## 1978 Subject Index

(Asterisk indicates abstract)

```
Cisternography
Abdomen
  abscess imaging <sup>99m</sup>Tc. 67Ga-citrate subtraction technique, 11 photon-deficient area, <sup>99m</sup>Tc-DTPA study, 211
                                                                                                                           spinal needle dead space, 153
                                                                                                                         Clinical evaluation
                                                                                                                           heart imaging and wall motion, infarct, 99m Tc-pyrophosphate, 53 scans. 105*
Abscess
  abdominal, 99mTc, 67Ga-citrate subtraction technique, 11
                                                                                                                           nuclear cystography, vesicouretereal reflux, diagnosis, 62 cases, 41*
Adrenal glands
                                                                                                                           pancreas scanning, coldspot method, 75Se, 99m Tc-S colloid, 900 cases, 20
  imaging, 1311-iodomethylnorcholesterol, 110*
                                                                                                                            radionuclide venography combined with lung imaging, 151 cases, 42*
multiplane tomography, 131I-methyliodocholesterol, 110*
Albumin, see Iodine-131; Technetium-99m
                                                                                                                         Collimator
                                                                                                                           choice <sup>67</sup>Ga, scintillation camera, 205
lung ventilation studies, <sup>127</sup>Xe, 81m Kr, 109*
multicrystal camera, left ventricular ejection fraction, 17
pinhole, effect on <sup>99m</sup> TcO4<sup>-</sup> thyroid image quality, 94
Arthritis
  joint imaging, 110*
Artifact
  brain image, scalp circulation, 145
                                                                                                                         Computer
   motion, lung ventilation, perfusion ratio, 109*
                                                                                                                           Background
   -kidney transplant ratios, region of interest choice, 1094
   subtraction, fluorescence scanner, 30
Biliary, see Gallbladder
                                                                                                                           smoothing, pancreas scan, 20
Blocking dose
                                                                                                                         Cost
  thyroid, 125I-fibrinogen fibrosis test, 65
                                                                                                                            computer-assisted medical diagnosis, 41*
Blood
                                                                                                                            control, radiopharmacy, 106* control, xenon devices, 109*
  abnormal hematocrit effect on whole blood filter paper thyroxine values, 103*
  anemia, pernicious, B12 serum, absorption tests, 103* anemia, serum ferritin radioassay, 102*
                                                                                                                            management, book review, 98
                                                                                                                         Data processing biventricular function, first pass heart studies, 105*
   clot, see Thrombus
   51Cr-platelets, hypersplenism evaluation, 108*
                                                                                                                            cardiac wall motion study, visual vs movie mode, 105*
   flow, see Specific organ: Vascular system
   neutrophils, lymphocytes, platelets, <sup>11</sup>IIn-roxine labeling, 108* plasma volume, simultaneous <sup>13</sup>II-, <sup>99</sup>mTc-HSA, 107* <sup>99</sup>mTc-HSA, <sup>1</sup>Or*
                                                                                                                            image magnification, rotation, heart studies, 101*
                                                                                                                            left ventricular ejection fraction, multicrystal camera, 17
                                                                                                                            photographic, 92
      Tc-RBC, in vivo labeled, left ventricular function, 424
                                                                                                                            substraction technique, abdominal abscess, 11
                                                                                                                         Departmental operations
   imaging, face and skull, <sup>99m</sup> Tc-methylene diphosphonate, 11!* scanning, stomach uptake of <sup>99m</sup>Tc-diphosphonate, 34
                                                                                                                            color coding radiopharmaceuticals, 159
                                                                                                                            patient care, 97
Bone marrow
99mTc-S colloid uptake, 214
                                                                                                                            patient communications, 107*
                                                                                                                            portable scintillation camera, 101* scheduling, 37
Book review
   Basics of Radiopharmacy, 217
Financial Operation and Management Concepts in Nuclear Medicine, 98
                                                                                                                            scintigram copying, 92
                                                                                                                             shielding devices, 89
   Fundamentals of RIA and Other Ligand Assays, 40
                                                                                                                          Diphosphonate, see Technetium-99m
   Gallium-67 Imaging, 166
    Medical Physics, 218
                                                                                                                            image magnification, rotation, heart studies, 101*
   NCRP Report No. 51: Radiation Protection Design Guidelines for 0.1-100
MeV Particle Accelerator Facilities, 40
                                                                                                                          Dopamine
                                                                                                                             radioenzymatic assay, 102*
   NCRP Report No. 53: Review of NCRP Radiation Dose Limit for Embryo and
                                                                                                                          Dose
   Fetus in Occupationally Exposed Women, 40

NCRP Report No. 54: Medical Radiation Exposure of Pregnant and
                                                                                                                             calibrator, calibration, 106*
                                                                                                                             radiation, see Radiation dose; Radiation safety
   Potentially Pregnant Women, 166

NCRP Report No. 56: Radiation Exposure from Consumer Products and Miscellaneous Sources, 166
                                                                                                                          spinal needle dead space, 153
Editor's letter
                                                                                                                             changeover, 10
   Nuclear Medicine: Clinical and Technological Bases, 98
                                                                                                                             information for authors, 63
   Radioimmunoassay and Related Techniques, 217
Radiology for Medical Students, 217
                                                                                                                             Journal and staff changes, 197
                                                                                                                             manuscript submission, 140
   The Fundamentals of X-Ray and Radium Physics, 98
                                                                                                                          Education
                                                                                                                             continuing, survey, 84
   emission tomography, 104*
                                                                                                                             instructional objectives, 79 patient care, 97 radiation safety, 106*
   image artifact, scalp circulation, 145
   attenuation, <sup>201</sup>Tl heart imaging, 106* lymph node imaging, <sup>99</sup>mTc-antimony sulfide, 108*
                                                                                                                             radiopharmacy training, 79
                                                                                                                             value clarification techniques, 155
  Calculator
                                                                                                                          Emission tomography, see Tomography, radionuclide
     hand held, radioassay calculations, 41*
  Camera, scintillation
                                                                                                                             immunoassay, book review, 40
     brain image artifact, 145
                                                                                                                             radio-, catecholamine assay, 102*
     collimator choice, 67Ga, 205
                                                                                                                          Estriol
      -computer, large field-of-view, lung ventilation post-perfusion study,
                                                                                                                             serum, radioimmunoassav, 102*
                                                                                                                          Exercise
    dynamic leg scintigraphy, 99mTc-HAM, 27 field uniformity parameters, 101* hypertension evaluation, 51Cr-platelets, 99 m
                                                                                                                             techniques, radionuclide angiocardiography, 199
                                                                                                                          Extremities
                                                                                                                             xtremities
knee uptake of 99mTc-pyrophosphate, 110*
joint imaging, 99mTc-phosphates, 110*
legs, deep venous thrombosis detection, <sup>125</sup>I-fibrinogen, 65
legs, dynamic scintigraphy, <sup>99</sup>mTc-HAM, 27
    image magnification, rotation, 101*
multicrystal, left ventricular ejection fraction, <sup>99m</sup> Tc-gluconate, 17
     photopeak setting, 141
     portable, utility, 101*
quantitative renal analysis, 149
                                                                                                                             99mTcO4- vascular angiography, 107*
                                                                                                                          Ferritin
     thyroid image quality, 99mTcO4-, 94 window setting, effects on <sup>201</sup>Tl imaging, 101*
                                                                                                                             serum, radioassay, 102*
                                                                                                                          Fetus
                                                                                                                             NCRP radiation dose limits, book review, 40, 166
                                                                                                                          Fibrinogen
                                                                                                                              <sup>125</sup>I-, deep venous thrombosis detection, 65
     quantitative positron tomography, 104*
                                                                                                                          Film
  Cardiology, see Heart
                                                                                                                             copying, photographic data processing, 92
                                                                                                                          Filter
     radioenzymatic assay, 102*
                                                                                                                             blood thyroxine assay, 41*, 103*
  Chromatography
    gel-column, correlation with scan quality, 104* paper, I.T.L.C., 99mTc-agents, 104*
                                                                                                                             uniformity parameters, 101*
                                                                                                                          Fluorescence scanning
                                                                                                                               ackground subtraction, 30
       -platelets, hypersplensim evaluation, scintillation camera, 108*
```

**VOLUME 6, NUMBER 4** 225

FWHM, see Resolution

Gallbladder imaging, 99mTc-pyridoxlyidene glutamate, 103*	Norepinephrine
Gastrointestinal tract	radioenzymatic assay, 102*
effect of meal on <sup>99m</sup> Tc-DTPA studies, 211	Observer performance cardiac wall motion study, visual versus movie mode, 105*
image subtraction, abdominal abscess imaging. 99mTc, DTPA, 67Ga-	Pancreas
citrate, 11 stomach uptake of 99mTc-diphosphonate, 34	positron tomography, quantitative, 104*
Galium-67, citrate	scanning, coldspot, <sup>75</sup> Se, <sup>99m</sup> Tc-S colloid, 20
abdominal abscess imaging, subtraction technique, 11	Particle accelerator
collimator choice, scintillation camera, 205	radiation protection design, book review, 40
imaging, book review, 166	Patient position costal margin liver marker, 41*
Gate	lung ventilation, perfusion ration, 109*
multiple, four image cyclic heart studies, 105*  Generator	radionuclide cineangiography, 104*
storage, elution vault, 89	transmission image aid, 87
Gentamicin	Pediatrics
radioimmunoassay systems, 103*	neonates, T <sub>4</sub> in blood, filter paper assays, 41*, 103*
Heart	vesicoureteral reflux diagnosis, 41*  Phantom
biventricular function, first pass, 105*	bar, Moire effect, 101*
ejection fractions, <sup>99m</sup> Tc-S colloid, probe, 42*	heart, window setting effects on 201Tl imaging, 101*
four image cyclic gated technique, 105*	lung, 127Xe, 81mKr ventilation technique, 109*
image magnification, rotation, 101* infarct, imaging, wall motion, 99mTc-pyrophosphate, 105*	Photopeak
infarct, serum myoglobin radioimmunoassay, 41*	setting, scintillation camera, 141
left ventricular ejeciton fraction, 99mTc-gluconate, multicrystal camera, 17	Platelets 51Cr-, hypersplenism evaluation, scintillation camera, 108*
left ventricular function, digital computer, in vivo labeled 99mTc-RBC, 42*	111In-oxine labeling, 108*
radionuclide cineangiography patterns, 104*	Positron tomography
stress studies, exercise techniques, 199 <sup>201</sup> Tl imaging, breast attenuation, 106*	quantitation of images, 104*
<sup>201</sup> Tl imaging, optium techniques, 105*	Pregnancy
201Tl imaging, window setting effects, 101*	radiation dose, exposure, book review, 40, 166
<sup>201</sup> Tl stress and redistribution studies, 43*	serum estriol radioimmunoassay, 102* Probe
wall motion study, visual observation, 99mTc-HSA, 105*	cardiac, ejection fraction reproducibility, 99mTc-S colloid, 42*
Immunology	deep venous thrombosis detection, 125I-fibrinogen, 65
assays, book review, 40	Pyrophosphate, see Technetium-99m
Indium-111 —oxine, labeling blood components, 108*	Quality Control
Infection	color coding radiopharmaceuticals, 159
abdominal abscess imaging, 67Ga-citrate, subtraction techniques, 11	dose calibrator calibration, 106*
67Ga-imaging, book review, 166	gel column chromatography, correlation with scan quality, 104
Injection	methods, 99mTc-compounds, 104* multiple test considerations, 104*
single biventricular function, 105*	photopeak setting, scintillation camera, 141
spinal needle dead space, 153 Interview	radionuclide purity of 123I, 103*
nonfinancial job rewards, 107*	resolution, camera-collimator-bar phantom combinations, 101*
patients, communication, 107*	reference sera choice, effective thyroxine ratio, 69
Iodine-123	scintillation camera field uniformity parameters, 101*
radionuclide purity effects, 103*	spinal needle dead space, 153
Iodine-125	tomographic scanner, resolution, sensitivity, 102*
—fibringen, deep venous thrombosis detection, 65	Radiation dose
Iodine-131 —HSA, plasma volume, 107*	limit, in pregnancy, book review, 40  Radiation safety
-iodomethylnorcholesterol, adrenal imaging, 110*	book review, 98
-methyliodocholesterol, 110*	exposure in pregnancy, 40, 166
-rose bengal, liver imaging, 161	exposure from miscellaneous sources, 166
Iron	generator vault, waste disposal, 89
serum ferritin radioassay, 102*	high density concrete shielding, 73
Joint	methods in radiopharmacy, 106* particle accelerator facility design, book review, 40
imaging, 99mTc.diphosphonatespyrophosphate, technique, 110*	surgical concepts, 106*
knee, 99m Tc-pyrophosphate uptake, 110*	Radiation therapy
Kidney	planning, breast lymph node imaging, 108*
<ul> <li>background ratios, region of interest choice, transplants, 109*</li> <li>identification for quantitative analysis, 149</li> </ul>	Radioassay
imaging, 99mTc-DTPA, adrenal studies, 110*	book review, 40, 217
99mTc-DTPA studies, abdominal photon-deficient area, 211	enzymatic, catecholamines, 102*
Kit	hand calculator use, 41* serum ferritin, 102*
choice, gel-column chromatogrpahy, 104*	Radioimmunoassay
Krypton-81m	book review, 40, 217
lung ventilation study, technique, 109* Licensing	gentamicin, comparison of systems, 103*
training program, 79	serum estriol, 102*
LSF, see Resolution	serum myoglobin, 41*
Liver	serum T <sub>4</sub> screening, in neonates, 41*  Radiology
blood flow, positive study incidence, 36	book review, 217
flow study, superior vena caval obstruction, 99mTc-S colloid, 67Ga-citrate, 11	Radiopharmacy
imaging, lung and marrow uptake of 99mTc-S collid, 214	basics, book review, 217
imaging, nonvisualization, 99mTc-S colloid, 161 positron tomography, quantitative, 104*	cost control, 106*
scanning, pancreas coldspot method, 20	radiation safety, 106*
scanning, costal margin marker, 41*	training, 79
Lung	Red blood cells 99mTc-, in vivo labeled, left ventricular function, 42*
imaging, combined with venography, 42* inhalation studies, CO <sub>2</sub> rebreathing effects, 96	Resolution
99mTc-S colloid uptake, 214	scintillation camera, bar phantom, 101*
ventilation, perfusion ratio, motion artifacts, 109*	scintillation camera, 99mTcO <sub>4</sub> thyroid imaging, 94
ventilation, <sup>127</sup> Xe, <sup>81m</sup> Kr, 109*	tomographic scanner, 102*
Xe ventilation washout imaging, 42*	Rose bengal, see Iodine-131
133Xe apparatus, cost control, 109*	resolution, sensitivity, 102*
Lymph nodes  99mTc-antimony sulfide imaging, radiation therapy planning, 108*	Scanner, tomographic
Lymphocytes	resolution, sensitivity, 102*
11/In-oxine labeling, 108*	Scatter
Multichannel analyzer	fluorescence scanning, 30 Schilling test
<sup>99m</sup> Tc-agents, quality control, 104*	pernicious anemia, 103*
Myoglobin	Selenium-75
serum, radioimmunoassay, 41*	pancreas scanning, coldspot method, 20
Neutrophils	Shield
IIIIn-oxine labeling 108*	generator yault and waste disposal, 89

```
Therapy
   high density concrete, 73
Shunt
                                                                                                                                                          gentamicin, radioimmunoassay systems, 103*
   LeVeen, patency testing, 99mTc-S colloid, 202 porto-caval, effect on 99mTc-S colloid liver image, 161
                                                                                                                                                      Thrombus
                                                                                                                                                          deep venous, <sup>125</sup>I-fibrinogen testing, 65
dynamic leg scintigraphy, <sup>99</sup>mTe-HAM, 27
Spleen
   hypersplenism evaluation, 51Cr-platelets, 99mTc-S
                                                                                                                                                          radionuclide venography combined with lung imaging, 42*
   colloid, camera and computer, 108* imaging, lung and marrow uptake of <sup>99m</sup>Tc-S colloid, 214
                                                                                                                                                      Thyroid
                                                                                                                                                          blocking, 65
                                                                                                                                                          effective thyroxine ration, reference sera choice, 69
   scanning, costal margin marker, 41*
                                                                                                                                                         fluorescence scanning, background effects, 30 image quality, <sup>99m</sup>TcO<sub>4</sub><sup>-</sup>, equipment choice, 94 imaging, radionuclidic purity of <sup>123</sup>I, 103* T<sub>3</sub> uptake test, talc tablets, 207
Survey
   continuing education, 84
   impact of computer-assisted diagnosis, 41*
Technetium-99m
                                                                                                                                                          T<sub>4</sub> serum and whole blood filter paper assays, in neonates, 41*
      -agents, quality control methods, 104*
                                                                                                                                                          T<sub>4</sub> whole blood filter paper assay, hematocrit effects, 103*
     -diphosphonate, stomach uptake on bone scan, 34
  —dipnosphonaic, stomach uptake on bone scan, 34
—DTPA, GI tract image subtraction, abdominal imaging, 11
—DTPA, kidney imaging, quantitative analysis, 149
                                                                                                                                                       Thyroxine
                                                                                                                                                          ratio, effective, reference sera choice, 69
                                                                                                                                                          serum and filter paper whole blood assay, 41* whole blood filter, abnormal hematocrit effects, 103*
  —DTPA, kidney studies, effect of meal, 211
—gluconate, heart, left ventricular ejection fraction, multicrystal camera, 17
—HAM, dynamic leg scintigraphy, 27
                                                                                                                                                      Tomography, radionuclide
adrenals, <sup>131</sup>I-methyl iodocholesterol, 110*
brain, technical aspects, 104*

    HSA, cardiac wall motion, visual observation, 105*
    HSA, four image cyclic gated heart studies, 105*
    HSA, plasma volume 107*

                                                                                                                                                       positron, quantitation of images, 104*
Training, see Education
 Ing perfusion before ventilation imaging, 109*

methylene diphosphonate, 3 phase face and skull imaging, 111*

methylene diphosphonate, —diphosphonate, —pyrophosphate, joint imaging, 110*

pertechnetate, brain image artifact, 145
                                                                                                                                                       Transmission
                                                                                                                                                          image, anatomical localization, 87
                                                                                                                                                       Transplant
                                                                                                                                                          kidney-background ratios, 109*
                                                                                                                                                       Tumor
  -pertechnate, peripheral vascular angiography, 107*
                                                                                                                                                          breast cancer, lymph node imaging, <sup>99m</sup>Tc-antimony sulfide, 108*

<sup>67</sup>Ga-citrate imaging, book review, 166
  pertechnate, thyroid image quality, 94
pyridoxylidene glutamate, gallbladder imaging, 103*
                                                                                                                                                      T<sub>3</sub><sup>67</sup>Ga-citrate imaging, book review, 100 effective thyroxine ratio, reference sera choice, 69
     pyrophosphate, heart imaging and wall motion studies, infarct, 105*-
pyrophosphate, knee uptake, 110*-
RBC, in vivo labeled, left ventricular function, 42*
                                                                                                                                                       uptake determination, tale tablets, 207 T<sub>4</sub>, see Thyroxine
                                                                                                                                                      Urinary Tract
Technetium-99m, sulfur colloid
                                                                                                                                                          vesicoureteral reflux diagnosis, pitfalls, 41*
   ejection fraction, cardiac probe, 42*
flow study, superior vena caval obstruction, 108*
                                                                                                                                                      Vascular system
  LeVeen shunt patency testing, 202 liver blood flow, efficacy, 36
                                                                                                                                                          see also Heart, Thrombus
                                                                                                                                                          porto-caval shunt, effect on 99mTc-S colloid liver image, 161
                                                                                                                                                          superior vena caval obstruction, 99mTc-S colloid flow study, 108* 99mTcO<sub>4</sub> angiography, 107*
   liver image subtraction, abdominal abscess imaging, 11
  liver scanning, coldspot pancreas scanning, 20 liver-spleen imaging, hypersplenism, 108*
                                                                                                                                                      Vitamin B<sub>12</sub>
   nonvisualized liver, 161
                                                                                                                                                          serum levels, absorption studies, pernicious anemia, 103*
                                                                                                                                                      Window
Technologist
  job rewards, 107*
                                                                                                                                                          setting, effect on 201Tl imaging, 101*
training, see Education
Thallium-201
                                                                                                                                                      Xenon
                                                                                                                                                         lung ventilation washout imaging, 42*
  heart imaging, breast attenuation, 106*
                                                                                                                                                      Xenon-133
  heart imaging, optimum techniques, 105*
myocardial perfusion imaging, stress and redistribution, 43*
window setting effects, 101*
                                                                                                                                                          inhalation studies, CO<sub>2</sub> rebreathing, 96
                                                                                                                                                         rebreathing apparatus, cost control, 109*
ventilation following lung perfusion study, 109*
```

VOLUME 6, NUMBER 4 227