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Attention Deficit Disorder: To Treat or Not to Treat?

ABSTRACT & COMMENTARY

Synopsis: *Two recent studies appear to swing the balance toward early and effective therapy of patients with ADHD. The administration of "speed" to children with ADHD clearly does not breed "junkies" later in life, as was once thought.*

Source: Biederman J, et al. Pharmacotherapy of attention-deficit/hyperactivity disorder reduces risk for substance use disorder. *Pediatrics* 1999;104:e20.

Attention deficit hyperactivity disorder (adhd) is a common behavioral syndrome, with an estimated prevalence of 3-5%. ADHD is characterized by motor overactivity, impulsivity, and inattention, among other features. The diagnosis of ADHD is often made "by committee" with impressions of parents, teachers, and various clinicians, including neurologists, playing a role. These impressions can be bolstered by psychometric tests, but no test is entirely specific. With these diagnostic uncertainties, particularly in younger patients or in milder cases, the decision to treat patients with ADHD with daily stimulant medications, such as methylphenidate (Ritalin), can be a difficult one.

Two recent papers highlight two potential risks, one short-term and one long-term, of withholding appropriate treatment of ADHD. DiScala and colleagues[1] retrospectively examined the National Pediatric Trauma Registry (NPTR) for injury characteristics of patients diagnosed with ADHD to those with no other pre-existing condition. The NPTR database includes children admitted to the hospital with acute injury, regardless of severity, and includes extensive information on preinjury medical history. DiScala et al found that patients with ADHD (n = 240) were more likely to be injured as pedestrians and bicyclists, and to inflict self-injury than patients without ADHD (n = 21,902). Patients with ADHD in the registry, as compared to patients without ADHD, were more likely to be admitted with Glasgow Coma Scale scores of 9-12 (9.2% vs 3.3%) or scores of less than 8 (7.5% vs 3.4%). It is notable that 80% of the children in the

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ADHD group had not been receiving regular medication, so that the information largely reflects untreated ADHD.

Biederman and colleagues provide evidence for a less immediate risk of untreated ADHD, namely an increased risk for future substance abuse. This group has published extensively on the longitudinal follow-up of patients with ADHD. This particular study restricted its analysis to male patients older than age 15, and compared three groups: ADHD/medicated (n = 56), ADHD/nonmedicated (n = 19), and non-ADHD groups (n = 137). The groups were examined for the presence of alcohol, marijuana, hallucinogen, cocaine/stimulant, or tobacco use of dependency at baseline and four-year follow-up. Biederman et al found that the incidence of any of the substance abuse disorders at four-year follow-up was 6.3-fold more likely in patients with unmedicated ADHD as compared to the non-ADHD group. Strikingly, stimulant drug treatment of ADHD had a protective effect, bringing the incidence of any substance abuse disorder down to levels comparable to non-ADHD groups. Unmedicated ADHD seemed to have the most powerful effect on future alcohol or cocaine/stimulant use and no significant effect on hallucinogen or tobacco use, so that there may be certain use patterns in these patients.

COMMENT BY ROSARIO TRIFILETTI, MD

Although these studies are complex and their interpretation not completely straightforward, they appear to swing the balance toward early and effective therapy of patients with ADHD. The administration of "speed" to children with ADHD clearly does not breed "junkies," as was once thought (and many parents still believe).

The side effects and limitations of stimulants are better understood now than a decade or two ago. For example, it is now clear that while the risk of patients developing a tic disorder with methylphenidate treatment may be as high as 10%,[2] most cases are transient and only about 1% of patients develop features of Tourette syndrome. Furthermore, methylphenidate can be safely and effectively used in the great majority of patients with chronic tic disorders,[3] and does not influence the severity of tics in most patients. *(Dr. Trifiletti is Assistant Professor of Neurology & Pediatrics, Department of Neurology, Weill Medical College of Cornell University.)* ❖

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Mortality from Child Abuse is Underestimated

ABSTRACT & COMMENTARY

Synopsis: *Review of North Carolina medical examiner records revealed that the actual rate of death from child abuse was more than three times higher than officially listed in state statutes.*

Source: Herman-Giddens ME, et al. Underascertainment of child abuse mortality in the United States. *JAMA* 1999;282: 463-467.

Child abuse is often difficult to diagnose. parents seldom provide truthful explanations about how the injuries have occurred, and physicians often find it difficult to consider such a diagnosis. When a

child dies of injuries, it can be even more difficult to confront a family about the possibility of abuse.

It is this issue of the underascertainment of fatal child abuse that is addressed by Herman-Giddens and colleagues. They reviewed the North Carolina Medical Examiners (ME) system to locate cases of homicides of children younger than 11 years of age due to suspected abuse. Over a 10-year period (1985-1994), Herman-Giddens et al found that 220 of the 259 homicides listed in the ME's registry were due to abuse. This figure was 3.2 times higher than the 68 children who were officially listed in the state's statistics as dying from abuse. Thus, there was a substantial underreporting (by 59%) of child abuse deaths of all the homicides. The rate of deaths due to abuse increased 12.5% per year from 1.5 per 100,000 children in 1985 to 2.8 in 1994. African-American children had a rate three times higher than did white children. Parents made up 63% of the assailants, mothers' boyfriends 18%, relatives and friends 12%, and babysitters 6%. Overall, two-thirds of the perpetrators were male.

Herman-Giddens et al extrapolated their North Carolina data to estimate the number of child abuse deaths in the entire United States. For the 10-year period, the number of deaths was estimated to be 9467 compared to 2973 listed in the mortality statistics for the country.

COMMENT BY JOHN M. LEVENTHAL, MD, FAAP

Clearly, one of the first steps in understanding a problem is an accurate count of its occurrence. For many years, pediatricians have been aware that child abuse is underreported and undercounted. Not surprisingly, this study shows that deaths due to abuse are undercounted as well, but I was surprised at the extent of the underascertainment. I also found the results a bit puzzling. If the deaths were classified correctly, as due to abuse, by the ME's office, why was this correct information not passed on to North Carolina's vital records?

What are the implications of these results for pediatricians who seldom care for patients who die? I would suggest two take-home messages. First, in all unexplained deaths, particularly in young children, child abuse should be considered in the differential diagnosis. Second, communities should have a systematic approach to reviewing the clinical and social characteristics of all unexplained deaths. Although child fatality review boards have been established in many states to help ensure that unexplained deaths are reviewed in a comprehensive manner, these review panels do not exist in all communities and, in many communities, only children who have been reported to protective services are eligible for review. All child deaths need a comprehensive review; pediatricians can work with their legislators, protective services agency, the ME's office, and others to help accomplish such a systematic review. Such initiatives could lead to more comprehensive data concerning this kind of carnage and perhaps enable a proactive approach in prevention. *(Dr. Leventhal is Professor of Pediatrics, Child Study Center, at the Yale University School of Medicine.)* ❖

Violent Behavior and Bullying in Adolescents

ABSTRACTS & COMMENTARY

Synopsis: *Significant declines in fighting and weapon carrying among American adolescents were documented between 1991 and 1997. Among Australian teenage students, almost a quarter reported that they either bullied other students or were themselves bullied. Bullying behavior was associated with increased psychosomatic symptoms. Among Finnish adolescents, there was an increased rate of depression and suicidal ideation among both those who bullied and those who were bullied themselves.*

Sources: Brener ND, et al. Recent trend in violence-related behaviors among high school students in the United States. *JAMA* 1999;282:440-446; Kaltiala-Heino R, et al. Bullying, depression, and suicidal ideation in Finnish adolescents: School survey. *BMJ* 1999;319:348-351; Forero R, et al. Bullying behaviour and psychosocial health among school students in New South Wales, Australia: Cross sectional survey. *BMJ* 1999;319:344-348.

Brener and associates from the centers for Disease Control and Prevention measured trends in nonfatal violent behavior among adolescent students in the United States over the period 1991-1997 using nationally reported data from the biannual Youth Risk Behavior Surveys. The percentage of students reporting being involved in a physical fight decreased from 42.5% to 36.6% and the percentage injured in a fight decreased from 4.4% to 3.5%. Between 1993 and 1997, the percentage of students who carried a weapon decreased from 26.1% to 18.3% and the percentage who carried a gun decreased from 7.9% to 5.6%. All of these decreases were believed to be significant.

Forero and associates in New South Wales, Australia, and Kaltiala-Heino and colleagues from Finland quantitated bullying—both given and received in adolescent school children using surveys. In both populations, bul-

lying was relatively common and consisted mostly of verbal teasing. Psychological symptoms, including depression and suicidal ideation, were increased in prevalence in both bullying and bullied teenagers when compared to teenagers who were not bullies or victims of bullying.

COMMENT BY WALTER R. ANYAN, MD, FAAP

In these articles from three continents, adolescents' in-school experience with violence of varying type and degree is a common focus. Brener et al's data from the United States indicate that two behaviors in which males are much more likely to be involved than females decreased between 1993 and 1997. They were: fighting on school property during the past 30 days, which dropped from 16.2% to 14.8%, and carrying a weapon on school property in the past 30 days, which fell from 11.8% to 8.5%. The good news was that over the four years, gun-carrying decreased and the bad news was that carriage of other weapons did not change. Students became less likely to carry weapons as they moved from 9th to 12th grade, and we don't know whether they realized that they didn't need them, whether they became more responsive to potential legal consequences, or whether they quit school and took their weapons elsewhere. It was also encouraging to notice that reported concern about being threatened or injured with a weapon on school property also decreased perceptibly as grade in school advanced.

Both Kaltiala-Heino et al and Forero et al have studied in-school violence of another type: the verbal teasing and associated actions that make up bullying. Their articles provide some fresh insights on bullies and those who are bullied. In Kaltiala-Heino et al's study, among males 14-16 years old, 9% of males bullied other students at least weekly and 6% of males reported being bullied as frequently, suggesting that there is a shortage of victims. However, among females, 2% of girls bully and 5% report being bullied, so the student population seems to have reached an equilibrium, with 11% involved in bullying. In addition, one learns that bullies don't walk away symptom-free, as depression was noted to be as common in bullies as in those bullied, and was greater in both groups than in students who weren't involved in bullying at all. Depression was most prominent in double-dippers (bullies who were themselves bullied). Not surprisingly, where depression exists, suicidal ideation lurks nearby, and the study found similar connections between bullying, being bullied, and suicidal thoughts.

In Australia, Forero et al found a higher overall level of both bullying (23.7%) and being bullied (12.7%), and noted that bullies were more likely to be male, to manifest psychosomatic symptoms, to be unhappy with school, and to smoke tobacco. Those who were bullied tended to be males who liked school but felt lonely and socially isolated. Bullied-bullies were males who experienced moderate social isolation and had the highest level of psychosomatic symptoms.

All of this work lends more support to the inescapable conclusion that youth don't just get used to violence and that it isn't good for them. Violence in adolescence is increasingly being likened with psychological distress, depression, aggressive behavior, reduced expectations about the future, and post-traumatic stress disorder. Along with the myriad screening we provide to patients, we might find a minute to ask patients about the teasing and the teased in their schools. *(Dr. Anyan is Professor of Pediatrics and Chief of the Division of Adolescent Medicine at Yale University School of Medicine.)* ❖

PRN Paroxetine for Premature Ejaculation

ABSTRACT & COMMENTARY

Synopsis: *This study found that patients who are unwilling to use SSRIs on a daily basis for premature ejaculation, either due to cost or the desire to minimize side effects, may benefit from using paroxetine on an as-needed basis.*

Source: McMahon CG, Touma K. Treatment of premature ejaculation with paroxetine hydrochloride as needed: 2 single-blind placebo controlled crossover studies. *J Urol* 1999; 161:1826-1830.

The current article reports data from two separate trials evaluating the efficacy of paroxetine hydrochloride (Paxil) given PRN for the treatment of premature ejaculation. Both trials were of single-blind, placebo-controlled, crossover design conducted in patients with premature ejaculation. In the second trial, the paroxetine-treated subjects received scheduled daily doses of the drug before changing to using paroxetine as needed before sexual intercourse.

The first study (n = 26) consisted of men (mean age, 39.5 years) who were randomized to receive paroxetine 20 mg or placebo, as needed, 3-4 hours before planned intercourse. The second study involved 42 men (mean age, 40.5 years) who were randomized to receive 10 mg of paroxetine or placebo, initially as daily treatment. In both studies, treatment was continued for four weeks

followed by a three-week washout period and subsequent crossover to the other treatment arm. During both trials, subjects were given a diary to record sexual activity information such as frequency of coitus, quality of erection and orgasm, and ejaculatory latency time (measured with a stopwatch). In addition, patients were asked not to use condoms or topical penile anesthetic creams or sprays.

In the first study, there was no appreciable benefit noticed during the placebo phase, while ejaculatory latency times were significantly prolonged from a mean baseline of 0.3 minutes to a mean of approximately 3.5 minutes during active paroxetine treatment. Similar results were seen in the second study, where ejaculatory latency times were significantly prolonged from a mean baseline of 0.5 minutes to a mean of approximately 5 minutes in the active arms. The greater magnitude of response in the second study was hypothesized to be the result of the initial two-week daily administration of paroxetine. In both studies, the mean frequency of coitus increased in all active arm treatment periods, suggesting an improvement in sexual stimulation and satisfaction.

Paroxetine treatment was well tolerated overall, resulting in side effects in 17% of regularly scheduled paroxetine-treated subjects compared to 5% of placebo-treated subjects. No side effects were reported during the paroxetine as needed treatment arms, suggesting that regularly scheduled doses results in an increased likelihood of side effects (anorexia, anejaculation, gastrointestinal upset, and reduced libido) in addition to a greater magnitude of response. Erectile dysfunction was not reported in paroxetine-treated subjects; however, two placebo-treated subjects did experience this effect.

COMMENT BY MICHAEL F. BARBER, PharmD

The results of the current studies are important for two reasons. First, while there have been reports of successful treatment of premature ejaculation with serotonergic antidepressants such as SSRIs and clomipramine, this is the first published report of the effectiveness of paroxetine used as needed before sexual intercourse. Patients who are unwilling to use SSRIs on a daily basis for premature ejaculation, either due to cost or the desire to minimize side effects, may benefit from using paroxetine on an as-needed basis. This is strikingly in contrast to the use of SSRIs for the treatment of depressive and anxiety disorders, in which regular daily dosing is necessary to attain and sustain the therapeutic effect of these agents. Second, this report underscores the magnitude of the class-wide effect of SSRIs in terms of their propensity to cause delayed ejaculation. This is easily the most common sexual side effect of SSRIs and should be discussed with patients who are initiated on such agents in order to facilitate patient adherence.

The current study supports the use of paroxetine for use in patients with premature ejaculation who do not wish to receive regularly scheduled daily doses. However, a theoretical problem that could arise during such a regimen are withdrawal symptoms in patients who are having intercourse on a daily basis and then stop using paroxetine for some period of time afterward. This could be prevented by discussing a tapering period with patients in whom paroxetine has been used daily for periods of time longer than a week, or by using SSRIs with a longer half-life. ❖

Outcomes for Patients with OCD

ABSTRACT & COMMENTARY

Synopsis: *This prospective study examined the course of illness for patients with obsessive-compulsive disorder (OCD) over a two-year period.*

Source: Eisen JL, et al. Patterns of remission and relapse in obsessive-compulsive disorder: A 2-year prospective study. *J Clin Psychiatry* 1999;60:346-351.

Obsessive compulsive disorder (ocd) affects approximately 4% of the population. Although selective serotonin reuptake inhibitors (SSRIs) are considered to be effective treatments, partial improvement is more common than remission, and a waxing and waning course is considered common. This is the first prospective study with measures evaluating improvement as well as clearly defined definitions of remission and relapse for patients with a primary disorder of OCD.

Consecutive patients were recruited from inpatient, outpatient, private practice, a mental health center, and by self-referral. Baseline evaluation included measures of OCD severity, comorbid diagnosis(es), and global assessment. Follow-up measures were identical and included a semistructured instrument to collect detailed data on treatment received. Patients had a mean age of 33 years and 55% were female. A total of 66/77 completed the study, with no statistical differences between the completers and noncompleters in terms of symptoms and global assessment. The mean global assessment rating was 55 (moderately ill). The mean duration of illness was 16 years prior to study entry and 78% of

patients were in a full episode at baseline. Lifetime and current comorbid disorders were high, including depression (55% and 16%), social phobia (23% and 18%), specific phobias (21% and 16%), and generalized anxiety disorder (20% and 14%). Subjects had a 47% and 12% probability of reaching a partial or full remission, respectively. For subjects who achieved a partial remission, the probability of subsequent relapse was 48%. Most patients (77%) received an adequate 12-week SSRI trial, including 68% at doses appropriate for OCD (i.e., higher than for most patients with depression-see below). Patients were undertreated with behavior therapy, as only 12% received the recommended type and duration of therapy; it was unclear if this was due to problems with access or adherence, or both. Overall, despite adequate dosing, few patients achieve full remission and relapse is extremely common. Limitations of the study included the confounding effect of comorbid illnesses on outcome, a chronic population that may be different than patients with new-onset OCD, and a small sample size.

COMMENT BY DONALD M. HILTY, MD

OCD is the fourth most prevalent psychiatric disorder because despite a low incidence, patients suffer a particularly chronic course. Primary care and psychiatric physicians usually screen for OCD and monitor change with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), a practical self-report scale that takes 10 minutes to complete. Unlike major depression and general anxiety disorder, in which antidepressant effects are typically evident in four weeks (or eight weeks in elderly patients), an adequate trial for OCD is considered 12 weeks. Doses of common antidepressants for OCD are: fluoxetine (Prozac) 20-80 mg/d, sertraline (Zoloft) 100-200 mg/d, paroxetine 40-60 mg/d, fluvoxamine (Luvox) 150-300 mg/d, and clomipramine (Anafranil) 150-250 mg/d.[1]

Cognitive Behavioral Therapy (CBT) is a first- or second line treatment for OCD[2] and interestingly, research using positron emission tomography (PET) has demonstrated normalizing effects of both SSRIs and CBT in the orbitofrontal cortex.[3] ❖

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Will to Live in the Terminally Ill

ABSTRACT & COMMENTARY

Synopsis: *Analysis of the multiple regression models revealed that as the patients came closer to death physical symptoms replaced psychological factors as mediators in the patient's desire to live.*

Source: Chochinov HM, et al. Will to live in the terminally ill. *Lancet* 1999;354:816-819.

Chochinov and colleagues examined the extent to which will to live may fluctuate among terminally ill cancer patients as death approaches. Of 585 patients admitted to a Palliative Care Unit in Winnipeg, Manitoba, Canada, 168 met enrollment criteria of a MMSE score of 21 or higher and a sufficiently strong physical condition to participate in the study at several points in time. Chochinov et al used the Edmonton System Assessment System, a self-report instrument that consists of a series of visual analogue scales designed to measure the following symptoms among inpatients in a palliative care unit: pain, anxiety, depression, sense of well-being, dyspnea, drowsiness, nausea, activity, and appetite. A will-to-live visual analogue scale was added with "complete will to live" and "no will live to live," respectively reflected as the lowest and highest marks on the scale. Maximum and median differences in will to live were calculated for each individual over consecutive 12-hour, 24-hour, 7-day, and 30-day intervals. Several multiple regression models were constructed to evaluate the relationship between will to live and various common symptoms of distress at 12 hours, 24 hours, 1 week, 2 weeks, 3 weeks, and 4 weeks since entry into the study. The pattern of median changes in will to live over the various time intervals was stable. However, the maximum fluctuation in each individual patient's will-to-live score showed wide variation even between very short time intervals. Analysis of the multiple regression models revealed that while psychological variables (anxiety, depression) were predictors of will to live at the earlier points in time, as the patients came closer to death physical symptoms (dyspnea) replaced the psychological factors as mediators in the patient's desire to live.

COMMENT BY ALAN CARVER, MD

The substantial fluctuations among the individuals in this study suggested to Chochinov et al that will to live among terminally ill cancer patients is highly unstable. While other studies have demonstrated an association between support for physician-assisted suicide and

depression and pain, this is the first investigation of will to live over time in a significant number of terminally ill patients.[1,2] These findings raise important implications for the ongoing debate regarding the legalization of physician-assisted suicide and pose a challenge to the medical community to pay vigorous attention to symptom control in the care of dying patients. (*Dr. Carver is a Pain and Palliative Care Fellow in the Department of Neurology, Memorial Sloan-Kettering Cancer Center.)* ❖

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Special Feature

Searching Medline with PubMed

By Leah Anderson, MLS

Editor's Note: *The growth of the Internet has greatly expanded the reach of medical researchers. This article provides some basic insights into Medline and PubMed, http://www.ncbi.nlm.nih.gov/PubMed. A future article will provide searching tips for use in PubMed.*

A mandate from congress in 1997 allowed free access to Medline for anyone with an Internet connection. The recipient of the mandate was the National Library of Medicine (NLM), the producer of the Medline database and also a government agency within the National Institutes of Health. NLM fulfills this mandate by providing access to Medline with the PubMed and Internet Grateful Med (IGM) search interfaces. Both are developed and maintained by NLM, and both are accessible via the World Wide Web. This article provides an overview of PubMed and the features that make it unique relative to other interfaces available for searching Medline. Some of these differences are subtle while others are significant, but all have an effect on how well you retrieve the information you are seeking.

Searching Medline is not always free. While NLM produces the Medline database and provides free access to it, it also licenses the database to commercial companies, which, in turn, create other search interface programs for Medline. Much of the time, these other programs come at a cost. Some familiar programs are Ovid, SilverPlatter, Knowledge Finder, and Melvyl. Most medical schools purchase a license to provide access to Medline over their networks using these or other applications. Only NLM, as a government agency, was given the congressional mandate to make access to Medline free. Other web-based medical sites may offer "free" Medline simply by linking to PubMed.

The Database Difference

PubMed is a database separate from the traditional Medline database. It was created by combining the Medline database with a bit more. Thus, everything found in Medline will be found in PubMed but the converse is not true.

Deciding which references will appear in Medline is a tightly controlled process. Currently, articles from around 4000 journals are indexed in Medline. However, not every journal has every article included in Medline. Some journals are selectively indexed, meaning that if they contain an article that is not related to biomedicine, it is not included. For most selectively indexed journals, PubMed does not make this distinction. For example, the journal *Science* is selectively indexed in Medline. However, if you search for a geological article from a recent issue of *Science* in PubMed, you will find it. If you search for that article with other Medline interfaces (such as Ovid), you will not find it.

Many publishers have made agreements with NLM to provide references and abstracts to their journals electronically to NLM as soon as an issue is published. This basic information is transferred directly into the PubMed database without any of the usual indexing processes. This greatly increases the currency of PubMed over the traditional Medline database searched with programs such as Ovid or Knowledge Finder, which often have a lag time of 2-6 months for references to appear from recent issues.

Creating PubMed Links

In return for providing electronic references, publishers allow NLM to create PubMed links directly to their web site and to the full text of the article, if available. However, one has access to the full text of an article only if 1) the publisher is providing access to everyone for free such as through a free trial period; or 2) an individual has paid the publisher for full text access or access comes with membership; or 3) the library with which an individual is affiliated has paid for full text access to the journal.

One of the hallmarks of the Medline database is the application of controlled medical subject headings

(called MeSH) to each record. MeSH provides a standardized medical vocabulary that can be instrumental in searching the database well. NLM has created a controlled vocabulary that also acts like a thesaurus; it is constructed to provide relationships among terms. These features can be used to search more effectively.

The Value of MeSH

As an example of the value of MeSH, one MeSH heading will be designated as the official subject heading for a disease that is known by several different names. All the names will be mapped to that one official heading. Thus, putting in one name will pull up the articles that discuss the same condition but call it something else. Another example is variant spellings. Medline's subject headings are based on American spellings. Articles discussing "haematology" will be assigned "hematology" as a subject heading. Thus, anyone searching hematology will pull up articles with the British spelling as well.

Because PubMed includes the Medline database, it includes MeSH and will continue to do so. However, there is a lag period before subject headings are added to new records. It may take up to six months for subject headings to appear for a citation. Furthermore, some records in PubMed will never get subject headings. Nonbiomedical articles from selectively indexed journals will never have subject headings added though the basic record will always remain in the PubMed database.

Boolean Logic

The search engines behind many software interfaces designed to search Medline are based on Boolean logic. In such a system, one searches for term A and term B and term C. One can also exclude terms. The addition of the controlled subject heading vocabulary aids searching tremendously by helping out with variant spellings, multiple names, and in many other ways. In the end, Boolean searching is very mechanical; the terms used must be present anywhere in the record. Context and meaning are often lost in a Boolean system. The application of subject headings often cannot always address these problems. Thus, the number of irrelevant articles retrieved will increase. For example, "cultures" refers to groups of people as well as laboratory tests but all records with this term, regardless of the meaning intended, will become a part of the search. Causal relationships among terms can also be lost. An article discussing how caffeine causes miscarriage will have the same terms and subject headings as an article saying caffeine does not cause miscarriage.

The PubMed search engine tries to overcome many of the limitations of strict Boolean searching. When searching PubMed, you will find that each citation has a link called "See Related Articles." The group of citations pulled up with this link has been predetermined to be similar to the original citation through the calculations of a complex set of algorithms. The algorithms compare the citation to all others in the database, searching for similarities among them in the text of the title, abstract, and MeSH. The algorithms include the proximity of words to each other in the title, abstract, and subject headings, and how often a word appears in a record. Weights are scored using this method, and the citations with the most weight are considered as similar. When you find an article that is exactly what you are seeking, click the "See Related Articles" link, and similar articles will appear. *(Ms. Anderson is Medical Librarian for the Health Sciences Library, Sequoia Health Services, Redwood City, CA.)* ❖

CME Questions

40. Childhood use of stimulants to treat attention deficit disorder is associated with a higher risk of subsequent substance abuse.
a. True
b. False

41. SSRIs can be used on a PRN basis to treat premature ejaculation.
a. True
b. False

42. Approximately what percentage of patients who achieve a partial remission of OCD have a relapse in the following two years?
a. 10%
b. 30%
c. 50%
d. 70%

43. True statements concerning homicides resulting from child abuse include all of the following *except*:
a. The perpetrator is usually a relative.
b. They are currently accurately reported in state and national vital statistics.
c. The perpetrator is usually a male.
d. They have increased in incidence between 1984 and 1995.

In Future Issues: Sexual Orientation and Suicidality