

References Model Research Curriculum for EM Residents

1. Cairns CB, What is acute and emergency care research. , in Bebarta V, Cairns CB, *Emergency Care Research- A Primer*. American College of Emergency Physicians, Dallas Texas, 2012, 1-6.
2. Singer AJ. The ten commandments of emergency care research. Bebarta V, Cairns CB, *Emergency Care Research- A Primer*. American College of Emergency Physicians, Dallas Texas, 2012, 59-64.
3. Lewis LM, Lewis RJ, Younger JG, Callaham M. Research fundamentals: I. Getting from hypothesis to manuscript: an overview of the skills required for success in research. *Acad Emerg Med* 1998;5: 924-9.
4. Wyatt J and Guly H. Identifying the research question and planning the project. *Emerg Med J* 2002;19:318-321.
5. Kwiatkowski T and Silverman R. Research fundamentals: II. Choosing and defining a research question. *Acad Emerg Med* 1998;5:1114-7.
6. Cairns CB, Bebarta V, Panacek EA. How to pick an emergency medicine research topic. In Bebarta V, Cairns CB, *Emergency Care Research- A Primer*. American College of Emergency Physicians, Dallas Texas, 2012, p 7-10.
7. Hall KN and Kothari RU. Research fundamentals: IV. Choosing a research design. *Acad Emerg Med* 1999;6: 67-74.
8. Goodacre S. Research Methods: Beyond the clinical trial. *Ann Emerg Med* 2003;42:56-65
9. Grimes DA, Schulz KF. An overview of clinical research: The lay of the land. *Lancet* 2002;359:57- 61.
10. Grimes DA, Schulz KF. Descriptive studies: What they can and cannot do. *Lancet* 2002;359:145-9.
11. Grimes DA, Schulz KF. Bias and causal associations in observational research. *Lancet* 2002;359:248- 52.
12. Grimes DA, Schulz KF. Cohort studies: Marching toward outcomes. *Lancet* 2002;359:341-5.
13. Schulz KF, Grimes DA. Case--- control studies: Research in reverse. *Lancet* 2002;359:431-4.
14. Bramer WM, de Jonge GB, Rethlefsen ML, et al. A systematic approach to searching: an efficient and complete method to develop literature searches. *J Med Libr Assoc*. 2018;106:531-541.

15. Anon, How to read a paper. *British Medical Journal*, Accessed February 10, 2020.
<https://www.bmjjournals.org/look-and-feel/about-bmj/resources-readers/publications/how-read-paper>
16. Abbott KV, Barton FB, Terhorst L, Shembel A. Retrospective Studies: A Fresh Look. *Am J Speech Lang Pathol.* 2016;25:157-63.
17. Kuehl DR, Berdahl CT, Jackson TD, et al. Advancing the Use of Administrative Data for Emergency Department Diagnostic Imaging Research. *Acad Emerg Med* 2015;22:1417-26.
18. Gilbert EH, Lowenstein SR, Koziol-McLain J, et al. Chart reviews in emergency medicine research: Where are the methods. *Ann Emerg Med* 1996;27:305-308.
19. Brown J, Lane A, Cooper C, Vassar M. The Results of Randomized Controlled Trials in Emergency Medicine Are Frequently Fragile. *Ann Emerg Med.* 2019;73:565-576.
20. Mansournia MA, Higgins JP, Sterne JA, Hernán MA. Biases in Randomized Trials: A Conversation Between Trialists and Epidemiologists. *Epidemiology* 2017;28:54-59.
21. Dodd S, White IR, Williamson P. A framework for the design, conduct and interpretation of randomised controlled trials in the presence of treatment changes. *Trials.* 2017 Oct 25;18(1):498.
22. Grossman J, Mackenzie FJ. The randomized controlled trial: gold standard, or merely standard? *Perspect Biol Med.* 2005;48:516-34.
23. Bondermark L, Ruf S. Randomized controlled trial: the gold standard or the unobtainable fallacy. *Eur J Orthodon* 2015;37:457-461.
24. Slack MK, Draugalis JR. Establishing the internal and external validity of experimental studies. *Am J Health Syst Pharm.* 2001;58:2173-81.
- 25 Taves J, Skitch S, Valani R. Determining the clinical significance of errors in pediatric radiograph interpretation between emergency physicians and radiologists. *CJEM.* 2018;20:420-424.
26. Schober P, Bossers SM, Schwarte LA. Statistical significance versus clinical importance of observed effect sizes: what do p values and confidence intervals really represent. *Anesth Analg* 2018;126:1068-1072.
27. Coster WJ. Making the best match: selecting outcome measures for clinical trials and outcome studies. *Am J Occup Ther* 2013;67:162-170
28. Korngiebel DM, Taualii M, Forquera R, et al. Addressing the Challenges of Research With Small Populations. *Am J Public Health* 2015;105:1744-7.

29. Asiamah N, Mensah HK, Oteng-Abayie EF. General, target, and accessible population: demystifying the concepts of effective sampling. *Qualitative Rep* 2017;22:1607-1622.
30. Banerjee A, Chaudhury S. Statistics without tears: Populations and samples. *Industrial Psychiatry Journal*, 2010;19:60-65.
31. Pung L, Maher C, Granger BB. Determining sample size in improvement science study designs *Adv Crit Care* 2019;30:193-197.
32. Kalen GD, Brown CG, Ashton J: Statistical reasoning in clinical trials: Hypothesis testing. *Am J Emerg Med* 1988;6:52-61.
33. Gaddis ML, Gaddis GM: Introduction to biostatistics: Part 1. Sensitivity, specificity, predictive values, and hypothesis testing. *Ann Emerg Med* 1990;19:591-597.
34. Browner WS, Newman TB: Are all significant p values created equal? *JAMA* 1987;257:2459-2403.
35. Lytsy P. P in the right place: Revisiting the evidential value of P-values. *J Evid Based Med* 2018;11:288-291.
36. Browner WS, Newman TB: Confidence intervals. *Ann Intern Med* 1986;105:973.
37. Simon R: Confidence intervals for reporting results of clinical trials. *Ann Intern Med* 1986;105:429-435.
38. Gore SN: Assessing methods: Art of significance testing. *Br Med J* 1981;283:600-602.
39. Andrade C. Multiple Testing and Protection Against a Type 1 (False Positive) Error Using the Bonferroni and Hochberg Corrections. *Indian J Psychol Med.* 2019;41:99-100.
40. Freiman JA, Chalmers TC, Smith H, et al: The importance of beta, the type II error, and sample size in the design and interpretation of the randomized controlled trial. *N Engl J Med* 1978;299:690-694.
41. Imberger G, Gluud C, Boylan J, Wetterslev J. Systematic Reviews of Anesthesiologic Interventions Reported as Statistically Significant: Problems with Power, Precision, and Type 1 Error Protection. *Anesth Analg.* 2015;121:1611-22.
42. Browner WS, Newman TB, Hulley SB: Estimating sample size and power, applications and examples, in Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB : *Designing Clinical Research*. Philadelphia PA, Lippincott, Williams & Wilkins, 2013, p 55-83.
43. Colton T: The "power" of sound statistics. *JAMA* 1990;263:281.
44. Godfrey K: Simple linear regression in medical research. *N Engl J Med* 1985;313:1629-1636.

45. Gaddis GM, Gaddis ML: Introduction to biostatistics: Part 6. Correlation and regression. *Ann Emerg Med* 1990;19:1462-1468.
46. Rijnhart JJM, Twisk JWR, Eekhout I, Heymans MW. Comparison of logistic-regression based methods for simple mediation analysis with a dichotomous outcome variable *BMC Med Res Methodol*. 2019;19:19.
47. Godfrey K: Statistics in practice: Comparing the means of several groups. *N Engl J Med* 1985;313:1450-1456.
48. Chalmers TC, Celano P, Sacks NS, et al: Bias treatment assignment in controlled clinical trials. *N Engl J Med* 1983;309:1358-1361.
49. Stenson JF, Kepler CK. Bias in Prospective Research and How to Avoid it. *Clin Spine Surg* 2019;32:254-255.
50. Cummings P. The relative merits of risk ratios and odds ratios. *Arch Pediatr Adolesc Med* 2009;163:438-45.
51. Barger MK. When Does the Odds Ratio Not Equal the Relative Risk, and Why Should You Care? *J Midwifery Womens Health* 2018;63:648-651.
52. Bajpai S, Bajpai RC, Chaturvedi HK. Evaluation of inter-rater agreement and inter-rater reliability for observational data: an overview of concepts and methods. *J Indian App Psychol* 2015, 41:20-27.
53. Wetzel AP. Factor analysis methods and validity evidence: a review of instrument development across the medical education continuum. *Acad Med*. 2012;87:1060-9.
54. Russell CK, Gregory DM. Evaluation of qualitative research studies. *Evid Based Nurs* 2003;6:36-40.
55. Ponto J Understanding and evaluating survey research. *J Adv Pract Oncol* 2015;6:168-171
56. University of Edinburgh, Centre for Cognitive Ageing and Cognitive Epidemiology, Systematic reviews and meta-analysis: a step-by-step guide. Accessed February 10, 2020. <https://www.ccace.ed.ac.uk/research/software-resources/systematic-reviews-and-meta-analyses>
57. Woolf PK: Ensuring integrity in biomedical publication. *JAMA* 1987;258:3424-3427.
58. Schafer A: The ethics of the randomized clinical trial. *N Engl J Med* 1982;307:719-724.
59. Chalmers TC: Ethical implications of rejecting patients for clinical trials. *JAMA* 1990;203:865.
60. Bailar JC: Science, statistics and deception. *Ann Intern Med* 1986;164:259-260.

61. Engler RL, Coven JW, Friedman P J, et al Misrepresentation and responsibility in medical research. *N Engl J Med* 1987;317:1383-1389.
62. Angell M, Relman AS: Fraud in biomedical research. *N Engl J Med* 1988;318:1462-1463.
63. Asher SL, Iserson KV, Merck LH. Society for Academic Emergency Medicine statement on plagiarism. *Acad Emerg Med* 2017; 24(10): 1290-92.
64. Spivey WH: Informed consent for clinical research in the emergency department. *Ann Emerg Med* 1989;18:766-771.
65. Leith JO: Informed consent in emergency research {letter). *JAMA* 1989;262:3129.
66. Frank S, Agich G J: Nontherapeutic research on subjects unable to grant consent. *Clin Res* 1985;33:459-464.
67. Abramson NS, Meisel A, Safar P: Deferred consent: A new approach for resuscitation research on comatose patients, *JAMA* 1986;255:2466+2471.
68. Abramson NS, Safar P, Brain Resuscitation Clinical Trial II Study Group: Deferred consent: Use in clinical resuscitation research. *Ann Emerg Med* 1990;19:781-784.
69. Council on Scientific Affairs and Council on Ethical and Judicial Affairs: Conflict of interest in medical center/industry relationships. *JAMA* 1990;263:2790+2793.
70. Rennie D, Flanigan A, Glass RM: Conflicts of interest in the publication of science. *JAMA* 1991;266:266-267.
71. McCoy MS, Emanuel EJ. Why there are no “potential” conflicts of interest. *JAMA* 2017; 317(17): 1721-22.
72. Maloney LM, Mycyk MB. Honest disclosure of conflicts of interest advances emergency medicine scholarship. *Acad Emerg Med* 2019; 26(6): 698-700.
73. Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB : *Designing Clinical Research*. Philadelphia PA, Lippincott, Williams & Wilkins, 2013.
74. Kohn MA, Newman TB Hulley SB, Data Management. in Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB : *Designing Clinical Research*. Philadelphia PA, Lippincott, Williams & Wilkins, 2013 p 237-249.
75. Liubruno GM, Velati C, Pasqualetti P, Franchini M. How to write a scientific manuscript for publication. *Blood Transfus* 2013;11:217-226.
76. Yealy DM. Getting published, in Bebartha V, Cairns CB, *Emergency Care Research- A Primer*. American College of Emergency Physicians, Dallas Texas, 2012, p 51-57.

77. Houry D. Presenting the results of research. in Bebartha V, Cairns CB, *Emergency Care Research- A Primer*. American College of Emergency Physicians, Dallas Texas, 2012, 37-40
78. Chariker JH, Zhang Y, Pani JR, Rouchka EC. Identification of successful mentoring communities using network-based analysis of mentor-mentee relationships across Nobel laureates. *Scientometrics*. 2017;111:1733-1749.
79. Anon, Basic Science, Association of American Medical Colleges, 2015, Washington DC. Accessed February 10 2020. <https://www.aamc.org/initiatives/research/334422/basicscience.html>
80. Sussman AL, Cordova C, Burge MR. A Comprehensive Approach to Community Recruitment for Clinical and Translational Research. *J Clin Transl Sci*. 2018;2:249-252.
81. Atluru A, Wadhwani A, Maurer K, et al. Research in medical education. Association of American Medical Colleges, 2015, Washington DC. Accessed February 10, 2020. <https://www.aamc.org/download/429856/data/mededresearchprimer.pdf>
82. Bordage G. Conceptual frameworks to illuminate and magnify. *Med Educ* 2009; 43(4): 312-19.
83. Downing SM. Validity: on meaningful interpretation of assessment data. *Med Educ* 2003; 37(9): 830-37.
84. Morris KA. Measurement equivalence: a glossary for comparative population health research. *J Epidemiol Community Health*. 2018;72:559-563.