ORIGINAL ARTICLE

E-learning for neurosurgeons: Getting the most from the new web tools

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ABSTRACT

As open access resource, the role of Internet has been increasing in our professional life. There are several emergent new tools that can facilitate and make it more efficient to get accurate and reliable information. In this article, we discuss how we can manage to get the most from these new instruments, like blogs, Facebook, Twitter, and LinkedIn, in order to improve clinical practice. With good sense and some caution, these can turn to be of valuable help in our careers.

Key words: Blogs, Education, E-learning, Facebook, LinkedIn, Twitter

Introduction

In the last two decades, there has been a revolution in the amount of information that is available through the Internet. It enabled a huge rapprochement between the scientific knowledge and people, including not only physicians, but also the general population.[1,2] Between all that information, sometimes it is difficult to focus on accurate and reliable information, what is surely even harder for the general population. Anyway, the role of the Internet in education will continue growing. Thus medical professionals should be able to manage the new tools that are coming up.

E-learning is an abbreviation for "electronic learning," and we just take electronic as Internet.[3-5] There are several accurate and reliable resources available, e.g. peer-reviewed free medical journals, but there are also tons of emerging tools that can be integrated as source of new knowledge. Nowadays, it can be very helpful for neurosurgeons to master the various tools that the Internet offers for facilitating E-learning, in order to

get new information and also helping orienting patients about the ascertainment of knowledge source.

Due to financial issues, the Internet has allowed an even greater revolution in developing countries, where it is harder to keep a constant update. It also allowed a more democratic and egalitarian access to medical information.

The purpose of this article is to inform and clarify to neurosurgeons how to use these tools to optimize the continuous learning through the web, phenomena already being practiced successfully in other specialties.[6,7] We will highlight specifically newer instruments that can turn themselves important in the field of E-learning: Blogs, Facebook, Twitter and Linkedin [Figure 1].

Blogs

Blogs were created to make it easy for people to offer content as a website, without requiring specific knowledge about building one. There has been a "boom" of blogs with several themes over the Internet. There are more than 156 million blogs online.[8] Neurosurgery did not stay out of this, and there are several blogs with contents related to the topic. There is a possibility for neurosurgeons to subscribe for the "feed", an option that, when activated, automatically sends the latest news to the subscriber's personal E-mail at real time as content is published. Many of these blogs organize and select abstracts of the major journals of neurosurgery, turning them a very useful tool to get fast access to accurate and reliable content.[4,2] Sometimes blog authors allow readers to write comments, integrating them in a more informal way than a journal, fostering a much more open and dynamic discussion [Table 1].

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It is possible to find blogs of the major periodicals of neurosurgery. Subscribing to these blogs, you would usually receive brief content of the current edition. Blog's big advantages are the simplicity and convenience for the author to feed it with contents. Users can read and comment, without the need to subscribe or log in.

Facebook

Facebook, with impressive more than one billion users, is a revolution in the way people communicate.[9] It allows multiple users to connect and exchange information. Initially, it was seen as a tool for connecting with friends only, but it also proved to be useful for professional network and information exchange. It has thousands of pages known as "fan pages". Facebook can be used as an important tool for E-learning as well.[4] Although informal, through Facebook, one can be connected to neurosurgeons around the world. Many of them, references in their sub-specialties, are connected at Facebook, where it is incredibly easy to contact and exchange experiences. "Fan pages" allows "liking" it, and after that, start receiving their updates. Several journals and blogs have their own pages and put their updates daily [Table 1]. It is also possible to create groups, organized by subject interests, e.g. subspecialties, what makes the kind of information to receive very selective.

Twitter

Twitter was founded in 2006 and now has more than 500 million active users. It is a micro blog that allows content up to 140 characters to be released and shared.[10] Its main characteristic is that the information must fit in the size allowance, which can be very challenging sometimes to the information releasers. By this way you can "follow" Twitter accounts that offer neurosurgical content.[11] Some professionals of neurosurgery, magazines and blogs have their own Twitter accounts. Following those can also be a source of continuous update. Another possibility is to use it

looking for topics as you can search terms as "neurosurgery" or "neurotrauma" and find its author and its divulgation [Table 1].

LinkedIn

LinkedIn has more than 259 million users. It was created with the purpose of facilitating network of professional contacts.[12] The great differential of LinkedIn is its focus on personal, professional formation. Thus, it provides professional information relevant for the user.[4] It also allows the creation of discussion groups.

What information are you looking for?

The Internet enables the search for a great quantity of information. The current scientific production is considerable in all areas of neurosurgery, including vascular, tumor, spine, pediatrics, functional and others. Therefore, tools that can guide you in your quest for information are essential [Figure 2]. The challenge to filter all that information is made easier by some reliable tools, which do themselves a filtering of the information produced to optimize user's learning, making it a lot faster to get to the point.

How can Internet help you the most?

The learning process in individual and everyone might know what suits better. It may be through articles, lessons, videos of surgery, clinical cases and congresses. Try searching that information over the Internet. Although it may seem obvious, it is not always easy to find accurate information. The tools described previously can potentiate and optimize your search, in terms of time and reliability.

Conclusion

In recent years, there was a creation of various tools to optimize the continuous learning. The internet and its tools allowed easier and faster access to knowledge worldwide. Despite this great "boom" of information availability must be taken with care, especially regarding accuracy and reliability, these new tools can turn themselves into important help
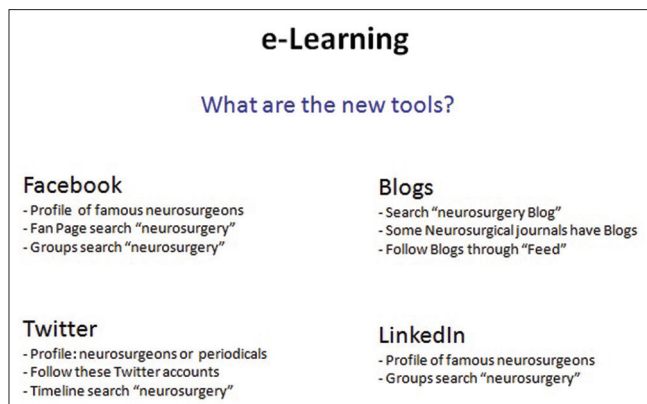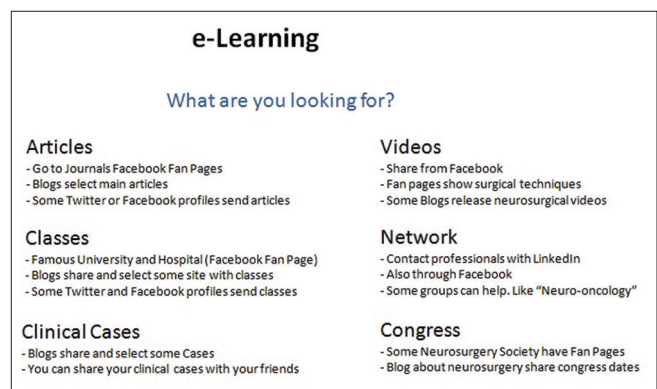

Figure 1: New E-learning tools

Figure 2: E-learning: Important contents

Table 1: Useful web addresses for blogs, Facebook fan pages and Twitter accounts

Themes	Blogs	Fan pages	Twitter
Neurosurgery (general)	www.neurosurgic.com	Neurosurgic	@NEUROSURGICcom
Surgical Neurology International	http://www.surgicalneurologyint.com	Surgical Neurology International	@SNInt
Neurosurgery (apps and general)	www.digneurosurgeon.com		@DigNeurosurgeon
JNS (Journal of Neurosurgery)	www.jns.com	JNS	@thejns
Neurosurgery (general)	www.medscape.com	Medscape	@MedscapeNeuro
Neurosurgery (journal)	www.neurosurgery-online.com	Neurosurgery	@NeurosurgeryCNS
Neurosurgery (AANS)	www.aansneurosurgeon.org	AANS	@AANSNeurosurg
Neurosurgery (in general)	www.neurocirurgiabr.com	Neurosurgery	@neurocirurgiabr

AANS – American Association of Neurological Surgeons; CNS – Congress of Neurological Surgeons

for neurosurgical E-learning. Although it would be very difficult, the hypothesis that the presence and availability of such information by each of the new tools improve patient outcomes deserves to be tested.

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