

The sports science you won't find on PubMed

Dr J

How long is it going to be before Google Scholar is considered to be a more important resource than PubMed? Or, given that PubMed listings already come up in Google Scholar searches, is it already the case? The peer review system is always going to have a major place in scientific research, but internet publishing is getting more and more user friendly while the peer review system is tending to head in the other direction. There has never been a shortage of papers for the peer review journals to publish and, until there is, there won't be any reason for the journals to continue their trend towards becoming more difficult for authors ¹, based on simple supply and demand economics. And even though the number of sports medicine and science journals is expanding, the amount of articles written in these fields is expanding even faster. Some will make it through to the peer-review system, whereas other important articles will not, often

through choice of the editors and reviewers but increasingly through a decision of the author.

So you are a scientific researcher and you need to decide whether or not you will publish or submit a paper to a peer review PubMed-listed journal or elsewhere (including posting it on an internet website). I am someone who publishes a lot in both sectors (peer-review and non-peer-review) so can give a viewpoint on the advantages of each. Table 1 is a list of reasons why you might want to choose one or the other, but the peer-review advantages list basically comes back to 'because you have to.

If you are an Associate Professor at Yada Yada University then you have to publish x many articles in refereed journals over a certain time period or you will get demoted back to Senior Lecturer. If you a sports physician registrar, they won't even give you a Fellowship unless you get a first author paper accepted in a PubMed-listed journal. But what else? You can say the research is more

credible in a PubMed-listed journal, but is a crap paper listed by PubMed suddenly a good paper because it appears in a good journal? Would groundbreaking research not published in the peer review system suddenly be bad work? Admittedly, most of the time anyone publishes a blockbuster study outside the peer review system they get a tap on the shoulder from a suddenly friendly editor asking whether they would like to have it fast-tracked through their journal. One of my all time favourite research stories is that of Barry Marshall and Robin Warren getting knocked back as a podium presentation at the Gastroenterological Society of Australia annual meeting for suggesting that *Helicobacter pylori* caused stomach ulcers. Soon after they submitted to *The Lancet* and were recommended for rejection by the reviewers but the editor took the rare but masterly step of holding on to the paper and sending out to different reviewers until he could find some who would agree that the paper should be published ².

Table 1 – Why choose PubMed journals?

ADVANTAGES OF CHOOSING A PUBMED-LISTED PEER REVIEW JOURNAL	ADVANTAGES OF PUBLISHING ELSEWHERE	ADVANTAGES OF NOT PUBLISHING AT ALL
Maintaining academic tenure	Keep your own copyright	Don't share business secrets
Achieving FACSP or some other hurdle requirement	Avoid page and colour charges	More time to do other things
Stamp of credibility to research	Avoid pedantic reviewers	Don't have to work out why your version of EndNote isn't compatible with your version of Word
Appearing in hard copy	Avoid even more pedantic ethics committees	
Ego, not that there's anything wrong with that	Keep your own profits	
????Wider readership	No word limits	
	Get published faster	

¹ To be fair, the biggest improvement of the peer-review in recent years has been turn around time for rejecting papers. They used to take months to reject your paper, now they can do it in weeks.

² Van Der Weyden MB, Armstrong RM, Gregory AT. The 2005 Nobel Prize in Physiology or Medicine. MJA 2005; 183 (11/12): 612-614 http://www.mja.com.au/public/issues/183_11_051205/van11000_fm.html

Since they give me a page limit for Dr J articles, I won't get started on some of the crap papers that I've seen appear in the peer-review system, but it wouldn't take you too long in your local library to find a few particularly bad ones that never should have seen the light of day.

Down the bottom left of Table 1, I've listed "Wider readership" preceded by a few question marks. It goes without saying that if you publish in the *Am J Sports Med* or the *Br J Sports Med*, you'll be read by more people, doesn't it? Maybe it does in 2006, but, as Google marches on, you'll eventually want to be free full text on the internet if you really want to reach the biggest audience.

I've not only threatened for many years to publish outside the peer review system, but I've put my money where my mouth is (on occasions) by sending actual papers (not just rants like this one) to *Sport Health*, *New Zealand Journal of Sports Medicine*, *Sportlink* and publishing on my own website injuryupdate.com.au. Of course I still use the majors and the sceptics will of course argue that my 'good' work

goes in to peer review and the 'rest' which wouldn't or didn't get accepted goes elsewhere. That may be true to an extent, but I wouldn't be too surprised if it wasn't completely true in the future.

I recently submitted a paper to the BJSM and it bounced back straight away, being ineligible because it didn't have ethics committee approval. I can't complain at all about this decision itself because it is clearly spelt out in the terms on their website, but would like to point out that it wasn't rejected because it was an unethical study without ethics committee approval, but simply because it didn't have ethics committee approval full stop. This has prompted me to submit a detailed opinion piece to the *Journal of Science and Medicine in Sport* hoping that it doesn't follow along the same lines as the BJSM. But if it does, c'est la vie, and if you want to read John Orchard's best recent work a few years down the track, you might have to subscribe to *Sport Health* or log in to my website. That's if they don't throw me in jail for daring to send a patient a follow-up questionnaire without asking for ethics committee approval first.

Hopefully my detailed argument soon makes it in to JSAMS, so I won't repeat it here, but I'd like to include the phrase "pack of wankers" here as it wouldn't be appropriate to describe most ethics committees as such in the peer review system. (Note to editor: please go back to table 1 and in column 2 add "you can write what you really think"). To summarise, I've submitted enough studies for ethics approvals to make the following observations:

- (1) Their primary purpose is to obstruct and/or delay the research process;
- (2) Submissions are almost always required to be more than five times longer than the paper which will eventuate from the study;
- (3) Like reviewers, they will always insist on changes to your study. Unlike reviewers, none of these changes will result in your paper being any better.

Some of the classic suggestions I have received or heard from ethics committees include "you should get your subject information form translated into 25 languages before the study starts so that you don't unfairly discriminate against any ethnic groups" and "you should send out a preliminary questionnaire to all potential subjects asking them whether they object, in advance, to receiving the actual questionnaire". If publishing in the peer-review system of the future means putting up with this crap, then the salaried academics at the universities can have it all to themselves.

Table 2 is a list of some of the good stuff that you can find on the internet, which includes a lot of interesting sports medicine publications that haven't been through peer review. Most of it is free, but of interest is that I recently found, by subscribing to Baseball Prospectus, articles on the relationship between pitching workload and susceptibility to injury that were way more advanced than anything that has ever appeared on the topic in the peer review system. The reason why it isn't published in the peer-review – they're Americans – if you've just done some work which people might pay to view, why give it away to someone else for free? *Baseball Prospectus* are part of a new field of sports science called sabermetrics which is the analysis of sports performance through objective evidence (esp. statistics), a field which exists almost entirely outside the peer-review science sphere. The question is whether they are an outlier or the start of a new trend. **SH**

Table 2 – Twelve resources on the internet which might surprise you

WEB ADDRESS	COMMENT
http://www.baseballprospectus.com/	The best studies done on the link between loading in baseball and injury (but you'll have to pay)
http://www.sportsci.org/index.html	Only one edition per year but as good as any one journal edition
http://coachesinfo.com/category/cricket/44/	Tell me whether you can find a better description of bowling mechanics in the peer-review than this
http://www.injuryupdate.com.au/images/research/QuadsBiomechreportUNSW.pdf	A detailed report of mine on mechanism of quadriceps strains in kicking that is only published on the internet
http://www.acc.co.nz/	They're the best in the world at universal sports insurance so check out their site
http://www.ostrc.no/ostrc.asp?s=main&lang=en	Perhaps the best non-government institution in the world - they publish in peer review but also here
http://www.ausport.gov.au/nsic/	Our own national sports library is no slouch either
http://www.injuryupdate.com.au/forum/index.php	Read what the patients think about their injuries (you can learn something here)
http://www.nlm.nih.gov/medlineplus/sportsinjuries.html	OK this is associated with Pubmed but there are lots of good non-Pubmed links
http://www.physsportsmed.com/	Back issues still online
http://www.orthosupersite.com/	Some good scientific articles mixed in with some lay ones
http://www.stms.nl/	Great for tennis, which is neglected in the peer review literature in general