

## ID CONSULT

## New Teen STD Data Reinforce Annual Screening

The pediatric and family medicine communities need to do a better job of assessing sexual activity in adolescent patients, screening sexually active teens for sexually transmitted diseases, and counseling them about how to avoid becoming infected in the future.

Recently, a report of data from the 2003-2004 National Health and Nutrition Examination Survey (NHANES) revealed that one in four American teenagers had at least one prior sexually transmitted disease (STD). This should provide strong support for clinicians to incorporate guidelines from the Centers for Disease Control and Prevention and the American Academy of Pediatrics into their practices.

The survey found that 26% of a nationally representative sample of 838 adolescent girls aged 14-19 years were infected with at least one STD, while 15% had more than one. For the entire U.S. population, this translates to more than 3.2 million adolescent girls with human papillomavirus, chlamydia, herpes simplex virus, and/or trichomonas infections. The analysis excluded the prevalence of gonorrhea, syphilis, and HIV infections, although of course our adolescent population can contract those as well.

The data confirm that although the rate of teen pregnancy has recently declined, adolescent sexual behavior remains prevalent. While I'm not aware of data regard-

ing the reasons for the drop in pregnancies among teens, I suspect that it's due at least in part to increased use of birth control, as well as abortion, rather than a large shift away from sexual behavior.

Indeed, teenagers—and even some preteens—are having sex. Clinicians need to ask adolescent patients if they are engaging in sexual behavior, and if so, to test them annually for STDs, screen for HIV (“Screen Sexually Active Teens for HIV,” *PEDIATRIC NEWS*, February 2007, p. 20) and counsel those who choose sexual activity about how to approach it safely and responsibly. And we need to start early. The CDC found that these infections, especially HPV, occur quickly after sexual debut. In fact, the STD prevalence was already 20% among those who reported just 1 year of sexual activity.

While there were racial differences—48% of black teens had at least one STD, compared with 20% of white teens—we should never assume that any early sexual activity is limited to specific racial or socioeconomic groups. This is an issue for every clinician, whether you practice in an urban, suburban, small-town, or rural setting. Yes, some of your patients are at greater risk than others—but you can't be sure which ones without asking about sexual activity.

Screening should take place annually at routine visits as well as at acute care vis-

its whenever possible. Particularly in the adolescent age group, I think we need to take advantage of every opportunity. Specifically, teens should be asked if they're sexually active, and if so, what kind of activity they engage in, whether it is with members of their own or the opposite gender, and whether they use barrier protection (condoms).

All sexually active teens should be counseled about the importance of condoms and their proper use. For a variety of reasons, condom use is currently quite low among adolescents. Teen boys often don't want to use them because they decrease sensitivity or simply aren't seen as “manly.” An excellent resource for how to talk to teens about condoms is available at [www.hws.wsu.edu/healthycoug/Men/condoms.html](http://www.hws.wsu.edu/healthycoug/Men/condoms.html)

Sexually active females should be screened yearly for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* using a cervical or urine GC/CT nucleic acid amplification test, with urine being the preferred method today.

For males who have had sex with other males in the past year, an annual RPR (rapid plasma reagin) test for syphilis is recommended, along with annual pharyngeal gonorrhea cultures for those who have engaged in oral sex and rectal GC/CT swabs for those engaging in receptive anal intercourse. Although there are no specific recommendations for heterosexual males, we have learned that STDs can be asymptomatic. Personally I think screening is appropriate because it can be done easily with a urine specimen.

Recent CDC guidelines recommend that all sexually active individuals be screened annually for HIV, beginning at age 13. I endorse that recommendation, although many states have maintained the requirement for written informed consent for HIV testing, which places a barrier to proceeding. At least now all 50 states allow adolescents to sign their own consent forms without the need for a parental signature.

Although screening for HPV is not recommended, we can now offer the HPV vaccine to all of our female patients prior to sexual debut. Potentially, we will soon be able to offer it to our male patients as well.

Finally, I think we also should make an effort to encourage abstinence among our adolescent patients who have not yet embarked on sexual activity. I recently read an article about a female Harvard student who said she felt isolated because she had chosen to abstain from casual sex and decided to form a support group for like-minded young people. Contrary to popular belief, not every adolescent or young adult who chooses to abstain from casual sex or sex in general is of a strict religious or right-wing persuasion. Some have simply weighed the risks and benefits for themselves, and decided it's not right for them at this early stage in their lives. ■

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BY STEPHEN I. PELTON, M.D.

## Bacterial Meningitis Score May Be Less Effective in France

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The Bacterial Meningitis Score correctly identified acute bacterial meningitis in 884 out of 889 affected children, indicating that the tool, while 99.6% sensitive, still missed cases, the authors of a French study reported.

“As with any rule, clinicians must remain aware that no rule can completely eliminate the possibility of bacterial meningitis and that cases of bacterial meningitis can occur among patients without [cerebrospinal fluid] pleocytosis as well as among rare patients with CSF pleocytosis and a [Bacterial Meningitis Score] indicating low risk,” Dr. Francois Dubos of Saint Vincent de Paul Hospital in Paris and his colleagues warned.

The investigators based their conclusion on a secondary analysis of data from children seen in emergency departments in France over a 4-year period. They undertook their study because of concerns regarding the tool's sensitivity.

The Bacterial Meningitis Score (BMS) was developed by the Pediatric Emergency Medicine Collaborative Research Committee of the American Academy of Pediatrics (AAP), and its specificity has

been well validated among more than 3,000 patients (*Pediatrics* 2002;110:712-9).

The sensitivity of the BMS, however, was evaluated only in 196 patients from the original test population and external populations, mainly in the United States,” they wrote. The current study was undertaken to evaluate the sensitivity of the BMS in a large population of children with bacterial meningitis in a country with a different epidemiology of the disease (*J. Pediatr.* 2008;152:378-82).

On the basis of the BMS, children with CSF pleocytosis are considered to be at very low risk of bacterial meningitis if they lack all of the following criteria: positive CSF Gram stain, CSF absolute blood neutrophil count (ANC) of at least 1,000 cells/mm<sup>3</sup>, CSF protein of at least 80 mg/dL, peripheral blood ANC of at least 10,000 cells/mm<sup>3</sup>, and a history of seizure before or at the time of presentation.

Because implementation of routine immunization for *Haemophilus influenzae* type b and pneumococcus has further reduced the chances that a febrile child with CSF pleocytosis will have bacterial meningitis rather than aseptic meningitis, the committee validated the BMS prediction rule as an accurate decision support tool in the era of these vaccines (*JAMA* 2007;297:52-60).

Dr. Dubos and his associates used data obtained from the Bacterial Meningitis French Surveillance Network to identify children who presented to French emergency departments between January 2001 and February 2005.

The study patients were between age 29 days and 18 years and had a diagnosis of acute bacterial meningitis, but no known neurosurgical disease, no known immunosuppression, no CSF culture revealing an organism usually associated with contamination, no clinical sepsis, no purpura fulminans, and no CSF red blood cell count greater than 10,000/mm. The mean age of the 889 patients was 3 years; the death rate was 6%, and the primary bacterial pathogens were *Neisseria meningitidis* (44%) and *Streptococcus pneumoniae* (42%).

With respect to four of the five BMS criteria, 14% of the patients had a history of seizure with the illness, 89% had a positive CSF Gram stain, 84% had a CSF protein level of 80 mg/dL or higher, and 55% had a CSF neutrophil count of 1,000 cells/mm<sup>3</sup> or higher.

The blood neutrophil count was not collected by use of the standardized network data form, so the authors retrospectively collected data for this variable by searching the medical records of the 23 patients who

did not have a bacterial meningitis diagnosis based on the other four variables. For 18 of the 23 patients, the ANC was 10,000 cells/mm<sup>3</sup> or higher. “Thus, the sensitivity of the BMS was 99.6%,” they wrote.

“The main limitation of our study is that not all cases of [bacterial meningitis] were included in the database of the Bacterial Meningitis French Surveillance Network,” the researchers reported. “The exhaustiveness of this database for cases of pneumococcal meningitis has been estimated to be 61% and is unknown for cases of infection with other pathogens.”

Additionally, the data for the study were collected when immunization with pneumococcal conjugate vaccine was implemented in France. The estimated vaccination coverage at the end of the study period was 41%, and the vaccination coverage against meningococcus C during that time was very low.

“The rule might have different results in areas with differing vaccination patterns for pneumococcus and meningococcus,” the investigators stated.

Prospective studies in clinical practice are needed to assess whether use of the BMS can safely reduce hospital admissions and antibiotic use for children with aseptic meningitis, they concluded. ■