100 years to pass before solving the mysteries of childhood arthritis and it is to be hoped that a flexible, biologically relevant classification will assist that process.

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Uniform structured formats for scientific communications—how far should we go?

Clear, efficient communication is a central aim of any scientific report. Clarity, however, can readily be lost when, as authors, we employ our individual literary style, omit detail that we but not the reader take “as read”, present information in long sections without subheadings, and expand reports with comment that relates more to the general topic than the specifics of the study. Following peer review a common request to authors from editors is firstly, to include more detail in the methods and results sections, and secondly, to remove extraneous information and extrapolation from the discussion. Peer review and revision, however, do not always result in optimal presentation of information. There is often disparity between what a study should report and what is actually published. In the case of randomised controlled trials

(RCT) this presents important problems for inclusion in systematic reviews¹ and the balanced appraisal of knowledge that may determine clinical practice.

The continuing education of investigators is clearly important if we are to maintain high quality research and communication. One—often underestimated—aspect of this is the experience of peer review. Although primarily established to guide selection for publication, peer review serves an important educational role in directing authors to potential problems and caveats of their study and in suggesting ways of improving presentation and discussion. It is for this reason that the *Annals* editorial office always sends appropriately submitted reports to peer review, even if the Editor's initial appraisal is that the report is sufficiently flawed that it would not be accepted even after

Table 1 CONSORT checklist for randomised controlled trials

Heading	Subheading	Descriptor	Was it reported?	On what page No?
Title		Identify the study as a randomised trial		
Abstract		Use a structured format		
Introduction		State prospectively defined hypothesis, clinical objectives, and planned subgroup or covariate analyses		
Methods	Protocol	Describe Planned study population, together with inclusion/exclusion criteria Planned interventions and their timing Primary and secondary outcome measure(s) and the minimum important differences(s), and indicate how the target sample size was projected Rationale and methods for statistical analyses, detailing main comparative analyses and whether they were completed on an intention-to-treat basis Prospectively defined stopping rules (if warranted)		
	Assignment	Describe Unit of randomisation (eg, individual, cluster, geographic) Method used to generate the allocation schedule Method of allocation concealment and timing of assignment Method to separate the generator from the executor of assignment		
	Masking (blinding)	Describe mechanism (eg, capsules, tablets); similarity of treatment characteristics (eg, appearance, taste); allocation schedule control (location of code during trial and when broken); and evidence for successful blinding among participants, person doing intervention, outcome assessors, and data analysts.		
Results	Participant flow and follow up	Provide a trial profile (figure) summarising participant flow, numbers, and timing of randomisation/assignment, interventions, and measurements for each randomised group		
	Analysis	State estimated effect of intervention on primary and secondary outcome measures, including a point estimate and measure of precision (confidence interval) State results in absolute numbers when feasible (eg, 10/20, not 50%) Present summary data and appropriate descriptive and inferential statistics in sufficient detail to permit alternative analyses and replication Describe prognostic variables by treatment group and any attempt to adjust for them Describe protocol deviations from the study as planned, together with the reasons		
Comment		State specific interpretation of study findings, including sources of bias and imprecision (internal validity) and discussion of external validity, including appropriate quantitative measures when possible State general interpretation of the data in light of the totality of the available evidence

CONSORT flow diagram for randomised controlled trial.

major revision. The authors thus receive more than just a rejection letter from *Annals*. They obtain a critique of their work and an explanation as to why it was considered unsuitable for publication. Such practice, however, is not always undertaken, especially by larger and busier general medical journals.

An effective means to tailor reports to better fit their purpose is to impose a generic structure on their presentation. The ordered division of a report into headed sections (for example, Summary, Introduction, Results, Methods, Discussion, Acknowledgements, References) facilitates the reader's search for information, but importantly encourages the author to supply information under each heading. In line with many other journals, *Annals* in 1993 introduced a structured abstract in place of an unstructured summary. This simple manoeuvre means that authors now have to specify the objectives, methods, results, and conclusions of their study, aspects of which are often unclear or omitted from a "summary". With widespread use of computerised literature searches based on abstracts such a descriptive precis is clearly beneficial. From 1997 we have also adopted the CONSORT (Consolidation of Standards for Reporting Trials) format for reporting RCT,² requiring authors to supply a checklist of 21 items (table 1) and a flow diagram showing the progress of subjects through the various stages of the study. The example shown (figure) relates to the most commonly reported two group parallel design RCT.³ This strategy to enhance clarity and facilitate the appraisal of RCT will be formally assessed over future years.²

Other attempts at standardisation have been supported by a body of international rheumatology journal editors who met first as a group in San Francisco in 1995. An audit by the group in 1996 revealed marked disparity in the referencing format used by rheumatology journals.⁴ The majority of these editors have now agreed to use a single style—the current, fourth edition of the Vancouver

Table 2 A suggested "structured discussion"

Discussion	
Conclusions	Summary of principal findings and conclusions Clinical relevance, if appropriate
Relevant published reports	Placement of study in context of other work Specific agreements and disagreements with other published work
Caveats	Perceived weaknesses of study Generalisability of data
Future work	Which questions remain unanswered Direction and nature of required work

system^{5,6}—from January 1997. The following example shows how an original report is referenced in this format:

1 Brown A, Jones B, Smith C, Zahl D. Salicylate intake and subsequent risk of developing knee osteoarthritis. *Ann Rheum Dis* 1999;58:1984–6.

This agreement by rheumatology journal editors provides a rare example of successful closure of an audit loop in publishing. The group is also developing a common set of rheumatological acronyms and abbreviations and hopes to introduce this by the end of 1997.

Some, of course, may find uniform requirements and structured formats difficult and even restrictive. Such concerns were raised when the need for more informative structured abstracts was first debated.⁷ In general, however, the benefits of uniform structuring are likely to outweigh the disadvantages expressed in terms of author "freedom" and the difficulty of forcing diverse studies into a common mould. Indeed we might consider going further. For example, it is extremely common for reviewers and editors to request modifications to the discussion section of papers. Subdivision of this section (table 2) may have advantages in reducing overall length and undue extrapolation (a common problem), achieving a better balance of declared strengths and weaknesses of studies (caveats are often underemphasised or omitted by authors), and placing findings in the context of other relevant published work. Other headings could be added, depending on what the function of this section is perceived to be. The views of authors and readers of the *Annals* on this matter would be welcomed.

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