

Contents

Editors	V
Contributors	VI
Foreword	XI
Preface	XIII

Section I General Considerations 1

1. Introduction to Mountain Emergency Medicine	3
<i>Hermann Brugger, Ken Zafren, Luigi Festi</i>	
Acknowledgements	5
2. History of Mountain Rescue	7
<i>Giancelso Agazzi</i>	
History of Mountain Rescue	7
Mountain Rescue Stories and Accidents Around the World	13
People	16
Search and Rescue Dogs	20
ICAR	21
3. Mountain Rescue Challenges	23
<i>Oliver Reisten, Oliver Kreuzer, Michèle Imhasly, Philipp Venetz</i>	
Introduction	23
General Considerations	23
Rescue Team Culture	26
Knowledge and Skills	26

Section II Current Status in the World 31

4. Mountain Rescue Services	33
<i>Fidel Elsensohn</i>	
Background	33
The International Commission for Alpine Rescue	33
Current Status of Mountain Rescue	34

5. Helicopter Emergency Medical Services	41
<i>Iztok Tomazin, Patrick Fauchère, Günther Sumann</i>	
Background	41
History	42
Epidemiology	43
Advantages of Air Rescue in the Mountains	44
Basics of HEMS in the Mountains	44
Recommendations	48

Section III Education and Training 59

6. Education and Training	61
<i>Monika Brodmann Maeder, Steven Roy, Jason Williams, Mike Greene</i>	
Introduction	61
Theories of Adult Learning	62
Programme Design	63
Teaching Methods	65
Concrete Planning of Learning Activities	68
Tips for Successful Teaching	70
Student Assessment	70
Programme Evaluation	71
Diploma Courses in Mountain Medicine	71

Section IV Equipment 75

7. Technical Equipment, Rescue Techniques, and Communication	77
<i>Oliver Kreuzer, Danica Barron, Nathan Simonson, Anjan Truffer</i>	
Background	77
Technical Mountain Clothing	78
Carrying Gear	79
Personal Technical Mountaineering Equipment	79
Rescue Techniques	81
Search and Rescue Services	82

Transport Modes	82	Anaesthesia	136
Communication	89	Methods of Wound Closure	136
Acknowledgements	92	Antibiotics	137
		Tetanus	137
		Rabies	138
		Specific Wounds	138
8. Medical Equipment in Mountain Rescue	93	13. Stabilisation and Splinting	143
<i>Fidel Elsensohn, Urs Pietsch</i>		<i>Herbert Mayer, Herbert Forster</i>	
Introduction	93	Medical Background	143
Epidemiology	93	Principles of Stabilisation and Splinting	143
History of Medical Care in Mountain Rescue	94	Splinting in Mountain Rescue	144
Concepts of Medical Care in Mountain Rescue	95	Splints for Specific Anatomic Sites	145
Medical Equipment in Mountain Rescue	95		
Current Status of Medical Equipment	102	14. Multiple Trauma	149
Recommended Medical Equipment for Mountain Rescue	105	<i>Günther Sumann, Sven Christjar Skaiaa, Monika Brodmann Maeder</i>	
Conclusions	107	Introduction, Terms, and Definitions	149
		Background and Epidemiology	150
Section V On-Site Treatment	111	Injury Mechanisms	150
		Pathophysiology of Multiple Trauma	151
9. Introduction to On-site Treatment in Mountain Emergency Medicine	113	Initial Assessment, Acute Interventions, and Decision-Making	151
<i>Oliver Reisten, Hermann Brugger</i>		Stabilisation	153
Introduction	113	Specific Patterns of Injury	157
Mountain Emergency Medicine	114	Victim Packaging	161
Mountaineering and Mountain Rescue	114	Medical Care During Rescue Procedures and Transportation	161
Human Factors	115		
10. Safety	117	15. Fractures, Dislocations, and Spinal Injuries	165
<i>John Ellerton, Johannes Schiffer</i>		<i>Herbert Forster, Herbert Mayer, Hermann Brugger</i>	
Background	117	Fractures and Dislocations of the Extremities	165
Science	117	Pelvic Fractures	171
How Do We Improve the Safety of Our Rescues?	119	Spinal Injuries	172
Crew Resource Management	119		
11. Casualty Assessment and Risk Management in the Mountains	125	16. On-Site Surgical Interventions	177
<i>Fidel Elsensohn</i>		<i>Luigi Festi, Giulio Carcano, Giuseppe Ietto, Guido Giardini</i>	
Introduction	125	Introduction	177
General Considerations	125	Diagnosis	177
Safety of Rescuers and Victims	126		
Primary Survey	126	Special situations	
Secondary Survey	127	17. Climbing Accidents	191
Special Situations	128	<i>Volker Schöffl, Christoph Lutter, Thorsten Keil</i>	
Point of Care Ultrasound (POCUS)	130	Background and History	191
Risk Assessment and Management in Mountain Rescue	130	Epidemiology	192
		Injury Patterns	192
Trauma care		Management and On-Site Medical Treatment	194
12. Wound Care	133	18. Suspension Syndrome	201
<i>Mike Greene</i>		<i>Simon Rauch, Christian Nußbickel, Raimund Lechner</i>	
Background	133	Background, History, and Epidemiology	201
Pathophysiology	133	Pathophysiology	202
Wound Assessment	134	Prevention	202
Haemorrhage Control	134	Treatment	204
Personal Protective Equipment and Safety	135		
Prolonged Field Care	135		

19. Accidental Hypothermia	207	23. Aviation Accidents	279
<i>Peter Paal, Douglas J. Brown</i>		<i>Iztok Tomazin, Corinna Ariane Schön, Monika Brodmann Maeder</i>	
Epidemiology	207	Background	279
Primary and Secondary Hypothermia	207	History	280
Pathophysiology	208	Epidemiology	280
Diagnosis and Staging	210	Aviation Accidents: General Causes and Medical Consequences	281
Rescue Collapse and After-drop	212	Special Rescue Aspects of Aviation Accidents	282
Out-of-Hospital Treatment	212	Medical Treatment	284
In-Hospital Management	214	Common Aviation Activities in the Mountains	284
Logistics of Managing Accidentally Hypothermic Victims	217		
Outcome	217	24. Canyoning Accidents	295
Acknowledgements	219	<i>Giacomo Strapazzon, Iñigo Soteras, Oliver Reisten</i>	
20. Avalanche Accidents	223	Background	295
<i>Hermann Brugger, Giacomo Strapazzon, Ken Zafren</i>		History of Canyoning and Related Search and Rescue (SAR) Operations	295
Background	223	Epidemiology of Canyoning Accidents and SAR Operations	297
Snow and Avalanches	224	Mechanisms of Injury and Environmental Illnesses	298
Epidemiology	227	Rescue Operations	301
Pathophysiology	229	Canyon Safety	301
On-Site Management	234	Canyoning Equipment	302
Transport and In-Hospital Triage and Management	243	Progression Techniques	304
Treatment	244	Canyon SAR Techniques and Equipment	305
Multi-Casualty Avalanche Accidents	245	Management of Canyon Rescues	307
Prevention, Risk Assessment, and Safety Equipment	245	Evacuation and Transport	313
Medical Training of Avalanche Rescue Teams	248		
Prognosis of Avalanche Victims	248	25. Caving Accidents	317
21. Frostbite	253	<i>Iñigo Soteras, Lana Donlagic, Giacomo Strapazzon, Roger Mortimer</i>	
<i>Emmanuel Cauchy, Ken Zafren, Chris Imray</i>		History and Scope	317
Introduction	253	Epidemiology	318
Epidemiology	255	Hazards and Mitigation	320
Risk Factors	255	Medical Considerations	324
Pathophysiology	255	Management	329
Clinical Features	256	26. Swiftwater Rescue	335
Differential Diagnosis	257	<i>Patrick Wenger, Danica Barron, Stephen Maier</i>	
Criteria for Diagnosis: Frostbite Staging	257	Background	335
Investigations	259	River Hazards and Terminology	337
Treatment	260	Drowning	339
Adjunctive Therapies	263	Hypothermia and Cold Shock	340
Hospital Care	264	Other Causes of Swiftwater Morbidity and Mortality	341
Frostbite on Expeditions	265	Medical Management	342
Prognosis	265	Swiftwater Rescue Principles	342
Sequelae	266	Swiftwater Rescue Pre-Planning	342
Prevention	266	Swiftwater Rescue Techniques	344
Acknowledgements	266	27. Lightning Injuries	351
22. Crevasse Accidents	269	<i>Ken Zafren, Daniel Migliaccio</i>	
<i>Oliver Reisten, Oliver Kreuzer, Alessandro Forti, Hermann Brugger</i>		Background	351
Background	269	History	351
Epidemiology and Patterns of Injury	270	Epidemiology	351
Technical Rescue	271	Science	352
Medical Treatment	273		
Transport	274		

Pathophysiology	352	High Altitude Cerebral Oedema	425
Management and Medical Treatment	355	High Altitude Pulmonary Oedema	426
Prevention	356	Other Altitude-Related Conditions	429
28. Exhaustion and Fatigue in the Mountains	359	33. Psychiatric Emergencies	433
<i>Darryl Joseph Macias</i>		<i>Katharina Hüfner, Barbara Sperner-Unterwieser</i>	
Background, History, and Epidemiology	359	Background	433
Muscle Fatigue and Exhaustion	360	Psychiatric Disorders in People Permanently Living at Altitude	434
Central Fatigue and Exhaustion	362	Chief Symptom: Psychomotor Agitation	434
Central Governor Model	364	Chief Symptom: Suicidality	435
The Underappreciated Gastrointestinal Tract Can Cause Fatigue	364	Chief Symptom: Anxiety	435
Prevention of Exhaustion and Fatigue	365	Chief Symptom: Insomnia at Altitude	436
Supplements and Drugs to Mitigate Exhaustion	366	Delirium	436
29. Heat Illnesses	371	Substance Intoxication	437
<i>Flavio Gaudio, Grant Lipman</i>		High Altitude Psychosis	437
Background	371	Acute Stress Reaction and Post-Traumatic Stress Disorder	438
Definitions	371	Somatic Symptom and Related Disorders	439
Physiology	372	Mood at High Altitude	440
Heat Stroke	373	Neuropsychological Impairment at High Altitude	440
Clinical Syndromes	375	Psychiatric Emergency Medication	440
Field Treatment of Heat-Related Illnesses	378	34. Medical Emergencies	445
Hospital Treatment	381	<i>Monika Brodmann Maeder, Bernd Wallner, Darryl Joseph Macias</i>	
30. Envenomation by Bites and Stings	385	Introduction	445
<i>Rik De Decker, Gela Tölken</i>		Anaphylaxis	446
Introduction	385	Neurological Emergencies	448
Toxicology vs. Toxinology	385	Respiratory Emergencies	452
Perspective of Threats Posed by Animals That Bite and Sting	386	Infectious Disease Emergencies	455
Specific Venomous Animals	387	Special Situations in Mountain Rescue	456
Acknowledgements	398	35. Pain Management	461
31. Cardiovascular Emergencies at Altitude	399	<i>Elisabeth Gruber, Mathieu Pasquier, Bruce Brink, Maria Antonia Nerin</i>	
<i>Gianfranco Parati, Dario Pellegrini</i>		Background	461
Background	399	Non-Pharmacologic Management of Pain	464
Sudden Cardiac Death	400	Pharmacological Treatment	466
Acute Coronary Syndromes	401	Regional Anaesthesia	473
Pulmonary Embolism	404	Children	476
Arterial Thrombosis	407	36. Advanced Airway Management in Mountain Rescue	481
Hypertensive Emergencies	408	<i>Alexandre Kottmann, Natalie Hölzl, Peter Paal</i>	
Acute Heart Failure	409	Background	481
Aortic Dissection	411	Indications for Out-of-Hospital Advanced Airway Management	482
Ischaemic Cerebrovascular Events	414	Alternatives to Out-of-Hospital RSI and Endotracheal Intubation in the Mountains	483
32. High Altitude Illnesses	419	Drugs in Mountain Emergency RSI	484
<i>Ryan Paterson, Steven Roy</i>		Preparations for Anaesthesia Induction and Airway Management	486
Background	419	Oxygenation and Pre-Oxygenation	486
Definitions	419	Endotracheal Intubation and Ventilation	486
High Altitude Physiology	420	Verifying Tracheal Tube Position	487
Prevention of Altitude Illness in the High Altitude Rescuer	421		
Acute Mountain Sickness	424		

Difficult Airway Management	487	42. Multiple Trauma Management	551
Maintenance of Sedation, Monitoring, and Ventilation	488	<i>Pierre Bouzat, Luigi Festi, Julien Ghelfi</i>	
Side Effects of Sedation	488	Introduction	551
Training	489	Trauma System	551
37. Cardiac Arrest in Mountain Areas	493	Triage and Trauma Scores	552
<i>Simon Rauch, Peter Paal</i>		Initial Management and Imaging Strategy	553
Background	493	Surgical Treatment of Severely Injured Trauma Victims	555
Epidemiology and Causes of Cardiac Arrest in the Mountains	493	43. In-Hospital Treatment of Accidental Hypothermia	567
Treatment	495	<i>Peter Mair, Monika Brodmann Maeder</i>	
38. Automated External Defibrillators	505	Introduction	567
<i>Peter Paal, Fidel Elsensohn</i>		In-Hospital Treatment of Mild Accidental Hypothermia with Core Temperature >32 °C	567
Background	505	In-Hospital Treatment of Moderate or Severe Accidental Hypothermia with Core Temperature <32 °C without Cardiac Arrest	568
Epidemiology	506	In-Hospital Treatment of Severe Hypothermia with Cardiorespiratory Arrest	572
Risk of Cardiac Arrest in Mountain Areas	506	Hypothermic Avalanche Victims	575
Automated External Defibrillators	506	Section VII Special Knowledge	579
Cardiopulmonary Resuscitation and Automated External Defibrillation	506	44. Mass Casualty Incidents in the Mountains	581
Requirements for Using Automatic External Defibrillators in Mountain Areas	512	<i>Marc Blancher, Natalie Hölzl</i>	
Technical Considerations for Automatic External Defibrillator Use in the Mountains	512	Background	581
Challenges for the Future	512	When to Declare a Mass Casualty Incident	581
39. Termination of Cardiopulmonary Resuscitation in Mountain Rescue	517	Principles of Disaster Medicine for Mountain Emergency Medicine	582
<i>Peter Paal, Mario Milani</i>		What is Different about MCIs in Mountain and Wilderness Areas?	586
Background	517	Principles of Management for Specific MCIs	587
General Aspects and Ethical Considerations	517	45. Crisis Intervention and Peer Support after Incidents in Mountain Areas	591
Primary Cardiac Arrest	520	<i>Barbara Juen, Heiner Brunner, Ruth Warger, Dietmar Kratzer</i>	
Environmental Limitations and Special Circumstances	520	Psychosocial Support and Psychological First Aid in Emergencies	591
Further Considerations	523	46. Occupational Health in Mountain Rescue	599
Limitations	523	<i>Thomas Küpper</i>	
40. Transport	527	History	599
<i>Alberto Zoli, Gianluca Marconi, Bruce Brink, Mario Teruzzi</i>		Principles of Health and Safety in Mountain Rescue	599
Background	527	Cold Exposure in Mountain Rescue	600
Emergency Rescue Requirements	528	Ultraviolet Radiation	601
Preparation for Transport	528	Infection Control	601
Use of Helicopters in Mountain Rescue	530	Health Requirements	601
Terrestrial (Ground) Transport	536	Noise Exposure	603
Section VI In-Hospital Management	539	Assessment of Occupational Health of Helicopter Rescue Personnel	604
41. Emergency Department Trauma Management	541		
<i>Oswaldo Chiara, Ken Zafren, Stefania Cimbanassi</i>			
Trauma Team	542		
Trauma Triage Criteria	543		
Emergency Procedures	545		

47. Medicolegal Aspects	609
<i>Corinna Ariane Schön</i>	
Background	609
Legal Issues	610
Documentation	613
Death in the Mountains	616
Handling the Media	624
48. Outlook—Giant Steps Forward	627
<i>Hermann Brugger, Peter Paal, Ken Zafren</i>	
Introduction	627
Technologies	627
Index	635

Section VII Special Knowledge	
49. Mass Casualty Incidents	635
<i>Alfred Blum, Hans-Joachim Hötz, Peter Paal</i>	
Background	635
When to Declare a Mass Casualty Incident	635
Principles of Disaster Medicine for Mountain Emergency Medicine	635
What is Different about MCI in Mountain and Wilderness Areas?	635
Principles of Management for Specific MCIs	635
50. Crisis Intervention and Peer Support after Incidents in Mountain Areas	635
<i>Andreas Jäger, Hans Bräuer, Ralf Wagner, Dierk Kretzer</i>	
Psychosocial Support and Psychological First Aid	635
51. Occupational Health in Mountain Rescue	635
<i>Thomas Käpfer</i>	
History	635
Principles of Health and Safety in Mountain Rescue	635
Cold Exposure in Mountain Rescue	635
Ultraviolet Radiation	635
Infection Control	635
Health Requirements	635
Assessment of Occupational Health of Helicopter Crews	635
Section VI In-Hospital Management	
52. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
53. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
54. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
55. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
56. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
57. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
58. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
59. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
60. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
61. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
62. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
63. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
64. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
65. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
66. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
67. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
68. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
69. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
70. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
71. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
72. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
73. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
74. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
75. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
76. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
77. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
78. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
79. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
80. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
81. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
82. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
83. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
84. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
85. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
86. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
87. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
88. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
89. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
90. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
91. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
92. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
93. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
94. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
95. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
96. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
97. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
98. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
99. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635
100. Emergency Department Trauma Management	635
<i>Andreas Zoller, Ken Zafren, Stefan C. Schick</i>	
Trauma Team	635
Triage	635
Emergency Procedures	635