

Editorials

Failed innovations—no concern of ours?

Within a very short time of its inception, the Norwegian Hip Register has published a number of important and thought-provoking reports, not least on the economic aspects of failed innovations in total hip replacement surgery (Espeshaug et al. 1995, Havelin et al. 1995a,b, Furnes et al. 1996).

National registers have the seductive characteristic that any prosthesis can be widely used, since results will sooner or later come out as striking survivalship curves. This is appealing to both surgeons and implant manufacturers, but not necessarily from the same point of view. To the surgeon, the register provides feedback. To the manufacturer, the curves are also hard data that can be used in marketing campaigns. In Norway, the use of 30 different prosthetic brands and 200 implant combinations reflects the considerable commercial interest in this type of surgery.

The appeal of national registers must not lead to the illusion that a register relieves the individual surgeon of scientific responsibility when selecting a prosthesis. For all their impressive statistics, national registers can only be expected to tell part of the story, since a register is a performance control tool, not primarily a research tool. Registers document that a prosthesis has been revised, not why or how it failed, nor the number of impending failures. A good example is the variable survivalship of uncemented cups. These failures may have been caused both by bad concepts and by remediable design faults, but the register itself is unable to tell us which. Unless survivorship statistics are linked to an analysis of the mode of failure, we are not likely to learn much of a basic scientific nature, and we will not be prevented from repeating the mistake.

After more than 25 years of experience with total hip replacement, we are not exactly devoid of basic knowledge about implant healing. In fact, we are in a good position to make intelligent assumptions about the behavior of prostheses. This should enable us both to conduct studies of a basic nature, and, more importantly perhaps, to decline testing of implants that have dubious features.

The design of the study by Önsten et al. (1994) is a model for the future and ought to be contemplated in

depth. In a limited number of patients, only one parameter was changed—the fixation mode of the cup, as evaluated by RSA. The operations were done bilaterally at the same time with the same type of femoral component, thus creating as far as practically possible an identical biological and mechanical environment. Studies like this should provide an answer to the issue of implant fixation, will put the practice of RSA in perspective and will become increasingly valuable with the passage of time, since sooner or later failures will occur, making it possible to compare failure mechanisms. However, we will have to accept that it takes time to extract knowledge concerning principles, as it requires real-time studies, not extrapolations from short-term investigations.

Do we have time to wait? If hip surgery had a great need to find a solution to a specific problem, then it would be acceptable to use a large number of implants on a wide scale. However, our situation cannot possibly be described like that. There are certainly controversies in primary hip surgery, but for these to be resolved it seems all the more important that new prostheses are part of well-planned prospective studies, and that such studies have a scientific not a commercial, purpose.

The situation today is that a bad choice has little consequence for the surgeon himself, but it does affect his patients, and, as has now been shown by the Norwegian Register, it affects his hospital in the form of increased cost. In a time of competition for resource allocations it is not unreasonable to ask: "Who should pay for failed innovations in joint replacement surgery?" This question is important and should involve our national associations, because there is a difference between the justifiable extra cost of research in problem areas and the cost of uninhibited testing of unproven designs.

Hospital managers and health care economists are not unaware of the high cost of joint replacement surgery. Nor are they unaware that for the majority of our patients, what has already proved to be cost-effective to society is an "old-fashioned" total hip prosthesis inserted with high-viscosity cement. Chances are that if we as orthopedic surgeons do not structure the issue of implant testing on purely scientific and ethical

grounds, someone else may well do it for us on harsh economic grounds, with consequences for independent progressive research in the field.

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References

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Letters to the Editor

Letters to the Editor should be a vital part of a scientific journal. Despite careful evaluation by referees and within the Editorial Office, published manuscripts may sometimes rightfully be criticized because of, for example, faulty study design or wrong conclusions. Since our aim is to convey reliable research data, such criticism is important for the readers, the authors of the criticized article and our Editorial Office. Another type of *Letters to the Editor* concerns priority fights and omissions of references to earlier published relevant articles by other authors. Such mistakes, whether deliberate or not, represent bad manners but are less serious so long as published

data are correct. Priority fights like those now well known, especially in molecular genetics, are unheard of in orthopedics; the subspeciality of molecular orthopedics has not emerged, despite the popularity of the prefix *molecular*, to give a subject a touch of front-line research.

All *Letters to the Editor* in *Acta Orthopaedica Scandinavica* have by tradition until now referred only to earlier published articles. However, we also welcome Letters containing short reports with a simple message which is of interest for our readers but may not merit a full article, as exemplified on page 204 in this issue.