

## CE ARTICLE TEST

For each of the following twelve questions select the best answer. Then circle the number on the reader service card 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.

**A.** For pediatric patients, which of the following tracers is most commonly used as a myocardial imaging agent?

101. Iridium-191m.
  102. Thallium-201 thallos chloride.
  103. Tc-99m-labeled human serum albumin.
  104. Tc-99m-labeled red blood cells.
  105. Tc-99m pyrophosphate.
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**B.** In newborns, myocardial imaging with a pinhole collimator is recommended to:

- I. improve spatial resolution
- II. improve counting statistics
- III. enlarge the clinical images

106. I only.
  107. II only.
  108. III only.
  109. I and III only.
  110. I, II, and III.
- 

**C.** Shielding the area around the heart is recommended when performing:

111. myocardial scintigraphy.
  112. first pass ejection fractions.
  113. quantitative wall motion studies.
  114. quantitative shunt studies.
  115. all of the above.
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**D.** Iridium is a daughter product of:

116. tritium.
117. rubidium.
118. osmium.
119. ytterbium.

**E.** In children, first pass radionuclide angiography is most useful in evaluating which of the following conditions?

120. wall motion abnormalities.
  121. myocardial ischemia.
  122. myocardial infarction.
  123. left-to-right and right-to-left shunts.
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**F.** For first pass ejection fraction determinations in children, a minimum acquisition frame rate of how many frames/sec is required?

124. 1.
  125. 2.
  126. 4.
  127. 20.
  128. 40.
- 

**G.** The quality of the bolus injection for first pass studies should always be checked on a time-activity curve obtained over the:

129. external jugular vein.
  130. superior vena cava.
  131. pulmonary artery.
  132. right ventricle.
  133. left ventricle.
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**H.** Following first pass acquisition in children, quantification of left-to-right shunting is possible by numerical analysis of time-activity curves from regions of interest drawn over the:

134. right and left atria.
135. right atrium and right ventricle.
136. right and left ventricles.
137. left ventricle and pulmonary artery.
138. lungs.

- I.** *The main advantage of gated blood pool imaging for ventricular studies in children is that:*
- 139. the study may be obtained rapidly in 5-10 min.
  - 140. injection technique is not critical.
  - 141. short-lived radionuclides such as Ir-191m can be used.
  - 142. patient motion will not interfere with the study.
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- J.** *Which of the following are indications for doing gated blood pool imaging in children?*
- I. evaluate cardiomyopathy
  - II. evaluate wall-motion abnormalities secondary to myocardial ischemia or infarction
  - III. detect left-to-right shunts
- 147. I only.
  - 148. II only.
  - 149. III only.
  - 150. I and III only.
  - 151. I, II, and III.

**K.** *The formula for ejection fraction (EF) is: (where ES=end-systolic counts and ED=end-diastolic counts)*

- 143.  $EF = \frac{ES - ED}{ED}$ .
  - 144.  $EF = \frac{ES - ED}{ES}$ .
  - 145.  $EF = \frac{ED - ES}{ED}$ .
  - 146.  $EF = \frac{ED - ES}{ES}$ .
- 

**L.** *Which of the following radiopharmaceuticals may be used for performing gated blood pool imaging in children?*

- I. Tc-99m pertechnetate
  - II. Tc-99m-labeled red blood cells
  - III. Tc-99m-labeled human serum albumin
  - IV. Tl-201 thallous chloride
- 152. II only.
  - 153. III only.
  - 154. I, II, and III only.
  - 155. II and III only.
  - 156. I, II, III, and IV.

Your answers to the above questions should be returned on a reader service card (found in the back of the Journal) no later than Dec. 1, 1983. Remember to supply your name and address in the space provided on the card; also write your VOICE number following your name. Your VOICE number appears on the upper left hand corner of your Journal mailing label. No credit can be recorded without it.