

CONTINUING EDUCATION TEST

Computer Acquisition of Nuclear Medicine Images

For each of the following questions, select the best answer. Then circle the number on the CE Tests Answer Sheet that corresponds to the answer you have selected. Keep a record of your responses so that you can compare them with the correct answers, which will be published in the next issue of the *Journal*. Answers to these test questions should be returned on the Answer Sheet no later than May 1, 1994. Supply your name, address, and VOICE number in the spaces provided on the Answer Sheet. Your VOICE number appears on the upper left hand corner of your *Journal* mailing label. No credit can be recorded without it. A 70% correct response rate is required to receive 0.1 CEU credit for this article. Members participating in the continuing education activity will receive documentation on their VOICE transcript, which is issued in March of each year. Nonmembers may request verification of their participation but do not receive transcripts.

A. *The positional information from a gamma ray absorbed by the sodium iodide crystal can be stored in two ways: _____.*

- 101. as a sequential list of position entries and a list mode
- 102. by incrementing a matrix element and frame mode
- 103. list mode and matrix mode

B. *In zoom mode, sampling is increased by digitizing over a smaller range of position signals.*

- 104. true
- 105. false

C. *List mode acquisitions require an average amount of space.*

- 106. true
- 107. false

D. *Dual isotope imaging _____.*

- 108. yields two distinct images that have unique information and are spatially registered with each other
- 109. is not currently available for SPECT acquisitions
- 110. does not allow the simultaneous selection of multiple photo peaks
- 111. has no current application

E. *What factors determine the correct pixel size to use?*

- 112. smallest object of interest within the matrix
- 113. the time it takes to process
- 114. amount of storage the image needs
- 115. spatial resolution of the system
- 116. 112 & 115
- 117. all of the above

F. *If oversampling occurs and pixel size is smaller than needed, there is degradation of image quality.*

- 118. true
- 119. false

G. *The whole-body distribution of a radiopharmaceutical can be determined _____.*

- 120. by a synchronized collection into a single frame
- 121. in a series of individual static views
- 122. with a simultaneous acquisition of both anterior and posterior views
- 123. none of the above
- 124. all of the above

H. *Parameters that affect a SPECT acquisition include: pixel size, arc selection, number of angular samples, acquisition time per angle, and rotation mode.*

- 125. true
- 126. false

I. *If a SPECT acquisition's angular samples are much smaller than required there is no image degradation*

- 127. true
- 128. false

J. *Continuous rotation mode _____.*

- 129. has marginally better spatial resolution than step and shoot
- 130. has no dead time
- 131. is louder than step and shoot

K. *Specialized SPECT acquisition is available, including _____.*

- 132. gated
- 133. whole body
- 134. 132 & 133
- 135. none of the above