

An admirable example of enhancing adherence by offering a synthesis that allows for the patients' pain beliefs is offered by Feinmann *et al.*⁹ They sidestep the psychological-physical divide neatly by offering an explanation of pain that emphasises the role of muscular tension in its genesis, then prescribe the antidepressant dothiepin hydrochloride, emphasising its muscle relaxing properties.

Antidepressants are the most successful and widely evaluated drugs used to treat these types of "psychogenic" facial pain, and their benefits seem to be independent of any antidepressant action. There is no good evidence to support the use of one drug over another, or of particular dosage regimens, although most trials have used doses over the equivalent of 100 mg of amitriptyline a day. Treatment needs to be persisted with for several months.^{2 10 11}

When there is burning pain in the oral mucosae, treatment with vitamin B-1 may be useful, even in the absence of measurable deficiency.¹² Benzodiazepines may be helpful, but their use should be avoided as dependence soon develops. Enhancement of the analgesic effects of antidepressants with low dose neuroleptics has been advocated, but recent evidence suggests that there is no benefit.¹³ Almost every author who writes on the subject says that surgery should be avoided and may make things worse.

Psychological treatments can be helpful, and their use has been well reviewed by Bond and Hughes.¹⁴ Such treatments include behaviour therapy, relaxation, biofeedback and hypnosis, and cognitive psychotherapies. Unfortunately, generally only psychiatric services have access to these. In spite of the calls of Bond and Hughes and many others for the

establishment of regional multidisciplinary pain management units there are very few in the United Kingdom.

Chronic orofacial pain can be a disturbing problem for patient and doctor. If attention is paid to reconciling the patient's experiences and expectations of treatment with a proposed course of treatment the outcome can be successful and the prognosis good. These difficult patients can then become a rewarding group to treat.

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Clinical review articles

Should be as scientific as the articles they review

Much of medical knowledge is highly perishable. The first credible news of fresh advances appears in peer reviewed medical journals, but clinicians who try to upgrade their knowledge by reading medical journals face a formidable task.¹ Most studies provide preliminary evidence at best because of limited scope, poor design or execution, or a sample size inadequate for important clinical benefits or adverse effects to be detected, or because of the play of chance. Thus the reader must appraise each report and compare and integrate it with previous evidence to reach a decision about whether clinical policy should be changed on the basis of the accumulated information.

Even when an original study is definitive by itself it will seldom address more than a portion of the clinical range of the problem. Inclusion and exclusion criteria for clinical trials, for example, typically select for the patients who are at highest risk of suffering bad consequences from their disorders and are most likely to respond to the intervention being tested, leaving the reader to speculate whether other patients might benefit.

Clinical readers may take a shortcut through this difficulty by reading review articles in which someone else has taken the trouble to round up the evidence from available studies on a clinical problem. But unless the review is constructed in an exacting fashion that does justice to the original evidence the reader may end up with false conclusions (the brunt of which may be borne by patients). Indeed, Mulrow found that none of 50 reviews published in four major American medical

journals in 1985 and 1986 met all of eight criteria for scientifically sound summaries of evidence.² Most distressingly, "Only one had clearly specified methods of identifying, selecting, and validating included information."

Following the pioneering work of Thomas Chalmers and his colleagues in resolving disputes in published medical work,³ Mulrow and others have called for more scientific procedures for review articles and Oxman and Guyatt have published a "reader's guide" for clinicians who want to be sure that a review article provides an unbiased view of the truth.⁴ To be true to evidence reviews must articulate a clear question or set of questions, find and select pertinent published (and sometimes unpublished) evidence in an unbiased and reproducible way, determine whether there is enough consistency in the studies to warrant pooling their results, characterise the findings in a way that is statistically valid, and reach a conclusion that readers can verify for themselves. Thus the reviewer should adhere to the same scientific principles in summarising studies as the investigators of those studies did (or should have done) in generating the original evidence. In other words, the review article itself should be the product of scientific investigation in which the participants are original investigations rather than patients.

These standards, crystallised by social scientists,^{5,7} have taken hold slowly in reviews of published biomedical reports over the past decade and are still far from the norm in the review articles that are published today. Buyer beware: unsystematic reviews lead to unsystematic conclusions.

Readers looking for a shortcut to understanding evidence about health problems and patient care should at least look for reviews by those who have not taken shortcuts.

At their best, the new breed of scientific reviews (often referred to as overviews) can resolve controversy generated by studies that seem to contradict one another and provide much clearer conclusions by quantitatively pooling the results of inconclusive studies—"meta-analysis." A good example is the recent clarification of the role of blood pressure reduction in reducing the risk of coronary artery disease.^{8,9} Of course, even when reviews are done scientifically they can review only the evidence that is available, which may be limited in ways that preclude definitive conclusions, even in the aggregate.

To be of continuing guidance to practitioners reviews require updating whenever important new evidence becomes available. The world's leading example for comprehensive reviews of the therapeutics in a clinical discipline is the *Oxford Database of Perinatal Trials*, edited by Iain Chalmers,¹⁰ and perinatologists now have no need (or excuse) for being out of date. But this has been a herculean task for just this one discipline, and it will be some time before the rest of medicine can expect such a resource. In the mean time increasing numbers of reviews are being knitted together for individual disorders and groups of disorders so that it will soon be possible to assemble the patches into a quilt that will cover a substantial part of the body of medical practice. Perhaps by

the turn of the century it will be possible to replace traditional textbooks in the main specialties.

Summarising the results of research to provide tools for clinical practice will be hastened if those who write reviews follow the new standards, editors and reviewers of journal articles apply these standards in selecting reviews for publication, and readers direct their attention to scientific reviews, bypassing those that are not.

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Transvaginal ultrasonography

Useful for diagnosis

Ultrasonographic imaging was introduced by Donald into obstetrics and gynaecology to differentiate a pregnancy from an ovarian mass in an obese patient.¹ Computer technology has led to further advances, and with "real time" ultrasonography the equipment is easier to handle and the technique easier to learn. Transvaginal sonography is the most recent form of imaging to be introduced in gynaecology, overcoming the disadvantages of abdominal or surface ultrasonography. These disadvantages include the distance between the organs being imaged, the difficulty of obtaining clear images of deep structures, and, with abdominal ultrasonography, the need for a full bladder to allow imaging of organs in the true pelvis.

Gynaecological pelvic examination requires an empty bladder. In current practice, if a pelvic mass is felt on digital examination ultrasonography is used to establish the nature and origin of the mass. Because a full bladder is needed for abdominal ultrasonography the patient has to drink a litre of water and then wait for an hour, before the procedure may be performed. This complicates its routine use by gynaecologists. Transvaginal sonography, however, requires an empty bladder—making it a complementary examination to the conventional pelvic examination.

The indications for transvaginal sonography are the same as for pelvic examination. It should be performed after a speculum and digital examination. The inaccuracy of digital examination in detecting ovarian cysts and the advantage of imaging structures within the pelvic organs hardly needs elaborating.² Even with laparoscopy only information on the surface of the pelvic organs is obtained. Transvaginal sonography performed before laparoscopy may provide infor-

mation on intrauterine disease as well as the contents of ovarian cysts. The finding of multiloculated ovarian cysts, for example, would dissuade laparoscopists from attempting their aspiration.

Although transvaginal sonography, like so many other new gynaecological techniques, was first used to detect, monitor, and aspirate Graafian follicles,³ its use is now routine in assisted conception centres, and its applications in diagnosis and treatment procedures are expanding rapidly.⁴ Its use in gynaecological practice as a complement to pelvic digital examination is now commonplace in the United States (I E Timor-Tritsch, personal communication) and Germany (L W Popp, personal communication), where more than half of gynaecologists in private practice have a transvaginal scanner in their consulting rooms.

Transvaginal sonography may be used to differentiate ovarian from tubal masses,⁵ and viable from non-viable pregnancies,⁶ and may reduce the need for dilatation and curettage procedures in patients with postmenopausal bleeding.⁷ Interventional transvaginal sonography facilitates chorionic villus sampling and early amniocentesis. Reproductive endocrinologists use it to recover oocytes, cannulate the fallopian tubes, and aspirate ovarian cysts—which can be performed under sedation on a day care basis. Its role in differentiating benign from malignant ovarian lesions, staging cervical cancer, and aiding needle biopsy is still under investigation.

The use of transvaginal sonography in the early detection and treatment of ectopic pregnancy may ultimately have a greater impact on maternal mortality than any other recent development in gynaecology. Transvaginal sonography can