CONTENTS

About the Editor ix
About the Authors xi
Preface xv

1. Introduction to Factors Influencing Offshore Helicopter Transport Safety 1
   Michael J. Taber
   1.1 Why a Book on Offshore Helicopter Safety? 1
   References 9

2. Development and Implementation of Helicopter Underwater Egress Training Programs 11
   Sean Fitzpatrick
   2.1 Introduction 11
   References 38

3. Psychological Factors in Underwater Egress and Survival 41
   John Leach
   3.1 Introduction 41
   3.2 The Brain as an Information-Processing System 42
   3.3 Natural History of an Emergency 44
   3.4 Cognitive Dysfunction in Emergencies 46
   3.5 Survivor Behaviors: Dysexecutive Survivor Syndrome 49
   3.6 The Ditching: Impact Phase 56
   3.7 Postditching: Recoil Phase 58
   3.8 Conclusion 59
   References 61

4. The Physiological Responses to Cold-Water Immersion and Submersion: From Research to Protection 63
   Michael J. Tipton
   4.1 Introduction 63
   4.2 Background 63
   4.3 Conclusion 73
   Acknowledgments 73
   References 74
8. Helicopter Emergency Breathing Systems 151
Sue Coleshaw
8.1 Introduction—The Need for Emergency Breathing Systems 151
8.2 Historical Development 155
8.3 Design 160
8.4 EBS Performance 164
8.5 Training 167
8.6 Conclusions 171
References 171

9. Immersion Suits for Helicopter Transportation 175
Dana H. Sweeney
9.1 Introduction 175
9.2 Helicopter Immersion Suits 176
9.3 Sealing Systems and Accessories 180
9.4 Egress Skill Retention and EB 188
9.5 EB Test Methods 189
9.6 Additional EB Implications 191
9.7 Test Methods for Snagging 194
9.8 Importance of the Standard 195
9.9 Thermal Comfort and Situational Awareness 196
9.10 Flotation Requirements for Helicopter Passengers 198
9.11 Summary 200
References 202

10. Consolidation of Findings and Future Directions for Offshore Helicopter Operations 207
Michael J. Taber
10.1 Introduction 207
10.2 Theoretical Estimation of Ditching Event Survival 208
10.3 Implications of HUET Training Differences 209
10.4 Cognitive Psychophysiological Factors Influencing Ditching Survivability 210
10.5 Focused Discussion of Factors Affecting Egress 211
10.6 Final Thoughts and Recommendations 212
References 214

Index 217