitting its use on a large scale by many laboratories.