

SYNOPSIS IN DISASTER MEDICINE

2016/2017

1. An introduction to disaster medicine. Medical and medicoorganisational items. Classification of disasters.

2. Organization of medical care in disaster situation. The rescue chain. Aims of medical care. Tasks of disaster pre-hospital setting.

3. Organization of medical care in disaster situation. Severity of accidents. Capacity of medical services.

4. Organization of medical care in disaster situation. First aid. Transportation. Ambulances and medical teams.

5. Triage – definition, aims, types – primary and secondary .

6. Triage categories. Triage coding. Tagging.

7. START and JumpSTART triage.

8. RPM algorithm. AVPU and Glasgow coma score.

9. Crush syndrome.

10. Nuclear radiation accidents. Basic characteristic of nuclear reactor. Main barriers to prevent the release of fission products.

11. Nuclear radiation accidents. Factors influencing on morbidity and mortality - routes of exposure, acute effects, chronic effects.

12. Nuclear radiation accidents. Protective action after nuclear accident - early-phase protective actions, intermediate-phase protective actions, ingestion pathway.

13. Chemical disasters. Scope of the problem. Classification of the chemical disasters. Chemical disaster procedures.

14. Chemical disasters. Prevention and control measures.

15. General toxicology. Basic concepts. Routes of exposure.

16. General toxicology. Nature of the toxic effects. Classification of toxic agents.

17. Biotransformation of the xenobiotics. Phase I and Phase II reactions.

18. Principles of therapy of intoxications.

19. Antidotes. Principles of antidotal therapy. Classification of antidotes.

20. Toxicology of solvents. General characteristics of the solvents. Mechanism of action. General and specific effects.

21. Toxicology of Benzene.

22. Toxicology of chlorinated hydrocarbons - Dichloromethane, Chloroform, Carbon tetrachloride, Carbon disulfide.

23. Toxicology of Carbon monoxide. Sources and uses. Mechanism of action. Pathology.

24. Toxicology of Carbon monoxide. Clinical presentation. Diagnosis. Treatment.

25. Toxicology of Carbon dioxide.

26. Toxicology of Cyanide. Sources and uses. Mechanism of action. Metabolism.

27. Toxicology of Cyanide. Clinical presentation. Diagnosis. Treatment.

28. Toxicology of Phosgene.

29. Toxicology of Chlorine.

30. Toxicology of Ammonia.

31. Toxicology of Nitrogen oxides.

32. Modern riot control compounds.

33. Toxicology of anticholinesterase pesticides. Organophosphorus esters and carbamate esters. Toxicokinetics. Mechanism of toxic action. Biotransformation. Pathomorphology.

34. Toxicology of Anticholinesterase pesticides - signs and symptoms of acute poisonings. Delayed neurotoxicity. Carbamate pesticides.

35. Toxicology of Anticholinesterase pesticides. Diagnosis. Treatment.

36. Toxicology of chemical warfare agents.

37. Physics of radiation biology. Characteristics of the ionizing radiation. Natural radiation background.

38. Dosimetry - basic concepts. Radioactive isotopes.

39. Biological effects of ionizing radiation. Target theory. Indirect theory.

40. Biological effects of ionizing radiation. Modern concepts of radiation injury.

41. Influence of radiation on molecular level.

42. Radiation effects on cellular level. Fate of irradiated cells.

43. Effects of radiation on normal tissues. Hematopoietic system. Circulating blood.

44. Effects of radiation on normal tissues - skin, digestive system, reproductive system, eye, central nervous system.

45. Total body radiation syndrome - prodromal, latent and manifest illness stage.

46. Bone-marrow syndrome.

47. Gastrointestinal syndrome and central nervous system syndrome.

48. Treatment of acute radiation syndrome.

49. Radioprotectors.

50. Radiodermatitis.

51. Radiotoxicology. Radiobiological characteristics of iodine-131, cesium-137 and strontium-90.

52. Late effects of radiation. Carcinogenesis.

53. Late effects of radiation. Genetic effects.

54. Radiation damage of the fetus.

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