

We will try to publish authors' responses in the same edition with readers' comments. Time constraints may prevent this in some cases. The problem is compounded in the case of a bimonthly journal where continuity of comment and redress is difficult to achieve. When the redress appears 2 months after the comment, 4 months will have passed since the original article was published. Therefore, we would suggest to our readers that their correspondence about published papers be submitted as soon as possible after the article appears.

Low-dose Intradermal Hepatitis B Vaccination

To the Editor: Hepatitis B virus (HBV) infection, a leading cause of mortality and morbidity worldwide, causes acute hepatitis and the sequelae of chronic HBV infection, cirrhosis, and hepatocellular cancer. The World Health Organization reports HBV as the ninth leading cause of death, and its worldwide carrier rate is 5 percent. In the United States, 500,000 to 1 million persons have been infected with HBV, and there are about 300,000 new cases reported annually. Adding HBV vaccine to the routine childhood immunization schedule is now being discussed. In the United States, the cost of a series of three intramuscular vaccinations exceeds \$70, whereas a series of three intradermal vaccinations costs \$7. The introduction of synthetic vaccine has not reduced the cost of immunization.

A prospective nonblinded study of adults and children was started December 1987 and completed June 1990 at the Caltex Rumbai/Duri Hospitals, Riau Province, Sumatra, Indonesia. More than 95 percent of the patients had blood samples checked for HBV antibodies at the Caltex Rumbai Hospital using Roche anti-HBs enzyme immunoassay. Only the antibody-negative patients were eligible for vaccination. A total of 139 subjects, 42 children (younger than 12 years) and 97 adults (aged 12 to 70 years), participated in the study. Fifty percent of the patients were white, and 50 percent were Asian or a combination of white and Asian.

The vaccination procedure was explained to all patients, and they were given a choice of an intradermal or intramuscular vaccination. Patients were asked, however, to choose the intradermal vaccination to help conserve vaccine and increase the numbers vaccinated. A series of three low-dose, 0.1-cc HBV vaccinations were given in the volar forearm: initially, at 1 month, and 6 months later. Subjects' blood samples were checked for antibodies 4 to 6 weeks after the last vaccination was administered, and positive levels were ten times greater than the standard 10 mIU.

Of the 42 children, 40 (95 percent) made antibodies after three intradermal injections; of the 97 adults, 69 (71 percent) made antibodies. The 2 children and 28 adults who were antibody negative after three intradermal vaccinations were offered an intradermal or intramuscular booster vaccination. Antibody conversion for this subgroup was less than 50 percent at 4 to 6 weeks after the booster. No cases of HBV infection were seen in any of the 139 patients.

Major side effects of itching and pigmentation secondary to the intradermal vaccine were treated with oral antihistamines and topical steroid cream. The 71 percent antibody response rate in adults was lower than that for intramuscular vaccination. The 95 percent response rate in children is comparable to that for intramuscular vaccination. Low-dose intradermal HBV vaccine appears to be cost effective and immunogenic in children. The intradermal technique is more difficult, and adults given intradermal vaccine need more careful follow-up of antibody response.

Stephen C. Smith, M.D.
Council Bluffs, IA

Preemployment Evaluation

To the Editor: I appreciate the inclusion of the article, "Preemployment Evaluations: Dilemmas for the Family Physician," by Holleman and Matson¹ in the March-April issue of the *JABFP*. If the survey sample is representative, which I believe it is, 90 percent of family physicians, to a greater or lesser degree, perform some sort of preemployment evaluation for employers. Therefore, an area of extreme practical consideration not covered in this article is the impact of the Americans with Disabilities Act—1990 (ADA) on such future medical evaluations.

On a superficial level, it would appear this legislation pertains only to workers with a "disability." In fact, however, by the definition of disability rendered in the legislation, the concepts for preemployment evaluation are quite universal. The "preemployment examination" as we now know it will no longer be legal. Instead, preplacement evaluations, which must be job and task specific, will be done. The purposes of the preplacement examination are to (1) pair appropriately the applicant to the job, (2) discover and define required accommodations, (3) establish baseline health and disease data, (4) discover coexisting disease and pertinent family history, and (5) determine job suitability. Some old standards, such as preemployment back radiograph examinations, will not be applicable for hiring purposes. To determine job suitability, the evaluating physician will need to know the physical and emotional job requirements and to

test reproducibly and nondiscriminately for those requirements, further validating the results.

Some of the past problems we have had when evaluating preemployment work fitness will be lessened by this law. The majority of employers, however, have not even begun to detail work-fitness job descriptions and profiles for their own work force. Many of us will be called on to help employers develop such criteria and to help these organizations not only comply with the law, but also establish a fair and responsible preemployment evaluation process. I would encourage all physicians involved with preemployment evaluations to familiarize themselves with the ADA and begin to assist industries in developing and implementing these provisions. Guidelines regarding implementation of the ADA should be available in July 1991. I hope that future articles in the *JABFP* will address such issues.

Dan F. Criswell, M.D.
Oklahoma City, OK

References

1. Holleman WL, Matson CC. Preemployment evaluations: dilemmas for the family physician. *J Am Board Fam Pract* 1991; 4:95-101.

The Need for Family Medicine in the Academic Medical Center

To the Editor: I recently had personal experience with care provided in the academic medical center that highlighted both the shortcomings of technical excellence and the importance of family medicine in university hospitals. I suffered a severe hand injury that resulted in hospitalization on the Plastic and Reconstructive Surgery Service in my own university hospital. During my stay, I counted a minimum of 7 different physicians (attending physicians and house staff) who included me in their rounds every morning for a total of 5 to 10 minutes per visit. During their rounds, there was a great deal of concern over the mobility, circulation, and sensation of my hand and fingers. Only on the last day of hospitalization did one of my own colleagues in the Department of Family Medicine ask me how I was coping with such a severe and potentially permanent disability.

During my hospital stay, I was visited by colleagues, house staff, and medical students—all of whom provided kind words of support during a difficult time. More powerful for me, however, were the many visits and calls I received from patients and their families who showed up in my hospital room with flowers, cards, and gifts that some could little afford. Those who work in academic medical centers understand that such relationships are not the norm in this otherwise impersonal environment. I spent some time wondering whether other physicians and surgeons in my university would have received similar support from their own patients.

Much has been written of and by physicians as patients. In my own academic medical center, the lack

of attention to me as a person had little impact on the outcomes that are usually measured by researchers, federal agencies, or utilization review committees. I would contend, however, that the technically superior care I received was inadequate inasmuch as my feelings, my "personhood," were left unaddressed.

Schmidt¹ has described power in academic medical centers in several contexts: strength in numbers, control and influence, ability to accomplish a mission, and unique contributions to the institution. My recent experience has reemphasized that there is a compelling need for the family physician in a tertiary care medical center who is sensitive to both patient and family and who can "be there" for that patient throughout the hospital stay. Our inherent strength as family physicians is what we represent in what has increasingly become a confusing maze of technologic innovation. I have rediscovered that another strength is our own patients, who frequently care as much about us as we do for them.

Eric M. Wall, M.D., M.P.H.
Portland, OR

References

1. Schmidt DD. Power in academic medicine. *Fam Med* 1989; 21:411.

Contraception—Natural Family Planning

To the Editor: Dr. Woolley's review of new developments in contraception¹ provides valuable insights into the possible applications of new technology to natural family planning (NFP). It is, however, incomplete and misleading in its assessment of present methods of natural family planning in several respects.

Dr. Woolley states, ". . . it is not obvious that [methods of NFP] are inherently more 'natural' than other methods of contraception."¹ For users of NFP, there are at least two obvious rationales for the descriptive adjective "natural": (1) the absence of exogenously administered drugs, devices, or surgical interventions that alter the natural processes of fertility; and (2) the conscious awareness of the natural processes of fertility and application of that awareness, rather than the suppression of both fertility and fertility awareness.

To compare total pregnancy rates from studies of NFP with total pregnancy rates in studies of other contraceptive methods is to compare apples with oranges,² because NFP is the only method of contraception that can be used both to achieve or to avoid pregnancy. Understanding user intent is absolutely critical to understanding outcome studies of NFP. For example, if NFP is used to achieve a pregnancy, the resulting pregnancy is not a "failure," but a "success." Obviously, there are many areas of motivation that lie between the intent to avoid pregnancy completely and the intent to achieve it as soon as possible. Further, motivations can be mixed, and often they change with time. User intentions can be