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Issues of Adolescent Psychological Development in the 21st Century

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Objectives After completing this article, readers should be able to:

1. Describe outside influences on adolescent psychological development.
2. Explain why cognitive development advances during adolescence should be assessed before initiating counseling.
3. Describe the relationship between risk-taking behaviors of adolescents and cognitive maturity.
4. Explain how visible and nonvisible health conditions affect the adolescent's view of self.
5. Discuss how physicians can help improve compliance in an adolescent.

Introduction

Dealing with adolescents always has been a challenge for both parents and clinicians. In today's society, adolescence is a prolonged developmental stage that lasts approximately 10 years, nominally described as between the ages of 11 and 22 years. An adolescent progresses through stages of biologic development as well as changes in psychological and social functioning. It is in this period that a person becomes both physically and psychologically mature and capable of independent living. Although some recent data show that 75% of adolescents and their families have a transitional experience that is trouble-free, many have described this period as one of "storm and stress." Physicians caring for adolescents need to know how the influences of family and the adolescent peer group affect teenagers as they progress through the early (11 to 14 y), middle (15 to 17 y), and late (18 to 21 y) stages of development. Although the outcome might be the same (eg, a healthy and independent adult), individual variation in the progression through these stages can be substantial; adolescence is a highly variable and somewhat asynchronous process. Progression through the various stages does not follow the same timelines for each adolescent. Finally, physicians need to know how to address the major issues of sexuality, risk-taking, and other health-related concerns of adolescents. This article will help the pediatrician manage these issues of adolescence, especially in the setting of the United States. However, many of these issues also pertain to adolescents in other countries.

The Family and the Adolescent Peer Group

Children, including teenagers, learn what they live. The physician who cares for adolescents must recognize the importance of understanding family dynamics and the potential impact of such dynamics on symptoms of an individual adolescent. This issue is particularly important when the physician is assessing an adolescent's psychological status. Is this a traditional family with the father as the breadwinner and the mother "at home," are both parents employed outside of the home, or is it a single-parent home? And if the latter, what is the role of the other parent? Does the teenager's health problems mimic those of the parents? School truancy may be modeled from a parent's work habits (eg, the alcoholic who has frequent Monday absences). The obese teenager generally has obese parents who have little time or interest in providing home-cooked meals and exercise activities.

Understanding the socioeconomic status and the culture of each family also may help the pediatrician understand the adolescent's developmental process. This is reflected in the type of leisure activities, including dating, that the adolescent may pursue. Upper-class

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youth may have more travel experience and cultural activities as well as community activities; middle-class adolescents frequently participate in activities such as sports and youth-groups; lower-class youth may not have any structured activities. Certain cultures have less apparent parent-youth conflict throughout this developmental phase. In addition, cultures that are less technology-oriented may have less conflict.

Increasing numbers of youth are computer-literate. Although most use such technology for information and social reasons (e-mail), many are involved with the “dark side” of the Internet, which may lead to asocial or pathologic behavior. Many adolescents are unsupervised in their computer and Internet use, with parents being totally unfamiliar with this world. Parents can place the family computer in a central gathering place to monitor Internet use and engage blocking devices to limit access.

The process of pubertal maturation requires role re-adjustments among and between family members, often resulting in increased stress and conflict. Parents may not feel as important in their child’s life as they once were because the adolescent no longer sees them as all-powerful. In the first part of adolescent development, teens may seek out other adult authority figures. Most adolescents feel that their parents love them but do not necessarily understand them.

Parents need to realize that some actions of their teenage children may be hard to control and that adolescents have certain legal rights. These rights vary among states, and physicians should know the laws of the state in which they practice. In most states, a minor can be treated for sexually transmitted diseases, pregnancy, family planning, and outpatient substance abuse or mental illness without parental permission. It can be frustrating for a parent to bring a teenager to a clinician, demanding that the child be screened for drug use, only to be told that the child has the right to refuse such drug testing. Similarly, the adolescent who has a sexually transmitted disease has the right to privacy. Although the presence of an adolescent can be inherently stressful for a family, there often are other sources of family stress. It is essential that the physician identify changes and stresses for each family. Parental marital problems or frequent absence of one parent, employment or financial insecurity, substance use, mental illness, or incarceration of a family member can have serious consequences on the adolescent’s mental health and coping skills.

The physician needs to identify sources of stress within families and the predominant methods of coping with such stress. Does the family set aside at least one evening or a similar time each week to review such issues

or conflict management? Is the family involved in a religious or community organization that offers support in stressful situations? Do the parents seek out school guidance counselors when school personnel suggest that the adolescent is having difficulty coping at school?

In addition to the family, peers are important influences for the adolescent. The young adolescent begins separation from family members in an attempt to demonstrate independent thought. Initially, this separation is manifested by an interest in finding peers of the same gender who have similar dress, grooming, and behavioral standards. Early teens strive to find acceptance within such peer groups, thus forming new “family” units. These friendships entail responsibilities unlike those of earlier years. The teen is finding self-expression and forming moral thought while struggling with an emerging image of self in society.

Amid these years of turmoil in body changes, adolescents look to their peers for acceptance, importance, and unity. Peers, not parents, generally first grant autonomy to the adolescent. Jobs, dating, and parenting tasks require interaction on equal grounds. Most adult emotional experiences begin in relationships with peers. Within the context of building peer relations, adolescents learn loyalty, empathy, criticism, and rejection.

Family conflict often ensues with the development of peer friendships. Dress choice, for example, may appear to make rebellious statements toward parents, but actually may be an attempt to show free choice or find acceptance within a group. In building peer relationships, most teens do not intentionally strive to isolate parents. Nonetheless, parents should expect heightened demands for privacy and decreased time spent in family activities from their adolescent children.

Peers have a powerful daily influence on the adolescent’s healthy and unhealthy behaviors. Alcohol, cigarette, and illicit drug use frequently are encountered initially among peers. Both peer selection and peer influence contribute to adolescent behaviors. For example, cigarette use may be encouraged by covert peer pressure or an adolescent’s wish to project a seemingly sophisticated image. Peer influence extends past substance use to other unhealthy behaviors of risk-taking, such as carrying a weapon to school or unsafe use of motor or recreational vehicles. Peers also can promote early sexual behaviors or encourage negative school attitudes. Peers who disregard the value of education may promote school truancy or failure. Decreased parental involvement, poor communication with parents, and poor parental discipline contribute to the degree of influence that peers have on a young adolescent. Pediatricians should advise parents of their

important role in minimizing negative peer influence and encourage the parents and family to foster a positive self-image in an adolescent through praise and acceptance. Praise should be directed not only at the teenager, but also at others in his or her life, such as peers and teachers. Adolescents need to hear parents speak positively about other people in general; intolerance frequently is learned at home.

Finally, parental acceptance of an adolescent's separation from the family often enables the adolescent to return psychologically to the family. Parents need to learn how to increase the teenager's independence gradually from the shelter of home in a manner that is not too restrictive. As the adolescent and the family learn that the teen can handle dating, driving, or outside employment responsibly, the adolescent also will learn how to interact with the family as an adult. Many adolescents appreciate their parents more after separation has occurred.

Stages of Adolescent Development

Early Adolescence

The period from 11 to 14 years of age is characterized by marked physical changes that make adolescents extremely vulnerable to perceptions of how they appear to others. In addition, behavioral changes are common with the onset of early adolescence and include fatigue, increased sleeping, irritability, secretiveness, and easy embarrassment. Fatigue and increased sleeping may be related to the physical changes of a growth spurt. The parent needs to recognize the increased sleep demands, encourage regular bedtimes, and minimize distractions in the bedroom (televisions, computer games, and telephones). The marked physical changes, which include growth of body hair and genital development, sometimes can be a source of embarrassment (eg, the inconsistent voice changes of a teenage male or an outbreak of acne before a major social event). Each adolescent responds differently to bodily changes and consequential psychological effects, but family and peer relationships can help guide this development.

Cognitive skills in adolescents also show broad change, as described by Jean Piaget. With concrete thinking, an early adolescent understands issues as absolute truths such as right and wrong. Concrete thinkers may understand simple cause and effect and relate this to themselves egocentrically. This rigid framework gives way to abstract reasoning and the understanding of complex interrelationships that Piaget described as formal operative thought. Although the onset of formal operative thought may come in early adolescence, refinement of these cognitive skills occurs throughout adolescence.

As an outcome of this developmental process, the late adolescent applies hypothetical and deductive reasoning skills for consideration of multiple viewpoints, critical decision-making, and contemplation of long-term consequences. Because of the early adolescent's restricted ability for complex abstract thought, physicians must recognize the limited ability of a young teenager to consider long-range health risks (eg, cholesterol in diet, sedentary lifestyle). Similarly, sexual behavior can be affected by stages of cognitive development, with risk-taking by the early adolescent (eg, no condom use) and the development of more mature, intimate relationships in late adolescence. Paramount to this theory is that cognitive age does not equal chronologic age. Children, therefore, must be assessed through open conversation during the health supervision visit for the physician to match anticipatory guidance with cognitive thought.

Experience and environment can influence cognitive development. Although parents and schools take responsibility for shaping the mental growth of a teen, the variety of sources from which teens learn proactively are no less important. Television and the Internet are technological sources from which adolescents learn about society. Volunteer groups, sports teams, recreational activities, and religious groups are social avenues in which teens gain knowledge of self and society. As the adolescent participates in these groups, he or she may develop "crushes" on adult authority figures, which are not uncommon in early and mid-adolescent social development.

Summer reading or trips to museums can improve a child's vocabulary, thinking, and reasoning skills. Community sports teams and mentoring programs can teach cooperation, loyalty, and respect (moral thinking). In contrast, adolescents who join a street gang can learn distortions of these skills with detrimental effects. Negative influences also are promoted heavily by media and advertising campaigns. Sexuality and violent behavior frequently are glamorized, misrepresenting consequences for risk-taking behaviors and promoting false themes regarding punishment. Media and advertising portrayals can lead to poor body image and acceptance of poor school performance. Physicians should be acquainted with policy statements and recommendations from the American Academy of Pediatrics about the media's influence on children.

Middle Adolescence

The physiologic changes that characterize early adolescence generally are completed by 15 to 17 years (middle adolescence) for girls, whereas boys still are maturing

Table 1. Anticipatory Guidance for Parents of Adolescents

Early Adolescent	Middle Adolescent	Late Adolescent
Spend time with adolescent Praise positive behavior Respect adolescent's need for privacy Establish limits and consequences for breaking them Discuss sexuality Model good behavior, including health promotion	Same as early adolescent plus . . . Discuss dangers of drinking and driving Insist on seat belts Discuss sexuality and disease prevention	Same as early and middle adolescent plus . . . Encourage adolescent in independent decision-making Encourage designated drivers (or calling for a ride) if drinking

Data from Green M, Palfrey JS.

during this phase. However, most adolescents are secure in their sexual identities. They are better able to understand relationships as well as expectations and their roles in society. As mentioned previously, participation in a variety of extracurricular activities helps them achieve this understanding. High school academic performance may be stressful. Physicians need to help teenagers learn to deal with such stress.

Late Adolescence

Although late adolescence is characterized by formal operative thinking (abstract thought), it is important to realize that a person in this stage is not always consistent in his or her thought process. The goal of independence dominates thinking; vocational, educational, and personal issues are major decisions. Health care practitioners need to instruct parents to encourage their adolescents in independent decision-making (Table 1).

Risk-taking, Sexuality, and Other Health-related Concerns of Adolescents

Only through open-ended questioning can the physician gain insight into the teenager's understanding of health, disease, and risk-taking. However, before the patient encounter, physicians should review routinely their working knowledge of the risk-taking behaviors of adolescents and the consequences of these behaviors. The following statistics elaborate on some of the core issues that currently face adolescents.

Motor vehicle accidents remain the leading cause of serious injury and death among adolescents between 16 and 20 years of age, especially males. For every adolescent killed in a motor vehicle crash, about 100 nonfatal injuries occur, with crashes representing a leading cause of disability related to head and spinal cord

injuries in this age group. A 16-year-old driver is 20 times more likely to have a crash as is the general population of drivers. Risk-taking behavior and lack of driving experience account for this increased risk of crashing. Risk-taking behavior includes nighttime driving, use of alcohol and other drugs such as marijuana, and low rate of seat belt usage. The physician must recognize the limited ability of an early adolescent to link cause and effect in regard to health behavior (eg, smoking, overeating, use of alcohol or drugs, reckless driving). In addition, the inability to think in the abstract influences the early adolescent's concept of immortality ("It won't happen to me") as a factor in risk-taking behavior (eg, use of alcohol or drugs, reckless driving, nonuse of a seat belt). Risk-taking and testing of limits are part of achieving independence and self-identity for the adolescent, but the physician can suggest safe ways of achieving such goals. Homicide and suicide are the other major causes of death in 15- to 19-year-old youth. Physician inquiries of both parents and teens regarding gun ownership and access are mandatory.

Risk-taking behavior in adolescents includes sexual behavior. Nearly two thirds of high school seniors have had sexual intercourse, one half are currently sexually active, and one fifth of adolescents have had four or more partners. Factors associated with early initiation of sexual intercourse include early puberty, sexual abuse, and poverty. Factors associated with later initiation of sexual activity include parental consistency and firmness in discipline and high academic achievement. Of those adolescents who are sexually active, 25% become infected with a sexually transmitted disease each year. Female adolescents in the United States have one of the world's highest teenage pregnancy rates. The younger the age of an adolescent girl's first intercourse, the more likely that she

has had involuntary or forced sex. Allowing access to condoms in school-based clinics does not affect rates of sexual activity but does increase the use of condoms with intercourse. Physicians caring for adolescents need to be familiar with current contraceptive practices and treatment of sexually transmitted diseases.

During the adolescent years, many youths engage in sexual experimentation, which may include homosexual behavior. Transient homosexual experimentation is not uncommon in early and mid-adolescent social development; such behavior does not predict future sexual orientation. Not all adolescents who are emotionally attracted to a member of the same gender engage in any sexual activity. Adolescents struggling with issues of sexual preference should be reassured that they gradually will form their own identities. This is extremely important because approximately 30% of gay youths have attempted suicide at least once.

In the same manner that struggles with sexual identity may produce a negative self-concept, health issues that affect the outward appearance of an adolescent may interfere with achieving a positive self-image. Early adolescents place confidence in their external features, so any physical feature that is viewed as suboptimal will affect the teen's view of self substantially. Acne or orthodontics, for example, can contribute to a poor self-image. The potential psychological complications of having a large facial birthmark, an arm contracted by hemiparesis, or the disfiguring scar of a burn will be even more severe. Similarly, nonvisible health conditions may have associated emotional problems. Because of therapies, restrictions, or other ways of obviously not fitting a norm, children who have diabetes, epilepsy, a learning disability, or other chronic illness may encounter isolation and have a poor self-image.

In addition to self-image, the goal of achieving independence also may suffer. Illnesses such as juvenile rheumatoid arthritis, diabetes, and asthma require medications and routine physician visits. In a stage of life where gaining independence shapes a person's definition of self, it is difficult to accept emotional and physical constraints of an illness, such as reduced physical endurance, pain, dependence on medical specialists, physical assistance, and treatments. The disease itself or the treatment may be the aggravating factor. If the disease interferes with growth and physical maturation, added "disfigurement" could occur. Because physical attractiveness is increasingly important, variations from society's standards are considered unacceptable. Temporary social withdrawal may result from illness and treatment that interferes with engaging fully in peer activity. Isolation from peers and

teasing that occurs from differences can engender poor socialization. Depression, aggression, or antisocial behaviors are some of the potential consequences. It is important for the clinician to understand the relationship between chronic illness and psychopathology in adolescence.

Due to the fight for independence and social acceptance, an adolescent may show poor compliance with health regimens. Features of an illness that worsen compliance include lack of symptoms and lack of perceived seriousness of the illness. For example, the silent disease of hypertension occurs in some adolescents and without treatment may lead to serious complications. The same sense of invulnerability that leads to risk-taking behaviors in adolescents can prompt disregard of treatments.

Physicians should recognize that rejection of authority and risk-taking tendencies of adolescents also may include rejection of previously accepted medical advice and treatment. The child who has asthma and once was interested in maintaining health for adult approval may stop using preventive medicines and begin cigarette smoking as an early adolescent. Parents and physicians should not attempt to regain authority over the child's behavior. Instead, guidance based on the teen's cognitive level should be offered.

Additionally, adverse effects of the treatment, multiple doses of a medication, or multiple treatment requirements may be perceived as restrictive. The later cognitive development in adolescence will allow the teen to understand how limited and shortsighted this thought is. However, not every person matures to such higher cognitive function; for those who do not, the consequences of noncompliance already may be manifest.

Physicians' efforts to promote quality health care should include careful interviewing of the adolescent to assess cognitive skills and developmental maturity with respect to illness. Advice or an explanation by a physician will be more effective if it is adapted to the developmental phase of the adolescent receiving it (Table 2). Consider the athlete who has concerns that his or her illness may affect social function or limit performance. Matching the teen's cognitive level and addressing these concerns will be more effective than simply explaining the symptoms and long-term consequences of a disease. On the other hand, an adolescent who does not understand how symptoms are a part of a disease requires instruction before healthy behavioral changes can be made.

Behavioral techniques that may enhance patient compliance should be sought. For example, sustained-release methylphenidate preparations allow home dosing of medication, facilitating privacy and minimizing the label-

Table 2. Anticipatory Guidance for Adolescents

Early Adolescent	Middle Adolescent	Late Adolescent
Sleep 8 hours every night Engage in 30 minutes of moderately strenuous activity at least 3 d/wk Learn about yourself Develop skills in conflict resolution Learn ways to resist sexual pressures Do not drink alcohol or smoke cigarettes Wear a seat belt in cars	Same as early adolescent plus . . . Seek help if you feel angry Accept who you are Learn how to deal with stress Set reasonable but challenging goals Understand that sexual feelings are normal but that having sex is a major decision Drive responsibly	Same as early and middle adolescent plus . . . Take on new challenges to increase your self-confidence Continue to develop your sense of identity Ride with a designated driver (or call for a ride) if drinking

Data from Green M, Palfrey JS.

ing of a child as hyperactive or inattentive. Medical calendars, dosing in synchrony with a patient’s regular activity, and allowing medical appointments or routine hospitalizations that do not interfere with the adolescent’s school and extracurricular activities can facilitate improved compliance. Taking daily medication at the same time as brushing one’s teeth helps to establish compliance. Use of intramuscular depot medroxyprogesterone may be useful in teens unable to take daily medication consistently. Developmentally appropriate parental involvement, taking into account the adolescent’s capacity for self-care and emerging need for autonomy, may improve compliance.

Physicians also must understand that chronic disease necessitates an element of increased social maturation to achieve best compliance. The already difficult task of finding acceptance is worsened, for example, in the case of the child who has asthma when faced with competing demands of experimentation to gain peer acceptance and avoidance of smoking behaviors for best health. Encouraging the patient’s strengths and promoting self-reliance and early independence of care within the adolescent’s abilities should be part of routine counseling. Physicians also need to help older adolescents, especially those who have chronic illness, identify clinicians who can provide medical care and advice at college or in the community.

In addition, the focus of intervention must shift from the isolated patient to the social setting in which the patient lives to provide the best care for adolescents. Families can help by showing support, assisting with needs, and developing problem-focused decision-making and coping skills. Parents need to model good health and lifestyle behaviors for the adolescent to learn such. Through the use of peer educators, other adoles-

cents can be instructed in disease education and take active roles in support and interest in the patient’s health. Physicians should remember their responsibilities in providing the adolescent, family members, and the community with information that will promote well-being for the adolescent during these difficult transition years.

Suggested Reading

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PIR Quiz

Quiz also available online at www.pedsinreview.org.

1. While seeing a 13-year-old boy who has asthma in the clinic, you smell cigarette smoke on his clothes. He denies smoking, but admits many of his friends do. In discussing the adverse effects of smoking, the reason *most* likely to change his immediate behavior is that smoking:
 - A. Can cause lung cancer when he gets older.
 - B. Can limit his ability to play basketball and make the school team.
 - C. Can make his asthma worse and make him "sick."
 - D. Is expensive.
 - E. Is not approved of by his parents.

2. A 14-year-old girl comes to the clinic with multiple ear piercings. Her newest piercing, located in the tragus, is erythematous and swollen. Her mother wants you to "make her stop doing this." Trying to help the mother understand the "why" behind her daughter's behavior, you comment that many teenagers do such things *mostly* to:
 - A. Aggravate their parents.
 - B. Be different than their friends.
 - C. Deny their sexuality.
 - D. Prove their independence.
 - E. Secure their identity within peer groups.

3. A 19-year-old male diagnosed with *Chlamydia* infection reports having a long (6 y) history of multiple sexual partners, often under the influence of alcohol or drugs, with no interest in condom use. The factor *most* associated with this persistent pattern of risk-taking behavior is:
 - A. High academic achievement.
 - B. Late onset of puberty.
 - C. Parental consistency and discipline.
 - D. Sexual abuse.
 - E. Sexual identity confusion.

4. A 13-year-old female who has low lumbar meningocele had her first menstrual period last month. She had received no sex education prior to this event from her family. You have been consulted by her regular physician to answer her many questions about "having babies when I grow up." The primary focus of this initial visit should be to explain:
 - A. All of the aspects of her maturing body that are sexually normal.
 - B. Her increased risk for having a child who has a similar defect if she becomes pregnant.
 - C. That people who have disabilities should not have children.
 - D. That she should not worry about such things until she is older.
 - E. The role of folic acid in neural tube development.

5. A 16-year-old male has attention-deficit/hyperactivity disorder with an associated learning disability. He took stimulant medication three times daily until he started high school last year, when he elected to stop. His grades are now failing because of incomplete and missing assignments as well as poor test scores. By school policy, his grade point average prevents participation in any extracurricular activities. He schedules an appointment with you to discuss treatment options, which include:
 - A. Asking for an exception to the "no pass, no play" school requirement.
 - B. Beginning a longer-acting stimulant that is taken once daily.
 - C. Developing a treatment plan with his parents but without his input.
 - D. Refusing to see the patient because he stopped the medication without consulting you.
 - E. Restarting the previous medication regimen.

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