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The pantyhose project

Introduction: In office practice, particularly in winter months, removing layers of leg clothing, such as pantyhose, stockings and high boots in order to attach the ankle electrodes for EKGs, is time consuming, annoying, often embarrassing and occasionally exhausting for sick, elderly patients. Originally EKGs were recorded with the hands and feet immersed in saline-filled buckets which acted as electrodes, establishing these sites for modern electrode placement. This study was undertaken to determine whether abdominal and ankle electrode sites produced equally diagnostic EKGs.

Method: 108 office patients with a large variety of medical conditions had paired EKGs recorded firstly with standard ankle electrodes and then with electrodes placed on both sides of the lower abdomen. The pairs were statistically compared. 39 of these patients also had EKGs compared with standard ankle electrodes recorded in inspiration and expiration.

Results: The only difference between the ankle and abdominal EKGs was seen in the frontal plane axis. While this was significant, it was very small and did not alter the cardiological interpretation in any way. The change was less than seen in the frontal plain between inspiratory expiratory EKGs, which occur with standard electrocardiography and for which no adjustment in interpretation is ever made. There was no change in conduction time or rhythm. The lead placement has more close fulfills Einthoven's criteria.

Conclusion: In busy office practice, accurate diagnostic EKGs can be recorded using easily-accessible abdominal-sited electrodes, obviating the need to record from the ankles. This saves office time and patient effort, producing a more comfortable patient /doctor encounter.

Biography

Dennis Bloomfield attended Medical School in Australia and Cardiology Training at the Hallstrom Institute of Cardiology in Sydney, the Heart Hospital in London, and Vanderbilt University in Nashville, Tennessee. He was appointed as Emeritus Professor of Medicine, New York Medical College. He directed the Department of Medicine, Richmond University Medical Center, Staten Island from 1995 – 2002 and presently directs The Department of Clinical Research at the same institution. He has published over 100 scientific articles.

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