

# Adolescent Medicine

*Editor*

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JOEL J. HEIDELBAUGH

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Swati V. Elchuri and Jennifer J. Momen

Evaluation of the child with abnormal pubertal development can be challenging for the primary care provider. Understanding the factors associated with timing of pubertal onset and the normal sequence of pubertal changes is useful in evaluation of children with puberty disorders. A thorough workup includes assessment of growth rate, Tanner staging, and rate of pubertal progression, in addition to an extensive history and physical examination to identify signs and symptoms of disorders associated with abnormal pubertal timing. Initial diagnostic studies will most often include a bone age, levels of gonadotropins, and levels of estradiol (for girls) or testosterone (for boys).

<b>Adolescent Vaccines: Current Recommendations and Techniques to Improve Vaccination Rates</b>	<b>217</b>
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Megan Adelman, Ashleigh L. Barrickman, and Gretchen K. Garofoli

With multiple vaccines for adolescents recommended, it is imperative providers remain up to date with the current recommendations. With misinformation of vaccine safety and effectiveness in the mainstream media and social media, adolescents are a vulnerable population that needs to be reviewed and educated. Adolescents are typically only just starting to take ownership of their health care. Consequently, they may represent a more vulnerable population in need of education. This article reviews the current guidelines, recommended vaccinations and schedules, and methods to improve compliance rates.

<b>School-Based Health Care</b>	<b>231</b>
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Steve North and Danielle G. Dooley

School-based health care encompasses a variety of health care professionals and practice models, including school nursing, school-based health centers, and school-based mental health programs. Services can be delivered in person or via telehealth. School-based health care is an important mechanism for removing barriers to health care services and for reaching adolescent patients. This article illustrates the various models of school-based health care, the particular benefit of school-based health care for adolescents, and opportunities and challenges in maintaining and sustaining a school-based health program.



**Evaluation and Treatment of Primary Headaches in Adolescents**

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Suzy Mascaro Walter, Christine Banvard-Fox, and Courtney Cundiff

Headache is a common episodic and chronic pain syndrome in adolescents. Evaluation of headaches in primary care requires a comprehensive assessment including lifestyle behaviors and physical examination, as well as an understanding of when to pursue appropriate testing. Primary headache disorders seen in adolescents include migraine and tension-type headache. Pharmacologic management for primary headache includes both acute and prophylactic treatment strategies.

**Selected Musculoskeletal Issues in Adolescents**

257

Kevin Bernstein, Paul Seales, and Alex Mroszczyk-McDonald

Musculoskeletal care of the adolescent patient involves unique knowledge of their rapidly changing physical and psychological health. In this article, the importance of preventing early sports specialization is elucidated, and an encouragement of the safety and necessity of resistance training in adolescents is undertaken. It also explores two common conditions, one affecting the immature skeleton (apophysitis), and one affecting the improperly developed muscular system (patellofemoral syndrome), both of which are diagnosed clinically, and require little advanced imaging. Finally, a brief overview of relative energy deficiency in sport is given.

**Providing Care for Transgender and Gender Diverse Youth**

273

Kacie M. Kidd, Caitlin Thornburgh, Catherine F. Casey, and Pamela J. Murray

Transgender and gender diverse youth (TGDY) experience modifiable health disparities and difficulty accessing the physical and mental health care systems. Providers and staff should understand the unique needs of this population and provide affirming spaces where these resilient young people can thrive. In addition to addressing social, setting, and system level barriers to access, providers should consider offering comprehensive gender care because this reduces barriers to medical services and can improve health outcomes. This article educates providers about TGDY, reviews the role of mental health care, and provides an overview of medical interventions for gender affirmation.

**Health Care for Refugee and Immigrant Adolescents**

291

Carina M. Brown, Lalitha Swaminathan, Nadia T. Saif, and Fern R. Hauck

This article describes the current scope of immigration to the United States, defines the different categories of immigrants, and describes the Centers for Disease Control and Prevention-mandated overseas and postarrival medical assessment of adolescent refugees. Guidelines for primary care physicians who care for refugee youth are provided, including diagnosis and treatment of common medical and mental health conditions. Special considerations in caring for this vulnerable population include acknowledging prior traumas, acculturation and challenges to education such as bullying, and adjustment to a new health care system that emphasizes preventive care in addition to curative medical care.



**Human Trafficking in Adolescents: Adopting a Youth-centered Approach to Identification and Services**

307

Julia Einbond, Angela Diaz, Anastasia Cossette, Rosalyn Scriven, Silvia Blaustein, and Martha R. Arden

This article describes core design features of a youth-centered approach to care that 2 organizations—Mount Sinai Adolescent Health Center and Covenant House New Jersey—use to serve clients in nontraditional primary care settings and subsequently illustrates the ways in which this approach succeeds at identifying and serving youth who have experienced human trafficking. Primary care providers are uniquely positioned to connect adolescent human trafficking survivors to existing protection and treatment resources. The primary care community can adapt these interventions for adolescent patients who have experienced human trafficking and become key personnel on the frontline of recovery and prevention.

**Crisis and Adolescents: Assessments and Initial Management**

321

Patrice M. Leverett, Stephanie D'Costa, Heather Cassella, and Manan Shah

Adolescents often experience trauma that can affect their daily function and lead to health-related issues and outcomes. However, medical providers receive limited training on the impact of trauma on adolescents and how to incorporate that information into treatment practices. This article highlights the impact of crisis and trauma on adolescents. An overview of current assessments and evidence-based interventions to address adolescent patients' crisis needs is provided. In addition, recommendations for community referrals and partnerships that could improve the health outcomes of these youth are discussed.

**Sexual Assault in Adolescents**

331

Christine Banvard-Fox, Meredith Linger, Debra J. Paulson, Lesley Cottrell, and Danielle M. Davidov

Child sexual abuse is a severely underreported crime in the United States. The consequences of child sexual abuse extend beyond physical injury, including an increased likelihood to develop chronic physical and mental diseases/disorders, including substance abuse and suicide. Care involves trauma-informed screening, assessment, and documentation, education of, and access to sexually transmitted infection prophylaxis and emergency contraception, safety interventions, and access to community resources. Medical providers should know the response process their facility, community, and state practices for victims of sexual abuse. Acknowledging and responding to victims of sexual abuse as a multidisciplinary team will ensure comprehensive care for the patient.

**Human Immunodeficiency Virus in Adolescents: Risk, Prevention, Screening, and Treatment**

351

Jennifer J. Chang and Amie M. Ashcraft

Adolescents and young adults are at high risk for human immunodeficiency virus (HIV) infection. Several risk factors that strongly contribute to HIV infection risk are described, including physical, cognitive, social,

and economic factors. Strategies for screening and prevention of HIV infection, including universal screening, behavioral counseling, and preexposure prophylaxis, are reviewed, and the initial treatment approach to a diagnosis of HIV in adolescents is outlined.

### **Adolescent Sexual Health: Identity, Risk, and Screening for Sexually Transmitted Infections**

367

Roanna Kessler, B. Tate Hinkle, Amy Moyers, and Benjamin Silverberg

Development of SOGIE (sexual orientation and gender identity and expression) is not unique to minority populations, as all adolescents grapple with their sexuality and identity. Health care providers straddle the unique positions of authority figure and advocate and can help these young people establish behaviors that will allow them to flourish as adults. This article discusses the appropriate language to use while conducting a sexual history, summarizes the epidemiologic data on sexually transmitted infections, and reviews the screening and reporting guidelines set forth by the United States Preventive Services Task Force and the Centers for Disease Control and Prevention.

### **Adolescent Substance Abuse**

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Mark Garofoli

Adolescent substance abuse is America's #1 public health problem as per the National Center on Addiction and Substance Abuse. People are most likely to begin abusing drugs during adolescence, and the longer adolescents defer experimentation, the less likely they are to develop long-term drug abuse problems. The CRAFFT and DAST questionnaires are brief, reliable tools for adolescent substance abuse screening. Health care professionals can help continue low adolescent substance utilization rate by having open conversations with adolescents regarding all substances and medications, including illicit substances.