

Overview of Basic Epidemiology Series

	Epi 1 Text: Epidemiology in Medicine by Hennekens, Buring	Epi 2 Text: Kelsey et al. Methods in Observational Epidemiology; Kleinbaum et al Epi Res: Principles and Quan. Methods	Epi 3 Texts: Rothman & Greenland Modern Epidemiology Breslow & Day Stat Methods in Cancer Research Vol 1& 2
Basic concepts	Chapters 1-4. Definition, history, design strategies, statistical association, cause and effect, measures of frequency (prevalence, incidence, crude/category-specific/ adjusted rates), measures of association (relative risk, standardized mortality ratio, attributable risk).	Chapt 2 Meta analysis, case-cohort, matching, Kaplan-Meier	Meta Analysis Chapt 32
Descriptive studies	Chapter 5. Types (correlational, case report, case series, cross-sectional). Hypothesis formulation. Strengths and weaknesses.	Chapt 3: Sources of data bases e.g. SEER, NCHS etc. ICD codes.	None
Case-control studies	Chapter 6. Selection of cases and controls. Ascertainment of disease and exposure status. Bias. Strengths and weaknesses.	Chapt. 8-9 Matching. Analysis and power determination.	Chapt 7, 10,
Cohort studies	Chapter 7. Types (retrospective, prospective). Selection of exposed and comparison groups. Data sources. Approaches to follow-up. Bias. Strengths and weaknesses.	Chapt 6-7 Mantel-Haenszel	Chapt 6
Intervention studies	Chapter 8. Types (primary, secondary). Selection of population. Allocation of study regimens and outcomes. Compliance. Factorial design. Power. Randomization.	None	None
Presentation and summarization of data	Chapter 9. Types of variables. Data presentation. Central tendency and variability.	None	None
Analysis	Chapters 10-12. Hypothesis testing. T-test, chi-square test, confidence intervals, sample size, power, types and control of bias, confounding, methods to control confounding in design (randomization, restriction, matching), methods to control confounding in analysis (stratification, brief overview of multivariate).	EGRET Epi analysis modelling Software Cox Regression, conditional logistic regression Doll & Peto Lung Ca paper and data.	EPICURE: epi modelling programs: DATAB- tables and categorical data bases, AMFIT: Poisson regression; PEANUTS: Cox regression with case-cohort methods, PECAN matched case-control Rothman Part III Data Analysis: Chapt 12-21 Railroad workers cohort.
Screening	Chapter 13. Sensitivity, specificity, predictive value positive and negative.	None	None