SPECT Quality Control: A Program Recommended by the American College of Nuclear Physicians and the ACNP Corporate Committee

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 March 1, 1995. 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. *Gamma camera detector uniformity quality control testing should be performed:*

101. daily
102. weekly
103. monthly
104. annually
105. none of the above

B. *Poor gamma camera uniformity may cause which of the following artifacts?*

106. ring
107. crescent
108. bull's-eye
109. 106 and 107
110. all of the above

C. *Gamma camera detector uniformity analysis should include which of the following?*

111. integral and differential, UFOV and CFOV
112. internal and differential, UFOV and CFOV
113. integral and differential, TFOV and CFOV
114. internal and differential, TFOV and CFOV
115. integral and circumferential, UFOV and CFOV

D. *Which of the following phantoms may be used to test for gamma camera detector resolution and linearity?*

116. orthocentric hole
117. four quadrant
118. parallel-line equal space
119. 116 and 118
120. 117 and 118

E. *Routine quality control tests for SPECT imaging include:*

121. voxel size
122. pixel size
123. center of rotation
124. diameter of rotation
125. 122 and 123

F. *When testing for SPECT uniformity, a profile graph of the reconstructed uniformity corrected, attenuation corrected cylinder phantom, should demonstrate a concave shape if uniformity is appropriately corrected.*

126. true
127. false

G. *A profile graph of a reconstructed SPECT uniformity cylinder phantom will have a concave shape if attenuation correction:*

128. overcorrects
129. appropriately corrects
130. undercorrects
131. wasn't applied

H. *When calculating SPECT pixel size for the NEMA phantom, the x-axis and y-axis sizes are obtained from which of the following slice(s)?*

132. coronal
133. sagittal
134. transaxial
135. oblique
136. all of the above

I. *Variance in pixel size will adversely affect which of the following during SPECT imaging?*

137. detector performance
138. attenuation correction
139. reconstruction
140. 137 and 139
141. 137, 138 and 139

J. *Broadening of FWHM values for SPECT resolution probably indicates:*

142. improvement in resolution
143. deterioration in resolution
144. stable resolution
145. improvement in pixel size
146. determination in pixel size