

From the Editor

Learning about Journal Metrics

In the scholarly publishing world, particularly in the sciences, one metric stands out as a rating to compare journals against each other and that is the journal impact factor (JIF). Especially for those in academia, much weight is placed (rightfully or otherwise) on publishing in journals with high impact scores with the rewards including prestige, grant funding, and promotions. Where does a specialized journal such as ours fit in such an environment? I have pondered this question ever since before I agreed to take on this role as editor-in-chief. To date, *JECT* has not attained a JIF and so even earning one would constitute progress in our journal's status. Whereas a JIF might seem like a good thing to pursue, I felt that I first needed to have a full understanding of how much (or how little) a score could mean for any particular journal. In the course of bulking up my knowledge within the scholarly publishing world since my appointment, I have learned more about journal metrics and am able to share some of the information here.

What is a JIF? As scored by Clarivate Analytics (formerly Thomson ISI), the JIF is calculated by dividing the number of citations, over the past 2 years for instance, by the number of substantive articles over the same 2 years (1). Therefore, being cited more often indicates a journal's articles are having heavier impacts. Furthermore, Clarivate Analytics has a vetting process to even be included in their *Journal Citation Reports*. Although *JECT* awaits the outcome of our vetting, we can refer to other similar metrics publicly available to see where we might stand. Elsevier maintains the CiteScore listing where *JECT* already has accumulated some numbers. In 2018, *JECT* attained 112 citations for 137 substantive articles published between 2015 and 2017 for a CiteScore of .82. I think we can be proud that some of our excellent articles are being cited and we can certainly aspire for our scores to increase in future years!

But being such a consequential metric, it is not surprising that JIFs and CiteScores can be subject to abuse where journals try to manipulate both the numerator and the denominator (2). And indeed, if a journal like ours wanted to goose our metrics, we could encourage liberal self-citations and encourage more likely cited articles such as basic science articles and review articles. Obviously doing so could change the nature of our journal, which is the point I am trying to make: for *JECT* to serve our sponsoring society and profession, it may not be so important that we have a stellar impact factor.



Raymond K. Wong

The reality is that most perfusionists do not have the opportunity to perform the types of studies necessary to produce high-impact articles. Neither are perfusionists being evaluated on their job performance based on their h-indexes (a metric of individual citation impact) or their publishing in high-impact factor journals. Instead, both our practicing perfusionists and our students generally conduct more modest studies and simply wish to communicate their findings to our fellow or future colleagues. Preferring high-impact review articles over submissions of modest peer-reviewed articles could be a disservice to our core community. Now of course, a high-impact factor will certainly help to attract more submissions from physicians and other clinical teams who may actually need to publish in higher impact journals. In actuality, we are already receiving such articles because many non-perfusionist authors realize that 1) *JECT* is a good avenue to share their findings with the perfusion community in a targeted

manner and 2) their non-perfusionist colleagues will still easily find their work because *JECT* is indexed on Medline.

Everything I have just mentioned in the previous paragraph is reflected in the assortment of articles being published in this issue. To support my latter point about submissions from physicians, it turns out that the majority (6 of 9) of the articles in this issue were submitted by physician first authors, some with their perfusionists as coauthors. We have submissions from four pediatric programs, three countries outside the United States (India, Sweden, and Thailand), and well-established programs in the United States.

We often publish the research work of students, and, in this issue, Amanda Crosby shares her Master's thesis findings on the reduction in blood transfusion rates when pre-bypass acute autologous donation is implemented (3). Srey et al.'s (4) perfusion team share a tool they developed so that other perfusion teams can more easily ensure that they are performing goal-directed perfusion in adequately delivering oxygen. Dr. Rajanbabu and his perfusionist, Mr. Dhandapani from Bangalore, India, describe how they overcame a heater-cooler failure under austere conditions of a mission trip (5). This kind of article may not get cited much, but could certainly benefit students and perfusionists considering volunteer mission trips of their own. Another consideration that international centers might be interested in is addressed by Dr. Kantathut's team from Thailand, and that is whether lactated Ringer's can be used as the base solution for formulating a modified del Nido cardioplegia solution when other solutions such as Plasmalyte-A is not available (6). The team at Lucile Packard Children's Hospital at Stanford are providing their circuit modifications for unifocalization procedures which should benefit other pediatric perfusion programs (7).

This issue also contains several reports to enhance extracorporeal membrane oxygenation (ECMO) management. The Swedish pediatric ECMO team of Broman et al. (8) are reporting on the feasibility and safety of an arteriovenous loop for sampling procedures, whereas Dr. Reisenauer's team at the Mayo Clinic describe how they used Dermabond to repair a needle hole in an arterial cannula during ECMO support (9). Constantinescu et al. (10) describe how ultrafiltration via Aquapheresis was performed on ECMO-supported patients suffering from fluid overload at Joe DiMaggio Children's Hospital in Hollywood, FL. Last but not least, Dr. Worku's group performed a retrospective study at three clinical sites (NY-Presbyterian/Weill-Cornell MC/Brooklyn Methodist) to devise a simple scoring system to predict the survival in venoarterial-supported ECMO patients (11).

Now, one might wonder if by citing this issue's articles here in this editor's message, could I be shamelessly trying to

increase the numerator of our JIF or CiteScore? Let me assure you that the Editor's message is not included in the denominator as it is NOT a substantive article. Rather than strategizing about boosting our metrics, this editor would much rather focus on disseminating articles that can inform and enhance the clinical practices of perfusionists in the United States and around the world. Of course, *JECT* will always still welcome those substantive review articles and basic science articles that could be highly cited as these can inform the perfusionists as to the "why and how" of different clinical practices. Ultimately, a variety of different articles are needed to develop a well-rounded and informed knowledge base for our clinicians. Deserving articles will be found and cited, and our metrics will be commensurate.

Raymond K. Wong, PhD, CCP
Editor-in-Chief

ACKNOWLEDGMENT

I thank Dr. Julie Wegner for reviewing and enhancing this editorial.

REFERENCES

1. Garfield E. The agony and the ecstasy—The history and meaning of the journal impact factor. International Congress on Peer Review and Biomedical Publication Chicago. 2005. Available at: <http://garfield.library.upenn.edu/papers/jifchicago2005.pdf>. Accessed August 14, 2019.
2. Caon M. Gaming the impact factor: Where who cites what, whom and when. *Australas Phys Eng Sci Med*. 2017;40:273–6.
3. Crosby A, Sistino JJ. Impact of pre-bypass autologous blood collection on blood transfusion rates. *J Extra Corpor Technol*. 2019;51:140–6.
4. Srey R, Rance G, Leissner K, et al. A quick reference tool for goal-directed perfusion in cardiac surgery. *J Extra Corpor Technol*. 2019; 51:172–4.
5. Rajanbabu BB, Dhandapani K. Home-made salvage set up for a catastrophic heater/cooler failure on cardiopulmonary bypass: A case report. *J Extra Corpor Technol*. 2019;51:169–71.
6. Kantathut N, Cherntanomwong P, Khajarern S, et al. Lactated Ringer's as a base solution for del Nido cardioplegia. *J Extra Corpor Technol*. 2019;51:153–9.
7. Margetson TD, Sleasman J, Jahadi O, et al. Perfusion methods and modifications to the cardiopulmonary bypass circuit for midline unifocalization procedures. *J Extra Corpor Technol*. 2019;51:147–52.
8. Broman LM, Eriksson C, Frenckner B, et al. Introducing the loop for circuit access during extracorporeal membrane oxygenation: Feasibility and safety. *J Extra Corpor Technol*. 2019;51:175–8.
9. Reisenauer J, Neal JR, Joyce DL. Dermabond as a novel solution for needle hole repair in arterial cannula while on extracorporeal membrane oxygenation therapy. *J Extra Corpor Technol*. 2019;51: 160–2.
10. Constantinescu A, Adler JL, Watkins E, et al. Aquapheresis (AQ) in tandem with extracorporeal membrane oxygenation (ECMO) in pediatric patients. *J Extra Corpor Technol*. 2019;51:163–8.
11. Worku B, Khin S, Gaudino M, et al. A simple scoring system to predict survival after venoarterial extracorporeal membrane oxygenation. *J Extra Corpor Technol*. 2019;51:133–9.