The reliability of any test depends on the experience and competence of the user. Home tests have been significantly more accurate when used by older patients or those with higher incomes. The false-negative rate when used at a family planning clinic is lower (16.7%) than when used in a private office (21.1%) or a general public clinic (40.0%).

Monoclonal antibody testing now available for home and office will assist in earlier diagnosis. To improve accuracy, unless medically imperative, patients should be encouraged to wait longer than the six to nine days after the missed menstrual period that manufacturers recommend. Patients must be instructed in the proper technique, including the use of a morning's first urine. When used appropriately, home pregnancy tests enable patients to take increased responsibility for their own health care and minimize potential risks, such as exposure to drugs or irradiation during early pregnancy.

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Immunization Update

MANY REVISED RECOMMENDATIONS for routine immunizations for children, adults, and certain high-risk groups have been published recently. For example, there are now new immunizations for children, and the schedule for routine immunizations has changed. The recent measles epidemic stimulated new recommendations for immunizing adults against measles. There are also new recommendations for certain high-risk groups, such as health care workers and patients with human immunodeficiency virus (HIV) infection.

Children

Originally the *Haemophilus influenzae* type b (Hib) vaccine was recommended for high-risk children at 18 months and all other children at 2 years of age. One *H influenzae* b conjugate vaccine (HibTITER, Lederle) is now available. This new immunization should be given at the 2-, 4-, and 6-month visits (with the oral attenuated poliovirus vaccine [OPV] and diphtheria and tetanus toxoids with pertussis vaccine [DTP]) with a booster at 15 months. Prophylactic acetaminophen administration decreases the systemic side effects of the DTP immunization in children. Other conjugated vaccines may soon be shown to be safe and effective for administration before 15 months of age. Measles immunization continues to be given in combination with mumps and rubella (MMR). Until recently they were given only at 15 months, but now they are given at both 15 months and 4 to 6 years. In areas of high risk, the MMR-1 should be given at 12 months of age. Finally, the 6-month dose of OPV can now be dropped in low-risk areas.

Adults

The influenza vaccine continues as a standard of medical practice to be considered for those with severe medical conditions (especially heart and lung disease), those older than 65, nursing home residents, immunocompromised patients (including people with the acquired immunodeficiency syndrome), and health care workers. All adults older than 65 years and patients with certain chronic medical conditions should receive the pneumococcal vaccine one time. Recent reports that at least 40% of persons 60 years of age and older are not adequately immunized against diphtheria and tetanus should lead to an increased use of the dT immunization.

Special Groups

Three groups deserve special attention. First, all health care providers, especially if they come in contact with bodily fluids, should consider the three-part immunization against hepatitis B. Travelers should contact a local traveler's clinic or the health department at least two months in advance to learn which immunizations are required and recommended for their trip. Finally, those with HIV infection should be up-to-date with their immunizations, especially dT and pneumococcal and possibly measles and influenza. Avoid the OPV vaccine in these immunocompromised patients; the trivalent enhanced-potency, inactivated poliovirus vaccine (IPV) is recommended instead.

A new system was started last year for physicians to report adverse reactions to vaccines. Further information on the Vaccine Adverse Event Reporting System (VAERS) is available 24 hours a day at 1-800-822-7967.

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Intrauterine Devices and Pelvic Inflammatory Disease—A Reanalysis of the Literature

INTRAUTERINE DEVICES (IUDs) are used less and less as a form of contraception in America. This is probably because of decreased marketing due to the litigation related to the Dalkon Shield. Additional concerns with IUDs include side effects of discomfort, increased bleeding, and the traditional belief that IUDs contribute to an increased incidence of pelvic inflammatory disease. There are two IUDs currently available in the United States. The Progestasert must be replaced every year and has a higher rate of ectopic pregnancy than other IUDs. The ParaGard (copper T 380A), a copper IUD, has a failure rate of about 3% and can be left in place for four years at a time.

All IUDs have an increased risk of pelvic inflammatory disease in the first 30 days. This is probably because of contamination of the uterine cavity during insertion. Other causes may include that the tail of the IUD allows bacteria to rise up the cervix and that the IUD will cause local inflammation in the area where it rests. For years, however, a belief has prevailed that IUD use leads to an increased risk of pelvic inflammatory disease after the first 30 days as well. This belief has recently been called into question. In cohort or prospective studies of women with IUDs, the risk of pelvic inflammatory disease was similar to that in sexually active women in industrial countries—about 1% to 2% in the 1970s. In a review of 17 case-control studies, it was found that these studies had often not corrected for oral contraceptive pill use in controls—that is, contraceptive pill use in controls may have provided protection from pelvic inflammatory disease.

Those case-control studies that had 100% diagnostic accuracy (by using laparoscopy or laparotomy) and that corrected for oral contraceptive use show no or borderline statistical significance. In the remaining case-control studies after 1973, once there had been a great deal of publicity about the link between IUD use and pelvic inflammatory disease, both diagnostic bias (inflammatory disease being overdiagnosed in women presenting with abdominal pain who had an IUD in place) and referral bias may have skewed the data. Referral bias implies that the cases of pelvic inflammatory disease studied may not have been representative of all women with the disease. Women who had an IUD in place and had symptoms of pelvic inflammation were more likely to be referred by community physicians to a hospital. In the hospital, they were more likely to be included in studies than women in the community who had pelvic inflammatory disease but no IUD in place. Thus, women with pelvic inflammatory disease and an IUD in place may have been overrepresented in studies of risk factors leading to the disease.

This reevaluation of the data supports the position of a review of IUDs published in April 1989 in which the authors conclude that the IUD *can* be an acceptable method of contraception—especially for those women who are in the middle to older reproductive years, unable to take oral contraceptives, and in a stable, monogamous relationship and thus at low risk for sexually transmitted diseases.

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Physical Activity in Primary Prevention

IMPORTANT CHANGES concerning exercise intervention were confirmed with the 1989 recommendations of the US Preventive Services Task Force. The task force gave the same recommendation for counseling patients for physical inactivity as it gave for cigarette smoking and high blood pressure. Physical inactivity has long been recognized as a risk factor in coronary heart disease (CHD), but many physicians have felt it to be relatively unimportant compared with other risk factors such as cigarette smoking and elevated blood pressure. Recent studies have indicated that those who are not physically active have roughly the same risk of CHD developing as those with hypertension, hypercholesterolemia, or those who smoke. The strength of the association between physical inactivity and CHD is 1.9 compared with 2.1 for high systolic blood pressure, 2.4 for elevated serum cholesterol level, and 2.5 for smoking.

Researchers have found that physical fitness is associated with lower rates of all causes of mortality as well as CHD and cancer mortality. Further, the greatest reduction in relative risk occurred between the lowest level of fitness and the next lowest level. These data suggest that even modest improvements in fitness levels among the most unfit can result in substantial health benefits.

Counseling of physically inactive patients should emphasize regular, mild-to-moderate activity, such as brisk walking. More strenuous exercise activities should be de-emphasized. In the past, exercise prescriptions typically suggested relatively intense activity, such as jogging, for 20 minutes at least three times per week. The task force now recommends that all patients should be counseled to engage in regular physical activity in a program tailored to their health status and life-style. Beginning exercisers should start with a regular, low to moderate level of exercise. Their goal should be to engage in an activity like brisk walking at least three times per week for at least 30 minutes.

Screening and intervention with physically inactive patients should specifically be included in periodic health examinations of all adults. A 1978 Harris survey found that most people reported they would be more likely to engage in health-promoting behavior if the recommendations came from their physician rather than from any other source. Inactive patients are most likely to comply with recommendations from their physicians for a regular pattern of exercise activity that can be maintained with minimal disruption of other aspects of their lives. Walking, when done briskly, is the ideal activity that meets these recommendations and can serve as a first step to more vigorous activities, if desired, in the future.

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