Universal Notes Pediatrics Study Outline

Introduction

The **Pediatrics Study Plan** contains topics that are considered the highest yield for understanding pediatrics and performing well on the COMAT examination.

Students should focus their reading on **weekdays** for topics that involve the common patient conditions seen in the clinical setting, and reserve **weekend reading** for conditions that are unlikely to be encountered during the rotation. Pairing patient encounters with related material improves understanding, enjoyment, and retention.

At a minimum, students should try to get through 15 topics each weekday and 20 on each weekend day in order to cover the essential material.

Students who complete the entire study outline routinely score 99th percentile on their COMAT exams.

If you have any questions or problems with accessing or using Universal Notes, please contact: amcguffin@osteo.wvsom.edu

Proposed Study Plan:

- **WEEK 1: NORMAL GROWTH & DEVELOPMENT**
  - Overview and Assessment of Variability
  - The Newborn
  - The First Year
  - The Second Year
  - The Preschool Years
  - Middle Childhood
  - Adolescence
  - Assessment of Growth
  - Developmental-Behavioral Screening & Surveillance
  - Assessment & Interviewing
  - Pediatric Pharmacokinetics
  - Principles of Drug Therapy
  - The Oral Cavity
  - Immunization Practices
- **WEEK 2 – CARDIOLOGY/RESPIRATORY/GYN**
  - Evaluation of the Cardiovascular System
  - Laboratory Evaluation
  - Congenital Heart Disease
  - Cardiac Arrhythmias

    - Cardiac Therapeutics
    - Diseases of the Peripheral Vascular System
    - Respiratory System – Development & Function
    - Disorders of the Respiratory Tract
    - Gynecology
- **WEEK 3 – CNS/BEHAVIORAL & PSYCHIATRIC DISORDERS/ALLERGY**
    - Behavioral & Psychiatric Disorders
    - Nervous System
    - Nutrition
    - Allergic Disorders
    - Skin
- **WEEK 4 – MISC**.
    - Bone & Joint Disorders
    - Endocrine
    - GI
    - GU
    - Hematology
    - Oncology
    - HEENT Infections

Essential Pediatric Topics to Read in Universal Notes Study Plan

History Taking

- History Taking in Newborns
- History Taking in Infants and Children
- History Taking in Adolescents (Preparticipation Sports History)

Physical Exam

- Physical Exam of the Newborn
- Physical Exam of the Infant
- Physical Exam of the Adolescent (Preparticipation Sports Physical)
- Health Maintenance: Birth - 12 Months
- Health Maintenance: 15 months - 5 Years
- Health Maintenance: 6 -18 Years
- Dental Care (Teeth Hygiene, Teething)

Growth and Development

- Developmental Milestones: Birth
- Developmental Milestones: 1 - 6 Months
- Developmental Milestones: 9 - 12 Months
- Developmental Milestones: 15 Months to 5 Years
- Developmental Milestones: 6-10 Years
- Developmental Milestones: 11-12 Years
- Developmental Milestones: 13-18 Years

- Tanner Stages (Puberty and Pubertal Development)
- Stranger Anxiety Disorder
- Sleep or Night Terror Disorder, Nightmares

Immunizations (Vaccines)

- Introduction to Immunizations
- Immunization Schedule
- Special Immunization Considerations
- Influenza Vaccine

Breast Feeding and Breast Milk

- Breast Feeding Benefits and Education
- Breast Milk Composition and Supplementation
- Breast Feeding Complications and Contraindications

Failure to Thrive

Malnutrition and

BMI Obesity

Prematurity and

Nutrition Vitamin

Abnormalities

- Vitamin D Deficiency
- Vitamin K Deficiency (Hemorrhagic Disease of Newborn)

Overview of Pediatric

Heart Disease Fetal

Circulation

Murmurs

Early cyanotic heart diseases

- Hypoplastic Left Heart Syndrome
- Tetralogy of Fallot
- Total Anomalous Pulmonary Venous Connection
- Transposition of the Great Vessels
- Truncus Arteriosus

Acyanotic Heart Disease and Structural Abnormalities

- Atrial Septal defect

- Coarctation of Aorta
- Patent Ductus Arteriosus
- Ventricular Septal Defect

Valvular Disorders
- Aortic Stenosis
- Mitral Stenosis

Miscellaneous Conditions
- Cardiomyopathy (Hypertrophic Obstructive Cardiomyopathy)
- Kawasaki Disease (Mucocutaneous Lymph Node Syndrome)
- Patent Foramen Ovale (PFO)
- Rheumatic Heart Disease (Rheumatic Fever)

Skin Conditions in Newborns
- Acne Neonatorum
- Erythema Toxicum Neonatorum

Skin Conditions of Infants and Children
- Acne vulgaris
- Eczema (Atopic Dermatitis, Dyshidrotic Eczema, Nummular Eczema)
- Diaper Rash (Diaper Dermatitis)
- Hemangioma
- Mongolian Spots (Congenital Dermal Melanocytosis)
- Seborrheic Dermatitis (Dandruff, Cradle Cap)
- Viral Exanthems and Enanthems

Infections Conditions of the Skin
- Cellulitis
- Impetigo
- Molluscum Contagiosum
- Staphylococcal Scalded Skin Syndrome (SSSS, Ritter Disease)
- Toxic Shock Syndrome
- Warts (Verrucae)

Other Conditions
- Contact Dermatitis (Allergic, Irritant)
- Drug Allergies (Drug Reactions) and Drug Fever
- Erythema Multiforme
- Pityriasis Rosea
- Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis
- Urticaria (Wheals, Hives)

Conditions of the Lips, Mouth, Parotid, Teeth, and Tongue
- Ankyloglossia (Tongue-Tied)

- Aphthous Ulcer (Aphthous Stomatitis, Canker Sore)
- Dental Caries (Cavities), Periapical Abscess, Periodontal Abscess, Pulpitis
- Cleft Palate and Lip (Orofacial Cleft)
- Teeth Abnormalities (Natal Teeth, Fluorosis, Trauma)

Conditions of the Ear

- Foreign Body in Ear Including Cerumen Impaction
- Mastoiditis
- Otitis externa
- Otitis Media and Perforated Tympanic Membrane

Conditions of the Neck

- Branchial Cleft Cyst (Branchial Sinus)
- Neck Masses
- Thyroglossal Duct Cyst
- Torticollis

Conditions of the Nose and Sinuses

- Allergic rhinitis (Hay Fever)
- Epistaxis (Nose Bleed)
- Foreign body: Nose
- Sinusitis

Conditions of the Throat (Larynx, Pharynx)

- Epiglottitis
- Laryngotracheobronchitis (Croup)
- Pharyngitis
- Retropharyngeal Abscess
- Tonsillitis and Peritonsillar Abscess

Conditions of Growth and Development

- Precocious Puberty
- Short Stature

Conditions of the Pancreas

- Diabetes Mellitus (DM)
- Diabetic Ketoacidosis (DKA)
- Infant of Diabetic Mother

Conditions of the Thyroid

- Congenital Hypothyroidism (Cretinism)
- Hyperthyroidism (Grave's Disease)
- Hypothyroidism

Gastrointestinal Conditions of Neonates

- Diaphragmatic Hernia
- Esophageal and Duodenal Atresia
- Gastroschisis
- Hirschsprung Disease (Congenital Aganglionic Megacolon)
- Jaundice in Neonates (Direct Hyperbilirubinemia, including Dubin-Johnson and Rotor Syndromes)
- Jaundice in Neonates (Indirect Hyperbilirubinemia, Kernicterus, including Gilbert-Syndrome)
- Meconium Ileus and Meconium Plug
- Necrotizing Enterocolitis (NEC)
- Omphalocele
- Tracheoesophageal Fistula

Conditions of Infants and Children

- Celiac Disease (Celiac sprue, Gluten-sensitive enteropathy)
- Constipation and Fecal Impaction
- Foreign Body Ingestion
- Fussy Infant (Colic)
- Intussusception
- Malrotation of the Midgut with Volvulus
- Meckel Diverticulum
- Mesenteric Lymphadenitis
- Pyloric Stenosis

Biochemical Disorders

- Galactosemia
- Glucose-6-Phosphate Dehydrogenase Deficiency (G6PD)
- Phenylketonuria (PKU)

Genetic Abnormalities

- Angelman Syndrome
- Cystic Fibrosis (CF)
- DiGeorge Syndrome (Velocardiofacial Syndrome, Thymic Aplasia)
- Fetal Alcohol Syndrome (FAS)
- Fragile X Syndrome
- Kallman Syndrome
- Klinefelter Syndrome
- Marfan Syndrome
- Noonan Syndrome
- Osteogenesis Imperfecta
- Potter Syndrome (Sequence)

- Prader-Willi Syndrome
- Sickle Cell Trait
- Tuberous Sclerosis
- Turner Syndrome (45 XO)
- Wiskott-Aldrich Syndrome
- Xeroderma Pigmentosum

Trisomies

- Trisomy 13 (Patau Syndrome)
- Trisomy 18 (Edwards Syndrome)
- Trisomy 21 (Down Syndrome)

Genitourinary Disorders

- Cryptorchidism (Undescended Testes)
- Epididymitis and Orchitis
- Hydrocele
- Hypospadias and Epispadias
- Posterior Urethral Valves
- Testicular Torsion
- Ureteropelvic Junction Obstruction
- Urinary Tract Infection (Cystitis)
- Varicocele
- Vesicoureteral Reflux

Anemias and Associated Disorders

- Overview of Anemia
- Anemia in Newborns, Infants, and Children
- Overview of Hemolytic Anemias
- Iron Deficiency Anemia
- Sickle Cell Disease (Sickle Cell Anemia)
- Thalassemia
- Transient Erythroblastopenia of Childhood (TEC)

Bleeding Disorders

- Factor VIII Deficiency (Hemophilia A)
- Factor IX Deficiency (Hemophilia B, Christmas Disease)
- Immune Thrombocytopenia (ITP)
- Von Willevrand's Disease

Henoch Schönlein

Purpura Hereditary

spherocytosis

Splenectomy

(Asplenia)

Splenic Injury (Spleen Trauma)

Immune Disorders

- Selective IgA Deficiency
- Severe Combined Immunodeficiency (SCID)

Infectious Agents and Conditions

- Bacteremia, SIRS, Sepsis
- Bacteria
  - Bordetella pertussis
  - Borrelia burgdorferi
  - Chlamydophila trachomatis
  - Clostridium difficile
  - Escherichia coli
  - Haemophilus influenzae
  - Mycobacterium tuberculosis
  - Mycoplasma pneumoniae
  - Neisseria gonorrhoeae
  - Neisseria meningitidis
  - Pasteurella multocida
  - Staphylococcus aureus
  - Streptococcus agalactiae
  - Streptococcus pneumoniae
  - Streptococcus pyogenes
- Fungi
  - Candida species (Candidiasis, Thrush, Onychomycosis)
  - Pityriasis versicolor (Tinea versicolor, Malassezia furfur)
  - Tinea species
- Parasites and Protozoa
  - Enterobius vermicularis (pinworm)
  - Pediculus humanus (Lice)
  - Sarcoptes scabiei (Scabies)
- Viruses
  - Congenital Cytomegalovirus (CMV)
  - Congenital Herpes Simplex Virus
  - Congenital Rubella
  - Congenital Syphilis
  - Congenital Toxoplasmosis
  - Overview of Enteroviruses
    - Coxsackieviruses A and B (Hand, Foot, and Mouth)
    - Echovirus

        - Poliovirus
    - Epstein Barr Virus (mononucleosis)
    - Hepatitis A
    - Hepatitis B
    - Hepatitis C
    - Herpes Simplex Virus 1, 2
    - Human Herpes Viruses 6, 7 (Roseola, Exanthem Subitum)
    - Human Papillomavirus (HPV, Condyloma Acuminata, Anogenital Warts)
    - Influenza
    - Measles
    - Mumps
    - Parainfluenza
    - Parvovirus B19 (Erythema infectiosum, Fifth disease)
    - Respiratory syncytial virus
    - Rhinovirus
    - Rotavirus
    - Rubella Virus (German measles)
    - Varicella-Zoster Virus (Chicken Pox, Shingles)
    - Yellow fever

Musculoskeletal and Rheumatology

- Club foot (Talipes Equinovarus)
- Costochondritis (Tietze Syndrome)
- Developmental Dysplasia of Hip
- Legg Calve Perthes disease (Avascular Necrosis of Proximal Femur)
- Muscular Dystrophy (Becker, Duchenne)
- Osgood Schlatter Disease
- Radial head subluxation (Nursemaid elbow)
- Rickets
- Scoliosis
- Slipped capital femoral epiphysis (SCFE)
- Torticollis

Nervous System Conditions of Neonates

- Arnold-Chiari Malformation
- Dandy-Walker Malformation
- Intraventricular Hemorrhage (Germinal Matrix Hemorrhage, IVH)
- Neural Tube Defects (Anencephaly, Spina Bifida, Meningocele, Meningomyelocele, Rachischisis)

Nervous System Conditions of Infants and Children

- Cerebral Palsy
- Concussion (Mild Traumatic Brain Injury, MTBI)
- Encephalitis

- Epidural Hematoma (Extradural Hemorrhage)
- Headaches in Children
- Hydrocephalus in Infants and Children
- Meningitis
- Seizures in Children (Status Epilepticus, Epilepsy)
- Subdural hematoma
- Syncope

Oncology

- Ewing Sarcoma
- Leukemia (ALL, AML, CLL, CML, Hairy Cell)
- Lymphoma (Hodgkin, Non-Hodgkin)
- Introduction to Brain and Nervous System Tumors
- Nephroblastoma (Wilms tumor)
- Neuroblastoma
- Osteosarcoma
- Retinoblastoma

Ophthalmology

- Conjunctivitis
- Corneal Abrasion and Ulcer
- Ophthalmia Neonatorum (Neonatal Conjunctivitis)
- Periorbital and Orbital Cellulitis
- Retinopathy of Prematurity (ROP)
- Strabismus/Esotropia/Exotropia

Psychiatry and Behavioral Medicine

- Anxiety Disorders
  - Introduction to Anxiety Disorders
  - Separation Anxiety Disorder
  - Panic Disorder
  - Agoraphobia
  - Generalized Anxiety Disorder
  - Substance-Induced Anxiety Disorder
  - Cognitive and Behavioral Therapies for Anxiety
- Attention Deficit Hyperactivity Disorder (ADHD)
- Autism spectrum disorder
- Conduct disorder
- Mood Disorders
  - Bipolar Disorder (Bipolar I and Bipolar II)
  - Depressive Disorders
- Eating Disorders
  - Anorexia Nervosa
  - Bulimia Nervosa

- Elimination disorders
  - Encopresis
  - Enuresis
- Intermittent Explosive Disorder
- Oppositional Defiant Disorder
- Suicide

Renal, Electrolyte, and Acid-Base Disorders

- Fluid and Electrolyte Management
  - Dehydration
  - Intravenous and Intraosseous Fluids (Lactated Ringers, Normal Saline)
- Overview of Glomerular Disease
  - Minimal Change Disease
  - Postinfectious Glomerulonephritis
- Proteinuria
- Pyelonephritis

Reproductive, Obstetrical, and Gynecological

- Amenorrhea
- Imperforate Hymen
- Labial Adhesion
- Ovarian Cyst
- Ovarian Torsion
- Pelvic Inflammatory Disease (Endometritis)
- Pregnancy

Respiratory

- Anaphylaxis
- Apnea, Apnea of Prematurity, and Periodic Breathing
- Asthma in Children
- Breath-Holding Spell (Temper-Tantrums)
- Bronchiolitis
- Foreign body Aspiration
- Neonatal Respiratory Distress Syndrome (Hyaline Membrane Disease)
- Pneumonia
- Sudden Infant Death Syndrome (SIDS)
- Transient Tachypnea of Newborn (TTN)

Abuse Disorders

- Introduction to Substance-Related and Addictive Disorders
- Alcohol Use Disorder
- Cannabis Use Disorder
- Cocaine

- Inhalant Abuse (Hydrocarbons)
- Lysergic Acid Diethylamide (LSD)
- Neonatal Abstinence Syndrome (NAS, Neonatal Withdrawal)
- Opioid Use Disorder
- Stimulant Use Disorder
- Phencyclidine (PCP) Abuse

Overdose

- Acetaminophen Toxicity
- Aspirin Overdose
- Iron Toxicity

Environmental Injuries

- Bites (Cats, Dogs, Humans, Rodents, Spiders)
- Burns
- Child Abuse and Neglect
- Gunshot Wounds (Firearms)
- Heat Related Illness (Non-Febrile Hyperthermia, Heat Stroke)
- Shaken Baby Syndrome (Abusive Head Trauma)
- Snake Bites
- Ticks (Tick Bites)

Toxins

- Carbon Monoxide Toxicity
- Caustic Ingestion (Acids and Alkalis)
- Lead Toxicity
- Organophosphate Toxicity

Universal Notes Pediatric Practice Exams

The following Pediatric Practice Exams are available in Universal Notes:

Practice Exam: Pediatrics Inpatient 1

Practice Exam: Pediatrics Neonatal Intensive Care Unit 1

Practice Exam: Pediatrics Outpatient 1

Practice Exam: Pediatrics Outpatient 2

Practice Exam: Pediatrics Outpatient 3

Practice Exam: Pediatrics Outpatient 4

Practice Exam: Pediatrics Outpatient 5

Practice Exam: Pediatrics Prenatal Evaluation and Newborn Nursery 1

Practice Exam: Pediatrics Prenatal Evaluation and Newborn Nursery 2

Practice Exam: Pediatrics Subspecialties 1

Practice Exam: Pediatrics Subspecialties 2

The Practice Exams can be accessed by:

1. Click the circled Q in the left sided toolbar
2. Click Start a Quiz
3. On the “Questions by Tag” dropdown to the right, select TOPIC
4. In the Topic Tag space type: Practice Exam: Pediatrics and all of the available practice quizzes will appear
5. Choose “Testing Mode” desired
6. Enter the “Number of Questions” desired
7. Click Submit

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