

## Essays on Civil War Medicine

by

Alfred Jay Bollet, M.D.

### **Use of Instruments by Civil War Physicians: Stethoscopes and Thermometers**

One of the criticisms of Civil War physicians in several books on the subject is that they were not up to the standards of European medicine, and specifically that they did not use the stethoscope, the microscope or the ophthalmoscope. One of those points (the last) is correct, but they were not behind the times in that regard and I would like to document the evidence for my statement.

One of the authors who said that they did not use these instruments was Adams in *Doctors in Blue*. The evidence he gave for his statement was that according to its catalogue, the Harvard Medical School did not list ownership of a stethoscope or microscope until 1869. In fact, medical students owned their own stethoscopes and the professors their own microscopes at least as far back as the 1840s and 50s.

A professor of anatomy at Harvard during that period, Oliver Wendell Holmes, had a battery of his own microscopes with demonstrations for the students. Holmes also taught the use of the stethoscope, primarily at a sister medical school, Temple, which functioned during the months Harvard did not. He had studied in Paris in the 1830s, primarily with Pierre Louis, who emphasized physical diagnosis, and Holmes brought back the skills with him, as did many other American physicians. The stethoscope was so well-known that Holmes wrote a comical poem about it around 1850, called "The Stethoscope Song." In it, a young doctor, just back from Paris, is asked to demonstrate his skill with the instrument on seriously ill patients. But a spider had crawled into his instrument (one of the original tubular models originally invented by Laennec in Paris and still in use) and the spider trapped a couple of flies there. The brash young doctor was interpreting the buzzing of the flies as sounds from the patient. He invented fancy French terms for them, but he did all right until he diagnosed some lovesick young maidens as having a serious, soon-to-be-fatal illness. The punchline develops when:

The six young damsels wept aloud,  
Which so prevailed on six young men,  
That each his honest love avowed,  
Whereat they all got well again.

The poor young man was all aghast;  
The price of stethoscopes came down;  
And so he was reduced at last  
To practice in a country town<sup>1</sup>

Physicians of that era obviously were familiar enough with the stethoscope for Holmes's joke to be appreciated. The poem also documents the fact that physicians bought their own instruments.

The evidence that army physicians during the Civil War knew how to use a stethoscope can be found in numerous reports in the Medical and Surgical History of the War of the Rebellion. They are brief summaries, but with enough detail to know that physicians were skilled at physical examination. Some examples:

"Case 4, Regimental Register, 28th Mass. April 11, 1863...dulness over left nipple; crepitant râles distinct...14th: rubbing sound heard over upper part of left thorax, râles below and dulness overall...17th...no rubbing sound, dulness less marked...26th...Sent to general hospital to-day."

"Case 9, from Third Division Hospital, Alexandria, VA: "Diminished resonance over right side anteriorly with subcrepitant ronchus [sic] below..."

"Case 10, Ladies' Home Hospital, New York City:...dulness posteriorly over the upper portion of the lower lobe of the left lung with feeble respiratory murmur and moist bronchial râles..."<sup>2</sup>

The stethoscope is needed to hear rales and rhonchi, and to detect a 'feeble respiratory murmur'. Notably, the findings were used to determine the specific location of the pathology in the lung and it is described in many of these case reports. In fatal cases the findings on physical examination were verified by the autopsy findings. Today physicians would rarely try to define the anatomic location of lung pathology without first seeing a chest x-ray. In other cases, the description of the examination of the heart mentions murmurs and friction rubs, which are heard only with the stethoscope.

Note also in the cases listed above that the use of the stethoscope and other techniques of the physical examination which originated in Europe was widespread among the military units; it is documented in regimental and divisional field hospitals, as well as general hospitals. The regimental surgeons in the field thus were skilled in the use of the stethoscope, not only specialists in the cities. Ladies' Home Hospital was a general hospital of 263 beds (according to the Surgeon General's annual report of 1862) and would be expected to have specialists in New York City functioning as contract physicians. It was on Lexington Avenue at the corner of 51st Street; initially all soldiers from the NYC area who needed trusses were sent there. This hospital was sometimes called the "Soldier's Home."

The use of percussion, another component of the technique of physical examination, is documented by the descriptions of dulness and diminished resonance in these case reports. A statement attributed to General Robert E. Lee when he had the first of several illnesses during the war, describes what it felt like to be examined by percussion. His physicians, he said, were "tapping me all over like an old steam-boiler before condemning it."<sup>3</sup>

## **Thermometers**

Cunningham, in *Doctors in Gray*, mentions that the Army of the Potomac had only 8 thermometers and they were rarely used.<sup>4</sup> Other authors have commented on the lack of use of this standard medical instrument by Civil War physicians.<sup>5</sup> They are correct although we do not know how many they had in the general hospitals and how commonly they were used. Case reports do not give specific temperature values.

But this was the 'standard of practice' of the time. Fever was still considered a disease, although many specific types of fever were recognized. Fever was judged by touching the patient, and since chills were commonly associated, the recognition of the presence of fever did not require the use of a thermometer. It was not until 1867 that a German professor of medicine, Carl Wunderlich, introduced thermometry to medicine; his work is described by the expression that "he found fever a disease and left it a symptom".<sup>6</sup> Temperatures were taken for investigation of diseases which were unusual or of special concern, such as in a study of "traumatic tetanus" by Professor Joseph Jones of Georgia, published during the war.<sup>7</sup>

The *Medical and Surgical History of the War of the Rebellion* was published in the 1870s and 1880s, after Wunderlich's papers had been published. They were known to the army physicians, and are quoted in that publication. In addition, since daily temperature charts had become standard practice, they published cases with temperature charts. The dates of these cases are not given, but they were clearly post-war cases.

We can conclude that the thermometer was not used to any great extent during the Civil War, but that American physicians became aware of its value as soon as the work establishing that value was published, and they kept up to the standard of the time, using it shortly after the war.

<sup>1</sup> *Holmes, Oliver Wendell. Poems. Boston: Tickner, Reed, and Fields, 1853.*

<sup>2</sup> *Barnes, Joseph K. Medical and Surgical History of the War of the Rebellion. Washington: Government Printing Office, 1883. Medical Volume 3.*

<sup>3</sup> *Foote, Shelby. The Civil War, A Narrative. New York: Random House, 1958, Vol. II, p 248.*

<sup>4</sup> *Cunningham, Horace H. Doctors in Gray, The Confederate Medical Service. Baton Rouge: Louisiana State Univ. Press, 1958.*

<sup>5</sup> *Davenport, Horace. Letters from Sherman's Army. Bull NY Acad Med 63: 844-882, 1987.*

<sup>6</sup> *Garrison, Fielding H. An Introduction to the History of Medicine. Philadelphia: WB Saunders, 1929. p 430-431.*

<sup>7</sup> *Jones, Joseph. Traumatic tetanus. Confederate States Medical and Surgical Journal 1864, 1:1.*