



Foundations
of Health
健康的基礎

Good health rests on a strong foundation of four cornerstones: 良好的健康是建立在四項強大的基石之上的：

- Adequate exercise 適量的運動
- Sufficient sleep 充足的睡眠
- A positive attitude 積極的心態
- Balanced nutrition 均衡的營養



As far back as *ca.* 450 BC these concepts were known. Hippocrates, the Greek physician regarded as the father of modern medicine, stated, "If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health." And as scientific study progressed, we learned that sleep and a positive attitude affect our health as well. You've probably heard this from your mother, your grandmother, your teachers and your doctors all of your life.

Nutritional immunologists primarily focus on the balanced nutrition aspect of good health. In the case of the disease scurvy, the development of the nutritional knowledge needed to understand and overcome it spanned centuries. In 1753, British naval doctors first recognized that lemons, limes and oranges cured scurvy, a deadly disease. But it wasn't until 1932 that scientists recognized that a factor in these fruits, which they called vitamin C, was essential to sustain life. Today, we know vitamin C as L-ascorbic acid or L-ascorbate and understand that the body needs it as an antioxidant to protect against oxidative stress, and as a cofactor in at least eight enzymatic reactions, including the synthesis of collagen.

These days, one hardly hears of scurvy and many don't know the disastrous effects of this disease that killed more sailors than all battles, storms and other diseases combined from the 16th to 18th centuries¹. And this is all because nutritional immunologists, who were

早在公元前450年左右，人們就已明白了這些道理。現代醫學之父，古希臘著名醫生希波克拉底曾指出，“假如我們能夠讓每個人都得到適量的營養和運動，既不多也不少，我們就能找到通往健康的最安全的渠道。”而隨著科學的發展，我們更進一步懂得了足量的睡眠和積極的心態也影響著我們的健康，在您的一生中，您可能從自己的母親、祖母、老師和醫生那裡都聽到過這樣的忠告。

營養免疫學家所關注的主要問題就是均衡的營養對健康所產生的積極影響。就以防治壞血病為例，在營養學知識的領域對其了解和攻克的發展過程跨越了幾個世紀。1753年，英國海軍醫生率先認識到檸檬、酸橙和橙子，可以治療這種致死性的疾病-壞血病；但是，直到1932年，科學家才搞清了人體不可缺少這些水果的真相，那是因為這些水果中存在著一種基本的營養素，人們稱其為維生素C；如今，我們知道維生素C又被稱作L-抗壞血酸，並搞清楚了它是一種抗氧化劑，可保護人體對抗氧化應激反應，並在最少八種酵素反應中-其中包括膠原蛋白的合成-作為一種輔助元素發揮著重要的作用。

現在，人們已經很難再聽說哪裡會發生像十六世紀到十八世紀期間爆發的壞血病那樣的災難了，很多人甚至都不知道這種病災的可怕性。當時這種病災造成的海員傷亡人數居然會多過戰爭、風暴和其它各種疾病的總和¹。如今我們之所以能夠不再受這種



¹Mayberry, Jason Allen. Scurvy and Vitamin C. Leda at Harvard Law School. April 27, 2004. <http://leda.law.harvard.edu/leda/data/658/Mayberry.html#fnB174>

simply doctors and scientists then, wanted to understand the link between diet and health.

Today, Nutritional Immunology is a full-fledged scientific discipline with departments in many universities around the world. Simply stated, Nutritional Immunology is the study of the link between food and health, and knowledge in this field is increasing almost daily as more and more researchers study the foods we eat and how and why they affect our bodies.

Nutritional Immunology has grown from looking for those elements in foods that can cause death if not consumed to looking for those elements in foods that don't just keep us alive, but keep us healthy. At the Tufts University Human Nutrition Research Center on Aging, nutritional immunologists investigate how dietary components interact with environmental factors and genes in age-associated changes of the immune system. The belief is that if we can truly understand how the elements of our diet affect our body's systems—in particular the immune system—we can

疾病的威脅，是因為有了免疫學家 - 他們曾經只是醫生或其它學科的科學家，為了探討飲食和健康之間的關係，他們跨入了營養免疫學的領域。

今天，營養免疫學已發展為一門成熟的學科，全球許多大學都設立了這個科系。簡要地說，營養免疫學就是研究食品和健康之間的關係，隨著對我們攝取的食物以及這些食物是如何影響和為什麼會影響我們的身體的不斷探討與研究，科學研究者對這個領域的了解越來越多，人類在這方面的知識幾乎是與日俱增。

營養免疫學一直在不斷地發展，從尋找食物中那些人體缺失即會導致人類死亡的元素，到尋找食物中那些不僅能保證我們生存，更能維護我們健康的元素。美國塔夫茨大學人類營養與衰老研究中心的營養免疫學專家們，對飲食成份是如何與環境因素相互作用的、以及如何影響免疫系統中與年齡相關的基因並使之發生改變進行了研究。大家確信，假如我們能真正懂得飲食中的基本元素是如何影響我們身體系統的 - 尤其是免疫系統 - 那麼我們就能知道怎樣可以活得更長久、更快樂、更健康，這就是營養免疫學要達成的目的。

希波克拉底認為，「體內的自然力量才是疾病的真正醫療者。」或許他當時只隱約知道我們現今稱作免疫系統的系統，但他確實知道食品會給一個人生活帶來的不同，所以他將食物和本草作為藥物用於自己的病人。

當希波克拉底利用身邊的食物和本國的本草幫助病患以自身的免疫系統對抗疾病的時候，古代中國的中醫也做著同樣的事情。經過幾千年的學習和觀察，他們將取自植物的傳統藥物代代相傳。他們雖然不是以西方

learn how to live longer, happier, healthier lives. This is the goal of Nutritional Immunology.

Hippocrates believed that “natural forces within us are the true healers of disease.” Perhaps he had an inkling of what we now call the immune system. He certainly knew that food made a difference in a person’s life, and he prepared foods and herbs as medicines for his patients.

Just as Hippocrates used the local foods and herbs of his country to help a patient’s own immune system fight off illnesses, so, too, did ancient Chinese physicians. Through thousands of years of study and observation, they passed down their traditional medicines made primarily from plants. In a way, they, too, practiced Nutritional Immunology, not through Western scientific method, but through observational studies, watching how various fruits, vegetables and herbs benefited their patients.

Today, the West studies Traditional Chinese Medicine (TCM), and in many cases not only discovers they are beneficial, but why they are beneficial as well. Take for instance, *Angelica sinensis*, better known as dong quai. TCM uses dong quai to enrich blood and activate blood circulation, among other things². Western studies show that dong quai lowers blood pressure and can cause less plaque formation in the arteries³. Studies also indicate, as TCM has long advocated, that dong quai may be helpful in cases of dysmenorrhea (menstrual cramps) due to dong quai’s ability to regulate the muscle contractions of the uterus⁴.

Nutritional Immunology investigates foods that can provide a strong foundation of balanced nutrition for your immune system. But don’t forget the other three cornerstones! You need to provide strong foundations for exercise, sleep and a positive attitude to build a healthy life with Nutritional Immunology! 🌱

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科學的手段進行實驗，而是通過觀察來研究、觀測各種水果蔬菜和本草對他們的病患的補益功效，但從某種意義上講，他們應用的也是營養免疫的方法。

現在，西方學術界也在研究傳統中醫(TCM)，很多研究不僅注重於傳統中醫的益處，還要研究為什麼它們會有益。比如，*Angelica sinensis*，就是我們熟知的當歸，除了其它功效之外，傳統中醫還使用當歸來補血，促進血液循環²。西方研究顯示，當歸能夠降血壓，還能減少動脈中斑塊的形成³。研究還指出，傳統中醫長久以來一直強調，當歸因具有調節子宮肌肉收縮的作用，所以它有助於緩解痛經(經期痙攣)⁴。

營養免疫學研究的是可作為您免疫系統強大後盾的營養均衡的食物，但是，您千萬不要忘記還有其它三個重要的柱石！您要在營養免疫學的指導下擁有一個健康的人生，就還需要運動、睡眠和樂觀的心態，以四項基本要素為自己打造一個強大的健康基礎。 🌱



Angelica sinensis.
Dong Quai

² *Pharmacopoeia of the People’s Republic of China*, Vol. 1, Chinese Pharmacopoeia Commission. People’s Medical Publishing House, 2005.

³ Bensky, Dan and Andrew Gamble. *Chinese Herbal Medicine Materia Medica*, Revised Edition. Eastland Press, 1993.

⁴ Bensky, Dan and Andrew Gamble. *Chinese Herbal Medicine Materia Medica*, Revised Edition. Eastland Press, 1993.