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Descrizione fisica	1 online resource (352 p.)
Collana	Handbook of clinical neurology ; ; 3rd series, volume 138
Soggetti	Nervous system - Diseases - Epidemiology Nervous System Diseases - epidemiology Epidemiologic Methods
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Neuroepidemiology; Copyright; Handbook of Clinical Neurology 3rd Series; Foreword; Preface; Contributors; Contents; Section 1: Principles and foundations of epidemiology and neurology research; Chapter 1: Epidemiology for the clinical neurologist; What is epidemiology?; Uses of epidemiology; Making a community diagnosis; Measurement of disease in populations: prevalence vs. incidence; Prevalence; Incidence; What is the relationship between prevalence and incidence?; Incidence; Prevalence; Mortality; Completing the clinical picture; The importance of sampling; Random sampling Sample sizep-value; Power; Effect size; Making inferences from the sample to the population; Normal distribution and confidence limits; Identifying causal/risk factors; Observational studies; Descriptive studies; Ecologic studies; Cross-sectional studies; Case-control studies; Cohort studies; Nested case-control studies; Experimental studies; Randomized controlled trials; Field trials; Community trials; Measures of association; Odds ratio; Relative risk or risk ratio; Timing and duration of exposure; Sources of error in epidemiologic studies; Bias; Selection bias; Information/measurement bias ConfoundingEstablishing causality in epidemiologic studies; Computing

individual risk; Screening tests; Charting historic trends; Cohort effects; Delineating new syndromes; Evaluating health services; Misuses of epidemiology; Summary; References; Chapter 2: Population neuroscience; Genes and gene regulation; Physical and social environment; Geographic Information Systems; Aggregate data; Cohort member; Brain structure and function; Brain structure; T1-weighted images; Diffusion tensor imaging; Magnetic transfer imaging; Brain function; Reproducibility; Interpretation  
Directionality of structure-function relationships  
Functional and structural connectivity; Future directions; Conclusions; Acknowledgments; References; Chapter 3: Advanced epidemiologic and analytical methods; Introduction; Relevance of critical appraisal in observational epidemiology; Relevance of critical appraisal in analytic epidemiology; The scopes of neuroepidemiology; Life-course epidemiology; Definitions and key concepts; Main purpose(s); Causal pathways; Timing; Explanatory mechanisms; Methods in life-course epidemiology; Study designs and type of data needed; Formulating hypothesis  
Steps of statistical analysis in life-course epidemiology  
Further examples of sources of errors and bias in epidemiologic studies; Two-phase designs; Use of medical records to ascertain outcome status and information/measurement bias; Competing risks and informative censoring; Mediation; References; Chapter 4: Basics of neuroanatomy and neurophysiology; Cellular structure and function; Neurons; Neurotransmission; Neurotransmitters; Glia; Brain structure; Gray matter and white matter; White-matter lesions; Functional systems; Sensory systems: visual, auditory, chemosensory, somatic systems  
Visual system

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