

# This Week's Citation Classic

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Lerner P I & Weinstein L. Infective endocarditis in the antibiotic era.

*N. Engl. J. Med.* 274:199-206; 259-66; 323-31; 388-93, 1966.

[Infectious Disease Serv., New England Med. Ctr. Hosps., and Dept. Med., Tufts Univ. Sch. Med., Boston, MA]

A review of eight years' experience with endocarditis at a large referral center formed the basis for a comprehensive analysis of this multifaceted infection, at a critical point in the natural evolution of the disease, and on the threshold of a revolution in the surgical management of the disorder. [The SCI® indicates that these papers have been cited over 1,025 times in 448 papers since 1966.]

Phillip I. Lerner

Department of Infectious Diseases  
Mt. Sinai Medical Center  
Department of Medicine  
Case Western Reserve University  
School of Medicine  
Cleveland, OH 44106

and

Louis Weinstein  
Department of Medicine  
Infectious Disease Division  
Brigham and Women's Hospital  
Harvard Medical School  
Boston, MA 02115

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"Resurrecting the term 'infective endocarditis,' as distinct from 'bacterial endocarditis,' was most timely, since the natural history of this once uniformly fatal cardiac infection appeared to be undergoing a remarkable evolution for various reasons, some recognized, some unknown. The manuscript was a joint effort by my mentor, Louis Weinstein, and me. Our review of 100 patients at the New England Medical Center in Boston formed the basis for a comprehensive analysis of endocardial infection, as there had been no in-depth examination of this topic since Kerr's monograph in 1955.<sup>1</sup> The opportunity to present this material in an almost open-ended forum (the Medical Progress section of four consecutive issues of the *New England Journal*

of *Medicine*) demanded that this analysis be as comprehensive as possible. The protean manifestations of endocarditis remain a fascination to practitioners, generalists and specialists alike, for this is truly an entity that encompasses the breadth of medicine. Rheumatologists, neurologists, cardiologists, immunologists, nephrologists, infectious disease specialists, and now cardiac surgeons all find endocarditis one of medicine's most fascinating and challenging diseases. This article has been so widely cited because of the prestige of the journal, the topic's widespread appeal to many physicians and particularly specialists, and, I would like to think, for the quality of the analysis.

"Both Weinstein<sup>2,3</sup> and I<sup>4</sup> have continued to reexamine this topic over the years, as we have witnessed some areas of remarkable progress. While we devoted but two brief paragraphs to the surgical aspects of this disease, stating that 'surgical repair of the ravages of healed endocarditis is also being undertaken cautiously,' today a comprehensive review of the aggressive surgical management of endocarditis could easily be as long as our entire paper! The development of a practical experimental animal model represents another major advance toward the understanding and management of this disease since our review was published. The non-invasive technique of cardiac echography also promises to promote a minor revolution in our approach to diagnosis and therapy.

"Disappointingly, however, we still don't know the correct dose, duration, or combination of antibiotics necessary to treat most cases, and, indeed, we probably over-treat the majority of our patients because we lack this knowledge. Even more discouragingly, early diagnosis remains an elusive goal, thereby delaying the initiation of appropriate therapy, which unfortunately still determines the ultimate outcome in most patients with infective endocarditis."

1. Kerr A, Jr. *Subacute bacterial endocarditis*. Springfield, IL: Thomas, 1955. 343 p.

2. Weinstein L & Rubla R H. Infective endocarditis—1973. *Progr. Cardiovasc. Dis.* 16:239-74, 1973.

[Citation Classic. *Current Contents/Clinical Practice* 10(12): 20, 22 March 1982.]

3. Weinstein L & Schlesinger J. Treatment of infective endocarditis—1973. *Progr. Cardiovasc. Dis.* 16:275-302, 1973.

4. Lerner P I. Infective endocarditis: a review of selected topics. *Med. Clin. N. Amer.* 58:605-22, 1974.