

## **E.H. "Pete" Ahrens (1915–2000)**

Edward H. "Pete" Ahrens, Jr., was the most eloquent and forceful of a number of individuals who, in the late 1950s, realized that better communication was needed among investigators of lipid metabolism and lipid biochemistry, and proposed the founding of the *Journal of Lipid Research*. He showed that saturated and unsaturated fats in the diet had opposite effects on blood cholesterol levels.

For several decades, Dr. Ahrens conducted research at the center of the debate about how, and whether, dietary change could help people avoid atherosclerosis. He designed studies that are still considered models of clinical research.

In 1952, while at the Rockefeller Institute for Medical Research, Dr. Ahrens began studying the effects of dietary fat on blood cholesterol. Scientists had learned that high levels of cholesterol helped bring on atherosclerosis, and that animal fats helped raise cholesterol levels. What the scientists did not understand was why vegetable fats seemed to lower cholesterol levels. Dr. Ahrens decided to feed patients carefully controlled diets to see how different fats affected cholesterol. But, he recalled in an interview in 1984: "We had an awful time at first. It was boring as the devil for the patients, who had to eat the same diet every day for weeks. It was hard on the dietitians, and we didn't have precise enough control of the dietary mix."

At the suggestion of a pediatrician at Rockefeller who advised him to "feed them like babies," he put his patients on a diet of formula, becoming one of the first researchers to use this now-common technique.

Dr. Ahrens discovered that the effect of fat was related to its saturation, or the ability of a fat molecule to combine chemically with hydrogen atoms. A saturated fat, like butter or suet, cannot combine with any more atoms than it already has, while an unsaturated fat like olive oil can. With unsaturated fats, the body's complex mechanism for synthesizing, excreting and allocating cholesterol among the organs is tipped to lowering blood cholesterol; saturated fats have the opposite effect.

While opinions have varied over the years, most scientists now believe that the intake of saturated fat is a more important factor than dietary cholesterol in heart disease. That is because, as Dr. Ahrens showed in his work, when most people eat high-cholesterol foods like eggs, the body compensates somewhat by reducing its own production of cholesterol.

Dr. Ahrens is also credited with pioneering the use of gas-liquid chromatography in lipid research, a technique that allows scientists to analyze the fatty acids in fats and see how they change in response to diet. He figured out a relatively civilized way to emulsify feces, by having them collected in paint cans and mixed by paint-mixing machines like those in hardware stores.

During the 1960s, Dr. Ahrens used that method to conduct studies that measured the liver's production of cholesterol by comparing the difference between dietary intake and daily excretion. He developed a technique called the sterol balance method that accurately measured that production, and demonstrated the wide variations in cholesterol metabolism among people. This strengthened his opposition to sweeping diet prescriptions.

In 1977, for instance, he criticized a government effort to reduce consumption of cholesterol drastically, saying it treated people as though they were "a homogeneous group of Sprague-Dawley rats." (Because of their uniformity, such rats are ideal for research.)

Described by colleagues as highly opinionated about scientific practice, Dr. Ahrens was also passionate in arguing for more emphasis on studies that could actually help improve the health of their human subject, publishing "The Crisis in Clinical Research" in 1992.

Dr. Ahrens went to Harvard, earning a bachelor's degree in history in 1937 and a medical degree in 1941. His original intent was to become a pediatrician, but his association with doctors who worked at Rockefeller stoked his interest in research.

He served in World War II in the Army Air Forces Medical Corps, researching what supplies pilots needed to survive if they were shot down in the Pacific, then joined Rockefeller in 1946. Dr. Ahrens was appointed professor in 1960 and Frederick Henry Leonhardt professor in 1982. He became professor emeritus in 1985. In 1958, he founded the *Journal of Lipid Research* and was its editor from 1963 to 1969. He was elected to the National Academy of Sciences in 1973.

(Source: [nytimes.com/2000/12/16/us/edward-ahrens-cholesterol-researcher-is-dead-at-85.html](https://www.nytimes.com/2000/12/16/us/edward-ahrens-cholesterol-researcher-is-dead-at-85.html))