



Federal State-Funded Educational Institution of Higher Training
I.M. Sechenov First Moscow State Medical University
of the Ministry of Health of the Russian Federation

The Department of Life Safety and Disaster Medicine

I.M. Chizh, S.N. Rusanov

LIFE SAFETY

Textbook

*Рекомендовано Координационным советом по области
образования «Здравоохранение и медицинские науки»
в качестве учебника для иностранных студентов
образовательных учреждений, реализующих программы
высшего образования по специальности
31.05.01 «Лечебное дело» по дисциплине «Безопасность
жизнедеятельности, медицина катастроф»*



MEDICAL INFORMATIONAL AGENCY

Moscow
2017

UDC 614.8(075.8)

Получена положительная рецензия Экспертной комиссии по работе с учебными изданиями ФГБОУ ВО Первый МГМУ имени И.М. Сеченова № 019 ЭКУ от 15 сентября 2016 г.

Compilers: *I.M. Chizh*, Professor, Correspondent Member of the Russian Academy of Sciences, Doctor of Medical Science; *S.N. Rusanov*, Professor of the Department, Doctor of Medical Science; *A.A. Timoshevski*, Professor of the Department, Doctor of Medical Science; *N.V. Tretyakov*, Professor of the Department, Doctor of Medical Science; *N.A. Minyailov*, Assistant Professor of the Department, PhD (Medicine); *D.V. Gerasimov*, Assistant Professor of the Department, PhD (Medicine); *V.M. Putilo*, Assistant Professor, PhD (Medicine); *V.A. Shapovalova*, Assistant Professor of the Department, PhD (Medicine); *E.Yu. Lemeshchenko*, Senior Lecturer of the Department.

General English text editors: *N.N. Korabelnikova*, *Ye.V. Babchenko*

Chizh, I.M.

Life safety : Textbook / I.M. Chizh, S.N. Rusanov. — Moscow : Medical Informational Agency, 2017. — 120 p. + color insert 4 p.

ISBN 978-5-9986-0297-9

The materials prepared and delivered by the compilers in the course of teaching the subject “Life safety” to foreign students are included in the tutorial. The book is designed for independent study by English-speaking students who are trained in medical higher professional education institutions majoring in “Health care” specialties.

UDC 614.8(075.8)

ISBN 978-5-9986-0297-9

- © Чиж И.М. и др., 2017
- © ФГБОУ ВО Первый МГМУ имени И.М. Сеченова Минздрава России, 2017
- © Оформление. ООО «Издательство «Медицинское информационное агентство», 2017

Все права защищены. Никакая часть данной книги не может быть воспроизведена в какой-либо форме без письменного разрешения владельцев авторских прав.

Contents

Preface	7
Chapter 1. Methodological basis of life safety	9
Introduction	10
1. The concept of human life activity.....	10
1.1. Basic concepts and definitions in “Life safety”	10
1.2. Various hazards to man	12
2. The fundamentals of life safety of humans	14
Conclusion	15
Questions for self-assessment.....	16
Chapter 2. Collective security	17
Introduction	18
1. The collective security	18
1.1. A more secure world: Our shared responsibility.....	18
1.2. Towards a new security consensus.....	21
1.3. Poverty, infectious disease and environmental degradation. The threats we face.....	21
2. Conflicts between and within states	23
2.1. The threat of an interstate conflict	23
2.2. The threat of an internal conflict.....	24
3. Weapons of mass destruction. The threats we face.....	24
4. Terrorism.....	26

5. Transnational organized crime.....	26
Conclusion	27
Questions for self-assessment	27
Chapter 3. Civil Defense	29
Introduction	30
1. Basic concepts and definitions in the civil defense.....	30
1.1. Principles (stages) of civil defense emergency actions	30
1.2. Main tasks of civil defense	31
2. The International Civil Defense Organization (ICDO)	32
2.1. Some milestones in the history of ICDO	32
2.2. Activities of ICDO	33
Conclusion	34
Questions for self-assessment	35
Chapter 4. Weapons of mass destruction.....	37
Introduction	38
1. Nuclear weapons	38
2. Chemical weapons	39
2.1. Chemical warfare.....	39
2.2. Convention on the Ban on Development, Production, Stockpiling, Use, and Destruction of Chemical Weapons (Cheical Weapons Convention).....	41
3. Biological weapons.....	41
Conclusion	43
Questions for self-assessment	44
Chapter 5. Population protection from harmful and dangerous factors	45
Introduction	46
1. Means and methods of control and monitoring of natural, anthropogenic, and technogenic factors	46
2. The main measures to protect the population.....	48
3. Technical safety equipment.....	49
4. Individual health protection	50
5. Sanitary and special processing.....	51
Conclusion	52
Questions for self-assessment	52

Chapter 6. First aid in emergency situations	55
Introduction	56
1. Some milestones in the history of first aid.....	56
2. Aims of the first aid.....	57
3. Conditions that often require first aid	58
4. Adult and child basic life support	58
5. First aid kit	63
6. First aid training.....	67
Conclusion	67
Questions for self-assessment.....	68
Chapter 7. Psychological first aid in emergency situations	69
Introduction	70
1. How crisis events affect people.....	70
2. What is psychological first aid?	71
2.1. PFA: Who, when and where	71
2.2. How to help responsibly	72
3. Providing PFA.....	74
4. Action principles of PFA — look, listen and link.....	75
4.1. Giving information.....	79
5. People who likely need special attention.....	80
Conclusion	80
Questions for self-assessment.....	81
Chapter 8. Patient safety	83
Introduction	84
1. Why do health-care students need patient safety education?	84
1.1. Patient safety and health care.....	85
1.2. What is patient safety?	85
2. Basic questions about human factors in health care.....	86
2.1. Application of human factors knowledge	86
3. Understanding systems and the effect of complexity on patient care	88
4. Being an effective team player	89
5. Learning from errors to prevent harm	90
6. Understanding and managing clinical risk.....	92

7. Using quality-improvement methods to improve care	96
8. Engaging with patients and carers	98
9. Infection prevention and control	101
10. Patient safety and invasive procedures	107
Conclusion	109
Questions for self-assessment	109
Chapter 9. Medical work safety	111
Introduction	112
1. Characteristics of threats to medical workers' life and health.....	112
2. The system of labor protection and safety in medical organizations.....	113
Conclusion	116
Questions for self-assessment	117
References.....	118