

Pathways To Pregnancy And Parturition

With the aim to improve clinicians' understanding of the important effects nutrition can have on maternal health and fetal and neonatal development, *Maternal-Fetal Nutrition During Pregnancy and Lactation* defines the nutritional requirements with regard to the stage of development and growth, placing scientific developments into clinical context.

One of the mysteries of mammalian reproduction is the physiologic process that determines the length of gestation. The proper timing of birth ensures that the young individual is sufficiently developed to survive and adapt in the extrauterine environment, and that the mother is capable to provide nutrition and protection to the newborn. This volume summarizes new knowledge obtained by many researchers seeking to unravel the complex mechanisms that contribute to the maintenance and termination of pregnancy. The most important common goal of these efforts is to reduce the incidence of preterm birth, which is the leading cause of perinatal morbidity and mortality in numerous countries. Separate chapters are devoted to the best-studied animal models of parturition. In sheep, the fetus is in control of the timing of its own birth, while in avian species, oviposition is evidently determined by the female laying the fertilized egg. In humans and non-human primates, the roles of the fetus and the mother are more balanced, and involve a complicated and poorly understood interplay between the mother, the fetus, and the placenta. Some major aspects of these interactions, such as trophoblast function, myometrial contractility, and the endocrine-paracrine systems, are discussed in further chapters.

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The increasing prevalence of preterm birth in the United States is a complex public health problem that requires multifaceted solutions. Preterm birth is a cluster of problems with a set of overlapping factors of influence. Its causes may include individual-level behavioral and psychosocial factors, sociodemographic and neighborhood characteristics, environmental exposure, medical conditions, infertility treatments, and biological factors. Many of these factors co-occur, particularly in those who are socioeconomically disadvantaged or who are members of racial and ethnic minority groups. While advances in perinatal and neonatal care have improved survival for preterm infants, those infants who do survive have a greater risk than infants born at term for developmental disabilities, health problems, and poor growth. The birth of a preterm infant can also bring considerable emotional and economic costs to families and have implications for public-sector services, such as health insurance, educational, and other social support systems. *Preterm Birth* assesses the problem with respect to both its causes and outcomes. This book addresses the need for research involving clinical, basic, behavioral, and social science disciplines. By defining and addressing the health and economic consequences of premature birth, this book will be of particular interest to health care professionals, public health officials, policy makers, professional associations and clinical, basic, behavioral, and social science researchers.

Animals are biological transformers of dietary matter and energy to produce high-quality foods and wools for human consumption and use. Mammals, birds, fish, and shrimp require nutrients to survive, grow, develop, and reproduce. As an interesting, dynamic, and challenging discipline in biological sciences, animal nutrition spans an immense range from chemistry, biochemistry, anatomy and physiology to reproduction, immunology, pathology, and cell biology. Thus, nutrition is a foundational subject in livestock, poultry and fish production, as well as the rearing and health of companion animals. This book entitled *Principles of Animal Nutrition* consists of 13 chapters. Recent advances in biochemistry, physiology and anatomy provide the foundation to understand how nutrients are utilized by ruminants and non-ruminants. The text begins with an overview of the physiological and biochemical bases of animal nutrition, followed by a detailed description of chemical properties of carbohydrates, lipids, protein, and amino acids. It advances to the coverage of the digestion, absorption, transport, and metabolism of macronutrients, energy, vitamins, and minerals in animals. To integrate the basic knowledge of nutrition with practical animal feeding, the book continues with discussion on nutritional requirements of animals for maintenance and production, as well as the regulation of food intake by animals. Finally, the book closes with feed additives, including those used to enhance animal growth and survival, improve feed efficiency for protein production, and replace feed antibiotics. While the classical and modern concepts of animal nutrition are emphasized throughout the book, every effort has been made to include the most recent progress in this ever-expanding field, so that readers in various biological disciplines can integrate biochemistry and physiology with nutrition, health, and disease in mammals, birds, and other animal species (e.g., fish and shrimp). All chapters clearly provide the essential literature related to the principles of animal nutrition, which should be useful for academic researchers, practitioners, beginners, and government policy makers. This book is an excellent reference for professionals and a comprehensive textbook for senior undergraduate and graduate students in animal science, biochemistry, biomedicine, biology, food science, nutrition, veterinary medicine, and related fields.

This fifth edition arms readers with the latest information on nutrient metabolism and the formulation of diets from an array of available feedstuffs. The authors discuss animals' role in ecological balance, environmental stability and sustainable agriculture and food production. A new chapter on the regulation of nutrient partitioning offers a lively and timely discussion of emerging technologies in modifying and increasing efficiency of nutrient metabolism and animal food composition. A new chapter on toxic minerals in the food chain addresses the role of agricultural production animal nutrition in protecting the environment from toxic levels of minerals and nitrogen in the food chain.

A comprehensive, cutting-edge review of the complex interactions between maternal and fetal-placental tissues that control the establishment and maintenance of pregnancy, the proper development of the fetus, the birth process, and the behavioral aspects of bonding between mother and newborn. Expert researchers review the endocrine and physiological events that culminate in the delivery of offspring, and provide a solid base of comparative information on the menstrual cycle of primates, including humans. They also discuss the sources and functions of both steroid and protein hormones from the placenta and the details of their effects on uterine function, placental development, fetal growth and well-being, and maternal responses to pregnancy. This book will become the standard reference source not only for reproductive scientists, but also for those clinicians who want better to understand the complex factors that affect pregnancy-and their pregnant patients.

We present to our readers the proceedings of the Second International Workshop on Phosphate. A short account of the history of the effort led to the Phosphate Workshops is appropriate and can be of interest to the reader. The idea for Phosphate Workshops was born in the early days of November, 1974. One of us (S. G. M.) suggested the thought to a group of scientists gathered for a luncheon in one of the attractive small restaurants in Weisbaden, Germany. The purpose of the workshop was to bring together interested scientists to discuss the newer developments and the recent advances in the field of phosphate metabolism and the other related minerals. An Organizing Committee made of Shaul G. Massry (USA), Louis V. Avioli (USA), Philippe Bordier (France), Herbert Fleisch (Switzerland), and Eduardo Slatopolsky (USA) was formed. The First Workshop was

held in Paris during June 5-6, 1975 and was hosted by Dr. Philippe Bordier. Its proceeding was already published. The Second Workshop took place in Heidelberg during June 28-30, 1976 and was hosted by Dr. Eberhard Ritz. Both of these workshops were extremely successful scientific endeavors, and the need for them was demonstrated by the great interest they generated among the scientific community. The Organizing Committee, therefore, decided to continue with the tradition to hold additional Workshops annually or every other year.

Each year in the United States approximately 440,000 babies are born premature. These infants are at greater risk of death, and are more likely to suffer lifelong medical complications than full-term infants. Clinicians and researchers have made vast improvements in treating preterm birth; however, little success has been attained in understanding and preventing preterm birth. Understanding the complexity of interactions underlying preterm birth will be needed if further gains in outcomes are expected. The Institute of Medicine's Roundtable on Environmental Health Sciences, Research, and Medicine sponsored a workshop to understand the biological mechanism of normal labor and delivery, and how environmental influences, as broadly defined, can interact with the processes of normal pregnancy to result in preterm birth. This report is a summary of the main themes presented by the speakers and participants.

Understanding the processes by which we ourselves are born is arguably one of the greatest current challenges in clinical medicine. The prevention of preterm delivery, the cause of 70-80% of neonatal morbidity, has become a key area of research. 'The Endocrinology of Parturition' provides an encyclopedia of human parturition which charts the progress of this goal. In nineteen chapters of authoritative writing this volume covers a wide range of topics from the comparative endocrinology of mammalian parturition and the socio-economic impact of preterm delivery to the relative merits of current tocolytics. Hormonal actions involved in the process of parturition and the role of different hormones are discussed in detail. Several new approaches like the concept of parturition as a variant of inflammatory response or the role of the wide spectrum of known cytokines are introduced. This timely book in a highly dynamic research area is of special interest to birth-clinical obstetricians, endocrinologists and reproductive biologists as well as general practitioners involved in obstetrics.

This easy to use text provides practitioners and researchers with a global view of current and emerging issues concerned with successful pregnancy outcomes and approaches that have been successful or show promise in ensuring a successful pregnancy. The fully updated and revised second edition expands its scope with topics not covered in the first edition including pregnancy and military service; sleep disorders during pregnancy; the gut microbiome during pregnancy and the newborn; requirement for vitamin D in pregnancy; the environment—contaminants and pregnancy; preeclampsia and new approaches to treatment; health disparities for whites, blacks, and teen pregnancies; depression in pregnancy—role of yoga; safe food handling for successful pregnancy outcome; relationship of epigenetics and diet in pregnancy; caffeine during pregnancy; polycystic ovary syndrome; US Hispanics and preterm births; celiac disease and pregnancy; cannabis use during pregnancy. The second edition of Handbook of Nutrition and Pregnancy will be a valuable resource for clinicians and other healthcare professionals who treat and counsel women of child-bearing age and pregnant women.

Bovine Reproduction is a comprehensive, current reference providing information on all aspects of reproduction in the bull and cow. Offering fundamental knowledge on evaluating and restoring fertility in the bovine patient, the book also places information in the context of herd health where appropriate for a truly global view of bovine theriogenology. Printed in full color throughout, the book includes 83 chapters and more than 550 images, making it the most exhaustive reference available on this topic. Each section covers anatomy and physiology, breeding management, and reproductive surgery, as well as obstetrics and pregnancy wastage in the cow. Bovine Reproduction is a welcome resource for bovine practitioners, theriogenologists, and animal scientists, as well as veterinary students and residents with an interest in the cow.

Equine exercise physiology is an area that has been subject to major scientific advances over the last 30 years, largely due to the increased availability of high-speed treadmills and techniques for recording physiological function during exercise. Despite these scientific advances, many riders and trainers are still using little more than experience and intuition to train their horses. The aim of this book is to sort the fact from the fiction for the benefit of those involved in training, managing or working with horses, and to provide an up-to-date summary of the state of play in equine exercise physiology. Scientific theories are explained from first principles, with the assumption that the reader has no previous scientific background. The book is designed to save competitors and trainers a lot of time and effort trying to extract information in piecemeal fashion from a host of reference sources. For the first time, everything you need to know about exercising and training horses is here in one text.

The oestrous cycle and its controls, The development of the conceptus, Pregnancy and its detection in the mare, Pregnancy and its detection in the cow, Pregnancy diagnosis in the sow, ewe and bitch, Anomalies of development of the conceptus, Prolapse of the vagina, Parturition, The care of parturient animals and the newborn: the puerperium, Dystocia: general considerations, Maternal dystocia, Fetal dystocia: aetiology and incidence, The approach to an obstetrical case, Manipulative delivery per vaginam: farm animals and the bitch, Dystocia due to fetal oversize, Dystocia due to defects of position or presentation, Dystocia due to twins or monstrosities, Injuries and diseases incidental to parturition, The caesarean operation, Caesarean operations in the bitch and cat, Retention of the fetal membranes, Postparturient prolapse of the uterus, Infertility in the cow: general, anatomical and functional, Infectious forms of infertility in cattle, The veterinary control of herd infertility, Sheep infertility, Infertility in the mare, Swine infertility, Infertility in the bitch and cat, The normal sexual apparatus of male animals, Reproductive abnormalities of male animals, Artificial insemination.

Hormones provides a comprehensive treatment of human hormones viewed in the light of modern theories of hormone action and in the context of current understanding of

subcellular and cellular architecture and classical organ physiology. The book begins with discussions of the first principles of hormone action and the seven classes of steroid hormones and their chemistry, biosynthesis, and metabolism. These are followed by separate chapters that address either a classical endocrine system, e.g., hypothalamic hormones, posterior pituitary hormones, anterior pituitary hormones, thyroid hormones, pancreatic hormones, gastrointestinal hormones, calcium regulating hormones, adrenal corticoids, hormones of the adrenal medulla, androgens, estrogens and progestins, and pregnancy and lactation hormones; or newer domains of hormone action which are essential to a comprehensive understanding of hormone action, including prostaglandins, thymus hormones, and pineal hormones. The book concludes with a presentation of hormones of the future, i.e., cell growth factors. This book is intended for use by first-year medical students, graduate students, and advanced undergraduates in the biological sciences. It is also hoped that this book will fill the void that exists for resource materials for teaching cellular and molecular endocrinology and that it will be employed as an equal partner with most standard biochemistry textbooks to provide a comprehensive and balanced coverage of this realm of biology.

The Fourth Edition of Knobil & Neill continues to serve as a reference aid for research, to provide the historical context to current research, and most importantly as an aid for graduate teaching on a broad range of topics in human and comparative reproduction. In the decade since the publication of the last edition, the study of reproductive physiology has undergone monumental changes. Chief among these advances are in the areas of stem cell development, signaling pathways, the role of inflammation in the regulatory processes in the various tissues, and the integration of new animal models which have led to a greater understanding of human disease. The new edition synthesizes all of this new information at the molecular, cellular, and organismal levels of organization and present modern physiology a more understandable and comparative context. The Fourth Edition has been extensively revised, reflecting new fundamental advancements in this rapidly advancing field. Provides a common language for researchers across the fields of physiology, endocrinology, and biology to discuss their understanding of reproduction. Saves academic researchers time in quickly accessing the very latest details on reproductive physiology, as opposed to searching through thousands of journal articles.

An understanding of the processes that change the shape and composition of farm animals is fundamental to all aspects of production. The book provides a comprehensive picture of how animals grow, change in shape and in composition, and of the factors which affect growth processes and dictate the extent and direction of changes within the animal. It is an updated edition of a popular undergraduate student textbook. The authors have retained the themes of the first edition but have updated and added new chapters. Nutrient metabolism; Applied animal nutrition.

"Clinical Guidelines in Family Practice, 5th edition, is the fully revised and updated version of a book that has been serving primary care clinicians for more than twenty years. Using a traditional and easy-to-follow format, the book examines all of the common conditions encountered in primary care settings, while also addressing health promotion and disease prevention. For each topic, the essentials of pathophysiology, clinical presentation, diagnosis, and corresponding treatment plans including prognosis and recommended follow-up schedules are sequentially organized. Also included are recommended web-based resources and references to more in-depth discussion of the various topics. As in previous editions, Clinical Guidelines in Family Practice aims for thoroughness in coverage and for concision in approach, a formula that helps clinicians to efficiently recognize and treat the myriad medical conditions that they face as primary-care providers."--Online book description.

The Novartis Foundation Series is a popular collection of the proceedings from Novartis Foundation Symposia, in which groups of leading scientists from a range of topics across biology, chemistry and medicine assembled to present papers and discuss results. The Novartis Foundation, originally known as the Ciba Foundation, is well known to scientists and clinicians around the world.

As one class of the most important steroid hormones, glucocorticoids have long been recognised and their therapeutic benefits have been widely used in clinical treatment, especially in anti-inflammation cases. Glucocorticoids regulate various processes in the body including the mobilization of energy stores, immune functions, gene expression, and maintenance of the homeostasis as well as the stress response, this is not surprising that the concept of "glucocorticoids" is mentioned in almost all medical text books that focus on specific organs or systems such as the cardiovascular system, the immune system, and the neuroendocrine system. The book of Glucocorticoids - New Recognition of Our Familiar Friend aims to introduce the latest findings relating to glucocorticoids, either freshly from the laboratory or from clinical case studies, and to open up a new angle of looking at the issue of balancing the therapeutic benefits and side effects brought up by glucocorticoids.

Designed to provide students with a foundation in understanding and interpreting histologic and cytologic preparations, Color Atlas of Veterinary Histology is a practical benchside reference focusing on the normal histology of eight common domestic species. This Third Edition has been revised with new images, information, and updated terminology throughout. Introductory chapters have also been expanded to offer more complete coverage of the basic types of tissues, providing an even more thorough grounding in the principles of histology. For the first time, the more than 900 photomicrographs are available digitally in an interactive atlas on CD, offering images available for download with zoom capability. The new edition of this veterinary-specific histology atlas provides veterinary and veterinary technician students with an essential pictorial resource for interpreting histologic preparations.

Pathways to Pregnancy is a collection of wide-ranging and relatable stories, shared by an expert who also knows first-hand the pain and joy of the fertility journey from her own experience. Instructional and inspirational to anyone going through it or seeking to understand it deeply and in all its variations, these are real stories of hope and humor — and some practical advice that is often overlooked but easy to incorporate into your life. These stories about real women, related by Mary Wong with both compassion and authority, retain many of the subjects' own words and particular perspectives. Through their stories, Mary explains the central principles of fertility treatment by both Traditional Chinese Medicine practitioners and Western doctors. Each story focuses on a set of archetypal challenges or life situations found in patients seeking fertility treatment. In this way, the book serves as a comprehensive examination of the spectrum of infertility

experience, expressed through the lens of highly personal anecdotes and intimate experiences.

Anatomy & Physiology for Midwives 3rd edition builds on the success of the first two editions with electronic ancillaries, more accessible, woman-centred language and strengthened links with good practice. The book provides a thorough review of anatomy and physiology applicable to midwifery, from first principles through to current research, utilizing case studies for reflection. A comprehensive and well-illustrated textbook that is an essential purchase for all students of midwifery.

College level animal reproductive physiology.

For introductory courses in swine science found in the animal science department. This book meets the needs of anyone interested in today's swine industry. This new edition continues to present readers with a comprehensive, yet practical overview of all phases of the swine industry. Fully updated, reorganized and revised, the seventh edition of this book provides readers with a comprehensive resource for understanding and being competitive in the pork production industry today. The revised order of the chapters develops the book from an historical perspective and a foundation of statistical data on the importance of the pork industry. Chapters on genetics and nutrition have been divided into basic and applied chapters, allowing students the opportunity to both understand the science and to move into practical applications of the principles learned. The new edition includes the biology, production, processing and business aspects of swine. It covers large-scale commercial production as well as small-scale producers and sustainable production.

When you're looking for a comprehensive and reliable text on large animal reproduction, look no further! the seventh edition of this classic text is geared for the undergraduate student in Agricultural Sciences and Veterinary Medicine. In response to reader feedback, Dr. Hafez has streamlined and edited the entire text to remove all repetitious and nonessential material. That means you'll learn more in fewer pages. Plus the seventh editing is filled with features that help you grasp the concepts of reproduction in farm animals so you'll perform better on exams and in practice: condensed and simplified tables, so they're easier to consult an easy-to-scan glossary at the end of the book an expanded appendix, which includes graphic illustrations of assisted reproduction technology Plus, you'll find valuable NEW COVERAGE on all these topics: Equine Reproduction: expanded information reflecting today's knowledge Llamas (NEW CHAPTER) Micromanipulation of Gametes and In Vitro Fertilization (NEW CHAPTER!) Reach for the text that's revised with the undergraduate in mind: the seventh edition of Hafez's Reproduction in Farm Animals.

Derived from his popular and acclaimed Genetics: A Conceptual Approach, Ben Pierce's streamlined text covers basic transmission, molecular, and population genetics in just 18 chapters, helping students uncover major concepts of genetics and make connections among those concepts as a way of gaining a richer understanding of the essentials of genetics. With the new edition, Ben Pierce again focuses on the most pervasive problems for students taking genetics—understanding how genetics concepts connect to each other and developing solid problem solving skills. And with this edition, Genetics Essentials is available as a fully integrated text/media resource with SaplingPlus, an online solution that combines an e-book of the text, Pierce's powerful multimedia resources, and Sapling's robust genetics problem library.

Reproductive Immunology: Basic Concepts gives a holistic insight into the understanding of the complex interactions between the maternal immune system and the fetal/placental unit necessary for the success of pregnancy. This interaction is critical for the support of the human fetal semiallograft and the protection against infections. The book covers various topics such as B cells, macrophages, T cells, discussion on fetal signals and their impact on maternal reproductive cells such as endometrial cells, mast cells, and the role of fetal Hofbauer cells, the immune regulatory role of glucocorticoids, and many other novel topics within the field of reproductive immunology. Edited and written by experts in the field, this book introduces the up-to-date knowledge of the role of the immune system during pregnancy and provides the necessary background to understand pregnancy complications associated with alterations in the functioning of the immune system. The book provides a complete discussion on the immunological aspects of pregnancy and serves as a great tool for research scientists, students, reproductive immunologists and OBGYNs. Shows the detailed evaluation of the knowledge related to each immune cell type in the pregnant and not pregnant uterus Evaluates each immune cell type and its function during specific reproductive events Provides the biological background for understanding the clinical aspects that will be discussed in subsequent volumes in the series

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