

**PUBLISHED BY  
THE MEDICAL RESEARCH SOCIETY AND THE BIOCHEMICAL SOCIETY**

**© The Medical Research Society and the Biochemical Society 1983  
ISSN 0143-5221**

**Printed in Great Britain by Spottiswoode Ballantyne Ltd.  
Colchester and London**

# Volume 64

## AUTHOR INDEX

- ABBOTT, R.J. 617-622  
 ABRAMSON, S.B. 193-205  
 AFFORD, S.C. 223-230  
 ALBANO, J.D.M. 623-627  
 ALBERTI, K.G.M.M. 41-47  
 ARIEFF, A.I. 573-580  
 ARNER, P. 235-237  
 ARONSON, J.K. 253-258  
 AVIRAM, M. 637-642  
 AYRES, J.G. 555-557  
 AZAD KHAN, A.K. 349-354  
  
 BACON, P.A. 551-553  
 BAGGER, J.P. 33-40  
 BAHLMANN, J. 141-152  
 BALLARD, F.J. 315-320  
 BANDIERA, F. 137-140  
 BANKS, R.A. 471-474  
 BARNETT, D.B. 617-622  
 BARRADAS, M. 239-241  
 BASSENDINE, M.F. 643-648  
 BASTIAN, B.C. 593-599  
 BATTILANA, G. 259-263  
 BAZELMANS, J. 511-516  
 BEASTALL, G.H. 117-118  
 BECK, F. 183-186  
 BECK, F.W.J. 295-301  
 BEILIN, L.J. 471-474  
 BELLINI, G. 259-263  
 BENNETT, T. 371-376, 377-382  
 BERGEL, D.H. 455-461  
 BESENT, R.G. 527-535  
 BIANCHETTI, A. 259-263  
 BINGHAM, S. 629-635  
 BISTRIAN, B.R. 321-331  
 BLACKBURN, G.L. 321-331  
 BLAKE, D.R. 551-553  
 BLANN, A. 551-553  
 BLOMQUIST, C.G. 593-599  
 BODOLA, F. 481-486  
 BOER, P. 153-160  
 BORST, C. 581-586  
 BROD, J. 141-152  
 BROOK, G. 637-642  
 BROWN, I.M.H. 207-212  
 BRUN-PASCAUD, M. 497-504  
 BURGUYNE, J.L. 315-320  
 BURSTON, D. 433-439  
  
 CACHOVAN, M. 141-152  
  
 CAMPANACCI, L. 259-263  
 CARMEL, R. 193-205  
 CARRETTA, R. 259-263  
 CHAMBERLAIN, M.J. 69-78  
 CHATELAIN, R.E. 355-358  
 CICLITIRA, P.J. 655-659  
 CLARK, F. 41-47  
 CLARK, T.J.H. 555-557  
 CLAYTON, R.N. 1-6  
 CLUGSTON, G.A. 231-233  
 COADE, S.B. 333-340  
 COOK, D.B. 41-47  
 CORNISH, K.G. 281-287  
 CORRALL, R.J.M. 49-53  
 CRAFT, I.L. 239-241  
 CROSSLEY, I.R. 247-252  
 CUMBERBATCH, M. 167-176, 441-447  
 CUMMINGS, J.H. 629-635  
  
 DALTON, M. 307-314  
 DALTON, N. 475-479  
 DANDONA, P. 239-241  
 DANIELSON, B.G. 399-405  
 DAVIDSON, N.M. 49-53  
 DE GROOTE, J. 85-90  
 DESAI, S.P. 321-331  
 DESSI-FULGHERI, P. 137-140  
 DONOHUE, K. 601-609  
 DORHOUT MEES, E.J. 153-160  
 DORNHORST, A.C. 661-662  
 DOYLE, A.E. 463-470  
 DUFFY, S.G. 463-470  
 DULFANO, M.J. 449-451  
 DULL, W.L. 25-31  
 DUNNING, A.J. 581-586  
  
 EDDLESTON, A.L.W.F. 113-116  
 EDWARDS, R.H.T. 55-62, 547-550  
 ELANDER, B. 423-431  
 ELIA, M. 517-526  
  
 FABRIS, B. 259-263  
 FARR, M. 551-553  
 FARRI, L. 611-616  
 FAVRE, L. 407-415  
 FELL, G.S. 527-535  
  
 FELLENIUS, E. 423-431  
 FELLSTRÖM, B. 399-405  
 FERN, E.B. 101-108  
 FEUER, G. 303-306  
 FEVERY, J. 85-90  
 FLECKNELL, P.A. 161-165  
 FOIS, G. 137-140  
 FORBES, G.B. 601-609  
 FRANKS, R.C. 481-486  
 FRENCH, E.B. 49-53  
 FRIER, B.M. 49-53  
 FRÖSETH, B. 453-454  
  
 GALTON, D.J. 559-563  
 GARDNER, M.L.G. 433-439  
 GARDINER, I.T. 487-495  
 GARDINER, S.M. 371-376, 377-382  
 GARLICK, P.J. 101-108, 231-233  
 GEERS, A.B. 153-160  
 GERTZ, E.W. 573-580  
 GIBSON, G.J. 487-495  
 GILMORE, J.P. 281-287  
 GIRARD, P. 497-504  
 GLASS, R.E. 101-108  
 GLASSON, PH. 407-415  
 GLORIOSO, N. 137-140  
 GOLDBLATT, D. 601-609  
 GORDON, D. 273-280  
 GRAHAM, R.M. 593-599  
 GRAINGER, S.L. 207-212  
 GRIBBIN, H.R. 487-495  
 GRIGGS, R.C. 601-609  
 GUTHRIE, G. 349-354  
 GUTTERIDGE, J.M.C. 551-553  
  
 HAGLUND, U. 423-431  
 HAINES, A.J. 113-116  
 HALL, G.M. 109-111  
 HALLIDAY, D. 243-246  
 HALLIWELL, B. 551-553, 649-653  
 HARKNESS, R.A. 333-340  
 HAYASHI, R.H. 481-486  
 HEINZ III, G.J. 487-495  
 HELANDER, H.F. 423-431  
 HENNINGSEN, P. 33-40  
 HERVEY, G.R. 7-18  
 HÖCK, S.A. 505-510

- HOPKINS, W.M. 49–53  
 HOWELL, J.B.L. 417–421  
 HUTTON, R. 239–241  
  
 INSEL, P.A. 265–272  
 IMESON, J.D. 273–280  
 IQBAL, M.J. 307–314  
  
 JÄPPINEN, P. 187–191  
 JOHN, M. 161–165  
 JOHNSON, R.H. 587–591  
 JOHNSTON, D.G. 41–47  
 JOHNSTON, H.H. 349–354  
 JONES, P.B.B. 387–394, 395–398  
  
 KARLSTRÖM, B. 399–405  
 KAUFMAN, A.M. 565–572  
 KEELING, P.W.N. 207–212  
 KELLEN, J.A. 303–306  
 KHAN, T. 565–572  
 KHOKHER, M. 239–241  
 KOOMANS, H.A. 153–160  
 KRØLNER, B. 537–540, 541–546  
 KRÜCK, F. 505–510  
  
 LAMBIE, D.G. 587–591  
 LANE, D.J. 213–222  
 LAZAROWITZ, V.C. 573–580  
 LEACH, W. 573–580  
 LENNOX, E.S. 655–659  
 LEWIS, C.M. 289–293  
 LEWIS, S.F. 593–599  
 LINDBLAD, B.S. 433–439  
 LITHELL, H. 399–405  
 LIVESSEY, G. 517–526  
 LJUNGHALL, S. 399–405  
 LOFTS, F.J. 63–68  
 LUK, C.K. 449–451  
 LUNDHOLM, K. 243–246  
  
 MAC-MOUNE, F.L. 565–572  
 MADEDDU, P. 137–140  
 MARCER, D. 417–421  
 MARIGOLD, J.H. 207–212  
 MARTIN, V.I. 295–301  
 MATTHEWS, D.M. 433–439  
 MAURY, C.P. J. 453–454  
 MCCULLOCH, A.J. 41–47  
 MCFARLANE, B.M. 113–116  
 MCFARLANE, I.G. 113–116, 127–135  
 MEADE, T.W. 273–280  
 MELONI, F. 137–140  
 MILLAR, J.G.B. 623–627  
 MILLS, K.R. 55–62  
  
 MILLS, P.R. 527–535  
 MILLWARD, D.J. 243–246  
 MIR, M.A. 79–83  
 MOLDAWER, L.L. 321–331  
 MOORE, P.K. 63–68  
 MORGAN, D.B. 167–176, 177–182, 441–447  
 MORGAN, W.K.C. 69–78  
 MORTON, J.J. 359–370  
 MOTULSKY, H.J. 265–272  
 MOXHAM, J. 547–550  
 MOXLEY, R.T. 601–609  
 MURACA, M. 85–90  
 MURRAY, D.J. 341–347  
  
 NARBED, P.G. 417–421  
 NELSON, L.M. 527–535  
 NESTEL, P.J. 511–516  
 NEWHAM, D.J. 55–62  
 NEWHAM, D. 547–550  
 NIELSEN, T.T. 33–40  
 NOLAN, C. 511–516  
 NOSADINI, R. 41–47  
 NOWOTNY, P. 383–386  
  
 O'CONNOR, D.T. 265–272  
 OLBE, L. 423–431  
 O'MALLEY, B.P. 617–622  
 ÖSTMAN, J. 235–237  
  
 PALMER, K.T. 587–591  
 PALOMBO, J.D. 321–331  
 PAPAGEORGIOU, A. 611–616  
 PARK, R. 573–580  
 PATERSON, J.L. 109–111  
 PEART, W.S. 273–280  
 PENCHARZ, P.B. 611–616  
 PENFOLD, J.L. 315–320  
 PERNET, A. 41–47  
 PETERS, T.J. 341–347  
 PETTINGER, W.A. 593–599  
 PEVELER, R.C. 455–461  
 PINIEWSKA, M. 41–47  
 POCIDALO, J.-J. 497–504  
 POLAK, A. 623–627  
 POLU, J.M. 25–31  
 PORS NIELSEN, S. 541–546  
 PRETSCHNER, P. 141–152  
 PRIDE, N.B. 487–495  
  
 QUIGLEY, B.M. 55–62  
  
 RAPPELLI, A. 137–140  
 REES, A. 559–563  
 RENNER, I.G. 193–205  
 RENNIE, M.J. 243–246  
 RENTHAL, R.D. 481–486  
  
 RIONDEL, A. 407–415  
 ROBINSON, B.J. 587–591  
 ROBINSON, J.L. 455–461  
 ROOS, J.C. 153–160  
 ROSENTHAL, F.D. 617–622  
 ROSHANAI, F. 91–99  
 ROTHWELL, N.J. 19–23  
 ROWLEY, D.A. 649–653  
 RUBYTHON, E.J. 177–182, 441–447  
 RUSSELL, R.G.G. 387–394, 395–398  
 RUSSELL, R.I. 527–535  
  
 SADOUL, P. 25–31  
 SAKAMOTO, A. 321–331  
 SANDERS, T.A.B. 91–99  
 SAVOLAINEN, H. 187–191  
 SAWERS, R.S. 307–314  
 SCHLEBUSCH, H. 505–510  
 SEID, J.M. 387–394  
 SEMPLE, P.D.'A. 117–118  
 SHERLOCK, S. 643–648  
 SIMMONDS, R.J. 333–340  
 SLEIGHT, P. 455–461  
 SOLTYS, J. 471–474  
 SORGER, M. 505–510  
 SOWERS, J. 183–186  
 SOWERS, J.R. 295–301  
 SPENCER, E. 417–421  
 STERN, N. 183–186  
 STEWART, R.I. 289–293  
 STIEL, D. 341–347  
 STOCK, M.J. 19–23  
 STOCKLEY, R.A. 119–126, 223–230  
 STOCKS, J. 559–563  
 STRADLING, J.R. 213–222  
  
 TAKATA, Y. 463–470  
 TAYLOR, W.F. 593–599  
 TENHUNEN, R. 187–191  
 TEPPA, A.-M. 453–454  
 THOMAS, H.C. 643–648  
 THOMASSEN, A.R. 33–40  
 THOMPSON, R.P.H. 207–212  
 TIMSON, L. 617–622  
 TOBIN, G. 7–18  
 TOFT, B. 537–540, 541–546  
 TOMAS, T.M. 315–320  
 TØNDEVOLD, E. 541–546  
 TONOLO, G. 137–140  
 TONUTTI, L. 259–263  
 TRAYNOR, C. 109–111  
 TRUELOVE, S.C. 349–354

- VALLOTTON, M.B. 407-415  
VAN BREDERODE, J.F.M. 581-586  
VAN DONGEN TORMAN, M.A. 581-586  
VAN MONTFRANS, G.A. 581-586  
VERONI, M. 463-470  
VESBY, B. 399-405  
VIERHAPPER, H. 383-386  
VINITSKI, S. 69-78  
WALDHÄUSL, W. 383-386  
WALLACE, E.C.H. 359-370  
WALLER, D.G. 623-627  
WALLMARK, B. 423-431  
WARDLE, E.N. 247-252  
WARREN, J.B. 475-479  
WATSON, W.S. 117-118  
WEGELIUS, O. 453-454  
WIELING, W. 581-586  
WILES, C.M. 547-550  
WILLIAMS, R. 113-116, 247-252  
WILLIAMSON, D.H. 349-354  
WINTERSTEIN, G. 637-642  
WOOTTON, R. 161-165  
WRIGHT, N.A. 643-648

# Volume 64

## SUBJECT INDEX

First and last page numbers of papers to which entries refer are given.

Page numbers marked with an asterisk refer to Editorial Reviews.

- Absorption, intestinal 433-439, 527-535
- Acetylsalicylic acid, 6-ketoprostaglandin  $F_{1\alpha}$  excretion 395-398
- Acid activation, renin 481-486
- Acid excretion, renal 565-572
- Acid secretion, isolated oxyntic glands 423-431
- Acylglycerol metabolism, adipose tissue 235-237
- Adductor pollicis, aminophylline 547-550
- Adenosine diphosphate, placenta 239-241
- Adenosine 3',5'-phosphate  
parathyroid hormone 623-627  
vascular, renal hypertension 355-358
- Adenosine triphosphatase  
duodenal mucosa 341-347  
erythrocyte sodium efflux 79-83  
hepatic encephalopathy 247-252\*
- Adipose tissue  
brown 7-18, 19-23  
nicotinic acid 235-237
- Adrenalectomy, baroreflexes 371-376
- Adrenaline, exercise 475-479, 593-599
- $\alpha_2$ -Adrenergic receptors, platelets 265-272
- Adrenocorticotrophic hormone, dietary sodium 295-301
- Airflow, intravenous ethanol 555-557
- Airflow obstruction, chronic 487-495
- Airway conductance, adrenaline 475-479
- Alanine  
myocardial exchange 33-40  
protein metabolism 517-526
- Albumin, sex hormone binding 307-314
- Alcoholic cirrhosis, zinc metabolism 527-535
- Alcohol dehydrogenase, hepatic zinc 527-535
- Aldosterone  
diuretics 407-415  
erythrocyte sodium-potassium pump 183-186  
insulin 383-386
- Alkaline phosphatase, duodenal mucosa 341-347
- Alkalosis  
frusemide 565-572  
potassium depletion 497-504
- Almitrine, pulmonary haemodynamics 25-31
- Amino acids  
branched chain 321-331, 517-526  
protein metabolism 101-108, 231-233, 517-526
- p*-Aminobenzoic acid, 24 h urine collections 629-625
- $\delta$ -Aminolaevulinic acid dehydratase 187-191
- $\delta$ -Aminolaevulinic acid synthase 187-191
- Aminophylline, adductor pollicis fatigue 547-550
- Ammonia  
excretion 101-108  
hepatic encephalopathy 247-252\*
- Amniotic fluid, renin activation 481-486
- Amyloidosis, secondary 453-454
- Amyotrophic lateral sclerosis, glucose tolerance 601-609
- Angiotensin II  
dietary sodium 295-301  
experimental hypertension 359-370  
insulin 383-386
- Antigens, tissue 113-116
- $\alpha_1$ -Antitrypsin  
cigarette smoke 223-230  
reactive systemic amyloidosis 453-454
- Apolipoproteins 559-563\*
- Arrhythmias, digitalis intoxication 253-258\*
- Arterial hypertrophy, renal hypertension 355-358
- Arterio-coronary sinus differences 33-40
- Artery  
ADP degradation 239-241  
distensibility 455-461
- Ascorbate oxidase, synovial fluid 551-553
- Ascorbate, rheumatoid disease 649-653
- Asialoglycoproteins, hepatic clearance 127-135\*
- Aspirin *see* Acetylsalicylic acid
- Asthma, intravenous ethanol 555-557
- Athymic mice, human hepatocellular carcinoma 643-648
- Atrial pacing 33-40
- Atropine, static and dynamic handgrip 593-599
- Autoimmunity 113-116
- Autonomic nervous system  
failure 587-591  
hypoglycaemia 49-53
- Autonomic neuropathy, heart rate 581-585
- Azo reductase, tissue activity 349-354
- Baroreceptors, arterial 455-461

- Baroreflexes**  
   essential hypertension 259–263  
   post-adrenalectomy hypotension 371–376  
**Bicarbonate, duodenal secretion** 341–347  
**[<sup>14</sup>C]Bicarbonate, respiratory <sup>14</sup>CO<sub>2</sub>** 231–233  
**Biliary cirrhosis** 113–116  
**Bilirubin**  
   biliary excretion 85–90  
   hepatic conjugation 85–90  
**Bilirubin UDP-glucuronosyltransferase** 85–90  
**Blood flow**  
   cerebral 161–165  
   coronary 33–40  
   meclofenamate 471–474  
**Blood platelets,  $\alpha_2$ -adrenergic receptors,** 265–272  
**Blood pressure**  
   adrenaline 475–479  
   autonomic blockade 593–599  
   autonomic failure 587–591  
   insulin 383–386  
   plasma renin 273–280  
   post-adrenalectomy 371–376  
**Blood vessels**  
   ADP degradation 239–241  
   collagen 355–358  
   coronary artery disease 33–40  
   distensibility 455–461  
   meclofenamate 471–474  
**Blood volume**  
   regulation 281–287  
   renal disease 141–152  
**Body fluids, distribution** 153–160  
**Body temperature, nerve conduction** 617–622  
**Body mineral content**  
   bed rest 537–540  
   physical exercise 541–546  
**Brain, blood flow** 161–165  
**Braking effect, diuretics** 565–572  
**Branched-chain amino acids**  
   metabolic fate 517–526  
   protein kinetics 321–331  
**Brattleboro rats, short-term isolation** 377–382  
**Bronchodilatation, intravenous ethanol** 555–557  
**Brown adipose tissue** 7–18, 19–23  
**Brush border, duodenal mucosal enzymes** 341–347  
  
**Caeruloplasmin, synovial fluid** 551–553  
**Captopril, renal hypertension** 463–470  
**Carbon dioxide**  
   almitrine 25–31  
   [<sup>14</sup>C]bicarbonate infusion 231–233  
   cardiac output rebreathing technique 289–293  
   ventilatory response 487–495  
  
**Carbonic anhydrase, duodenal mucosa** 341–347  
**Cardiac output**  
   determination 289–293  
   static and dynamic handgrip 593–599  
**Carotid sinus radius, phenylephrine** 455–461  
**Catecholamines**  
   exercise 475–479  
   orthostatic hypotension 587–591  
**Cell population kinetics, hepatocellular carcinoma** 643–648  
**Chest cage restriction, resistive load detection** 417–421  
**Cholesterol, plasma** 91–99, 637–642  
**Chronic obstructive pulmonary disease** 213–222  
**Cigarette smoke,  $\alpha_1$ -antitrypsin** 223–230  
**Cilia, beating frequency** 449–451  
**Circadian rhythm, 18-hydroxycorticosterone** 295–301  
**Citrate, myocardial exchange** 33–40  
**Cobalamin, pancreatic juice** 193–205  
**Coeliac disease, gliadins radioimmunoassay** 655–659  
**Collagen, vascular, renal hypertension** 355–358  
**Converting enzyme inhibition** 359–370  
**Coproporphyrinogen oxidase** 187–191  
**Coronary artery disease** 33–40  
**Cor pulmonale** 117–118  
**Creatinine**  
   24 h urine collection 629–635  
   hypopituitary children 315–320  
**Cyclic AMP *see* Adenosine 3',5'-phosphate**  
**Cysteamine, duodenal ulcers** 341–347  
**Cytosol, duodenal mucosal enzymes** 341–347  
  
**Deoxyribonucleic acid, vascular, renal hypertension** 355–358  
**Diabetic autonomic neuropathy** 581–585  
**Diet-induced thermogenesis** 7–18, 19–23  
**Diflunisal, diuretics** 407–415  
**Digitalis intoxication** 253–258\*  
**Diuretics**  
   diflunisal 407–415  
   essential hypertension 259–263  
   frusemide 565–572  
   renal prostaglandins 407–415  
   'Down-regulation',  $\alpha_2$ -adrenergic receptors 265–272  
**Duodenal ulcer, mucosal enzymes** 341–347  
**Dyspnoea, resistive load detection** 417–421  
  
**Elastase**  
    $\alpha_1$ -antitrypsin 223–230  
   inhibitory activity 453–454  
   lung diseases 119–126\*

- Electrolytes  
   balance 377–382  
   leukaemic plasma 79–83  
 Endopeptidases, lung diseases 119–126\*  
 Endoplasmic reticulum, liver 303–306  
 Endothelial cells, prostacyclin 387–394, 395–398  
 Energy balance, thermogenesis 7–18, 19–23  
 Energy metabolism, preterm infants 611–616  
 Erythrocyte  
   hyperthyroidism 441–447  
   potassium 167–176, 177–182  
   purine 333–340  
   rubidium 183–186  
   sodium 79–83, 161–176, 177–182, 441–447  
 Ethanol, asthma 555–557  
 Exercise  
   catecholamines 475–479  
   plasma adrenaline 475–479  
   purine transport and metabolism 333–340  
   vertebral bone loss 541–546  
 Extracellular fluid volume 153–160  
  
 False neurotransmitters 247–252\*  
 Fatigue, muscle  
   aminophylline 547–550  
   low-frequency 55–62  
 Fatty acids  
   essential 91–99  
   myocardial exchange 33–40  
 Ferroxidase, synovial fluid 551–553  
 Fick method, indirect 289–293  
 Fluid balance, short-term isolation 377–382  
 $\alpha$ -Foetoprotein, tumour secretion 643–648  
 Fractures, bone mineral 541–546  
 Frusemide  
   chloride 565–572  
   erythrocyte sodium transport 79–83  
   sodium 565–572  
  
 Gastric glands, acid secretion 423–431  
 Gastroscopic biopsy, isolated oxyntic glands 423–431  
 Globulin, sex hormone binding 307–314  
 Glucose  
   adrenaline 475–479  
   myocardial exchange 33–40  
   tolerance test 601–609  
   triglyceride metabolism 511–516  
   turnover, thyroid failure 41–47  
 Glutamate, myocardial exchange 33–40  
 Glutamine, protein metabolism 517–526  
 Glycine, colorectal tumours 101–108  
 Glycogen, abdominal surgery 109–111  
 Goldblatt hypertension, renin–angiotensin system 359–370  
 Gonadotrophin-releasing hormone 1–6\*  
  
 Graft vs host disease 113–116  
 Growth hormone, myofibrillar protein 315–320  
 Growth retardation 161–165  
 Gluten, dietary content 655–659  
 Glycoproteins, hepatic clearance 127–135\*  
  
 Haemodynamics  
   pulmonary 25–31  
   renal disease 141–152  
 Haemostasis  
   acetylsalicylic acid 395–398  
   polyunsaturated fatty acids 91–99  
 Haem synthesis, sulphides 187–191  
 Handgrip  
   haemodynamic responses 593–599  
   heart rate 581–585  
 Heart  
   cardiac output 289–293, 593–599  
   digitalis intoxication 253–258\*  
   failure 573–580  
   ischaemic disease 273–280  
 Heart failure, lactic acidosis 573–580  
 Heart rate  
   adrenaline 475–479  
   autonomic neuropathy 581–585  
   muscle activity 581–585, 593–599  
 Hepatectomy, cardiovascular function 573–580  
 Hepatic encephalopathy 247–252\*  
 Hepatic endoplasmic reticulum 303–306  
 Hepatocellular carcinoma, growth characteristics in athymic mice 643–645  
 Hydrochlorothiazide, renal prostaglandins 407–415  
 Hydrogen peroxide, hydroxyl radicals 649–653  
 Hydroxyl radicals, rheumatoid disease 649–653  
 18-Hydroxycorticosterone, circadian rhythm 295–301  
 Hypercapnia, almitrine infusion 25–31  
 Hypercholesterolaemia, plasma exchange 637–642  
 Hyperlipidaemia, lipoprotein variants 559–563\*  
 Hypertension  
    $\alpha_2$ -adrenergic receptors 265–272  
   baroreflexes 259–263  
   experimental 359–370, 463–470  
   Goldblatt 359–370  
   plasma renin 273–280  
   renal 141–152, 355–358, 463–470  
   vasopressin 377–382  
 Hyperthyroidism  
   erythrocyte sodium pumps 441–447  
   glucose turnover 41–47  
 Hypoglycaemia, autonomic reaction 49–53  
 Hypopituitarism, myofibrillar protein 315–320  
 Hypotension  
   orthostatic 587–591  
   post-adrenalectomy 371–376

- Hypothyroidism  
 glucose turnover 41–47  
 nerve conduction 617–622
- Immersion, sympathectomy responses 281–287  
 Immobilization, bone mineral content 537–540  
 Indocyanine green, hepatic extraction 207–212  
 Indomethacin, renal prostaglandins 407–415  
 Infant, preterm, protein turnover 611–616  
 Injury, protein kinetics 321–331  
 Inspiratory muscle function 487–495  
 Insulin  
 blood pressure 383–386  
 triglyceride metabolism 511–516  
 Interstitial compliance 153–160  
 Intestinal absorption, peptides 433–439  
 Intrapleural pressure gradient 69–78  
 Ionic strength, cilia beating frequency 449–451  
 Iron, caeruloplasmin 551–553  
 Iron salts, hydroxyl radicals 649–653  
 Isolation, cardiovascular and renal effects 377–382
- Kaliuresis, frusemide 565–572  
 6-Ketoprostaglandin  $F_{1\alpha}$ , acetylsalicylic acid 395–398
- Kidney  
 body fluid distribution 153–160  
 hypertension 141–152, 355–358, 463–470  
 renal stone 399–405  
 renin 463–470
- Lactate, myocardial exchange 33–40  
 Lactic acidosis, cardiovascular system 573–580  
 Leucine, protein metabolism 231–233, 517–526  
 Leucocytes  
 potassium 505–510  
 purine concentrations 333–340  
 Lipid transport 559–563\*  
 Lipogenesis, nicotinic acid 235–237  
 Lipolysis, nicotinic acid 235–237  
 Lipoprotein  
 cholesterol 91–99  
 hypercholesterolaemia 637–642  
 molecular variants 559–563\*  
 plasma exchange 637–642  
 Lithium therapy, parathyroid hormone 623–627
- Liver  
 acidaemia 573–580  
 circulation 207–212  
 glycogen in abdominal surgery 109–111  
 glycoprotein clearance 127–135\*  
 hepatectomy 573–580  
 indocyanine green extraction 207–212  
 progesterone binding 303–306
- Liver disease  
 alcoholic cirrhosis 527–535  
 biliary cirrhosis 113–116  
 cirrhosis, 3-methylhistidine 243–246  
 hepatic encephalopathy 247–252\*  
 hepatocellular carcinoma 643–648
- Loaded breathing 417–421
- Lung  
 haemodynamics 25–31  
 hypoxaemia 213–222  
 regional deposition of particles 69–78
- Lung disease  
 cardiac output determination 289–293  
 chronic airflow obstruction 487–495  
 obstructive, hypoxaemia 213–222  
 proteinase inhibitors 119–126\*
- Lysosomes, duodenal mucosal enzymes 341–347
- Luxuskonsumption 7–18, 19–23
- Macaca fascicularis*, blood volume homeostasis 281–287
- Mammary adenocarcinoma, experimental 303–306
- Meclofenamate, peripheral vasculature 471–474
- Mercaptans, hepatic encephalopathy 247–252\*  
 Metabolic acidosis 573–580  
 Metabolic alkalosis, potassium depletion 497–504  
 3-Methylhistidine, cirrhosis 243–246  
 Methylhistidine, colorectal tumours 101–108  
 3-Methylhistidine, excretion in preterm infants 611–616  
 $N^T$ -Methylhistidine, hypopituitary children 315–320  
 Metoprolol, static and dynamic handgrip 593–599
- Milk, human 611–616
- Mitochondria, duodenal mucosal enzymes 341–347
- Muscle, skeletal  
 aminophylline 547–550  
 hypopituitarism 315–320  
 low-frequency fatigue 55–62  
 mass 315–320  
 pain 55–62  
 wasting, glucose tolerance 601–609
- Muscle, smooth, arterial 455–461
- Myeloid leukaemic blast cell, erythrocyte sodium efflux 79–83
- Myotonic dystrophy, glucose tolerance 601–609
- Naloxone, post-adrenalectomy hypotension 371–376
- Natriuresis, frusemide 565–572



- Neoplasm, protein turnover 101–108  
 Nerve conduction 617–622  
 Nicotinic acid, acylglycerol metabolism 235–237  
 Nitrogen metabolism 101–108  
 Nocturnal hypoxaemia 213–222  
 Noradrenaline  
   exercise 475–479  
   static and dynamic handgrip 593–599
- Oedema, cor pulmonale 117–118  
 Oestradiol, binding to plasma proteins 307–314  
 Orthostatic hypotension 587–591  
 Osteoporosis  
   bed rest 537–540  
   physical exercise 541–546  
 Ouabain, erythrocyte 79–83, 183–186  
 6-Oxoprostaglandin E<sub>1</sub>, platelet release 63–68  
 Oxygen saturation, obstructive pulmonary disease 213–222  
 Oxyntic glands, acid secretion 423–431
- Pain, muscle contractions 55–62  
 Pancreatic juice, human 193–205  
 Parathyroid hormone, lithium therapy 623–627  
 Particles, inhalation and lung deposition 69–78  
 Peptides, small-intestinal absorption 433–439  
 pH, cilia beating frequency 449–451  
 Pharmacokinetic model 207–212  
 Phenformin, lactic acidosis 573–580  
 Phenols, hepatic encephalopathy 247–252\*  
 Phenylephrine, carotid sinus radius 455–461  
 Pituitary gland 1–6\*  
 Placenta artery, ADP degradation 239–241  
 Plasma exchange, hypercholesterolaemia 637–642  
 Plasma membrane, duodenal mucosal enzymes 341–347  
 Plasma proteins, sex hormone binding 307–314  
 Platelets  
   fatty acids 91–99  
   6-oxoprostaglandin E<sub>1</sub>-like substance 63–68  
   plasma exchange in hypercholesterolaemia 637–642  
   prostacyclin production 387–394
- Posture  
   heart rate 581–585  
   lung particles 69–78  
   vascular responses 661–662
- Potassium  
   depletion 497–504  
   erythrocyte 167–176, 183–186  
   frusemide 565–572  
   hypokalaemia 167–176, 177–182  
   insulin 383–386  
   leucocyte 505–510  
   total body 505–510
- Progesterone binding, liver 303–306  
 Prostacyclin  
   acetylsalicylic acid 395–398  
   cultured endothelial cells 387–394
- Prostaglandins  
   acetylsalicylic acid 395–398  
   diuretics 407–415  
   platelets 63–68, 91–99  
   renal blood flow 471–474
- Prostaglandin E<sub>2</sub>, diuretics 407–415  
 Prostaglandin F<sub>2α</sub>, diuretics 407–415  
 Proteases, pancreatic juice 193–205
- Protein  
   biosynthesis 101–108  
   kinetics 321–331  
   purine-rich diet 399–405  
   turnover 231–233, 611–616
- Proteinase inhibitors, lung diseases 119–126\*  
 Proteolysis, lung diseases 119–126\*  
 Pulmonary emphysema 119–126\*  
 Pupil size, hypoglycaemia 49–53
- Purine  
   protein-rich diet 399–405  
   transport and metabolism 333–340
- R3230 AC rat mammary adenocarcinoma 303–306  
 Radioimmunoassay,  $\alpha$ - and  $\beta$ -gliadins 655–659  
 Receptors, hormone 1–6\*  
 Rectum, tumours 101–108
- Renal hypertension  
   arterial cyclic AMP 355–358  
   renin–angiotensin system 463–470
- Renal stone disease, purine-rich protein diet 399–405
- Renin  
   acid activation 481–486  
   diuretics 407–415  
   epidemiology 273–280  
   experimental hypertension 359–370  
   inactive 481–486  
   renal hypertension 463–470  
   trypsin-activatable 137–140
- Renin–angiotensin system, renal hypertension 463–470
- Respiratory compensation, metabolic alkalosis 497–504  
 Respiratory fuel selection 517–526  
 Rheumatoid arthritis 453–454, 551–553  
 Rheumatoid disease, hydroxyl radicals 649–653
- Saline expansion 153–160  
 Salivation, hypoglycaemia 49–53
- Sex differences  
   bilirubin conjugation 85–90  
   platelet prostaglandins 63–68

- Sex hormone binding globulin 307–314  
 Signal Detection Theory, inspiratory loads 417–421  
 Skeletal muscle *see* Muscle, skeletal  
 Small intestine, peptide absorption 433–439  
 Smoking, plasma renin activity 273–280  
 Smooth muscle *see* Muscle, smooth  
 Sodium  
   erythrocyte 79–83, 167–176, 177–182, 183–186, 441–447  
   excretion 463–470  
   frusemide 565–572  
   18-hydroxycorticosterone 295–301  
 Sodium–potassium pump, erythrocyte 183–186  
 Spine, bone loss 537–540, 541–546  
 Sputum,  $\alpha_1$ -antitrypsin 223–230  
 Standing, heart rate 581–585  
 Stomach, isolated oxyntic glands 423–431  
 Sulphapyridine, tissue and bacterial splitting 349–354  
 Sulphasalazine, tissue and bacterial splitting 349–354  
 Sulphides, haem synthesis 187–191  
 Superoxide, rheumatoid disease 649–653  
 Supersaturation, urolithiasis 399–405  
 Surgery, liver glycogen 109–111  
 Synovial fluid, caeruloplasmin 551–553  
 Sweating, hypoglycaemia 49–53  
 Sympathetic nervous system  
   cardiopulmonary afferent nerves 281–287  
   thermogenesis 7–18, 19–23  
 Synovial fluid, rheumatoid disease 649–653  
  
 Temperature, nerve conduction 617–622  
 Testosterone, binding to plasma proteins 307–314  
 Thermogenesis, diet-induced 7–18, 19–23  
 Thyroid gland, failure 41–47  
 Thyrotoxicosis  
   glucose turnover 41–47  
   nerve conduction 617–622  
 L-Thyroxine, nerve conduction 617–622  
 Tilt, heart rate 581–585  
 Transport  
   erythrocyte sodium 177–182  
   intestinal 433–439  
  
 Triamterine, renal prostaglandins 407–415  
 Triglyceride, insulin 511–516  
 Triglycerides, plasma 91–99  
 Trypsin-activatable renin 137–140  
 Tyrosine kinetics 321–331  
  
 Umbilical artery, ADP degeneration 239–241  
 Urate, renal stone disease 399–405  
 Urea, excretion 101–108  
 Ureteric ligation, experimental hypertension 463–470  
 Urine  
   24 h collection 629–635  
   purines 333–340  
 Urolithiasis, purine-rich protein diet 399–405  
 Uroporphyrinogen decarboxylase 187–191  
 Uroporphyrinogen synthase 187–191  
  
 Vagus nerve, heart rate control 581–585  
 Vascular endothelium, prostacyclin 387–394, 395–398  
 Vascular reactivity, essential hypertension 259–263  
 Vasopressin  
   chronic lithium therapy 623–627  
   isolation-induced hypertension 377–382  
   renal prostaglandins 407–415  
 Ventilation  
   carbon dioxide 487–495  
   regional 69–78  
 Vertebrae, bone mineral 537–540, 541–546  
 Viscosity, cilia beating frequency 449–451  
 Visual evoked responses, thyroid dysfunction 617–622  
 Volume regulation, sympathetic nervous system 281–287  
  
 Wheat gliadin, radioimmunoassay 655–659  
 Whole-body radioactivity, zinc metabolism 527–535  
  
 Xenograft, hepatocellular carcinoma 643–648  
  
 Zinc, alcoholic cirrhosis 527–535