

SCIENCE'S COMPASS

Breast Implant Safety

ones paying for them, the normal law of supply and demand is not operative. In other words, there is no natural feedback system to keep the prices in line. Journals published by societies have not had these outlandish price increases, in part because they are not driven by a need for increasing profits and because there is some feedback from the society members.

What can we as scientists do about this problem? First, consider the circulation of a journal before publishing in it. With a few exceptions, the higher a journal's subscription price, the fewer libraries will have it. Why send a paper that you have worked on for months or years to a journal that few people will ever see? (Of course, we know that the answer to this question is that commercial journals tend to have more lax acceptance standards.) Second, the more senior among us can refuse to serve as editors and on the editorial boards of expensive, commercial journals. The irony here is that we often serve in these positions so that we can get a free copy of the journal, one that our library cannot otherwise afford.

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When reading Jocelyn Kaiser's article "Scientific panel clears breast implants" (News of the Week, 11 Dec., p. 1963), one should not confuse the failure to accumulate sufficient human evidence that silicone breast implants damage the health of some people with evidence that no such link, in fact, exists. While the court-appointed science panel reviewed human epidemiologic studies and found "no association" between implants and connective tissue or immune system disease, this finding does not mean that silicone breast implants have been given a "clean bill of health." Rather, this conclusion reflects the serious challenges of obtaining valid human data in these circumstances, where all exposed persons have not been followed medically throughout their lifetimes and the nature of their exposures has not been clearly charted.

As the scientific study of patterns of health in populations, epidemiology remains a blunt instrument best suited to confirming relatively large and easily characterized past risks that affect sizable populations over time, such as those linked with cigarette smoking and poor health. When it comes to assessing risks of relatively rare diseases that

may be tied with recent exposures and affect relatively small numbers of people, epidemiology is seldom definitive.

Many of the critics of the silicone breast implant legal settlements ignore a vast literature of medical studies of in vitro immunoassays, human cell cultures, and experimental animals published in leading medical journals which document a host of complex immune system effects linked with silicone exposure. When it comes to developing new drugs, experimental studies are the very foundation of modern pharmaceuticals. By what logic are these same studies not relevant to predicting human impacts?

The court-appointed science panel is narrowly correct about the failure to find statistically significant results in human studies of silicone breast implants at this time. However, sound health policy requires using the full complement of experimental and human evidence in devising strategies to protect health.

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