

UROLOGY IN AFRICA AND THE INTERNET

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ABSTRACT

There is no doubt that Internet technology is an important part of the future, for both urologists and their patients. The aim of this article is to enhance the knowledge of urologists in using the internet. We reviewed the literature and add our experience in the use of the internet for educational material, research and for teaching purposes . In this article the attempt has been made to provide an overview of the current technological knowledge on which our colleagues can build on. We also demonstrate in this article how the Internet can help in the advancement of urology in Africa. Our aim is to raise awareness of the types of resources available to urologists in our continent and to motivate the usage of such resources.

INTRODUCTION

The field of medicine in general and especially urology has experienced dramatic improvements since the second World War. The history of medicine in the last fifty years ranks as one of the most impressive epochs of human achievement¹. Unfortunately, the contribution of the African continent in such history is limited. This can be attributed to several factors such as political instability, lack of resources and permanent "brain drain". Undoubtedly, some of the African countries have made an effort to keep abreast of these advancements, however, the speed of progression is slow and has been overtaken by the rapid progression in technology. According to our believes, there is only one way to keep in step with evolving technology enabling us to gain more information and the necessary skills and to apply them in our profession.

Urologists, like many other professionals, have little time to learn complex computer technology. On the other hand, the ever expanding amount of information, on almost a daily basis, makes it obligatory to the urologists to acquaint themselves with the latest ad-

vances in the information age. The access to the Internet has been made easy by recent technology, and there is almost no need to go for extensive time-consuming studies to understand the complexity of such technology before using it. The modern-age urologist should learn to use the resources provided by the Internet, its language and its tools. This would not only improve the urologist's efficiency and skills in work, but will also allow him to enjoy the wealth of other information available through the information superhighway².

In this article we attempt to explain the importance and the practicality of the available information technology.

MATERIAL AND METHODS

We reviewed the published information as well as our experience gained during the last 5 years in using the Internet and in applying such experience with the object of improving our service.

We added important resources and information to facilitate the process of con-

necting to as well as learning of the basic Internet technology.

DISCUSSION

The Internet is a rich source of information for students, lecturers and researchers. The wide use of the Internet in medical practice in recent years has proved that it is also an important tool for urologists. Information technology has changed the working practices of urologists. These wide progresses in information technology can, however, also bring disadvantages to those who do not keep abreast of the latest developments³.

Recently, the use of the Internet has shown a rapid spread throughout the African continent. While, according to the latest statistics, at the end of '96 only 16 countries had access to the Internet, now over three-quarters of the 53 capital cities in Africa are connected. Judging from the speed of this extension, soon almost all of the remaining capitals will have full Internet facilities⁴. The top ten countries with the largest number of Internet users and particularly active and mature markets are (in order) South Africa, Egypt, Kenya, Zimbabwe, Morocco, Tunisia, Ghana, Mozambique, Uganda, Zambia and Ethiopia⁴. Most African capitals with Internet access have more than one Internet service provider (ISP). Current estimates of the number of African Internet users range from about 800 000 to one million. Most of these are in South Africa (about 700 000) leaving only about a hundred thousand amongst the remaining 700 million people on the continent. This works out at about one Internet user for every 5 000 people (the world average is about one user for every 40 people, and in North America and Europe, the figure for Internet use is about one in every 4-6 people, depending on the country)⁴.

The Pros and Cons of the Internet in Urology

Besides the advantages in using the Internet in medicine, it certainly has disadvantages which the user has to be aware of.

Advantages:

1. The Internet is a source of up-to-date medical material which is updated almost on a daily basis.
2. Furthermore, it is a source of access to audio and visual material. The urologist can watch a video of hypospadias surgery done by Duckett and attend a live broadcast of a urological congress from his office.
3. The major advantage of the internet is to be able to communicate almost instantly with any colleague in the world with the price of a local phone call.

Disadvantages:

1. Not all the materials are freely available and some web sites will require admission fees before using their facilities.
2. The Internet is an unrestricted source for publication. This carries the danger of lack of control and confirmation of the reliability of the data made available on the Internet. Needless to say, it is the duty and the responsibility of the user to be sure about the sources of information on the internet and accept information only from respected sources.

What You Need to Start

In order to enjoy the wide range of facilities on the Internet one has to have a computer with Windows 95, 98 or millennium. The computer data can be transmitted via the phone lines (conventional lines or mobile phone). To transmit such information over the phone line a modem is required. The Internet information can be readable on your computer by using an Internet browser such as, Internet Explorer or Netscape. A service provider transmits the internet information to your computer. A list of the ISP's in Africa and their contact details is available from

<http://www.thelist.com>.

Searching for Information

Urologists can use the Internet to search for a special topic or a subspeciality in urology by using a general medical search engine such as **OMNI** – Organizing Medical Networked Information or **Med Matrix**. Med Matrix is a searchable index of resources which are categorized by the National Library of Medicine's MeSH classification system. For the use of

Table 1: Samples of Web Pages of Interest to the Urologist

Learning about the Internet in medicine	http://omni.ac.uk/vts/medic/
Search Engines:	
* OMNI – Organising Medical Networked Information	http://omni.ac.uk/
* Medical Matrix	http://www.medmatrix.org/index.asp
* Medline	http://www.ncbi.nlm.nih.gov/PubMed
Trials: Current Controlled Trials	http://www.controlled-trials.com/
Books:	
* The Merck Manual of Diagnosis and Therapy	http://www.merck.com/pubs/mmanual/sections.htm
* Textbook of Benign Prostatic Hyperplasia	http://www.urohealth.org/uro/index.shtml
* The Textbook of Erectile Dysfunction	http://www.urohealth.org/uro/index.shtml
* New Perspectives in Prostate Cancer	http://www.urohealth.org/uro/index.shtml
Journals:	
* Digital Urology Journal	http://www.duj.com
* British Journal of Urology	http://www.blackwell-science.com
* The Journal of Urology	http://www.jurology.com/
* The current issue of European Urology	http://www.online.karger.com/journals/eur
Teaching and Learning:	
* Surgical Tutor	http://www.surgical-tutor.org.uk
* Bristol Biomedical Image Library	http://www.brisbio.ac.uk/
* Reviews of literature for urologists written by urologists	http://www.uroreviews.org
* Multiple Sclerosis	http://www-medlib.med.utah.edu/kw/ms/
* American current literature reviews	http://www.uronews.com
* Embryology teaching files	http://www.meddean.luc.edu/lumen/MedEd/urology/guhome.htm
Patients:	
* A multi-language urological information site for individuals and doctors	http://www.UroSupport.com
* Information about urology for both doctors and non-medical professionals	http://www.UroLog.nl
* A general health site offering new, tips, on-line clinics	http://www.malehealth.co.uk
Organisations:	
* American Foundation for Urological Disease	http://afud.org
* European Society for Sexual and Impotence Research (ESSIR)	http://essir.net
* British Association of Urological Surgeons	http://www.baus.demon.co.uk
* American Urological Association	http://www.auanet.org
* European Urology Association	http://www.uroweb.org
* European Board of Urology, Board of Examinations for Urologists	http://www.ebu.com
* American Cancer Society	http://www.cancer.org

certain search engines registration is required and, in the majority of cases, these are free of charge. In using general search engines the urologist can search for topics or subspecialties and such engines will direct the urologist to the necessary web sites he desires. **UroGuide.com** is a search engine that provides a clickable list of urological disease terms that launch a keyword search of Medline or the Internet.

With regard to literature search for certain subjects, for the purpose of facilitating research or writing an essay, the National Library of Medicine in the US (Medline) can be used. Reviewing publications in the last 20 years is made easy by using the Bibliographic Databases of the National Library of Medicine in the US (Medline). Searching by topic in the Medline can yield the abstracts of the relevant articles. Some of the abstracts have a direction to obtain the full text of the article either with small fees or free of charge.

Many urological journals such as Urology News, Infections in Urology and Urology Journal are available in full text on the web and are free of charge (Table 1). Other journals need the urologist or the institution to be a subscriber to the hard copy of the journal before accessing their data on the Internet. One can access a list of the journals available on line by logging on to Medscape Urology and Medline web pages. A list of free medical journal on the net can be found at

www.freemedicaljournals.com

Another use of search engines is to access ongoing trial and research in the field of urology. Such access can also be gained via the web pages of the universities or the institutions that are involved in the trials. All the clinical trials in the UK are available on

<http://www.controlled-trials.com>

Learning and Teaching

The Internet provides extensive information on each aspect of urology and such information is always up to date. The web sites for teaching offer options which range between interactive offer pages to video demonstration and self-assessment questionnaires (Table 1). Urologists in training can review the urological

topics on the Internet on several web pages and can view various uroradiology teaching files. www.dju.com offer detailed teaching files written by renowned experts in that particular field. Urologists can follow paediatric and adult uroradiological rounds and obtain up to date reports and news about urological events nationally and internationally. The urologist in training can also review the embryological development of the urinary tract with video demonstration and interactive cross sectional pictures of the embryo in different stages at

<http://www.med.unc.edu>

and

<http://www.meddean.luc.edu>.

We have benefitted from the information on the above mentioned web pages to improve the presentations and enhance the quality of the discussions at our postgraduate meetings. The teaching information on the Internet has helped to improve the knowledge of the trainee on different surgical and management approaches to urological problems.

News in Urology

There are certain web pages on the Internet which are designed to assist a busy urologist with their literature research and news related to the profession. Web pages such as

www.docguide.com

can be adjusted so that it displays your preference in urological subspecialties and also provides news and other information related to the particular field. The web page **UrologyLinx.com** provides links to abstracts and, if available, full text articles recently released at respected online sources such as the New England Journal of Medicine or the Journal of the American Medical Association.

Textbooks

The number of textbooks on the Internet in full text format is increasing. In addition to the financial implication of such facility the recent editions of these books become available instantly. This can be very useful for urologists in remote areas. There are a few examples of text books on the internet; The Merck Manual of Diagnosis and Therapy: Genitourinary

Disorders, The Textbook of Erectile Dysfunction' (1999) edited by Culley Carson, Roger Kirby and Irwin Goldstein 1999, Textbook of Benign Prostatic Hyperplasia edited by Roger Kirby, John McConnell, John Fitzpatrick, Claus Roehrborn and Peter Boyle, published by Isis Medical Media in 1996, and New Perspectives in Prostate Cancer, edited by Arie Beldegrun, Roger S. Kirby and Tim Oliver, published by Isis Medical Media in 1998. (Table 1)

Organisations

Being connected to the Internet makes it possible for urologists to establish and maintain connection with various professional organisations in other parts of the world. Many of the urological associations have established web sites on the Internet and, therefore, there is an instant access regarding news, information and research updates. Personal connections can also be built using these very useful web sites.

For the patients it has been a well-known fact that to obtain informed consent prior to surgery, explanation of the surgical procedure to the patients is not always an easy undertaking. The use of the Internet can make this task easier due to availability of very simple and explanatory descriptions of various urological conditions. The use of such a facility can certainly improve the understanding between patients and doctors. In practical terms this can be achieved by giving the patients reference to certain web sites or supply him with the necessary understandable information downloaded from the web sites in printed leaflets. (Table 1)

CONCLUSION

With the improvement in technology and the ease by which we can access the Internet, the Internet should not be regarded as an out-of-reach luxurious innovation in Africa. The

argument that people first need feeding, basic health care and accommodation but not information technology is not valid. Considering the remote areas where the majority of doctors practice in Africa, easy access to the information is vital to provide a better and cost-effective health care. Information technology for the medical profession in remote areas of the African continent can be regarded as important, probably even more important than for those working in the US or Europe.

The pharmaceutical industry and related institutions should be involved in the development of information technology in Africa. They can provide financial, logistic and technical support in the process. We are looking forward to a future where all urologists in Africa can be in connection with each other via the Internet. A general practitioner in a remote area in Africa with no facility to transfer his patient to a specialist center can get in contact with the urologist in South Africa, Egypt or any other place for advice regarding the management of a urology patient. The above future is not an unrealistic dream but is a reality which can be achieved via organisations such as the Pan African Urological Surgeons' Association.

We are looking forward to launching a web site speaking on behalf of urologists in Africa and addressing our problems and our news.

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