



**Are Brean** (born 1965) is Senior Editor of the Journal of the Norwegian Medical Association, Senior Consultant at the Department of Neurology, Oslo University Hospital, and Chair of the Norwegian Neurological Association.

*Photo Einar Nilsen*

It is said that medical truths are short-lived. They are also hard to find.

## What is a medical truth?

The question sounds plausible: Which is the best treatment for distal radius fractures? Two review articles in this issue of our journal investigate exactly this issue (1, 2). Both articles emphasise the inadequacy of current knowledge and call for further studies. However, the authors have addressed this issue in different ways, and they have reached different conclusions. Kvernmo & Krukhaug have been assisted by the Norwegian Knowledge Centre for the Health Services to undertake several rounds of literature searches (1). After several years of work, this has resulted in the inclusion of four Cochrane reviews and one further systematic review article. The authors conclude that the knowledge base indicates that there will often be reason to recommend surgical rather than conservative treatment (1). Finsen and collaborators have chosen a different approach. They use discretionary assessment of quality and relevance in their selection of articles from literature searches and their own archive. Their conclusion is that «a practice where a large proportion of patients undergo surgery is hardly justified» (2).

Which of these conclusions is the true one? In the medical knowledge hierarchy, «systematic» review articles take precedence over «narrative» or «unsystematic» ones, since the systematic nature of collection and quality assessment is meant to ensure that all relevant works are included and adequately evaluated. This idea emerged in medical publishing during the 1980s, and has become a core element of a movement that somewhat broadly is referred to as «evidence-based medicine». The Cochrane Collaboration and the summaries from the Norwegian Knowledge Centre for the Health Services are among those who endorse this idea (3, 4). The so-called GRADE methodology is often used (3).

Hence, the answer is seemingly clear: A systematic review article such as the one presented by Kvernmo & Krukhaug brings us closer to the truth about the treatment of distal radius fractures than the subjective approach chosen by Finsen and collaborators. But is the matter really that simple? The reason for our choosing to publish both review articles is that the difference between their conclusions illustrates a key point in medical research: that when the correlations are complex, it can rarely provide definite answers. Many would claim that the greatest possible degree of instrumental judiciousness in undertaking searches and quality assessments will invariably be the best way to organise the healthy scepticism towards individual studies. But perhaps this is not invariably true?

The gold standard of evidence-based medicine is the randomised, controlled double-blind study (3). This method is well suited to drug studies, less so to other types of interventions. In certain broad medical fields, such as psychiatry, surgery and rehabilitation, the nature of the interventions complicates both randomisation and blinding. The basis for surgical interventions is often found in simple patient series, with no randomisation or blinding. In line with this, only very few randomised, controlled studies are published in surgical journals (5). A paucity of evidence and little homogeneity in the

methodologies may introduce a bias in systematic review articles, even though the methodology may be adequate. This could produce an appearance of better external validity than the primary studies would allow for. Moreover, many studies never reach the publication stage, or they are difficult to find in systematic electronic searches (6).

A lower-ranked study design may also produce good data. Contrary to what is frequently claimed, open intervention studies will not invariably overestimate effects when compared to randomised studies (7). An examination of review articles on the effect of various types of rehabilitation after a stroke (whereof nearly half were Cochrane review articles) revealed that weaknesses in randomisation and blinding, as well as large variations in the design and quality of the studies, were given insufficient emphasis (8).

The number of systematic review articles is growing rapidly (6). However, the number of narrative review articles and case histories is growing even more rapidly (6). In other words, there is still a considerable demand for articles in which experienced specialists elaborate on their subjective selection and emphasis on several types of experience. In this journal, we are concerned with providing space for this type of review article as well (9). As a reader, it is essential to be aware of the weaknesses inherent in these, just as one needs to be aware of the possible weaknesses of the strictly systematic and formally quality-weighted approach. Here, as everywhere else, it is necessary to be a critical reader (10).

«This is my truth, now tell me yours,» Aneurin Bevan (1897–1960), British Minister of Health, is reported to have said in a debate (11). Evidence-based methods have proven to be among our most potent tools in the quest for medical truth. Nevertheless, they will provide a definite answer only in exceptional cases. They can even more rarely provide definite answers that are generally applicable. *That is a medical truth.*

### References

1. Kvernmo HD, Krukhaug Y. Behandling av distale radiusfrakturer. Tidsskr Nor Legeforen 2013; 133: 405–10.
2. Finsen V, Rød Ø, Rød K et al. Betydningen av feilstilling etter dorsalt vinklet radiusfraktur. Tidsskr Nor Legeforen 2013; 133: 411–4.
3. Cochrane Handbook for Systematic Reviews of Interventions. <http://handbook.cochrane.org/> (28.1.2013).
4. Kunnskapssenteret. [www.kunnskapssenteret.no/](http://www.kunnskapssenteret.no/) (28.1.2013).
5. Panesar SS, Thakrar R, Athanasiou T et al. Comparison of reports of randomized controlled trials and systematic reviews in surgical journals: literature review. J R Soc Med 2006; 99: 470–2.
6. Bastian H, Glasziou P, Chalmers I. Seventy-five trials and eleven systematic reviews a day: how will we ever keep up? PLoS Med 2010; 7: e1000326.
7. Concato J, Shah N, Horwitz RI. Randomized, controlled trials, observational studies, and the hierarchy of research designs. N Engl J Med 2000; 342: 1887–92.
8. Santaguida P, Oremus M, Walker K et al. Systematic reviews identify important methodological flaws in stroke rehabilitation therapy primary studies: review of reviews. J Clin Epidemiol 2012; 65: 358–67.
9. Haug C. «Af ovenstaaende korte Fremstilling tør formentlig fremgaa...» Tidsskr Nor Legeforen 2011; 131: 1179.
10. Hem E. Medisin er debatt. Tidsskr Nor Legeforen 2012; 132: 1941.
11. Boyce N, Palmer J, Pini P et al. The Wakley Prize, 2012: «This is my truth, now tell me yours». Lancet 2012; 379: 2411.