

INDEX OF SUBJECTS

- A-H- interval 90
- Action potential 79
- Acupuncture 5
- Adams-Stokes attacks 4, 5, 57, 58, 59, 72, 217
- Ajmaline 67, 69
- Amyloidosis 28, 37
- Analyser, pacemaker 212, 239
- Analysis, pacemaker (see also Follow-up and Photoanalysis) 172, 211-235
- Anatomy, conduction system 23-55
- Anesthesia 70, 140, 154, 162
- Angina pectoris 72
- Angiography 122
- Antibiotics 164
- Anticoagulants 75, 133, 162, 164, 233
- Aorta-coronary bypass surgery 161
- Aortic stenosis 59, 70, 71
- AREC 249
- Arrhythmias (see also Brady- and Tachycardia and Block)
 - diagnosis 82-90, 127, 128
 - genesis 79-82
- Atrial contraction, synchronous 115-121
- Atrial pathway, see Internodal pathway
- Atrial systole 115, 118, 119, 120
- Atrio-ventricular block, see Block
- Atrio-ventricular bundle, see His bundle
- Atrio-ventricular bundle branch 5, 23, 44-51, 81
 - left 44, 46, 47, 48, 81
 - right 44, 46, 47, 81
- Atrio-ventricular conduction system 23-55
- Atrio-ventricular node 32-44
 - histology 34, 35, 38, 40-41, 45-47
- Atropine 90
- Automaticity (focal) 79-80, 93-94, 97

- Bachmann's bundle 29
- Baroreceptor reflex 115, 124
- Battery, pacemaker 189-210
 - Lithium 13, 16, 193, 199-203, 210, 247, 248, 250, 252
 - end-of-life 201, 246, 249

- Mercury Oxide-Zinc 13, 16, 185, 191-195, 246, 250, 252
- Nuclear 193, 195-199, 250
- Rechargeable (nickle-cadmium) 13, 15, 193, 199
- Betablockers 69, 71
- Bio-engineer 168
- Block, Atrio-ventricular
 - complete 2, 5, 40, 57-72, 109, 114, 115
 - congenital 37, 66
 - paroxysmal 59, 71, 72
 - incomplete 59-63
 - first degree 60, 61, 68, 89
 - second degree 66, 67
 - Mobitz II 59, 66, 70, 89
 - Wenckebach 59, 60, 67
- Block, Atrio-ventricular bundle branch 48, 49, 57, 62, 67, 68
 - bifascicular 68
 - left 59, 60, 70
 - left ant. hemi 60, 61, 68
 - right 59
 - right + L.A.H. 59, 68, 70
 - trifascicular 59, 68
- Block, Atrio-ventricular nodal 63, 64, 67, 69
- Block, Intra-Hissian 61, 70
- Block, Sino-atrial 72
- Bradycardia 4, 57, 72, 79, 109, 123, 127
 - Sinus 58, 61, 64, 79
- Brady-Tachycardia syndrome 74-75, 127
- Bundle of His, see His bundle

- Can, pacemaker 172, 186-188
- Cardiac arrest 59, 74, 127
- Cardiac glycosides 69
- Cardiac output 109-126
- Cardiomegaly 65, 69
- Cardiomyopathy 63
- Cardioversion 71, 93
- Carotid sinus syndrome 59
- Catecholamines 112, 114, 115
- Cerebrovascular insufficiency 65
- Chestwall stimulation 218, 240

- Chip 183, 185
 Circuit, pacemaker 181-185
 design 12
 discrete 181-182
 efficiency 181
 hybrid 16, 182-185
 Circus movement, see Re-entry
 Clinic, pacemaker patient follow-up 17, 167, 213, 237-255
 Computer, follow-up by 244
 Concealed conduction 71
 Connection, pacemaker-electrode 174
 Coronary (ischaemic) heart disease 102, 119, 120, 179
 Coronary sinus 29, 129, 144, 147, 148, 215, 219
 Cost of pacing 248, 250
 Current of injury 219, 220

 Defibrillation 93
 Diaphragmatic contraction 234
 Diastolic filling time 111, 119, 120
 Digitalis 71, 90
 Diphenylhydantoin 90
 Dislocation, electrode 12, 57, 127, 128, 141, 154
 Dizziness 58, 62
 Dynamic electrocardiography 17, 58, 60, 218

 Echocardiography 120
 Ectopic ventricular beat 39, 89, 93, 101
 Ejection fraction 119, 120, 121
 Electrocardiography
 endocardial 60-68, 70, 71, 73, 179, 217, 218
 pacemaker 74, 213-216, 238, 241
 Electrode
 indifferent 10, 128, 172
 stimulation 171-180
 atrial 154, 174
 epicardial 12, 133, 189
 endocardial (transvenous) 11, 12, 20, 128-130, 174-175, 189
 balloon 174
 bipolar 20, 128, 172, 191
 helifix 174
 ring 12, 20
 semi-floating 128, 130
 intramural 12, 172-174
 corkscrew 12, 20, 173, 174
 needle 10
 suture 11
 skin 12
 temporary vs. permanent 171-172
 Electrode impedance 177
 Electrode implantation 128-155
 endoscopic 154-155
 transthoracic 130-133
 atrial 133, 159
 epicardial 137
 transvenous 128-130, 134-154
 brachial route 129
 cephalic vein 129, 134, 135-137
 femoral vein 128-129
 jugular vein 128, 134, 135, 137, 138, 139
 subclavian vein 127, 128, 129-130, 134, 137
 Electrode surface area 12, 177
 Elisabeth 5, 6, 70
 Embolism 75, 131, 154, 233
 Emergency pacing 127, 128
 Enddiastolic pressure 119
 Enddiastolic volume 109-114, 117
 Endoscopy 154-155
 Endsystolic volume 109-114, 117
 Energy, pacemaker 10, 12, 13, 189-210
 Epoxy encapsulation, pacemaker 181, 182, 185-186, 246
 Escape rhythm
 junctional 39
 nodal 74
 European Working Group on Cardiac Pacing 18
 Exercise 109, 114-115, 123
 Exit block 154, 157, 178
 Extrastimulus technique in electrophysiology 65, 66, 73, 74, 75, 84, 85

 Facility for pacemaker implantation 127
 Failure, pacemaker 239, 242, 245, 246, 248-250
 detection of 211-235
 reporting of 18, 167, 249
 Fainting 58
 Fibrillation
 atrial 61, 71, 74, 75, 89, 93, 102, 120, 121
 ventricular 93, 101, 229
 Fibroma 39
 Fibromuscular dysplasia 37, 38
 Flutter
 atrial 74, 93, 94, 102
 ventricular 101
 Fracture, lead 12, 171, 225, 227, 229, 231, 245
 Frank-Starling law 109
 Follow-up of pacemaker patients 167, 168, 237-255
 schedule 244-252
 Foramen ovale 149
 Fusion beats 227, 229, 230

 Generator, see Pacemaker

- H-V interval 57, 60, 61, 62, 63, 68, 69, 70, 72
 Haemochromatosis 24, 37
 Haemodynamics and pacing mode 109-126
 Haemorrhage 129
 Haemostasis 162
 Haematomas 162
 Heartblock, see Block
 Heart failure 65, 72, 111, 120, 123, 124, 217
 Helium leakage test 187, 201
 Helmholtz layer 176
 Hermetical sealing of pacemaker 16, 182, 186-188, 201
 Herpes zoster 234
 His bundle 5, 23, 33, 36, 37, 44-51, 60, 68, 81
 electrocardiography 60, 61, 83, 89-90, 128
 histology 34, 35, 38, 42, 43, 45-47, 50, 51
 History of cardiac pacing 1-22, 189-191
 Holter monitoring, see Dynamic electrocardiography
 Hospitalisation of pacemaker patient 163, 250
 Hypertension 65
 Hypertrophy, ventricular
 left 110, 115
 right 141
 Hypotension, orthostatic 58, 217
 Hysteresis of pacemaker circuit 92, 123, 124, 125, 227, 233
- Identification, pacemaker 18
 Identification card, pacemaker patient 18
 Implantation
 electrode, see Electrode
 pacemaker 162-164
 pacemaker system 212-213
 Impulse analysis, see Analysis
 Impulse duration 13, 177, 217, 221, 238, 239
 Impulse output 13, 224-231
 Impulse shape 229
 Indications for pacemaker therapy 57-78
 Infection 57, 127, 137, 162, 167, 232, 233
 Insulation, electrode 12, 172, 234
 Interface, electrode-heart 171, 176-180
 Interference
 electromagnetic 172, 179, 221, 229
 muscle 172, 218
 Internodal pathways 5, 23, 28-32, 33, 37
 anterior 28-29
 middle 29-30
 posterior 29, 32
 Isoprenaline 90, 127
 Isovolumetric systole 110, 122
- Jan Jaap 5, 28, 69
 Junctional escape rhythm, see Escape rhythm
 Kent bundle 75
 Lead 12, 171-172
 Legal aspects of cardiac pacing 18, 168
 Lenegre's disease 48
 Lev's disease 48-49
 Lifetime
 battery 193
 pacemaker 13, 123, 187
 Lithium battery, see Battery
 Lown-Ganong-Levine syndrome 36, 89
 Lupus erythematosus 24, 28, 37
- Maarten 12, 28, 71
 Magnet test 164, 216-217, 223, 224
 Mahaim fibers 44, 75
 Malfunction, pacemaker 211-235
 Mediastinostomy 154
 Mercuryoxide-zinc battery, see Battery
 Mesothelioma 39, 40-43, 52
 Microcalorimeter 203
 Migration, pacemaker 162, 232
 Misinterpretation of pacemaker malfunction 224, 226, 227, 229, 231
 Mitral stenosis 117, 121
 Mobilisation of pacemaker patient 128
 Mobitz II block, see Block
 Monitoring of pacemaker impulse 172
 Myocardial contractility 112
 Myocardial infarction 71, 102
 Myocarditis 99
 Myocyte 28, 36, 48
- Nernst equation 22
 Nodal escape rhythm, see Escape rhythm
- Orthorhythmic pacing 99, 100, 101
 Oscilloscopic analysis, see Photo analysis
 Ottel 12, 15, 79
 Overdrive pacing 93, 97
 atrial 61, 73
- P cell 24, 28, 36
 P-R interval, prolonged 59, 61, 68, 89
 PACE 17, 249
 Pacemaker 12-17
 atrial inhibited 13, 91, 121, 125, 179
 atrial triggered 13, 90, 91, 121, 125, 17
 A-V sequential 91, 92-116, 117, 118, 1125
 bifocal demand 13, 121, 125, 179
 fixed rate 13, 91, 92, 99, 121, 125
 ideal 122, 125-126
 patient controlled 95
 Ph-triggered 126

- programmable 13, 123, 237
- radio-frequency 76, 157
- R-wave inhibited 3, 13, 91, 92, 121, 125
- R-wave triggered 13, 91, 92, 121, 125
- scanning 97
- Pacemaker input 179
- Pacemaker malfunctioning, see Failure and Malfunctioning
- Pacemaker patient
 - activities 162
 - follow-up schedule 222, 244-252
 - hospitalisation 163, 250
 - mobilisation 128
- Pacemaker pocket 162-167
- Pacemaker positioning 156, 162-167
- Pacemaker programming 13, 59, 240
- Pacemaker systems 90-92
- Pacing, cardiac
 - coupled 93
 - modes 91, 121, 122-125, 167
 - permanent 134-164
 - programmed 63, 83, 99, 103, 122-124, 164
 - temporary 127-133
- Patient self-monitoring 241
- Perforation 129, 153, 154, 215, 217
- Pericarditis 37
- Photoanalysis 172, 213, 218, 239, 243-244
- Plutonium 238 196, 198
- Pneumothorax 130
- Polarisation, electrode 172
- Polyarteritis nodosa 28
- Positioning of endocardial electrode 140-153
- Postimplantation protocol 130
- Postoperative pacing 70
- Pre-excitation, ventricular 36, 93
- Preoperative pacing 70
- Printed circuit board 181, 182, 183
- Promethium 147 196
- Prophylactic pacing 58, 67, 68, 69
- Propranolol 90
- Pseudomalfunctioning, pacemaker 211, 223, 224, 225, 226, 227
- Pulmonary oedema 117
- Pulse counting 3
- Pulsilogon 1
- Purkinje fibers 5, 36, 44, 48, 80, 101

- Q-U interval 64

- R-H histogram 71
- R-R interval histam 72
- Radiation 196
- Rapid filling phase 115
- Reconditioning, pacemaker 18
- Recycling, pacemaker 177

- Re-entry arrhythmia 39, 75, 79-82, 83, 94, 97, 99
 - circuit 102
- Refractory period
 - cardiac cycle 80-81, 97
 - pacemaker 13, 177, 221, 240
- Replacement, pacemaker 17, 162, 241, 242, 245
- Reliability
 - lead 57, 171
 - pacemaker 57, 193
- Retrograde conduction 118
- Röntgen, see X-ray
- Runaway pacemaker 249

- Scleroderma 25, 27, 37
- Seat belts, automobile 162
- Selection of pacing system 90-91, 122-125, 128
- Sensing
 - ectopic 121, 125, 234
 - P-wave 123, 227
 - R-wave 221, 227, 229
 - T-wave 227
- Septal defect, ventricular 70
- Sick sinus syndrome 17, 52, 72-76, 83-88, 124-125
- Sino-atrial conduction time 73, 74, 83, 84, 85, 86, 87, 88
- Sinus arrest 74
- Sinus node 5, 23-28, 115
 - blood supply 23
 - cells 24
 - dysfunction, see Sick sinus syndrome
 - histology 25, 26, 27
- Sinus node recovery time 73, 83, 85, 86, 87, 88
- Skin erosion 185, 232
- Slew rate 179
- Society, Pacing 17-18
 - International 17
- Sphygmographic recording 2, 3, 5
- Sphygmology 1
- Standardization, pacemaker 18
- Stroke volume 109, 110, 113, 114
- Stylet, electrode 171
- Subclavian vein, see Electrode implantation
- Sudden death 37, 39, 44, 57, 75, 179, 246
- Sudden failure, pacemaker 12, 246, 248
- Surgery, cardiac 70, 133, 161
- Surgical techniques in pacing 127-169
- Sympathetic stimulation 112, 113, 114
- Syncope 39, 57, 58, 70, 72, 74, 218
 - cough 58
 - vago vasal 58
 - effort 59

- T-wave inversion 219
- Tachycardia
nodal 94
pacemaker 75-76, 94-104
paroxysmal 61, 74, 75
supraventricular 74, 75, 93, 94, 96, 97
therapy of 92-104
ventricular 76, 93, 98
- Tamponade, cardiac 133, 154
- Technology, pacemaker 181-188
- Testing, pacemaker 211-213, 240-244
explanted 221
- Tetralogy of Fallot 70, 89
- Threshold
fibrillation 97
potential of 79
stimulation 11, 133, 154, 157, 177-179, 212, 231
- Thrombosis 133, 137, 233
- Torsade de pointes 59, 64
- Transitional cell 24, 36, 48
- Transoesophageal stimulation 97
- Transtelephone analysis of pacemaker 17, 218, 241-242, 252, 255
- Transthoracic electrode implantation, see Electrode implantation
- Transvenous pacing, see Pacing
- Trendelenburg's position 130
- Tritium 196, 198
- Twitching, muscle 162, 172, 234
- Vagal nerve 7
- Vector cardiography 17
- Venous return 109, 113-114, 118
- Ventricular filling 115
- Verapamil 90
- Vertebro-basilar insufficiency 58, 217
- Vertigo 58
- Vulnerable period 93, 172
- Warburg resistor 176
- Wenckebach block, see Block
- Wenckebach point 62
- Whipple's lipodystrophy 24
- Wolff-Parkinson-White syndrome 36, 75, 89
- World Symposium on Cardiac Pacing 10, 12, 17, 18, 22, 155
- X-ray analysis of pacemaker batteries 191-195
- X-ray picture
electrode position 142-153
pacemaker 16