

# The History of Cortisone Discovery and Development



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## KEYWORDS

• Cortisone • Hench • Kendall • Nobel Prize • Rheumatoid arthritis

## KEY POINTS

- Hench, Kendall, and Reichstein won the Nobel Prize in Medicine 65 years ago for their “investigations of the hormones of the adrenal cortex.”
- The discovery of cortisone is a fascinating tale of good science, perseverance, and luck that might not be possible in today’s regulatory environment.
- Although advances in corticosteroid preparations and their use have occurred since 1950, the side effects observed by Hench and his colleagues within weeks after the first patient’s dosing still haunt us today.
- Despite these issues, corticosteroids remain a critical and often life-saving component of treatment of many inflammatory diseases.

## INTRODUCTION

Most rheumatologists are aware of the discovery of cortisone by Philip Hench and Edward Kendall for which they, along with the Polish chemist Tadeus Riechstein, received the Nobel Prize in medicine and physiology in 1950.<sup>1,2</sup> Hench, the gregarious, consummate clinician in the new field of rheumatology, and Kendall, the dedicated, sometimes stubborn hormone chemist, formed the nucleus of a team that produced this remarkable breakthrough (**Fig. 1**). In a fashion that is inconceivable today, they took the newly purified compound E from the laboratory to the clinic to the Nobel Prize in a span of 2 years. The reader is referred to the recent book by Rooke for a revealing page-turner on the subject.<sup>3</sup> This article examines the paths that led Hench and Kendall to that fateful day, September 21, 1948, when “Mrs G.” became the first patient

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Disclosure Statement: The author has nothing to disclose.

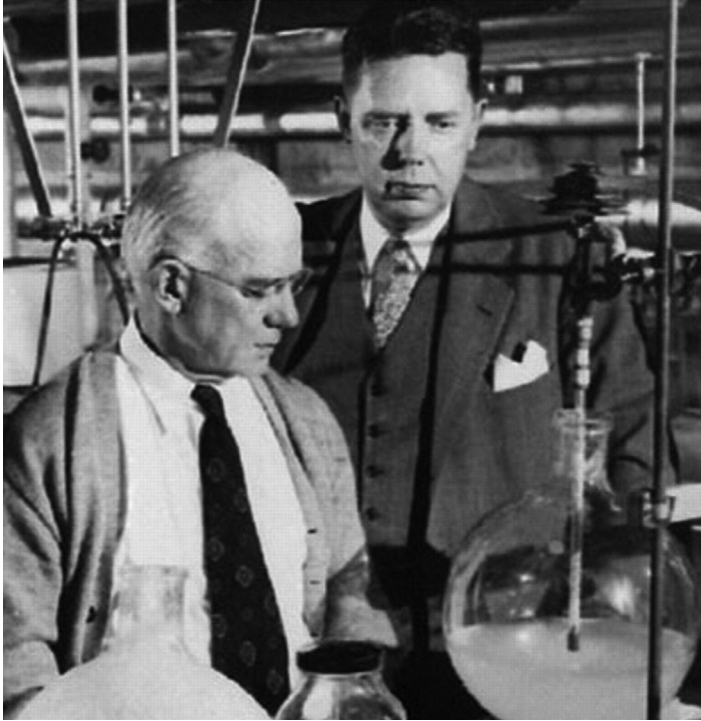
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Rheum Dis Clin N Am 42 (2016) 1–14  
<http://dx.doi.org/10.1016/j.rdc.2015.08.001>

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**Fig. 1.** Philip S. Hench, MD (*right*) and Edward C. Kendall, PhD. (From Lloyd M. Philip Showalter Hench, 1896–1965. *Rheumatology (Oxford)* 2002;41(5):583; with permission.)

with rheumatoid arthritis (RA) to receive cortisone, and from there to the 1950 Nobel Prize. We also look at the aftermath of this achievement for our heroes and their patients, a bittersweet legacy that we still live with today. The article also provides glimpses of others who played cameo roles in this poignant story, inseparable from the time of global upheaval in which it occurred.

### PHILIP SHOWALTER HENCH

Philip Hench was born in Pittsburgh, Pennsylvania on February 2, 1896 with a severe cleft palate, but overcame his speech impediment to become a fine speaker. He attended Lafayette College, to which he remained loyal for life, and enlisted in the US Army Medical Corps after graduation in 1916. He graduated from Pittsburgh University Medical School in 1920, and from there began an uncanny string of firsts in medicine and rheumatology.<sup>4</sup> In 1922, he became the first medical resident to train at St. Mary's Hospital in Rochester, Minnesota, a hospital that rose from the ashes of the city after a devastating tornado in 1883. Through the dedicated efforts of Mother Alfred Moes of the Sisters of Saint Francis and Dr William W. Mayo, the 27-bed St. Mary's opened in 1889.<sup>5</sup> By the time Hench arrived, with William Mayo's sons, Will and Charlie, as driving forces, St. Mary's and the Mayo Clinic were becoming world leaders in medicine by adhering to the principles of patient care, research, and education. Hench subsequently became the first rheumatology fellow and then the head of the new rheumatic disease service at Mayo, established in 1926 (**Fig. 2**).<sup>6</sup>

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