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Nota di contenuto	Contents; Preface; Acknowledgments; 1 INTRODUCTION; Book subject matter; Brain growth and development; Investigative studies; History of cerebral palsy; Embryonic and fetal age; National Collaborative Perinatal Project; Section 1; 2 BRAIN GROWTH; Introduction; Intrauterine growth periods; Growth functions; Historic introduction to growth studies; Allometric relationships of brain weight to body parameters; Differential growth of brain regions; Variations in weight of 'normal' organs at various ages; Sex dimorphism; Developing brain vulnerability; Cellularity and total cell number Prenatal brain growth modelPostnatal growth model; Conclusions; 3 FETAL VENTRICULAR SIZE, SURFACES, ANDAPPENDAGES; Introduction: the embryonic development of ventricles; Developmental changes in ventricular epithelia; Relative ventricular sizes throughout gestation; Dorsal mesodiencephalic junction: pineal, subcommissural organ, andmesocoelic recess; Discussion; Conclusion; 4 GERMINAL TISSUE (SUBVENTRICULARZONE); Germinal matrix lining all ventricles; Growth and loss of lateral ventricle germinal tissue; Other embryonic ventricles Sonographic and fetal magnetic resonance images of normal germinal matrixConclusion; 5 SURFACE CONFIGURATION-GYRALPATTERN DEVELOPMENT; Introduction; Cortical surface area development: isocortex and allocortex; Timing of gyration: changing gyral patterns related to gestational age; Sulcal fundi, roots, pits, and annectant gyri; Gyri, cortical thickness, neuronal maxima, and synapses; Effects of

preterm birth on gyral development; Conclusion; 6 MYELINATED TRACTS: GROWTH PATTERNS; Introduction; Materials and methods; Sequence of myelination; White matter hypoplasia; Conclusion
7 DEVELOPING BRAIN IMAGING AND Magnetic resonance SPECTROSCOPY Introduction; Prescanning evaluations; Cranial ultrasonography or neurosonography; Computed tomography; Magnetic resonance imaging; Magnetic resonance spectroscopy; Basic principles of magnetic resonance; Material; Data presentation; Normative developmental curves; Regional variations; Conclusions; 8 ANGIOGENESIS; Introduction; Embryonic, fetal, and early childhood angiogenesis; Blood-brain barrier development; Conclusion; Section 2 ;
9 DEVELOPMENTAL HUMAN FETAL REACTIONS: AVOID, SQUINT, SCOWL, SNEER, AND PUCKER; Introduction
Background Results; Neuroimaging; Conclusion; 10 BLAKE'S POUCH AND RETRO CEREBELLAR CYSTS: POSTERIOR FOSSA CYSTS; Normal posterior fossa development and anatomy; Leptomeningeal development; Fourth ventricular roof development; Cisterna magna; Posterior fossa cysts: general; Fibrous arachnoidal cysts; Arachnoidal duplications: Arachnoidal cysts proper; Blake's pouch and the opening of foramen of magendie; Lateral recess cysts; Dandy-Walker cysts; 'Mega' cisterna magna; Conclusion; 11 Developmental Central Nervous System Aberration; Introduction; Changes in brain components
Changes in response to insults during specific developmental periods

Sommario/riassunto

This book is about human brain development, focusing on the last half of gestation and the neonatal and infant periods. These periods bring the greatest risk for the acquisition of childhood functional neurologic deficits, including cerebral palsy, developmental delay and intellectual disability.
