

## **Proper Assessment and Restoration of Immunological Function**

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### **< Summary >**

The three leading causes of death in Japan are cancer, stroke and ischemic heart diseases. These data are mainly based upon reports by clinical doctors without conducting autopsy examination. Autopsy examination has been performed in a small percentage of deaths, less than 3% in Japan, but has revealed that infection is the top cause of death in the elderly. The information indicates that immunological vigor declines with advancing age and the immunodeficiency status is severe in many older adults.

It is of clinical importance that many kinds of stress, in addition to aging, considerably down-regulate the immunological functions; this is especially prominent when the stress is unavoidable and continuing, but the effect varies greatly among individuals. The immune status of individuals is usually expressed by a panel of various immunological parameters of different criteria and not easily understood by those who are not familiar with the immune system. We have developed an immunological scoring method to standardize various immunological parameters, to combine them and to express the immune status of individuals as a simple numeral, termed immunological vigor. Using this scoring method, it becomes easy to assess the immune status of healthy individuals and patients, and to observe the effects of drugs, foods, drinks, physical exercise and supplements on their immunological vigor. This scoring method has revealed that immunological vigor significantly declined in patients suffering from colon cancer (stage O-IV). The final part of this chapter introduces several methods of immunological restoration as follows:

Nutrition, Supplements including antioxidants, Hormones, Vaccine, Japanese herbal medicine (Kampohozai), Infusion of activated autologous T cells, and Music therapy. Proper and quantitative assessment of immunological vigor as a whole is indispensable for the maintenance of health, the expectation of prognosis of diseases, the monitoring of treatments and the assessment of immunological restoration.