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History and Origin of the Ketogenic Diet

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1. INTRODUCTION

In the past, many dietary “cures” for epilepsy were advocated, and such treatments included the excess or limitation of almost every substance (animal, vegetable, or mineral) (1). However, fasting as a treatment for seizures was less recognized. Fasting is the only therapeutic measure against epilepsy recorded in the Hippocratic collection (1). In the fifth century BC, Hippocrates reported on a man who had been seized by epileptic convulsions after having anointed himself before the fire in a bath, in winter. Complete abstinence from food and drink was prescribed, and the cure was effective.

Fasting, as a therapy for seizures, was documented in biblical times. In a quotation from the King James Version of the Bible, Mark relates the story of Jesus curing an epileptic boy (2–4). When his disciples asked him privately why they had not been able to cure the boy, Jesus said “this kind can come out by nothing but prayer and fasting.” Raphael’s *Transfiguration of Christ*, probably the most famous painting of a person with epilepsy, is based on this passage from Mark (5). This painting is divided into two parts; the upper part depicts the transfiguration of Christ, the lower part portrays the healing of the boy with epilepsy (Fig. 1).

2. FASTING (A PRECURSOR TO THE KETOGENIC DIET)

It was not until the early twentieth century that medical use of the ketogenic diet emerged as a strategy to mimic the biochemical effects of fasting (or starvation) (Fig. 2). Guelpa and Marie, both French physicians, authored the first scientific report on the value of fasting in epilepsy (6). They reported that seizures were less severe during treatment, but no details were given. In the United States, contemporary accounts of fasting were also recorded early in the twentieth century (Table 1); the first was a report on a patient of an osteopathic physician, Dr. Hugh W. Conklin, of Battle Creek, Michigan, and the second concerned Bernarr Macfadden (7,8). Macfadden was a physical fitness guru/cultist and publishing genius of the early part of the 20th century (9). He called the medical profession an organized fraud and said that people who followed his rules could live to age 120. At age 31 (in 1899), he established his first magazine, *Phys-*

From: *Epilepsy and the Ketogenic Diet*

Edited by: C. E. Stafstrom and J. M. Rho © Humana Press Inc., Totowa, NJ

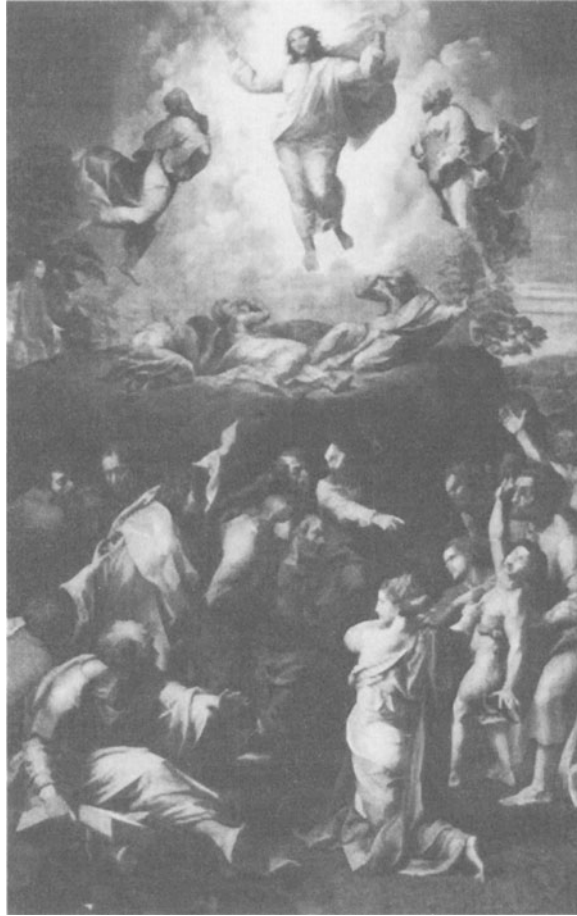


Fig. 1. Raphael's *Transfiguration of Christ*. (Reproduced with permission from ref. 5.)

ical Culture. He advised readers how to develop themselves physically, how to maintain their health, and how to cope with illness. He illustrated it with photographs of himself lightly clad, with muscles bulging (Fig. 3A). Each issue carried articles about sickly men and women who became healthy, strong, and beautiful through proper diet and exercise. The magazine's circulation had reached 500,000 by the end of World War I. Macfadden was widely recognized, and one of his followers, Angelo Siciliano, won Macfadden's "America's Most Perfectly Developed Man" contest twice. Using the winnings, Siciliano went on to establish his own muscle-building business under the name of Charles Atlas.

Macfadden offered advice on a subject he knew very little about—coping with illness. He maintained that any disease could be cured by exercise and diet. He also emphasized fasting. His rationale was that because much of the body's energy goes into digesting food, if there is no food to digest, more energy could be applied to recovering health. Macfadden claimed that fasting for 3 d to 3 wk could alleviate and cure about any disease, including asthma, bladder disease, diabetes, prostate disease, *epilepsy*, impotence, paralysis, liver and kidney disease, and eye troubles. He had become nationally recognized, and his ideas were well known (Fig. 3B). Dr. Conklin began as an