

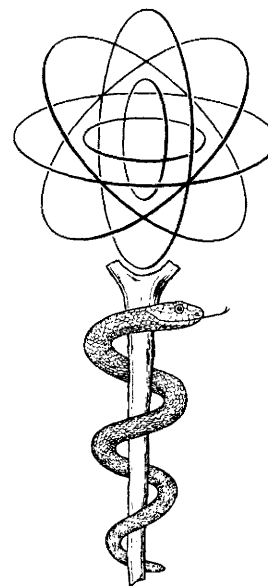
## Fifth Anniversary of the Symbol of The Society of Nuclear Medicine

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**Editor's Note: For this 25th Annual Meeting Silver Anniversary issue of *The Journal of Nuclear Medicine*, the *Historian of the Society* traces the evolution of the Society's—and *Journal's*—symbol in its present form.**

**J Nucl Med 19: 606, 1978**



The symbol shown above first began to appear on the front cover of *The Journal of Nuclear Medicine* with the January 1973 issue. Ellis H. Myers was the artist who created it in the spring of 1972, while we were at The Donner Laboratory of Medical Physics at The University of California at Berkeley.

We designed the upper part of the symbol to represent carbon, the "organic" element that is central to biochemistry and which constitutes about 18% of the human body by weight and almost 10% of all the atoms in the body. Carbon has two K electrons and four L electrons, as depicted here in Bohr's orbital atomic model.

Carbon was chosen also for simplicity, since it has the lowest atomic number of any of our biochemical/physiological elements which can be "represented" by a  $\pm\gamma$ -nuclide. Carbon-11 can be detected in the intact patient by means of the two 511-keV  $\pm\gamma$ -rays, which are emitted at 180° to each other, and which almost always accompany the "annihilation" of positron-electron pairs. Thus, it lends itself to the "inside-out" methodology originated by Herrman L. Blumgart and his co-workers a half-century ago.

Carbon-11 now is coming to be used frequently as

a radioindicator in nuclear medicine as more "medical/hospital" cyclotrons are becoming installed, and as elegant new instruments are evolving with which to locate the positions that "new" C-11 atoms take in patients by means of the inherent directionality achieved with the back-to-back  $\pm\gamma$ -ray pairs.

Historically, carbon-11 first was used for "inside-out" studies in man in 1945 at The Donner Laboratory by Tobias, Lawrence, Roughton, Root, and Gregersen (1), who used Geiger-Müller tubes to detect the  $\pm\gamma$ -rays that squirted out of various parts of their bodies after they had inhaled C-11 carbon monoxide.

The lower part of the symbol is The Staff of Aesculapius, the god of medicine, which has been used as the symbol of medicine since ancient times. To avoid any suggestion of sacrilegious violation of this sacred symbol with a surrounding clutter of electrons, these were placed above the staff to indicate that in nuclear medicine modern concepts of atomic structure rest upon the antiquity of the medicine that supports them.

In this way we strove to improve upon previous symbols used variously by The Society of Nuclear Medicine, in which three, four, or even five\* electron orbits were depicted commonly as a sort of "halo" superposed on The Staff of Aesculapius. Thus, we avoided indicating that such unphysiological, and even noxiously toxic, elements such as lithium, beryllium, or boron should serve to symbolize the lore of nuclear medicine.

### REFERENCE

1. TOBIAS CA, LAWRENCE JH, ROUGHTON FJW, ROOT WS, GREGERSEN MI: The elimination of carbon monoxide from the human body with reference to the possible conversion of CO to CO<sub>2</sub>. *Am J Physiol* 145: 253-263, 1945

Received and accepted Sept. 12, 1977.

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\*On my Charter Member certificate of The Society of Nuclear Medicine there appears in the background an enormous Staff of Aesculapius with five electrons in orbits superposed upon it. The same symbol is centered in the seal in the lower left corner. This certificate is dated "This 30th day of May, 1954" and it bears the signatures of Thomas Carlile, the first President, and of Rex L. Huff, the first Secretary.