

# Chapter 4

## Chlorophyll as Therapy

*“Chlorophyll, the healer, is at once powerful and bland-devastating to germs, yet gentle to wounded body tissues. Exactly how it works is still Nature’s secret; [but] to the layman, at least, the phenomenon seems like green magic.”*

—H.E. Kirschner, M.D.<sup>63</sup>

Although green foods have long been considered useful for their “blood-building” qualities, the chlorophyll found in green foods is itself valued for many other therapeutic purposes.

The leaves and green parts of plants have been used for centuries to accelerate wound healing. Among the ancients, the greenest plants were chosen for health remedies.<sup>132</sup> In this century medical scientists have found chlorophyll to be effective in the general fields of detoxification, deodorization, and the healing of wounds.

The power of chlorophyll as an effective deodorizing agent was first scientifically demonstrated in the 1940s. In the decade that followed, toilet paper, diapers, chewing gum, bedsheets, toothpastes, shoe liners, and a number of other products containing various amounts of green coloring and crude chlorophyll extracts began appearing on store shelves. In the wake of this “chlorophyll hysteria”, a number of researchers began serious investigation of the therapeutic uses of chlorophyll.<sup>131</sup>

### Chlorophyll Against Cancer

There is scientific evidence that chlorophyll and the nutrients found in green foods offer protection against toxic chemicals and radiation. In 1980, Dr. Chiu Nan Lai at the University of Texas Medical Center, reported that extracts of wheat grass and other green vegetables inhibit the cancer-causing effects of two mutagens (benzopyrene and methylcholanthrene).<sup>80</sup> The more chlorophyll in the vegetable, the greater the protection from the carcinogen.

That chlorophyll can reduce the ability of carcinogens to cause gene mutations has been verified by several laboratories in the last decade. Chlorophyll-rich plant extracts, as well as water solutions of a chlorophyll derivative (chlorophyllin), dramatically inhibit the carcinogenic effects of common dietary and environmental chemicals.<sup>62,104</sup> Ames testing shows that chlorophyllin neutralizes the cancer-causing action of mixtures of coal dust, tobacco, fried beef, red wine, and other compounds. In this capacity, chlorophyllin is more effective than vitamin A, vitamin C, or vitamin E against mutations induced by the same mixtures.<sup>103,104</sup>

## **Protection From Radiation**

Green vegetables provide protection from radiation damage in test animals. This information has been reported in the scientific literature since the early 1950s. Early reports showed that certain vegetables significantly reduced mortality in rats exposed to lethal doses of X-rays.<sup>133</sup> Dark green broccoli offered more protection than the lighter green cabbage. In a later study, the same vegetables were shown to reduce the damage caused by radiation.<sup>17</sup> These protective effects were more pronounced when even darker green vegetables such as mustard greens and alfalfa leaves were used. When two or more of the green vegetables were fed together, the positive resistance to radiation was greatest.

## **Chlorophyll Against Germs**

During the 1950s, many laboratories tested chlorophyll's power to kill germs. The consensus of these reports was that, for the most part, chlorophyll is bacteriostatic, and only slightly bacteriocidal. This means that chlorophyll limits the growth of many types of germs not by directly killing them, but by providing an environment which interferes with their growth. It is particularly effective against anaerobic bacteria, those which do not require oxygen.<sup>131</sup>

Dentists and physicians have successfully used chlorophyll to control mouth infections such as pyorrhea and Vincent's angina. Chlorophyll solutions provide significant relief of pain, reduction of inflammation, and the control of odor for patients with serious mouth diseases.<sup>49</sup>

There are several reported cases of the successful use of chlorophyll for bacterial endocarditis, an infection of the tissue surrounding the heart.<sup>132</sup>

Chlorophyll has also been used successfully to treat chronic and acute sinusitis, vaginal infections, and chronic rectal lesions.<sup>49</sup>

## **Chlorophyll the Healer**

Topical therapy refers to the use of a healing agent on the skin or other body surface. The number of surface conditions in which chlorophyll has been successfully used would be unbelievable were they not so well documented. And chlorophyll therapy provides an excellent bonus. In hundreds of experiments and trials on humans and test animals, chlorophyll therapy has always been shown to have no toxic side effects. Not just low toxicity, NO toxicity—whether ingested, injected or rubbed onto a surface.<sup>132</sup> This fact alone makes chlorophyll one of the most unique therapeutic substances known to medical science.

Chlorophyll heals wounds. The ideal wound treatment stimulates repair of damaged tissues and inhibits the growth of bacteria.<sup>19</sup> Chlorophyll does both! Even crude preparations of chlorophyll are effective in stimulating the growth of healthy granuloma tissue and fibroblasts—both on actual wounds and in laboratory cultures.<sup>131</sup>

In addition, the foul odors associated with surface wounds and ulcers rapidly disappear following chlorophyll application.<sup>49</sup> The medical literature is replete with reports demonstrating these effects. Surface wounds and sores due to surgery, compound fractures, osteomyelitis (bone inflammation), decubitus (bed sores), and routine cuts and scrapes all show fast and dramatic improvement with the topical use of chlorophyll. Chlorophyll therapy has saved limbs from amputation. Chlorophyll is also known to reduce the itching, pain and local irritation of surface wounds.<sup>131</sup>

Burns caused by heat, chemicals, and radiation also heal faster with chlorophyll therapy, whether or not they are infected. Chlorophyll was used to prolong the survival of skin grafts before the development of the immune-suppressing drugs which are now used.

The action of chlorophyll on wounds has a unique feature. Most medicines become less effective with repeated use. In contrast, an initial application of chlorophyll makes a wound more sensitive to its healing benefits with repeated use.<sup>131</sup>

Dr. G.H. Collings considered chlorophyll to “have the most constant and marked effect of all agents for stimulating cell proliferation and tissue

repair.<sup>99,131</sup> Collings demonstrated that the healing time of wounds is shorter with chlorophyll therapy than with penicillin, vitamin D, sulfanilamide, or no treatment.<sup>26</sup>

Chlorophyll also accelerates wound healing by reducing hemagglutination and inflammation. When a tissue is injured, foreign substances in the blood generally cause blood cells to clump together. This limits the amount of nutrients available for repair of the injured tissue. When chlorophyll is administered to a wound, this clumping is reduced, so the lag time associated with tissue repair is shortened.<sup>120</sup> Chlorophyll decreases swelling by reducing the synthesis of fibrin (the protein associated with blood clot formation).<sup>90,91</sup> This gives chlorophyll a mild blood thinning, or heparin-like property, which can enhance the effectiveness of local immune defenses.

Chlorophyll has also been shown to be extremely effective in speeding the healing of peptic ulcers, wounds which develop internally in the gastro-intestinal tract. Several studies document the use of chlorophyll in the treatment of ulcers resistant to more conventional therapies. The results are quite impressive. In the Offenkrantz study, 20 of the 27 patients with chronic ulcers were relieved of pain and other symptoms in 24 to 72 hours.<sup>99</sup> Complete healing of the damaged tissues, as demonstrated by X-ray examination, occurred in 20 of 24 cases within two to seven weeks. These reports include case descriptions of dramatic recoveries from severe, long-standing problems.

Other intestinal diseases have also been effectively treated with chlorophyll. Rafsky and Krieger<sup>111</sup> report positive results obtained with the use of rectal implants of chlorophyll solutions for the treatment of a variety of diseases of the colon including spastic colitis, sigmoiditis, and ulcerative colitis. The majority of the patients in the study showed definite improvement. Chlorophyll appears to alter the metabolism of colonic bacteria. Its use is associated with reduced formation of skatole, a substance formed by the bacterial breakdown of proteins.<sup>131</sup>

European investigators report preliminary favorable results in the use of chlorophyll in the treatment of pancreatitis. The chlorophyll is thought to influence several enzymatic reactions which complicate this disease.<sup>21</sup>

## **Chlorophyll and Intestinal Regularity**

Researchers observed a side benefit when chlorophyll was used to treat peptic ulcers. Chlorophyll tended to “promote regularity” in the patients

studied.<sup>99</sup> According to several investigators, chlorophyll did not act simply to stimulate bowel activity, as does a laxative. Rather, it promoted bowel regularity, stimulating bowel action only when that action was sluggish.

The same effect was noted in a 1980 study of the use of chlorophyllin (a water soluble chlorophyll derivative) to reduce body and fecal odors in a geriatric nursing care facility.<sup>151</sup> It was found that chlorophyll did reduce offensive odors, as anticipated, but also that it promoted regular bowel movements in these patients. Chlorophyll use also reduced the amount of intestinal gas experienced by the patients. And, as chlorophyll has no toxic side effects, the “gratifyingly good results” obtained made it preferable to the use of “drastic laxatives.”

Green plants are still used as healing agents by traditional health practitioners throughout the world. But chlorophyll is used in a rather limited way in our modern medical system. The enthusiasm with which chlorophyll was once studied subsided with the development of antibiotics and steroid drugs. Dr. S. A. Chernomosky, in a 1988 review article in the *New Jersey Medical Journal*, states that the treatment of patients with slow-healing wounds is still problematic, and that the increased use of chlorophyll compounds may offer a useful alternative in this area.<sup>21</sup>

Today, chlorophyll tablets are routinely used by patients to deodorize the surfaces and contents of colostomies. Chlorophyll is also administered to incontinent patients to reduce odors in health care facilities.<sup>151</sup> Topical chlorophyll ointments and solutions for healing and deodorizing wounds are still available, as are chlorophyll-containing toothpastes and chewing gums.

The therapeutic qualities of this natural green pigment are still something of a well-kept secret in our modern society. Yet, many of us have an intuitive sense of the soothing feeling and healing effects associated with the color green. We feel it as we care for our house plants, walk on the grass in our parks, or see the new leaf buds sprouting from a tree branch in the spring.

## **Chlorophyll as Therapy: A Summary**

Healing has been associated with the color green throughout history. Prior to the widespread use of antibiotic drugs, the green pigment chlorophyll was intensively investigated for its ability to heal and deodorize wounds of the skin and of internal body surfaces. The effectiveness of chlorophyll in wound healing is due to its ability to stimulate the growth of new cells while limiting the growth of bacteria. Chlorophyll therapy has no toxic side effects.

There is evidence which suggests that green foods may inhibit the damage caused to cells by X-radiation. Foods highest in chlorophyll provide the most protection.

Investigators in recent years have demonstrated that chlorophyll and its derivatives reverse the mutagenic capacity of some cancer-causing chemicals. Work in this area may provide future applications of a therapeutic role for chlorophyll.