APPENDIX

Am I at Risk for AIDS?

Besides conditions like heart attacks, high blood pressure, and cancer, some Americans face a new health risk—becoming infected with the AIDS virus. AIDS is a serious disease which most commonly is passed by sexual contacts. AIDS can also be spread by the use of shared needles among intravenous drug users ("shooters").

In order to help you find out if you should be concerned about the AIDS virus, we'd like to ask you to ask yourself five questions. These questions are about very personal matters. They are important questions because each one may identify a "risk factor" for AIDS.

- 1a. (FOR MEN ONLY)
During the last five years, have you had sexual contact with other males?
- 1b. (FOR WOMEN ONLY)
During the last five years, have you had sexual contact with men whom you know or suspect to be gay or bisexual?
2. During the last five years, have you had

gonorrhea, syphilis, herpes, or other venereal diseases?

3. Have you had sexual contact with anyone (male or female) whom you know or suspect to inject himself/herself with illegal drugs (intravenous drugs)?
4. Have *you* injected yourself with illegal drugs (not including prescribed medicines) on any occasion during the past five years?
5. If you have already had the blood test for exposure to the AIDS virus (called HTLV-III antibody test), was the result positive?

IF YOU HAVE ANSWERED "YES" TO ANY OF THESE FIVE QUESTIONS, WE SUGGEST THAT YOU LEARN MORE ABOUT THE AIDS VIRUS BY TALKING WITH YOUR HEALTH PROVIDER. REMEMBER—IF *YOU* ARE INFECTED WITH THE AIDS VIRUS, OTHERS MAY BE AT RISK FROM YOUR INFECTION, EVEN IF YOU FEEL PERFECTLY WELL.

Erratum

Figure 1 (right) was inadvertently omitted from the editorial, "Confidence in Diagnostic Testing", by Heckerling (J Gen Intern Med 1988; 604-6). (The legend appears below.)

FIGURE 1. Posttest probability of disease vs pretest probability of disease for an "average" test from the literature. The curve shows the posttest probability of disease after a positive test result ($P(D+|T+)$) for any given pretest probability of disease ($P(D+)$) for a hypothetical "average" test from the literature. The shaded area shows the standard deviation of posttest probability $\sigma_{P(D+|T+)}$, and represents an uncertainty in posttest probability due to sampling errors in sensitivity and specificity. (If the distribution of posttest probability can be normally approximated, a symmetric Gaussian 95% confidence interval can be calculated as $P(D+|T+) \pm 1.96\sigma_{P(D+|T+)}$). An alternative, perhaps more robust, estimate of a 95% confidence interval for posttest probability uses a logarithmic transformation to obtain 95% confidence limits on the likelihood ratio:

$$\frac{\text{Sensitivity}}{(1 - \text{specificity})} \exp \left[\pm 1.96 \left(\frac{1 - \text{sensitivity}}{n_D \text{ sensitivity}} + \frac{\text{specificity}}{n_{\bar{D}} (1 - \text{specificity})} \right)^{1/2} \right]$$

for diseased sample size n_D and nondiseased sample size $n_{\bar{D}}$.¹⁷ Then 95% confidence limits for posttest probability for any given pretest probability can be obtained from Bayes' theorem:

$$P(D+|T+) = \frac{1}{1 + \frac{P(D-)}{P(D+)} \cdot \frac{1}{\text{likelihood ratio}}}$$

by substituting the upper and lower 95% confidence limits for the likelihood ratio.