



# INDIAN JOURNAL OF PRACTICAL PEDIATRICS



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## ADOLESCENT CARE

### NORMAL ADOLESCENT DEVELOPMENT

**\*Swati Y Bhave**  
**\*\*Sangeeta Yadav**

**Abstract:** *Normal adolescent development is the foundation stone for healthy adulthood. Early, mid- and late adolescence are the three phases in adolescent development. Early adolescence (10-13 yrs) is characterized by concrete thinking, growth spurt and the beginning of sexual maturation. In mid-adolescence (14-15 yrs) the physical changes are complete, abstract thinking begins and the adolescents develop a strong sense of identity and are very much under peer influence although family still remain important. There is an increased tendency for experimenting and risk taking. In late adolescence (16-19 yrs) physical and sexual maturity is complete, identity is significantly developed and abstract thinking is well developed.*

**Keywords:** *Normal adolescent development, Stages, Early, Middle, Late.*

### Points to Remember

- *Puberty is a dynamic period of development with rapid changes in body size, shape, and composition, which are sexually dimorphic.*
- *Normal adolescent development includes cognitive skills, emotional maturity, self-identity and social development.*
- *Health professionals should always give adequate time to an adolescent for determining his/her degree of biological maturity and level of cognitive development.*
- *All stake holders dealing with adolescents should impart WHO life skills to empower the adolescents, teachers in schools and colleges and parents.*
- *For adolescents to develop optimally, resilience and positive environment act as protective factors to reduce negative peer influence and risk taking behavior. A supportive environment in homes, community and teaching institutions is vital.*

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## ADOLESCENT CARE

### COMMON MEDICAL PROBLEMS IN ADOLESCENTS

**\*Chitra Dinakar**  
**\*\*Piyali Bhattacharya**

**Abstract:** *Medical problems in adolescence encompass a spectrum of disorders which would require a unique age appropriate approach including counseling. Disorders like hypertension and diabetes could reflect an early appearance of adult onset disease. Nutritional anemia and malnutrition with a childhood onset may persist or get aggravated in this age group. Acne and dysmenorrhea are puberty related adolescent onset disorders. A few of the commonly encountered problems in adolescents like hypertension, dysmenorrhoea, acne and nutritional anemia are discussed in this article.*

**Keywords:** *Adolescent, Hypertension, Dysmenorrhoea, Acne, Anemia*

### Points to Remember

- *Hypertention, dysmenorrhoea, acne vulgaris and anemia are the commonly encountered medical problems in adolescents.*
- *Routine blood pressure monitoring and plotting on nomogram is the key to diagnosis of hypertension.*
- *Life style modification is an important component in the management of adolescent hypertension.*
- *Dysmenorrhoea is commonly present in adolescent girls and they respond well to medical management.*
- *Acne vulgaris affects both adolescent boys and girls and requires prolonged topical therapy and dermatologist opinion in moderate to severe cases.*
- *Nutritional iron deficiency anemia is highly prevalent among adolescent girls. Weekly iron and folate supplementation, biannual deworming and improvement in nutrition and their prevention strategies of the new national health program.*

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## ADOLESCENT CARE

### ADOLESCENT OBESITY

**\*Karthik Kumar B**  
**\*\*Hemchand K Prasad**

**Abstract:** Adolescent obesity is a common clinical problem faced by a pediatrician. Annual measurement of waist circumference (abnormal:  $\geq 90$ th percentile) and Body Mass Index (BMI) (abnormal:  $>$  adult equivalent of 23 for overweight and 27 kg/m<sup>2</sup> for obesity) is mandatory in all adolescents. Though all overweight and obese adolescents must be screened for metabolic risk factors; endocrine screening is at the clinician's discretion. A physician treating an obese adolescent must have a low threshold to investigate, high threshold to medicate and a very high threshold to refer to a surgeon. A high index of suspicion is needed to look for polycystic ovary syndrome in girls. A cafeteria of medications are available for metabolic consequences arising from obesity, which may be useful as a temporary resort. Combination of therapy dietary changes, physical activity and lifestyle modifications is the key for sustained long term success.

**Keywords:** Adolescent obesity, Polycystic ovary syndrome (PCOS), Metformin, Metabolic Syndrome.

### Points to Remember

- *A non-nutritional cause must be considered in obese adolescents with short stature, delayed bone age, growth velocity  $<$  25th percentile, hypoplastic genitalia, extra digits, severe hypertension (Blood Pressure  $>$  99th percentile) and focal neurological deficit.*
- *The penile length must be measured and compared to age specific norms. Buried penis is the most likely, but, not the only cause for small penile length in an adolescent male.*
- *Obese adolescents may have a marginal elevation in TSH mediated by leptin. This warrants only diet and exercise and not thyroxine replacement.*
- *Sudden weight loss without exercise is a danger sign. It may indicate the decompensation of Type 2 diabetes in an obese adolescent.*
- *Although there are specific indications for drug therapy in adolescents with metabolic complications, diet and exercise are the main modes of therapy for all obese adolescents. Metformin is not a substitute for diet and exercise in adolescent metabolic syndrome.*
- *Investigate PCOS only in the follicular phase of the cycle. Cosmetic laser therapy must be embarked upon after attaining biochemical control of androgen levels.*

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## ADOLESCENT CARE

### ADOLESCENT SEXUALITY

**\*Chandrika Rao**

**Abstract:** *Adolescent sexuality is an important issue that is encountered while dealing with the problems of adolescents. The HEEDSSS (home, education, eating habits, activities, depression, substance use, sexuality and safety) approach gives us an idea of the general problems involved, when an adolescent (he/she) constantly feels uncomfortable about the changes in the body and also when the natural interest towards the opposite sex, expected during the stage, is not evinced. Hence adolescents may harbor the idea that there is a deviation in their sexual orientation and may imagine themselves to be either gay or lesbian. One should address the problems associated with this stage such as sexual abuse, STD, pregnancy and other infections also.*

**Keywords:** *Adolescence, Sexuality.*

### Points to Remember

- *Sexuality is influenced by adolescents over body language, sexual identify, role at home and society, personal feeling and self-esteem.*
- *Feelings of homosexuality, transgender may emerge to discontinue later or may continue.*
- *HEADDSSS questionnaire is usually used to assess the adolescent behaviours.*
- *Pediatricians should have an adolescent friendly clinic to address to sexuality and related assess like adolescent pregnancy, STDs, sexual abuse, etc.*

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<b>ADOLESCENT CARE</b>
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## **POOR SCHOOL PERFORMANCE IN ADOLESCENCE**

**\*Preeti M Galagali**  
**\*\* Luiz N**

**Abstract:** *Poor school performance in adolescence is a common problem encountered in clinical practice. It may present for the first time in adolescence or may be a part of the continuum since childhood. It can be associated with short and long term physical and mental morbidity and even mortality. Multiple factors may contribute to its occurrence in adolescence. A thorough clinical evaluation is essential to make a precise diagnosis and plan further management. A multidisciplinary team involving pediatricians, teaching fraternity and mental health professionals is required for appropriate management.*

**Keywords:** *Poor school performance, Specific learning disability, Attention deficit hyperactivity disorder.*

### **Points to Remember**

- *Poor school performance in adolescence may indicate an emerging mental disorder.*
- *Multiple factors in the family, school or intrapersonal may contribute to PSP in the adolescent.*
- *Detailed clinical evaluation is the key to appropriate management.*
- *A multidisciplinary team that essentially includes a pediatrician and mental health professional should manage cases of PSP in adolescence.*
- *Pediatricians should emphasise the importance of adequate nutrition, sleep, physical activity, nurturing home and school environment and encouraging non-academic strengths in all cases of PSP apart from assisting in formulating an individualized treatment plan.*

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## ADOLESCENT CARE

### ADOLESCENT ANXIETY AND DEPRESSION

**\*Nair MKC**

**Abstract:** *Behavioural, emotional and mental health problems are widely prevalence among adolescents in India. Primary care physicians or pediatricians need to recognize and manage a majority of anxiety and depression problems among adolescents due to limited availability of psychiatrists or clinical psychologists. Anxiety disorders may be generalized anxiety disorders, phobias, panic disorders, obsessive compulsive disorders, post traumatic stress disorders, etc. Depression in adolescent may be difficult to identify due to the normal behavioural variations associated with hormonal changes in this age group. It can manifest as low self-esteem, difficulty in establishing autonomy and suicidal ideation. Depression may be mistaken for attention deficit hyperactivity disorder or may present with physical ailments. In the majority of children with depression, both psychotherapy and medication are required.*

**Keywords:** *Anxiety, Depression, Selective serotonin reuptake inhibitors, Adolescents.*

### Points to Remember

- *Many of the mental health problems in adolescents can be effectively managed at the primary care setting itself.*
- *Anxiety disorders are the most common and functionally impairing mental health disorders in adolescents.*
- *Anxiety disorders are characterized by worry about future and current events and fear causing fast heart rate and tremors.*
- *Depression in adolescents manifests with problems in establishing self-esteem and autonomy and occurrence of suicidal ideas.*
- *Both psychotherapy and pharmacotherapy will be required in majority of adolescents with depression.*
- *Support of family, teenagers and friends is essential to sustain the good results of treatment.*
- *In case of no response in six weeks or whenever the primary pediatrician feels the need, psychiatrist has to be consulted.*

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## ADOLESCENT CARE

### PARENTING AN ADOLESCENT

**\*Yamuna S**  
**\*\*Vijayarani M**

**Abstract:** *Family connectedness during early adolescence is an important protective factor and is aimed at early adolescence. This delays sexual debut, reduces violence, delinquency, substance abuse, drunken driving, depression and suicide in future. World Health Organization recommends a five dimensional approach to parenting that is being included in intervention programs to help parents guide their adolescents. Three parenting styles determine the outcomes in adolescents as they reflect the demandingness and responsiveness in parents. Highly responsive and highly demanding parents seem to win the adolescents in compliance.*

**Keywords:** *Parenting, Adolescence, Issues*

### Points to Remember

- Educate the parents on adolescent growth and development.
- Empower parents on effective communication skills.
- Enlighten the parents to include taboo subjects like sexuality, substance use in their discussions with adolescents.
- Ensure the inculcation of authoritative parenting style by all parents since the first meeting.

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**ADOLESCENT CARE**
**ADOLESCENT COUNSELING**

**\*Kanikar AM**  
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**Abstract:** *Adolescent counseling is a sensitive and skillful task needing knowledge and practical training in various theories approaches to the process. Pediatricians as primary mental health caretakers should take the responsibility towards shaping the attitudes, emotional health and responsible behavior of teenagers. Adolescent mental health is a neglected topic in India in spite of exponential rise in risk taking behaviors among teens. Adolescent counseling spreads over important areas of teen's life including life skills, scholastics, prevention of substance abuse, safety, sexual abuse, responsible sexual behaviors, career guidance and premarital issues. Ethics and adolescent friendly approach is all that is needed.*

**Keywords:** *Adolescent, Counseling, Skills.*

**Points to Remember**

- *Adolescent counseling is the need of the hour.*
- *Special skills must be learnt beforehand.*
- *Pediatricians are the key persons in early detection, management and timely referrals for mental health problems in adolescents.*

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<b>GENERAL ARTICLE</b>
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## FLUOROSIS AND ASSOCIATED HEALTH ISSUES

**\*Susheela AK**

**Abstract:** *In this update the types of fluorosis affecting different tissues / organs / systems in the body, their characteristics, how fluorosis can be suspected from the symptoms and how it can be confirmed based on the diagnostic procedures are discussed. After early diagnosis, complete recovery from fluorosis, is achieved by withdrawal of fluoride consumption through diet modification. Diet counselling to promote intake of nutrients, vitamins and antioxidants has been highlighted. Drugs are less effective in the recovery process. This article also deals with associated health problems due to fluoride toxicity such as anemia in pregnancy despite iron and folic acid supplementation and anemia in adolescent girls. This article also details the approaches for addressing fluorosis in children and the commonalities with iodine deficiency disorders (IDD).*

**Keywords:** *Fluorosis, Diagnosis, Recovery.*

### Points to Remember

- *Non-skeletal fluorosis is the earliest manifestation of fluorosis and requires a high index of suspicion for diagnosis.*
- *Testing fluoride in body fluids and drinking water is necessary for diagnosis and management.*
- *Fluorosis, IDD and rickets have commonalities in clinical manifestations.*

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<b>GENERAL ARTICLE</b>
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## **MANAGEMENT OF STAPHYLOCOCCAL INFECTIONS-FROM OUTPATIENT DEPARTMENT TO INTENSIVE CARE UNITS**

**\*Vijayalakshmi Balakrishnan**

**Abstract:** *Staphylococcal infections are commonly seen both in community acquired and hospital acquired infections. They can present as a simple skin infection as well as a lethal septic shock. An increasing incidence of resistant staphylococcal infections both from the community and in the hospitals is being seen. Infection control and isolation measures are very important to prevent hospital outbreaks.*

**Keywords:** *Staphylococcus aureus, MRSA, Septic shock, Hand washing.*

### **Points to Remember**

- *Staphylococcus aureus gets colonised in skin and nasopharyngeal mucosa and is spreads by touching.*
- *Staphylococcus aureus can produce toxins which can exert its effects quite distant from the foci of infection.*
- *Methicillin resistant Staphylococcus aureus rates are increasing in the hospital.*
- *Prompt initiation of antibiotics and draining of pus are needed to treat infections.*
- *Hospital cross transmission can be prevented by adequate hand washing and isolation of infected patients.*

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<b>DRUG PROFILE</b>
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**ANTI-MALARIALS****\*Jeesson C Unni**

**Abstract:** *Treatment options for malaria, especially falciparum malaria, is continuously changing due to the rapid development of resistance to individual drugs given as monotherapy. Artemisinin-based combination therapies (ACTs) are presently considered the drug of choice for uncomplicated falciparum malaria and though choloquine is still the standard therapy for chloroquine sensitive vivax malaria, ACTs are increasingly being considered for the treatment of non-falciparum malaria. Artemisinin resistance is also being reported of late and much research is necessary to develop novel drugs and drug combinations to work around these emerging scenarios so as to achieve and maintain malaria control with the ultimate aim of malaria elimination.*

**Keywords:** *Malaria, Treatment, Artemisinin-based combination therapies (ACTs), Chloroquine.*

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<b>DERMATOLOGY</b>
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## **CHILDHOOD PSYCHOCUTANEOUS DISORDERS - AN OVERVIEW**

**\*Thomas Aasha**

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**\*\*Jayakar Thomas**

**Abstract:** *The prevalence of psychosomatic disorders among children with dermatological problems is high but frequently unreported because of difficulties in diagnosing and treating this patient group. Psychiatric and psychological factors may play different roles in the pathogenic mechanism of some skin diseases. The mainstay of diagnosis and treatment is the differentiation between skin disorders associated with psychiatric illness and those of a purely psychiatric nature. Dermatologists and Psychiatrists should be aware of this pathology and work together as a team to resolve difficult cases, especially in children. This article highlights the psychocutaneous diseases most frequently seen in pediatric population.*

**Keywords:** *Psychocutaneous disorders, Factitial dermatitis, Psychodermatology.*

### **Points to Remember**

- *The prevalence of psychosomatic disorders among children with dermatological problems is high*
- *They are frequently unreported because of difficulties in diagnosing and treating*
- *Psychiatric and psychological factors may play different roles in the pathogenic mechanism of some skin diseases.*
- *The mainstay of diagnosis and treatment is the differentiation between skin disorders associated with psychiatric illness and those of a purely psychiatric nature.*
- *Dermatologists and psychiatrists should be aware of this pathology and work together as a team to resolve difficult cases, especially in children.*

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<b>SURGERY</b>
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## ANTENATAL DIAGNOSIS AND MANAGEMENT OF UROLOGIC ANOMALIES

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**Abstract:** *With advancing techniques and widespread availability of sonography, more genito-urinary anomalies are being picked up antenatally. This has substantially added to the anxiety of the prospective parents and a spate of questions to the clinicians. This article is intended to clarify the antenatal and post-natal issues involved in the management of antenatally detected urologic anomalies in a lucid and practical manner.*

**Keywords:** *Hydronephrosis, Genito-urinary anomalies, Antenatal Diagnosis.*

### Points to Remember

- *Antenatally diagnosed unilateral HDN without any associated anomalies does not require any antenatal intervention and can be evaluated postnatally.*
- *Antenatal intervention in the form of vesico-amniotic shunting is presently being performed on selected group of fetuses in very few centres abroad with no definite evidence of improved renal outcome.*
- *Neonates with suspected bladder outlet obstruction warrant an early ultrasound scan followed by MCUG and appropriate treatment.*

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**CASE STUDY****HISTIOCYTOSIS LYMPHADENOPATHY PLUS SYNDROME****\*Hema Chitra J****\*Srinivasan G****\*Karthikeyan M****\*Dhakshayani R V****\*\*Rema Chandramohan**

**Abstract:** *Histiocytosis-lymphadenopathy plus syndrome comprises of histiocytosis and lymphadenopathy occurring along with cutaneous, cardiac, endocrine abnormalities, joint contractures and deafness. It is caused by homozygous or compound heterozygous mutation in the SLC29A3 gene on chromosome 10q22. We present a case report of this rare genetic disorder.*

**Keywords:** *Histiocytosis, Lymphadenopathy, H syndrome.*

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