



# Revista Española de Cirugía Ortopédica y Traumatología

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## EDITORIAL

### New goal: The impact factor<sup>☆</sup>

### Nuevo reto: factor de impacto



The indexation of *Revista Española de Cirugía Ortopédica y Traumatología* (RECOT) by PubMed on October 2012 represented the beginning of a hard task.<sup>1</sup>

For RECOT, indexation by PubMed meant an important recognition of its scientific quality, the quality of its editorial and review committees, the quality of the publication in both paper and electronic format, and the relevance of the target audience.

As Prof. Vaquero explained in his editorial from 2014,<sup>2</sup> this indexation has brought RECOT greater visibility and a larger amount of submitted works (these have doubled in the past two years), which, in turn, has entailed better quality and has forced us to reject a larger number of articles (45% in 2014).

Over the course of these past years, RECOT has prepared to tackle new challenges, including the journal's indexation by the Science website and the publication of the corresponding impact factor (IF) in the Journal Citation Report (JCR). For this reason, like Dr. Forriol explained,<sup>3,4</sup> the Society (SECOT) has had to make a significant effort and adopt important decisions, including to continue publishing the Journal in two languages (Spanish and English) in order to gain greater visibility in both the English-speaking world and in Latin America, thereby increasing the possibility of receiving citations.

To gain a better understanding of the IF, we provide an approach to its definition through the example of the hypothetical IF of RECOT in 2014. This bibliometric index is calculated by dividing the *number of citations* received by articles published in RECOT during the years 2012 and 2013 (the two before the year of the IF) in articles published in 2014 (the year of the IF) by journals included in the JCR (numerator) by the *number of articles* published by RECOT during 2012 and 2013 (denominator).

A hypothetical IF of 2500 would mean that, on average, articles published in the two years prior to the year of the IF being calculated were cited 2.5 times. Likewise, a hypothetical IF of 10,000 would mean that, on average, they were cited 10 times.

Although the large majority of the scientific community knows the IF formula, there are some aspects that we must bear in mind and that will help us to better understand some concepts:

1. The IF is not a qualitative index, but a quantitative one (number of citations and number of articles).
2. The IF only corresponds to a journal, not to an author, since only 20% of the articles published receive citations.
3. The numerator includes all citations of articles published during the two years prior to the year that the IF is being calculated for.
4. The denominator only includes certain types of articles: original articles, case reports and reviews. However, editorials, letters, news, literature reviews and summaries are not counted in the denominator, although, ultimately, it will always depend on the indexing criteria.
5. Only specific kinds of articles can provide citations:
  - Articles from journals included in the JCR.
  - Articles published in the year the IF is being calculated for.
6. Only the citations from a specific period are valid:
  - Citations of articles published in the cited journal during the two years prior to the year that the IF is being calculated for. For example, citations provided by articles published in 2014 of articles published in that same year 2014 will not be counted towards the calculation of the IF for 2014.
7. Citations may be of different kinds:
  - External citations: citations from other journals included in the JCR.
  - Self-citations within the journal: citations originating from articles published by the same journal.
  - Author self-citations: researchers citing their own articles.

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Since all these aspects of the citation process must be associated to a research activity, we offer an analysis of the scientific output of Spanish traumatologists and orthopedic surgeons based on the data obtained from the Scopus database.

The scientific output of Spanish traumatologists and orthopedic surgeons over the past 6 years (2009–2014) has been of 991 articles, published in 231 journals. In total, 58.2% of these articles ( $n=577$ ) were published in international journals, and 41.8% ( $n=414$ ) in national ones. It is worth mentioning that RECOT published 272 of these articles (accounting for 65.7% of the total articles published in national journals).

It is also worth highlighting that, although only 29.9% of these publications corresponded to the specialty itself, in reality these published 67% of the 991 articles.

Out of the 231 journals which published articles by Spanish traumatologists and orthopedic surgeons over the past 6 years, 85.3% (197 journals) were international publications (59.4% of these journals have an IF) and 14.7% (34 journals) were national publications; however, only 17.6% of these journals had an IF.

Going back to the example of an IF for RECOT in 2014, and based on the data from Scopus, out of the 41 citations received by articles published in RECOT in the years 2012

and 2013, only 10 of those citations would count towards the calculation of an IF for 2014, since only 29 citations (29 articles) originated from articles published in 2014, and only 10 citations (10 articles) out of those 29 were from journals included in the JCR.

We hope that the data and considerations presented herein will foster reflection and joining of efforts in order to achieve this new goal.

## References

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