

Extreme makeover: transitioning *International Surgery* online

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Abstract:

International Surgery had been a print journal for over seventy years until 2012, when it was transitioned to an online only format. A University of Queensland (UQ) Library consultant worked with key staff from the International College of Surgeons, publisher of the journal, to explore the opportunities available to transition the journal online. A range of platforms were reviewed and assessed. The transformation was a success, achieving expansion of the options available to researchers from the adoption of Open Access publishing and Creative Commons. The extreme makeover for *International Surgery* by the close of 2013 resulted in resuscitation of this important journal.

Introduction

It was the printed contents page from *International Surgery*, volume 95, number 1, January-March 2010, which a University of Queensland (UQ) professor handed to a librarian in February 2011 at the UQ Herston Health Sciences Library that set this exploration into motion. Library staff respond to challenging and interesting questions daily. This particular request was a segue into reviewing an array of worldwide online surgical journal publishing options and working closely with the executive staff at an international college, and the Editor-in-Chief of the journal. This case study reports on work undertaken during the period mid-2011 until December 2013, when a UQ library manager undertook a consultancy with an international team to transform and revive a seventy-five-year-old, print-only surgical research journal.

Background details on the key parties involved in the consultancy follow.

The University of Queensland

UQ is in the top 100 universities worldwide. The University is one of the three Australian members of the global Universitas 21, a founding member of the Group of Eight (G08) universities and a member of Universities Australia. There are more than 46,000 students, including 11,000 international students from 134 nations, studying at UQ. According to the 2012 Excellence in Research for Australia (ERA) assessment, UQ has more specialised fields of research “well above world standard” than any other Australian university (The University of Queensland 2013).

The UQ Library

Since a realignment from 2011, five teams work together to provide UQ Library services. These are the Research Information; Scholarly Publishing and Digitisation; Library Resources and Technology; Teaching and Learning; and Marketing, Outreach and Corporate Services. The Library employs over 200 staff, servicing eight 24x7 hour library facilities and eleven other branches and services, such as the Herston Health Sciences Library, that operate extensive hours throughout the year supporting the information needs of UQ students and staff. The consultancy was transferred in June 2011 from the Herston Health Sciences Library to the UQ Library’s newly established Scholarly Publishing and Digitisation Service (SPADS).

The International College of Surgeons

Since 1935, the International College of Surgeons (ICS) as a global organisation has been dedicated to bringing together surgeons and surgical specialists of all nations, races and creeds, to promote surgical excellence for the benefit of mankind and to foster fellowship worldwide. ICS has approximately 5,000 members from 100 countries throughout the world. The journal *International Surgery* has been published by the ICS since 1938, and all members receive complimentary access to *International Surgery* within their membership of the College. The ICS head office and museum is located in a historic mansion, along the shores of Lake Michigan in Chicago, USA.

Editor-in-Chief

The Editor-in-Chief of the journal *International Surgery* is Professor Christopher Chen, who is a UQ alumnus and the Scientific Director of the Christopher Chen Centre for Reproductive Medicine, located at the Gleneagles Hospital, Singapore. Professor Chen received a Doctor of Medicine from UQ in 2009. He is an IVF pioneer and the “father of human egg freezing”, having published a landmark paper on the first successful attempt at deep freezing and thawing a female egg cell, resulting in a successful pregnancy. Chen is also renowned for achieving the world’s first in-vitro fertilisation (IVF) triplet pregnancy ('Reproducing success' 2013).

Background

International Surgery is the International College of Surgeons' flagship journal. The journal publishes peer reviewed original scientific articles covering important clinical observations, surgical techniques, experimental surgery, research, cultural and historical topics pertinent to surgery and related fields. Over the past few years, issues have been published quarterly, with approximately 70 articles published annually. *International Surgery* has had ten Chief Editors since establishment. Christopher Chen is the 11th and current Editor-in-Chief, taking on the role in 2011. Accepting the Editor-in-Chief role, Christopher Chen did so with a sense of great responsibility and with profound dedication to vision, mission, and goals to make *International Surgery*, the Journal of the International College of Surgeons, one of the finest medical journals published in the world (Chen 2011).

The journal has an impact factor and is indexed by PubMed, MEDLINE, PubMed Central, Scopus and the Thomson Reuters suite of databases. Impact factors are published by Thomson Reuters in the *Journal Citation Reports* database. As a measure of research influence, an impact factor provides a systematic way to evaluate the world’s leading journals and is based on citation data. The 2009 impact factor for *International Surgery* was 0.297 (this was the figure reported in 2010 when the consultancy commenced). The highest rating surgery journal, at the time, had an impact factor of 7.9). *International Surgery* was number 150 out of a total of 167 journals in the *Journal Citation Reports*' surgery category. There was a positive rise in a short period, with the 2011 impact factor for *International Surgery* increasing to 0.361.

The deliverables for the consultancy in the first year were to work closely with the Editor-in-Chief (based in Singapore) and the Executive Director (based in Chicago) to commence the journal’s transformation. The transformation process would include gathering evidence to convince the College’s Council to support the changes, making the journal sustainable, assessing publisher options and platforms, revising instructions to authors and establishing new workflow by implementing an online manuscript management system, attracting new reviewers and promoting the journal.

Three key areas are addressed by this case study. The first is a description and analysis of the four platforms evaluated to transition *International Surgery* online and the factors important in assessment of the publishing options. The second is an account of the significant collaboration effort that was required for the change

process, as the consultancy was undertaken from UQ in Brisbane with negotiations and meetings taking place in Singapore and the USA. The third area of the study reports on the transformation process required to discontinue a journal that had been in print since 1938 to an electronic only journal. This process required a significant strategic effort by the International College of Surgeons Head Office. Details are reported on the consultancy provided to the Editor-in-Chief, such as benchmarking with other surgery journals, overhauling the instructions to authors, automating the journal's submission process and the finalisation of a new publishing model for *International Surgery* to be published as an online journal.

Methods

Starting out

The consultancy was based in the UQ Library's newly formed SPADS. This service is responsible for developing policy and services in areas of scholarly publishing, copyright, bibliometrics and data management. SPADS is also responsible for UQ's institutional repository UQ eSpace and the University's digitisation service.

As a newly formed role, there was a start-up period for the consultancy to gather information on the scholarly publishing landscape worldwide, to build key capabilities and to form a relationship with the ICS executive team. There was an initial trip to Singapore to settle the terms of the appointment and thereafter most meetings were conducted using Skype and email, apart from a three-day visit to Singapore in November 2012 by the UQ consultant to train editorial support staff to use the manuscript management system, *PeerTrack*.

To help with getting started on the evaluation, a senior consultant from the Scholarly Publishing and Academic Resources Coalition (SPARC) recommended a couple of excellent sources (*Scholarly Publishing and Academic Resources Coalition*). The first source was an extremely useful article by Page on *Putting journals out to tender* (Page 2000a) and the second was an excellent guide, *Transitioning a Society Journal Online: A Guide to Basic Financial and Strategic Issues* (Crow 2010). Page recommends, "at least two publishers should be considered, but comparing tenders from more than about half a dozen can become very confusing (Page 2000b)." This guidance was used to form an initial strategy for evaluating a few publishers.

An evaluation of the top twenty surgery journals taken from the *Thomson Reuters Journal Citation Reports* was undertaken to identify each journal's publisher details and other key features, as a means to explore potential publishers for *International Surgery*. A listing of the top twenty surgery journals, based on journal impact factor from the Thomson Reuters' Journal Citation Reports compiled for the evaluation is available in Table 1 below. The top publishers were Elsevier Science, Wiley-Blackwell/John Wiley & Sons, Lippincott Williams & Wilkins and Springer.

Table 1. Journal Citation Reports (Thomson Reuters), 2009

Journal	Publisher	Impact Factor
1. Annals in Surgery	Lippincott Williams & Wilkins	7.9
2. American Journal of Transplantation	Wiley-Blackwell	6.433
3. Endoscopy	Georg Thieme Verlag KG	5.545
4. Journal of Neurology, Neurosurgery and Psychiatry	BMJ Publishing Group	4.869
5. Archives of Surgery-Chicago	American Medical Association	4.323
6. Annals of Surgical Oncology	Springer	4.13
7. British Journal of Surgery	John Wiley & Sons	4.077
8. American Journal of Surgical Pathology	Lippincott Williams & Wilkins	4.062
9. Surgical Obesity and Related Diseases	Elsevier Science	3.862
10. Liver Transplantation	John Wiley & Sons	3.724
11. Journal of the American College of Surgeons	Elsevier Science	3.651
12. Annals of Thoracic Surgery	Elsevier Science	3.644
13. Surgery	Mosby-Elsevier	3.603
14. Journal of Vascular Surgery	Mosby-Elsevier	3.517
15. Transplantation	Lippincott Williams & Wilkins	3.498
16. Journal of Bone & Joint Surgery Am	Journal of Bone & Joint Surgery Inc. (on Highwire Press)	3.427
17. Surgical Endoscopy	Springer	3.307
18. Transplant International	Wiley-Blackwell	3.254
19. Journal of Thoracic and Cardiovascular Surgery	Mosby-Elsevier	3.063
20. Obesity Surgery	Springer	2.934

Platforms

Around the time this consultancy commenced in 2011, the market for Scientific, Technical and Medical (STM) publishing was estimated to be \$25 billion, with the Medical sector worth \$10 billion (Bousfield 2010). The major publishers in STM were Reed Elsevier, Springer, Wiley-Blackwell, Cambridge University Press, Highwire Press, Haworth Press, Humana Press, BMJ Publishing Group, Karger, Wolters Kluwer, Informa, Marcel Dekker, Nature Publishing Group, Oxford University Press, Sage Publications, Taylor & Francis Group, Thieme Medical Publishers and Thomson Healthcare. More than 96% of STM publishers supported online access to their titles (The Association of Learned and Professional Society Publishers 2008).

The most common ways to achieve a new publishing agreement are usually from:

1. An exclusive negotiation by signing a non-disclosure agreement with one potential publisher
2. A tender process
3. Informal process of negotiation, usually limited to a couple of suitable candidates.

The UQ template *request for purchase* was adapted as a specification developed for the consultancy, detailing the requirements for the online version of *International Surgery*. Whilst a tender process was not undertaken to find a new publisher, there were detailed discussions for many months with a major surgery journal publisher that was seeking an exclusive negotiation process, though this arrangement was not made and discussions ended with both parties amicably parting ways.

Following this, and after a few more months of email correspondence with a number of medical journal publishers and exploration of less expensive publishing options, the platforms narrowed down for the evaluation included Allen Press, Medknow Publications, Public Knowledge Project's (PKP) Open Journal Systems (OJS) and Wiley Blackwell . A description of each platform follows, along with a few key advantages and disadvantages.

Allen Press

Allen Press had produced and distributed *International Surgery* in print since 2009. This company had proven to be reliable and professional. With its headquarters in Lawrence, Kansas, Allen Press is owned and operated by the Allen family, employing 270 staff. Since 1935, Allen Press has worked with many organisations to disseminate research in print media. Over recent years, Allen Press has commenced hosting web services and online systems for scholarly journals. Other health sciences journals produced online by Allen Press include *Pediatric and Development Pathology*, *Radiation Research*, *The Cleft Palate-Craniofacial Journal*, *Archives of Pathology & Laboratory Medicine*, the *Journal of the Medical Library Association* and the *Journal of Endovascular Therapy*.

Advantages	Disadvantages
<ul style="list-style-type: none">• Expertise with transitioning journals online• Expertise with the PeerTrack manuscript management system• Established working relationship• Means to provide essential journal production, online publishing and legacy conversion services	<ul style="list-style-type: none">• Website updates are restricted to the publisher• Incremental growth costs

Medknow

Medknow Publications, based in Mumbai, India, is a publisher for peer-reviewed, online/print+online journals in the area of Science, Technology and Medicine. Medknow is an open access publisher publishing on behalf of learned societies and associations. Medknow has over 16 years in scientific journal publications and management of more than 188 print and online journals. Wolters Kluwer Health, the publisher of the number one surgery journal *Annals of Surgery*, acquired Medknow Publications late in 2011 (*Medknow ; Wolters Kluwer Health Acquires Leading Open Access STM Journal Publisher in India 2011*).

Advantages	Disadvantages
<ul style="list-style-type: none">• Focus on peer reviewed medical and health related journals• High quality journal website established, with world-class functionality available. For example, mobile/SMS alerts to authors and reviewers, Android compatibility, iPhone, iPad applications for ease of access to Journal sites• Services available: Manuscript Management System (with no cost per item applied); pre-press services; subscription management; ecommerce for collection of article and author fees; double blinded peer review; statistics on activities and reports available; establishment of a website with wide-ranging functionality and indexing by major systems; promotion and marketing	<ul style="list-style-type: none">• Profit dividend• Website updates are restricted to the publisher• No USA support

Public Knowledge Project's (PKP) Open Journal Systems (OJS)

The Public Knowledge Project is dedicated to improving the scholarly and public quality of research. It operates through a partnership among the Simon Fraser University Library, the School of Education at Stanford University, the Canadian Centre for Studies in Publishing at Simon Fraser University, the University of Pittsburgh, and the California Digital Library. The Public Knowledge Project was responsible for the development of the Open Journal System (OJS) launched in 2001. In 2013 there was 14,700 OJS titles from around the world (*Public Knowledge Project. OJS User Numbers*). Examples of journals in medicine and surgery created and managed using OJS are listed on the site: <http://pkp.sfu.ca/ojs-journals> these include *Journal of Medical Internet Research* (Centre for Global eHealth Innovation), *Face Mouth & Jaw Surgery* (Trainee Journal of Oral & Maxillofacial Surgery) and the *Health and Human Rights* (Harvard School of Public Health).

OJS was considered as a platform for publishing *International Surgery* because of the many advantages it offered and the system was in use at UQ (*Public Knowledge Project. UQ Open Journal System journal examples*).

Advantages	Disadvantages
<ul style="list-style-type: none"> • The OJS System, including the management system, is available at zero cost • A long term contract is not required for the proposed arrangement • Control and management of the publication process • Access to a worldwide network of experts for advice and consultation • Discoverable via the Web • Includes a manuscript management system • Means to generate usage and other management statistics on the use of the journal 	<ul style="list-style-type: none"> • The OJS subscription module has a reputation for being labour intensive, as the system is designed for open access journals • Management and development of the journal would be on a small scale

Wiley-Blackwell

Wiley-Blackwell is a major world publisher for over 750 leading associations and organisations. Wiley-Blackwell is the publisher of titles such as the *British Journal of Surgery* (impact factor 4.44), the *Australian and New Zealand Journal of Surgery* (impact factor 1.098), and the College of Surgeons of Hong Kong's publication *Surgical Practice*. Wiley-Blackwell was one of the most responsive and helpful publishers contacted. This company was approached because it has extensive publishing experience and publish four of the top twenty surgery journals in the world. Figure 2 (next page) shows a list of the videos published.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Personalised and market-specific team members working locally with the ICS and the Editorial Team • Strategic journal development provided. • Expertise in communication strategies to help connect with membership and the journal's readers and authors provided. • Expertise and system for creation of digitised backfiles • All professional publishing services on offer from Journal Production, to Online Publishing, to provision of a Manuscript Management System • Copyright of content would be retained by ICS • Plagiarism checking service available 	<ul style="list-style-type: none"> • Has restrictive open access conditions, for example, the standard is to allow only pre-peer reviewed versions of articles in institutional repositories. An accepted version can only be placed in a repository if it is funded by an organisation that has a specific agreement with Wiley Blackwell • Website updates are restricted to the publisher • Cost

Assessment Factors

Essential requirements for online *International Surgery* were:

1. Journal Production

Managing Editor to provide copyediting and composition work

2. Online Publishing

Site setup

Article hosting

Content Preparation (XML Tagging)

3. Legacy Conversion

Creation of XML metadata, format NLM DTD

Backfile upload to site and PubMed Central

4. Manuscript Management System

Loading of content into system, including the ability to load archived content

Assessment of each publishing platform was based on fifteen key capability areas, as detailed in Table 2 below. The assessment capabilities reported are those publicly available and include highlights only. The key capabilities were determined from ICS member needs and operational priorities.

Collaboration and Change

The consultancy reported on publishing trends and opportunities. The ICS Editor-in-Chief and Executive Director used the consultancy evidence to develop a case for convincing the ICS Council to support the online transition of *International Surgery*. The case was built on arguments such as the critical importance that the journal, as a major asset of the College, should move to online and take advantage of technological developments. Going online would be a means to help progress the vision and mission of bringing together surgeons and surgical specialists from all nations, races and creeds together, to promote surgical excellence for the benefit of mankind and to foster fellowship worldwide. Behind the aim to boost the journal's impact factor, were altruistic motives of improving the lives of patients through communication of advances in surgery and educational development of the international surgical community.

A review of the major general surgery titles, identified by impact factors, revealed that *International Surgery* was the only journal not available online. The journal risked becoming extinct if it did not transition.

Table 2. Assessment Capabilities

Capabilities	Allen Press	Med know	PKP OJS	Wiley-Blackwell
1. Subscription module is available with delayed open access options	√	√	√	√
2. Comprehensive indexing of content uploaded to global systems such as PubMed	√	√	√	√
3. Manuscript management system with double-blinded peer review	√	√	√	√
4. Online Help support	√	√	√	√
5. Refereed publishing process, from submissions through to online publication and indexing	√	√	√	√
6. Means to export the meta data to create PubMed Central records	√	√	√	√
7. Plagiarism service included in quote	X	X	√	√
8. Willingness to form an Agreement with ICS	√	√	√	√

Capabilities	Allen Press	Med know	PKP OJS	Wiley-Blackwell
9. Draft Agreement available for consideration	√	√	N/A*	√
10. Journal Website	√	√	√	√
10.1 Ability to search full text	√	√	√	√
10.2 References linked to full text sources	√	√	√	√
10.3 Facility to search multiple journals (* PubMed Central)	√	√	√	√
10.4 Meta tags for articles				
11. Does the journal permit self-archiving by authors (depends upon ICS policy)	√	√	√	√
12. Contract Termination Clause	Unknown	√	√	Unknown
12.1 Migration of PDF files to a future system				
13. Inclusion on indexing sources	√	√	√	√
13.1 PubMed Central	√	√	√	√
13.2 HINARI http://extranet.who.int/hinari/en/journals.php				
14. Transition plan available	√	√	√	√
15. Marketing and strategic publication management provided	X	√	√	√

*N/A=not applicable

The ICS Editor-in-Chief and Executive Director presented the case for transition at the International Executive Council meeting, held in Rome, Italy in November 2011, and overwhelming Council support was achieved for the transformation of *International Surgery* online.

Results

Transformation

In order to undertake the transformation as smoothly as possible and to avoid a radical shift that would have necessitated extensive consultation throughout the College, Allen Press, which was the print publisher, was selected to transition *International Surgery* online. Allen Press was the most suitable publisher for the journal at that point in time.

By November 2012, *International Surgery* online was ready to be launched, and this occurred at the 38th Biennial World Congress of the International College of Surgeons, held in Brisbane, Queensland, November 2012. A new URL, www.internationalsurgery.org, was established and, using Pinnacle as the online publishing platform, the new journal website was created (Allen Press 2013). Figure 1 below shows the home page.

Figure 1: <http://www.internationalsurgery.org/> *International Surgery* Home Page

Around this time, there was increasing support worldwide for making research outputs openly accessible, to maximise the impact of findings and benefit society. In the United States, building on the mature open access policy for the National Institutes of Health (NIH), the Obama administration was preparing to introduce a policy requiring open access for publications and data arising from research funded by all major United States research agencies. The European Commission had an open data and open access strategy. In the UK, the Wellcome Trust and the Research Councils UK had implemented similar requirements for research publications arising from research that they funded. In Australia, this trend was demonstrated by the open-access policies recently promulgated by the Australian Research Council and the National Health and Medical Research Council (Australian Research Council 2013; National Health and Medical Research Council 2012).

To balance and encourage the open access publishing partnership between the author and the publisher, and after much discussion with College executives, it was agreed the arrangement for online *International Surgery* would give authors an open access option to retain the copyright to their manuscript published in the journal, with ICS retaining an exclusive license (or non-exclusive for government employees) to publish and distribute the work. All open access content would be submitted directly to PMC (PubMed Central) and the standard non-open access content submitted to PMC after a twelve-month embargo.

Beginning with volume 97, issue 3, the “hybrid” publishing approach was announced, whereby one or two open access articles in each issue, will be published openly (Chen 2012b). The ability of an author to pay article-processing charges does not influence publication choices, as open access charges are not processed until after the article is accepted.

Another great leap forward was achieved following the recommendation of the consultancy to implement Allen Press’ manuscript management system PeerTrack. Allen Press provided impressive developmental work and excellent training support for the PeerTrack system, which was implemented in October 2012. Following the launch of the journal’s new website, the UQ consultant travelled to Singapore to train the editorial support team to use PeerTrack and plan the workflow and integration for the in-progress manuscripts.

The journal transformation also required a major overhaul of the instructions to authors. The following revisions were made:

- Edits to the wording reflect the new electronic only format for submissions and the online journal
- Update to mentions of document types, for example: Manuscripts should be submitted as a Word doc or RTF files
- Inclusion of figure requirements in greater detail
- Inclusion of links to style guides
- Open Access options added
- Creative Commons licence details added
- Improved referencing details

The UQ consultant worked with a graphic designer and used *Adobe Captivate* to develop unique author and reviewer tutorials to equip them to use the new online systems. All of the Captivate videos were published in YouTube and made available from the journal’s home page.

International Surgery Help Tutorials

[Getting Started for Authors](#)

[How to Submit a Manuscript](#)

[Completing a Manuscript Submission](#)

[Tutorial on Getting Started for Reviewers](#)

Figure 2 <http://www.youtube.com/user/TheICSGlobal>

Twitter, Facebook and a QR code were setup to help with the marketing and promotion effort of the journal:



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Major Developmental Timeline	
February 2011	Initial query received at UQ Library
June 2011	Consultancy commenced
August 2012	Agreement signed with Allen Press to transition International Surgery online
November 2012	Hybrid International Surgery launched
December 2012	PeerTrack Implemented
February 2012	Twitter and Facebook Sites Set-Up
March-April 2013	Captivate Help Videos Published
August 2013	PubMed Central Site Established

Discussion

Redevelopment of *International Surgery* to online was undertaken at a time when:

- Access to research articles had shifted substantially away from personal subscriptions towards library-provided access.
- Sales of large portfolios of e-journal content ('big-deals') to libraries via consortia deals had become the predominant way research content is purchased.

- Many institutions (universities and health organisations) had set up research repositories to record and store research outputs by university staff and students.
- Open access had been under way for a decade, led by scholars, to make publicly funded research available to all.
- There was world-wide uncertainty about how to establish funding to pay for open access author fees at universities.
- Most libraries needed to cancel journals in order to pay for new subscriptions.

The transformation to an online journal was a great leap forward, as access to *International Surgery* articles are now available throughout the world to surgeons much faster than ever before possible. Even so, the fundamental role of the journal remains the same. The journal continues to register research findings, their timing and their authors; review and certify findings before they are published; disseminate new knowledge; and preserve the results for the future.

For *International Surgery*, the overall goal to assist surgeons and medical researchers to have their work referenced, and to increase their access to original research for their own education, is well underway if usage of the site is any indication. According to Google Analytics, 20,250 people visited the site and 56,967 pages were viewed during the period January – 20 September, 2013. Members of ICS are delighted with the transformation of their journal, demonstrated by the doubling of the amount of manuscript submissions during 2013 in comparison with previous years.

Conclusion

With over 100,000 papers published each year on topics in surgery, the challenge remains to sieve through submissions to find the best original studies that contribute to the existing body of surgical research that other researchers will find useful and will cite in their work.

The ICS Editor-in-Chief and the ICS Executive Director, supported by the UQ Library consultant were successful in partnering with Allen Press to resuscitate *International Surgery* from print to online. The journal's extreme makeover is under way, though this is merely the beginning of a continuous improvement pathway that is necessary to attract the best content and the smartest reviewers.

There are many online publishing platforms on offer for professional journals. Four very different platforms were examined, from Wiley-Blackwell, a major, prestigious publisher, to Medknow and OJS, which are more attractive for medium to small scale open access journals. The ICS is proud to have worked with the staff at Allen Press, who have underpinned the successful transformation of *International Surgery* to online.

The *International Surgery* online journal provides immediate access to articles in a searchable format, making the task far easier for any author who is developing a manuscript for publication. Suitable indexing is provided to aid retrieval of

International Surgery articles via the major Internet search engines and other world databases. If researchers can easily and efficiently find a journal's content, the likelihood of papers citing *International Surgery* articles is far greater (Chen 2012a). Most importantly, improving the effectiveness of surgical practice requires active translation of best scientific findings and starts with increased awareness of the research.

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