

PART I: CONCEPT

1. Introduction to clinical research
2. The question
3. Study population
4. Outcome measurements

PART II: STUDY TYPES

5. Design principles
6. Case series
7. Case-control study
8. Cohort study
9. Cross-section study
10. Clinical trials
11. Meta-analysis
12. Cost-effectiveness study
13. Diagnostic test evaluation
14. Reliability study
15. Database studies
16. Surveys and questionnaires
17. Qualitative methods and mixed methods?Definition of the study type

PART III: CLINICAL TRIALS

17. Randomized control
18. Nonrandomized control
19. Historical control
20. Cross-over
21. Withdrawal studies
22. Factorial design
23. Group allocation
24. Hybrid design
25. Large, pragmatic
26. Equivalence and noninferiority
27. Adaptive
28. Randomization
30. Multicenter considerations?Study design and practical considerations

PART IV: PLANNING

31. Optimizing the question
32. Meaningful outcome measurements?
33. Sample size?Power analysis
34. Budgeting?Funding, timeline, personnel, materials
35. Ethics and review boards?
36. Regulatory considerations for new drugs and devices?
37. Funding approaches?

38. Research team?
39. Subject recruitment?
40. Data management?
41. Quality control?
42. Report forms
43. Subject adherence?
44. Survival analysis?
45. Monitoring committee in clinical trials

PART V: STATISTICAL PRINCIPLES

46. Presenting data?
47. Common issues in analysis?
48. Basic statistical principles?
49. Distributions?Description, examples, implications in analysis.
50. Hypotheses and error types?
51. Power?Detecting effects
52. Regression?Explanation
53. t-test?Explanation
54. Chi-square?Explanation
55. Analysis of variance?Explanation
56. Correlation?Explanation
57. Biases