

---

## Suggested Reading List

1. Active shooter incidents in the United States from 2000–2016, U.S. Department of Justice, Federal Bureau of Investigation; 2016. [FBI.gov](https://www.fbi.gov).
2. Adini B, Peleg K. On constant alert: lessons to be learned from Israel's emergency response to mass-casualty terrorism incidents. *Health Aff (Millwood)*. 2013;32(12):2179–85. <https://doi.org/10.1377/hlthaff.2013.0956>.
3. Adini B, Goldberg A, Cohen R, Laor D, Bar-Dayan Y. Evidence-based support for the all-hazards approach to emergency preparedness. *Isr J Health Policy Res*. 2012;1(1):40. <https://doi.org/10.1186/2045-4015-1-40>.
4. Aharonson-Daniel L, Klein Y, Peleg K, ITG. Suicide bombers form a new injury profile. *Ann Surg*. 2006;244(6):1018–23.
5. AMA Journal of Ethics. Disaster and mass casualty triage. [journalofethics.ama-assn.org/2010/06/cpr11-1006.html](https://journalofethics.ama-assn.org/2010/06/cpr11-1006.html).
6. American College of Surgeons Bulletin Supplement. September 2015. Lakstein D, Blumenfeld A, Sokolov T, Lin G, Bssorai R, Lynn M, Ben-Abraham R. Tourniquets for hemorrhage control on the battlefield: a 4 year accumulated experience. *J Trauma*. 2003;54(5 Suppl):S221–5.
7. Arnold JL, Demby LM, Tsai MC, Dainiak N, Rodoplu U, Schonfeld DJ, Paturas J, Cannon C, Selig S. Recommended modifications and applications of the Hospital Emergency Incident Command System for hospital emergency management. *Prehosp Disaster Med*. 2005;20(5):290–300.
8. Barbier EB. Policy: Hurricane Katrina's lessons for the world. *Nature*. 2015;524(7565):285–7.
9. Baxter PJ, Jenkins S, Seswandhana R, Komorowski JC, Dunn K, Purser D, Voight B, Shelley I. Human survival in volcanic eruptions: Thermal injuries in pyroclastic surges, their causes, prognosis and emergency management. *Burns*. 2017;43(5):1051–69.
10. Beekley AC, Sebesta JA, Blackburne LH, Herbert GS, Kauvar DS, Baer DG, Walters TJ, Mullenix PS, Holcomb JB, 31st Combat Support Hospital Research Group. Prehospital tourniquet use in Operation Iraqi Freedom: effect on hemorrhage control and outcomes. *J Trauma*. 2008;64(2 Suppl):S28–37.
11. Bloch YH, Schwartz D, Pinkert M, Blumenfeld A, Avinoam S, Hevion G, Oren M, Goldberg A, Levi Y, Bar-Dayan Y. Distribution of casualties in a mass-casualty incident with three local hospitals in the periphery of a densely populated area: lessons learned from the medical management of a terrorist attack. *Prehosp Disaster Med*. 2007;22(3):186–92.
12. Brodie S, Hodgetts TJ, Ollerton J, McLeod J, Lambert P, Mahoney P. Tourniquet use in combat trauma: U.K. military experience. *J Army Med Corps*. 2007;153:310–3.
13. Cahill J, IMR Group Inc. When time stops: family support after a mass-casualty incident. 2010, June 16. Retrieved April 16, 2018, from <https://www.domesticpreparedness.com/healthcare/when-time-stops-family-support-after-a-mass-casualty-incident/>.
14. Carlsen HK, Hauksdottir A, Valdimarsdottir UA, Gíslason T, Einarsdottir G, Runolfsson H, Briem H, Finnbjornsdottir RG, Gudmundsson S, Kolbeinsson TB, Thorsteinsson T, Pétursdóttir

- G. Health effects following the Eyjafjallajökull volcanic eruption: a cohort study. *BMJ Open*. 2012;2(6):e001851.
15. Cheatham ML, Smith CP, Ibrahim JA, Havron WS, Lube MW, Levy MS, Ono SK. Orlando Regional Medical Center responds to Pulse nightclub shooting. *Bull Am Coll Surg*. 2016;101(11):12–9.
  16. Cherry K. How crisis counseling can help you cope with traumatic events. 2017. Retrieved April 16, 2018, from <https://www.verywellmind.com/what-is-crisis-counseling-2795060>.
  17. Doocy S, Daniels A, Dooling S, Gorokhovich Y. The human impact of volcanoes: a historical review of events 1900–2009 and systematic literature review. *PLoS Curr*. 2013;16:5.
  18. Einav S, Feigenberg Z, Weissman C, Zaichik D, Caspi G, Kotler D, Freund HR. Evacuation priorities in mass casualty terror-related events: implications for contingency planning. *Ann Surg*. 2004;239(3):304–10.
  19. Gard BA, Ruzek JI. Community mental health response to crisis. *J Clin Psychol*. 2006;62(8):1029–41.
  20. Get your kids on your team! n.d. Retrieved from <https://www.ready.gov/kids/parents>.
  21. Goralnick E, Halpern P, Loo S, Gates J, Biddinger P, Fisher J, Velmahos G, Chung S, Mooney D, Brown C, Barnewolt B, Burke P, Gupta A, Ulrich A, Hojman H, McNulty E, Dorn B, Marcus L, Peleg K. Leadership during the Boston Marathon bombings: a qualitative after-action review. *Disaster Med Public Health Prep*. 2015;22:1–7. [Epub ahead of print].
  22. Guidance on dealing with fatalities in emergencies, UK Home Office Communication Directorate 2004. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/61191/fatalities.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61191/fatalities.pdf).
  23. Guidelines for the operation of burn centers (pp. 79–86). *Resources for Optimal Care of the Injured Patient 2006*, Committee on Trauma, American College of Surgeons.
  24. Gupta BD. Mass disasters: a preparedness plan book with particular emphasis on mortuary services. *JIAFM*. 2004;26(2):0971–0973. ISSN 0971-0973.
  25. Hafiz SCB, Attiyat M, Sussman M, Rattan R, Zakrison T, Garcia G, Marttos A, Lieberman H, Kaufman J, Hart V, Ruiz G, Schulman C, Pizano L, Byers P, Ginzburg E, Namias N, Pust G. In the eye of hurricane irma – traumatic injuries secondary to hurricane impact. Abstract, Floiria Committee on Trauma Meeting, Orladno, Florida; 2018.
  26. Halpern P, Tsai MC, Arnold JL, Stok E, Ersoy G. Mass-casualty, terrorist bombings: implications for emergency department and hospital emergency response (Part II). *Prehosp Disaster Med*. 2003;18(3):235–41.
  27. Hirshberg A, Scott BG, Granchi T, Wall MJ Jr, Mattox KL, Stein M. How does casualty load affect trauma care in urban bombing incidents? A quantitative analysis. *J Trauma*. 2005;58(4):686–93; discussion 694–5 (ISSN: 0022-5282).
  28. Jaffe DH, Peleg K, Israel Trauma Group. Terror explosive injuries: a comparison of children, adolescents, and adults. *Ann Surg*. 2010;251(1):138–43. <https://doi.org/10.1097/SLA.0b013e3181b5d7ab>.
  29. Jensen J, Thompson S. The Incident Command System: a literature review. *Disasters*. 2015. <https://doi.org/10.1111/disa.12135>. [Epub ahead of print].
  30. Kar N. Psychological impact of disasters on children: Review of assessment and interventions. *World J Pediatr*. 2009;5(1):5–11.
  31. Kellermann AL, Peleg K. Lessons from Boston. *N Engl J Med*. 2013;368(21):1956–7. <https://doi.org/10.1056/NEJMp1305304>. Epub 2013 Apr 24.
  32. Klima DA, Seiler SH, Peterson JB, Christmas AB, Green JM, Fleming G, et al. Full-scale regional exercises: closing the gaps in disaster preparedness. *J Trauma Acute Care Surg*. 2012;73(3):592–7; discussion 7–8.
  33. Kluger Y, Peleg K, Daniel-Aharonson L, Mayo A, Israeli Trauma Group. The special injury pattern in terrorist bombings. *J Am Coll Surg*. 2004;199(6):875–9.
  34. Kosashvili Y, Aharonson-Daniel L, Peleg K, Horowitz A, Laor D, Blumenfeld A. Israeli hospital preparedness for terrorism-related multiple casualty incidents: can the surge capacity and injury severity distribution be better predicted? *Injury*. 2009;40(7):727–31. <https://doi.org/10.1016/j.injury.2008.11.010>. Epub 2009 Apr 23.

35. Kragh JF Jr, Walters TJ, Baer DG, et al. Survival with emergency tourniquet use to stop bleeding in major limb trauma. *Ann Surg*. 2009;249(1):1–7.
36. Landman A, Teich JM, Pruitt P, Moore SE, Theriault J, Dorisca E, Harris S, Crim H, Lurie N, Goralnick E. The Boston Marathon bombings mass casualty incident: one emergency department's information systems challenges and opportunities. *Ann Emerg Med*. 2015;66(1):51–9. <https://doi.org/10.1016/j.annemergmed.2014.06.009>. Epub 2014 Jul 3.
37. Levi L, Michaelson M, Admi H, Bregman D, Bar-Nahor R. National strategy for mass casualty situations and its effects on the hospital. *Prehosp Disaster Med*. 2002;17(1):12–6. Review.
38. Li HL, Tang WJ, Ma YK, Jia JM, Dang RL, Qiu EC. Emergency response to nuclear, biological and chemical incidents: challenges and countermeasures. *Mil Med Res*. 2015;2:19. <https://doi.org/10.1186/s40779-015-0044-3>. eCollection 2015.
39. Lynn M, Gurr D, Memon A, Kaliff J. Management of conventional mass casualty incidents: ten commandments for hospital planning. *J Burn Care Res*. 2006;27(5):649–58.
40. Michaelson M, Reis ND. Crush injury–crush syndrome. *Unfallchirurg*. 1988;91(7):330–2. Review. No abstract available.
41. Michaelson M, Taitelman U, Bursztein S. Management of crush syndrome. *Resuscitation*. 1984;12(2):141–6.
42. Morgan O. Infectious disease risks from dead bodies following natural disasters. *Rev Panam Salud Publica*. 2004;15(5):307–12.
43. NASP School Safety and Crisis Response Committee. Recovery from large-scale crises: guidelines for school administrators and crisis teams. Bethesda: National Association of School Psychologists; 2018.
44. NASP: The National Association of School Psychologists, 2015. *Ann Emerg Med*. 1996;28(2):129–35.
45. National Child Traumatic Stress Network and National Center for PTSD. Psychological first aid field operation guide. 2nd ed; 2006. <https://www.nctsn.org/resources/psychological-first-aid-pfa-field-operations-guide-without-appendices>.
46. Noe RS, Schnell AH, Wolkin AF, Podgornik MN, Wood AD, Spears J, et al. Disaster-related injuries and illnesses treated by American Red Cross disaster health services during Hurricanes Gustav and Ike. *South Med J*. 2013;106(1):102–8.
47. O'Neill PA. The ABC's of disaster response. *Scand J Surg*. 2005;94(4):259–66.
48. Okumura T, Takasu N, Ishimatsu S, Miyanoki S, Mitsuhashi A, Kumada K, Tanaka K, Hinohara S. Report on 640 victims of the Tokyo subway sarin attack. *Acad Emerg Med*. 1998;5(6):618–24.
49. Peleg K. The danger of complacency – readiness and preparedness = effective outcomes. *Ann Surg*. 2014;260(6):967–8. <https://doi.org/10.1097/SLA.0000000000000987>.
50. Peleg K, Shenhar G. Did the U.S. Response to the marathon bombings help or harm security? *FrontPublic Health*. 2014;2:10. <https://doi.org/10.3389/fpubh.2014.00010>. eCollection 2014.
51. Peleg K, Michaelson M, Shapira SC, Aharonson-Daniel L. Principles of emergency management in disasters. *Adv Ren Replace Ther*. 2003;10(2):117–21. Review.
52. Peleg K, Jaffe DH, Israel Trauma Group. Are injuries from terror and war similar? A comparative study of civilians and soldiers. *Ann Surg*. 2010;252(2):363–9. <https://doi.org/10.1097/SLA.0b013e3181e98588>.
53. Pfefferbaum B, Pfefferbaum RL, Horn RL. Involving children in disaster risk reduction: The importance of participation. *Eur J Psychotraumatol*. 2018;9(Sup2):1425577. <https://doi.org/10.1080/20008198.2018.1425577>.
54. Pizzi MA. Hurricane Sandy, disaster preparedness, and the recovery model. *Am J Occup Ther*. 2015;69(4):6904250010p1–6904250010p10.
55. Raiter Y, Farfel A, Lehavi O, Goren OB, Shamiss A, Priel Z, Koren I, Davidson B, Schwartz D, Goldberg A, Bar-Dayyan Y. Mass casualty incident management, triage, injury distribution of casualties and rate of arrival of casualties at the hospitals: lessons from a suicide bomber attack in downtown Tel Aviv. *Emerg Med J*. 2008;25(4):225–9. <https://doi.org/10.1136/emj.2007.052399>.

56. Schroll R, Smith A, NE MS Jr, et al. A multi-institutional analysis of prehospital tourniquet use. *J Trauma Acute Care Surg.* 2015;79(1):10–4.
57. Smith ER, Shapiro G, Sarani B. The profile of wounding in civilian public mass shooting fatalities. *J Trauma Acute Care Surg.* 2016;81(1):86–92.
58. Stein M, Hirschberg A. Medical consequences of terrorism. The conventional weapon threat. *Surg Clin North Am.* 1999;79(6):1537–52.
59. Teague DC. Mass casualties in the Oklahoma City bombing. *Clin Orthop Relat Res.* 2004;422:77–81.
60. The State of Florida fatality management response plan, Florida Medical Examiners Commission, Version 3.0; 2012. <http://www.fdle.state.fl.us/MEC/Publications-and-Forms/Documents/MEC-Fl-Mass-Fatality-Plan-2018.aspx>.
61. Tur-Kaspa I, Lev EI, Hendler I, Siebner R, Shapira Y, Shemer J. Preparing hospitals for toxicological mass casualties events. *Crit Care Med.* 1999;27(5):1004–8.
62. United States House of Representatives Committee on Oversight and Government Reform Majority Staff. Hospital emergency surge capacity: not ready for the “predictable surprise”. 2008. <https://www.hsdl.org/?view&did=485720>.

---

# Index

## A

- Abandonment, patient, 124
- Acute stress disorder, 154
- Advanced trauma life support (ATLS®)
  - course, 75
  - principles, 101
- Aid
  - external, 149
  - humanitarian, 149, 150
  - psychological first, 155
- American burn association (ABA)
  - consensus formula, 67
- Ash asphyxiation, 64

## B

- Bacteria, 138
- Base of operations (BoO), 14
- Bioterrorism
  - challenges, 138
  - definition, 137
  - progressive disasters, 137
  - threat, 138
- Blast injuries
  - classification of, 59–62
  - heart and lungs hemorrhagic
    - contusions, 60
  - multidimensional, 61, 62
  - patient management, 61
  - pulmonary, 60
  - secondary, 60
  - tertiary, 61
  - tympanic membrane rupture, 62
- Blood bank, 53
- Body parts identification after
  - explosions, 109
- Boston Marathon Bombing, 2013, 28
- Buddy aid, 77
- Burn mass casualty incident (BMCI), 67–69

## Burns

- characteristics, 67
- volcanic eruption, 63
- Bus explosion, suicide bomber, 5
- Bystanders, at Boston Marathon Bombing, 23

## C

- Call-in of personnel
  - meeting point for, 41
  - methods, 40
- Catastrophe categories, 5
- Chaos phase, 11–12
  - after market explosion
    - in Jerusalem, 12
- Chemical agent, 95
- Chernobyl nuclear plant, 141
- Chernobyl nuclear reactor
  - after accident, 6
  - as progressive disaster, s, 5
- Communications, 160
  - and earthquakes, 81
  - satellite, 82, 108
- Compartment syndrome
  - clinical signs and symptoms, 87
  - definition, 87
  - diagnosis, 87
- Corpses identification, 109
- Crisis response
  - brief checklist, 80
  - team, 80
- Crush injury
  - advanced trauma life support (ATLS®), 83
  - challenges, 88
  - definition, 87
  - and earthquakes, 81
- Crush syndrome, 88

**D**

- Decontamination
  - chemical agents, 91
  - construction of facility, 96–97
  - at hospital, 92–93
  - at scene, 92
- Dirty bomb, 7, 141
  - definition, 101
  - emergency department preparedness for, 102
- Disaster
  - categories, 5–7
  - checklist, 157
  - definition, 3, 4
- DNA testing, 110
- Drill, 111
  - casualty, 159

**E**

- Earthquakes
  - education of population, 86
  - epidemiology of, 81–82
  - Fukushima nuclear reactor after, 82
  - infrastructure damage, 81
  - medical care, 83
  - medical response to, 81
  - miniature audio and video equipment, 86
  - out-of-hospital medical care during, 84
  - patterns of injuries after, 84
  - rapid assessment, 82
  - rescue dogs, 86
  - search and rescue (S&R), 85
- Emergency department (ED)
  - and mass shootings, 73–74
  - preparedness for “dirty bomb”, 102
- Emergency medical services (EMS), 11
- Emergency operations center (EOC), 16–18
- Ethical challenges, 84
- Ethical committee, 123
- Ethical considerations
  - level 0, 124
  - level 1, 124
  - level 2, 124
  - level 3, 124–125
  - level 4, 125
- Evacuation, maritime SMCI, 106
- Exercises
  - and drills, SMCI, 111
  - hospital, 111, 113–114
  - pre-hospital, 111, 113
  - security, 122
  - tabletop, 111
- Explosion, 61

- Explosive device, 101
- Exxon oil spill, 4

**F**

- Family/friends information
  - center (FIC), 54–55
- Field hospital
  - adjacent landing zone (LZ), 119
  - central triage and evacuation, affected city/area, 119–120
  - collaboration with teams, 118
  - complete hospital, 118–119
  - deployment, 115
  - information gathering, 115
  - interaction for local authorities, 118
  - logistically self-sufficient, 116
  - media management, 120
  - pioneer team, 116
  - public health, 118
  - to sudden onset disasters, 115
- Field triage, 19–21
- Fingerprinting, 109
- Flash burns, 61
- Flooding of patients prevention, hospital strategies, 42–44
- Fukushima nuclear accident, 141
- Futile medical care, 123

**H**

- Haiti earthquake, relief efforts, 8
- Hazardous materials exposure, 64
- Helipad, 106
- Hospital emergency incident command system (HEICS), 56
- Hospital exercises, 111–114
- Hospital overwhelmed, 123
- Hospital patient evacuation during Katrina, 26
- Hospital security
  - ambulances access, 121–122
  - communications, 122
  - exercises, 122
  - hospital lockdown, 122
  - parking, 122
  - risk and threat assessment, 121
  - triage area, 121–122
- Hospital surge capacity (HSC)
  - assumptions, 30
  - channels (frequencies), 36–37
  - components, 30
  - definition, 30
  - designated treatment areas, 34
  - distribution of victims by severity, 31–33

- equipment and supplies, 34–35
- hospital communications, 35–37
- maximal number of additional patients, 31
- principles, 33
- sources of personnel, 34
- Humanitarian**
  - agencies for, 150
  - definition, 149
  - delivering aid, 150
  - forms, 150
- Hurricanes**
  - epidemiology of injuries, 133–134
  - hospital planning, 134
  - Irma approaching Florida, 134
  - personal planning, 134
  - recovery phase, 135
  - responsibilities for team A staff members, 135
  - responsibilities for team B staff members, 135
- I**
- Identification process**
  - badges, 40
  - comatose patients, 51
  - of deceased, 109
  - mass fatality incident, 128–129
- Incident command post (ICP), 14**
- Incident command system (ICS), 13–16**
- Incident commander (IC), 12**
- L**
- Leadership**
  - skills, 159
  - and supervision, 160
- Lockdown, hospital, 122**
- M**
- Maritime sudden mass casualty incidents**
  - evacuation considerations, 106
  - management, 105
  - medical care, 106
  - requirements, 105
- Mass casualty incidents (MCIs)**
  - definition, 3, 4 (*see also* Sudden mass casualty incident (SMCI))
- Mass fatality incident (MFI), 127**
  - data distribution, 129
  - disposition, 129
  - epidemic outbreak myth, 129
  - identification, 128–129
  - management, 128
  - plan and training, 130
  - voluntary agencies, 128
- Mass feeding, 150**
- Mass shootings**
  - bleeding control, 73
  - and emergency department, 73–74
  - epidemiology, 71
  - in Las Vegas, US, 2017, 72
  - prehospital, 72–73
- Maximal number of patients (MNP)**
  - per hospital, 31
- Media coverage, 55**
- Mental health, 153**
- Mental health response after disaster/SMCI, 155–156**
- N**
- Nonurgent casualties evacuation, 13**
- Nutritional support**
  - acute, 145
  - chronic, 145
  - delivery of, 147
  - evacuation out of disaster area, 146
  - hospital admissions, 146
  - lessons learned from hurricanes Harvey and Irma, 147–148
  - nutrition checklist, disasters, 148
  - patient factors in, 146
  - pharmacy considerations, 147
  - red cross shelter, 146
  - shelter-in-place, 146
  - skilled nursing facilities, 146
  - “special needs” shelters, 146
- P**
- Parking space, 41**
- Patient**
  - distribution, 25
  - identification, 51
  - registration, 51
  - triage of, 51
- Personal protective equipment (PPE), 92, 95**
- Personal recognition, 109**
- Pharmacy considerations, 147**
- Plastic rolls, 102**
- Port-of-call, 106**
- Post-traumatic stress disorder (PTSD), 79, 154**
- Prehospital communications, 18–19**
- Pre-hospital exercises, 111, 113**
  - decontamination, 112
- Prehospital tracking, of patients, 27**

- Pre-planned mass gatherings, *See*  
Progressive disaster
- Progressive disaster, 5  
Chernobyl nuclear reactor, 5  
hurricane, 6  
medical response, 6
- Psychological first aid (PFA), 155
- Psychological triage, 80
- Pulmonary blast injury, 60, 61
- R**
- Radiation, spectrometer, 101
- Radiation dispersal device  
(RDD), 7, 101, 141
- Radiological incident  
definition, 141  
medical management, 144  
phases, 142  
protocols and training materials, 143  
protocols/manual, 143
- Regional emergency operations  
center (REOC), 11
- Registration, 51
- Remote locations, patient care, 107
- Resuscitative thoracotomy, 74
- S**
- SALT method of triage, 19
- Salvageable patients, 72
- Sarin gas attack, Tokyo (1995), 9, 92
- Satellite communications, 108
- Scene incident command (SIC)  
system, 11, 12
- Search and rescue (S&R)  
characteristics, 85  
techniques, 86
- Security, 116
- Self-evacuation, 42
- Shelters, 145, 146
- Ship, SMCI, *See* Maritime sudden  
mass casualty incidents
- Shooting  
at schools, 79  
risks and threats, 121  
mass (*see* Mass shootings)
- Shrapnel injury, 59
- Smallpox, 6
- “START” adult triage system, 22
- Stretcher concentration point, 45
- “Stop the Bleed” training program, 75, 77–78
- Sudden chemical mass casualty incidents  
(SCMCIs)  
assumptions, 95  
decontamination, 96–97  
epidemiology, 91–93  
flow of patients, 98–99  
in-hospital treatment sites, 99  
patient flooding prevention, 96  
planning of contaminated area, 97–98  
on prehospital care, 91
- Sudden mass casualty incident (SMCI)  
activation, 37–39  
bystanders and volunteers role in, 21–23  
call-in of essential personnel in, 40–41  
crisis response brief checklist for, 80  
debriefing of staff during, 31  
definition, 7  
epidemiology, 7–9  
essentials components, 29–30  
family/friends information  
center (FIC), 54–55  
field triage, 19–21  
hospital incident command, 56–57  
hospital plan, 29  
hospital surge capacity calculation, 30–33  
incident command structure, 15  
incident command system, 14  
incident command vehicle ready  
to deploy, 16  
media center, 55–56  
medical care  
blood bank, 53  
inside treatment sites, 52–53  
laboratory, 53  
radiology, 53–54  
mental health services, 79  
medical response, 7  
patient distribution between  
hospitals, 25–27  
phases and characteristics, 11–13  
planning, 9  
prehospital communications, 18–19  
prehospital patient tracking, 27  
red patients transportation, 35  
regional emergency operations  
center, 16–18  
reorganization phase after, 13  
save and run, 24–25  
tracking of patients, 55  
urban vs. rural incidents, 27–28
- Support  
emotional, 156  
physical, 156  
social, 156, 157
- Surge capacity, 105
- Surprise hospital exercise, 113



**T**

## Teamwork

- characteristics, 160
- definition, 159
- and team skills algorithm, 161

## Teeth examination, 109

## Telemedicine

- assumptions, 107–108
- definition, 107

## Tourniquets, 73

- application, 76–77
- applied by EMS, 76
- placement indications, 76
- in place until laparotomy, 77
- removal of, at trauma center, 77
- and mangled extremity, 76

## Triage area, 102

## Triage hospital, 57

## Tympanic membrane rupture, 62

## Typhoons

- epidemiology of injuries, 133–134
- hospital planning, 134

personal planning, 134

recovery phase, 135

responsibilities for team A staff  
members, 135

responsibilities for team B staff  
members, 135

**V**

## Victim information center (VIC), 129

## Viruses, 138

## Volcanic eruption, 63

## debris flows, 63

## Hawaii, 2018, 8, 64

## hazardous gases, 63

## injuries after, 64

## lava flows, 63

## in modern history, 63

## pyroclastic flows, 63, 65

## self-evacuation, 64

## tephra, 63