

Contents

INTRODUCTION	1
Glossary	2
1 Emergency Medical Services	6
1.1 Prehospital emergency care	6
1.2 Helicopter Emergency Medical Services	6
2 HEMS Operational Management	8
3 Radio Communications	10
3.1 The importance of radio communication	10
3.2 The principles of radio communication	10
4 Safety of HEMS	13
4.1 The importance of the topic	13
4.2 Risks in HEMS	13
4.3 Protected interests	14
4.4 Sources of risk in HEMS	14
4.5 Tasks of the HEMS medical crew in relation to ensuring the safety of the service	15
4.6 Safety critical situations	15
4.7 Principles for ensuring HEMS safety	16
4.8 Practical principles for communication on board a HEMS helicopter	16
5 Crisis Resource Management	18
5.1 Non-technical skills	18
5.1.1 Teamwork	20
5.1.2 Task management	20
5.1.3 Situational awareness	20
5.1.4 Decision-making	21
5.1.5 Communication	21
5.2 Error prevention	23
6 Critical Situations on Board the Helicopter	24
6.1 The principles of crisis management	24
6.1.1 Training/drills	24

6.1.2	Crisis prevention	25
6.1.3	Medical aspects.....	26
6.1.4	Securing / monitoring + treatment at the site of the incident	26
6.1.5	Transport = flight.....	26
6.1.6	Handover of the patient.....	27
6.2	Possible crisis situations	27
6.2.1	c = catastrophic haemorrhage	27
6.2.2	Airway + Breathing.....	27
6.2.3	Circulation	28
6.2.4	Neurological disability.....	29
6.2.5	Exposure – complete external examination	29
7	Special Activities – Technical Missions.....	30
7.1	Indication and activation of special activities	30
7.2	The roles of individual members of the HEMS crew during special activities	31
7.3	Methods of transporting the medical crew to the patient and extracting the patient from the terrain:	32
7.4	Procedure when performing special activities.....	33
7.4.1	Key points.....	33
7.4.2	Before the mission	33
7.4.3	During the mission	33
7.4.4	ICAR International Commission for Alpine Rescue recommendations of January 2016	33
7.5	Other special activities in the operation of air rescue services	34
8	Special Activities – Air transport of newborns	35
8.1	The effects of flight on the body	36
8.2	Requirements on the helicopter	38
8.2.1	Requirements on the crew.....	39
8.2.2	Requirements on the transport incubator.....	39
8.2.3	Requirements on instrumentation and other equipment.....	39
8.3	Preparing the newborn for transport	41
9	HEMS Crew during Mass Casualty Incidents	43

9.1	Definition of terms	43
9.2	Organization of medical unit activities at the site of a mass casualty incident	43
9.3	Air rescue services during mass casualty incidents.....	44
9.3.1	Main advantages of deploying air rescue services	44
10	Gynaecological – obstetric complications	46
10.1	<i>Inferior vena cava syndrome</i>	<i>46</i>
10.2	Placental abruption	46
10.2.1	Polytrauma (the patient's airways are secured)	46
10.2.2	Polytrauma (consciousness patient)	47
10.3	Eclampsia	47
10.4	Childbirth	47
10.5	Gynaecological complications	48
10.5.1	Ectopic pregnancy	48
10.5.2	Ovarian hyperstimulation syndrome	48
11	Burns.....	49
11.1	General characteristics of burns.....	49
11.2	Pathophysiology	49
11.3	Adult patient	49
11.3.1	Severity factors of burn trauma in an adult patient	49
11.3.2	Basic strategy of the therapeutic procedure in prehospital emergency care in an adult patient with burn trauma	52
11.4	PAEDIATRIC PATIENTS	55
11.4.1	Severity factors of burn trauma in a paediatric patient	56
11.4.2	Basic strategy of the therapeutic procedure in prehospital emergency care in a child with a traumatic burn injury	57
	APENDIX 1 – HEMS equipment	61
	c – Haemorrhagic Management	64
	A – Airway	64
	B – Breathing.....	65
	C – Circulation	67
	D – Disability.....	69

E – Exposure 70

Radio communication 71

Specific equipment..... 71