competence to examine the spine fully enough to define which tissue or tissues were responsible for producing the pain, and is it not unsafe to attempt to manipulate patients with vertebrogenic pain of unknown origin? Am I to assume that among the undiagnosed disc, sacroiliac, and facet lesions there were also hip lesions, which may refer pain to the lower back? If no one was capable of diagnosing the lesions initially, they cannot have been capable of directing those patients with back or neck pain resulting from nuclear disc lesions to traction—surely the primary treatment for such patients.

The study does not state what exercises the physiotherapists dispensed. Back or neck pain resulting from disc lesions may well be worsened by conventional strengthening or mobilising exercises but may be helped by certain movements—for example, those designed by Robin McKenzie.

The survey was too poorly constructed to reflect adequately what manipulative physiotherapists of today are capable of and the effective treatment patients should receive.

ADRIAN F PEARCE

General Hospital St Helier,
St Helier,
Jersey JE2 3QS

1 Koes BW, Bouter LM, van Mameren H, Essers AHM, Verstegen GMJR, Hofhuizen DM, *et al.* Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992;**304**:601-5. (7 March.)

SIR,—Bart W Koes and colleagues have now discovered for themselves[1] many of the difficulties of back pain trials which have formed the basis for their criticisms of other trials.[2] In their trial patients were selected "by general practitioners and by advertisements in the local press" so that, to begin with, it is difficult to assess the general applicability of their findings. At 60%, the power of their trial was not high, and any differences between the manipulative therapy and physiotherapy groups in the severity of the main complaint were actually less than the smallest difference considered to be clinically relevant. Furthermore, any significant differences there may have been seem to have come only from the analyses that used substitute measurements for missing values.

Koes and colleagues surmised that departures from allocated treatment in two of their management groups (general practitioner and placebo) may have indicated the superiority of the other methods (manipulation and physiotherapy) and abandoned a full intention to treat analysis. As, in consequence, they did not compare manipulation and physiotherapy with treatment by a general practitioner and placebo treatment they cannot conclude (as they did) that manipulation and physiotherapy were better.

Although there may indeed be a long term benefit of manipulative therapy over physiotherapy,[3] I doubt whether Koes and colleagues are justified in drawing this conclusion from their findings. Though they are certainly to be commended for having attempted a trial themselves, whether they would have scored very highly on their own scale[2] is doubtful. In so far as their comparison of manipulation and physiotherapy was unbiased, however, their data would make a useful contribution to an overview of manipulative therapy compared with other techniques. This is likely to be more productive and clinically useful than further scored assessments of different trials based, as such reviews on this topic inevitably must be, on arbitrary and arguable criteria.

T W MEADE

MRC Epidemiology and Medical Care Unit,
Wolfson Institute of Preventive Medicine,
Medical College of St Bartholomew's Hospital,
London EC1M 6BQ

1 Koes BW, Bouter LM, van Mameren H, Essers AHM, Verstegen GMJR, Hofhuizen DM, *et al.* Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992;**304**:601-5. (7 March.)
2 Koes BW, Bouter LM, Beckerman H, van der Heijden GJMG, Knipschild PG. Physiotherapy exercises and back pain: a blinded review. *BMJ* 1991;**302**:1572-6.
3 Meade TW, Dyer S, Browne W, Townsend J, Frank AO. Low back pain of mechanical origin: randomised comparison of chiropractic and hospital outpatient treatment. *BMJ* 1990;**300**:1431-7.

SIR,—In the report of their clinical trial Bart W Koes and colleagues state, "Patients had to meet the following criteria: the complaint was non-specific—that is, no underlying disease could be established"; then in their discussion of why manipulation showed better results they state, "Finally, manipulative therapy may help to restore the function of the spine better than physiotherapy."[1] But there is no mention of any objective evidence of spinal dysfunction before treatment. We were unable to find any mention of the identification of a spinal biomechanical derangement and the specific spinal manipulation used to correct that derangement. Instead, we get the impression that every patient with neck or back pain received the same non-specific manipulation. That is like giving everyone with heart trouble digitalis without due regard to its proper indication, dosage, and potency.

The trial showed that for persistent neck and low back pain non-specific spinal manipulation is superior to physiotherapy, treatment by a general practitioner, and placebo. The 65 patients given spinal manipulation seem not to have been screened or selected on the basis of criteria to determine that spinal manipulation was indeed the preferred treatment and that they had a lesion that would respond to a specific manipulative technique. Spinal manipulation is unlikely to have been the preferred treatment for all of the patients randomly assigned to manipulation. Thus if suitable patients had been selected for spinal manipulation and given the properly indicated manipulation the outcome would probably have been even better.

The authors refer to the study of Meade *et al* as having compared chiropractic manipulation with hospital outpatient treatments for low back pain.[2] This is inaccurate, as has been pointed out previously.[3,4] Meade *et al*'s study was a randomised clinical trial comparing different manipulative techniques performed by chiropractors and physiotherapists. It showed that spinal manipulation by a chiropractor is more effective for low back pain of unknown aetiology than spinal manipulation performed by a physiotherapist.

PHILIP BRIEN

South Orange,
New Jersey 07079,
USA

MICHAEL J BRIEN

St Barnabas Medical Center,
Livingston,
New Jersey

1 Koes BW, Bouter LM, van Mameren H, Essers AHM, Verstegen GMJR, Hofhuizen DM, *et al.* Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992;**304**:601-5. (7 March.)
2 Meade TW, Dyer S, Browne W, Townsend J, Frank AO. Low back pain of mechanical origin: randomised comparison of chiropractic and hospital outpatient treatment. *BMJ* 1990;**300**:1431-7.
3 Brien P. Chiropractors and low back pain. *Lancet* 1990;**336**:572.
4 Brien P. Letter to the editor. *J Manipulative Physiol Ther* 1991;**14**:541-2.

SIR,—Bart W Koes and colleagues' trial of manipulative therapy and physiotherapy draws conclusions that cannot be substantiated on the basis of the data presented.[1] The only reason for claiming that manipulative therapy and physiotherapy are superior to treatment by general practitioners and placebo treatment seems to be the observation that some patients treated by general practitioners or given placebo treatment broke the rules of the protocol by transferring to an active intervention group. At 12 months 36% of the placebo group and 34% of the general practitioner group had transferred to one of the other treatments. We are given no further information, however, on the 64% and 66%, respectively, who either stayed in their allotted group or needed specialist or operative intervention (roughly the same numbers in each group).

The number of deviations from the treatment groups is not large enough to negate useful information from those persisting in a control group. If these patients had worse outcome measures than those in the active treatment groups I imagine that this would have been reported. The fact that it was not raises the suspicion that all four groups had outcomes that were not significantly different. If this was the case the conclusion would be that the form of intervention matters little but that this group of patients have a tendency to slow improvement over time with a high recurrence rate (63% in each group had received previous physiotherapy or manipulative therapy).

Perhaps the most important feature of therapy perceived by patients is contact with a caring therapist, and on the basis of their previous experience patients sought this as opposed to a single visit to their general practitioner. The large number of patients in the placebo group (receiving sham physiotherapy) who transferred to active physiotherapy makes me wonder how "blind" these patients were, or perhaps sympathetic therapists had a low threshold for encouraging the transfer of patients from one group to another.

Practitioners who deal frequently with the type of patients described in this paper would be delighted if active intervention beyond human contact could unequivocally show benefit. Having read the study, I am no more confident that this is the case.

CHRIS DEIGHTON

Department of Rheumatology,
Dryburn Hospital,
Durham DH1 5TW

1 Koes BW, Bouter LM, van Mameren H, Essers AHM, Verstegen GMJR, Hofhuizen DM, *et al.* Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992;**304**:601-5. (7 March.)

AUTHORS' REPLY,—We agree with O J Lehmann and colleagues that to exclude disc herniation definitely radiological investigations should be carried out. In our study we selected patients with chronic complaints for whom no underlying pathology was established with standard diagnostic procedures. This means that patients underwent radiological investigation only if underlying pathology was suspected. This is standard practice in the Netherlands, and we do not assume that in Britain all patients with persistent back complaints undergo examination.

Contrary to Adrian F Pearce's suggestion, the general practitioners and the research assistant (an experienced physiotherapist and manual therapist) were well able to make diagnoses. In most patients with back pain, however, no underlying pathology can be established and thus the cause(s) of the complaints remain unclear. These complaints are thus usually labelled non-specific. Only patients with non-specific complaints were included in our study; those with an identified disc herniation or other clear underlying pathology were excluded. Furthermore, we did not want to include patients with acute complaints (less than six weeks' duration). Many studies indicate that about 90% of these patients will recover within a few months irrespective of the type of treatment, if any, given.[1]

It is correct that complications of (mostly cervical) manipulations have been reported.[2] In our study no complications occurred. Manual therapy was performed by experienced physiotherapists who had studied the subject during a