The Heart Surgery Forum™

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EDITORIAL

Introducing Multimedia Scientific Publishing and the New HSF

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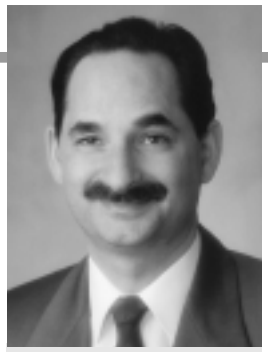

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It is an exceptional honor to introduce the printed and multimedia versions of The Heart Surgery Forum™. This inaugural printing takes place nearly 3 years after the inception of the HSF Internet site on the World Wide Web at <www.hsforum.com>. In this short time, the Forum has utilized the Internet to integrate the minds and experiences of surgeons from over 65 countries. Services offered over the Web site include a peer reviewed online scientific journal and discussion lists which bring the latest in issues and answers to every surgeon regardless of location on the globe.

As we launch this version of the HSF in print and multimedia CD-ROM, the natural question is: why another journal for cardiothoracic surgery? There are excellent publications already, each of which has a long tradition of service and excellence for the profession. In this first Editorial, I hope to portray my vision for the HSF and the raison d'etre of the Heart Surgery Forum™.

Communication is power. Information is power. For the practicing surgeon, there is nothing more powerful than understanding what succeeds and avoiding what fails. Every surgeon seeks to know how to apply his/her craft with steadily improving results. To accomplish this on a daily basis requires experience, wisdom, and the benefits of other surgeons' trial and error. We are all hungry to know what has worked for others and what will work tomorrow. In the past, we have gathered this fruit from many trees, usually from conferences, discussions with colleagues, and our traditional publications.

Until now there were real limits on how much and what kind of information could be presented clearly in printed journals. Technology offers new capacities and abilities. The birth of the Internet is one of those rare technological revolutions that makes new things happen on a large scale. The transmission of digital information over ordinary phone lines has created a true revolution in communication, probably the single biggest revolution in human interaction since the invention of the television.

With the creation of user-friendly software to navigate the Internet, a new way of commerce and information sharing is available to the whole globe. Medicine is a natural ally of this new medium. In early February of 1995, I took a personal tour of the existing Internet, looking specifically for information about cardiothoracic surgery. There was nothing. However, the amazing potential of this new environment was easy to appreciate—full color images, sound, instantaneous access to free information, rapid communication across time zones and geographic barriers. The opportunity to accelerate the educational process of cardiothoracic surgery was right there in front of me. Over the next six months, I programmed the first version of The Heart Surgery Forum™ Web site. Initially somewhat crude compared to todays standards, the first site was nonetheless a genuine breakthrough for many surgeons and their fortunate patients. The growth has been tremendous, paralleled only by the meteoric growth of the Internet itself.

The original HSF Web site was designed with two simultaneous tracks of information. The first track was for the lay public who came to find information on cardiac surgery that could be understood without the confusion of technical language. This paradigm is best illustrated by The Learning Center (www.hsforum.com/heartsurgery/learningCTR.hsf) which covers various topics on heart surgery for non-medical audiences. The second, and most important, track of the HSF Web site is the professional journal. The Web offers the unique opportunity to present limitless text and color graphics. It was clear from my first prototype manuscripts that the Web was multipotent. Whereas traditional journals had incur significant expense to publish color photographs, the Web could offer them for free. Suddenly the eye of the surgeon (or the surgeon's camera) became the teacher. No longer would manuscripts be held captive by the limitations of line drawings or artist's sketches.

Have you ever experienced the following situation? You read a manuscript in one of the traditional journals complete with line drawings of the surgical technique. However, when you went to the operating room and attempted the same procedure, suddenly there seemed to be a lot that the artist had left out. The position of the cannulas are in the way. The thoracic structures are crossing the key vessels (like the phrenic or recurrent nerves). The artist's drawing is presented from the anterior frontal view, but your eyes now see the patient from the right lateral oblique view. Things look different. The artist's simplification is far more complicated when the learner tries it him/herself.

The graphical power of the Web and the realization that traditional journal publishing carried significant

drawbacks lead me on a quest of change, a complete re-engineering of how journals work. The introduction of this multimedia journal for cardiothoracic surgery is the culmination of that quest with major benefits to all who seriously study this profession.

How does The Heart Surgery Forum™ differ from other historical medical publications? Bear with me as I outline my vision for the future of scientific journals.

Time to publication: The timeliness of a new publication is priceless. The information becomes less valuable to the readers as it ages. Foremost in every author's mind is the need to publish as soon as the work is accomplished. One of the barriers to timeliness is the slow process of review and revision. The HSF uses an entirely new strategy spawned by the Internet. All peer review is done by email. The entire Editorial Board is connected by a specialized mailing list. As soon as a new manuscript is received, the entire Board is notified. The first version viewed by the Board is on the Web site. Comments and criticisms are instantly relayed back to the author by email. The turnaround time for peer review is thus shortened by many months.

Double-blind peer review: As scientists, we pride ourselves in validation of results and the ability to separate trends from random chance. The epitome of a well constructed clinical trial is the double-blinded study. Neither the patient nor the physician knows which treatment alternative is being used. If this is a pure method of finding the truth, then why do we use the opposite method to evaluate manuscripts for acceptance? With traditional journals, a submitted manuscript is copied and sent to two or three reviewers. The authors and their sponsoring institutions are usually known to the reviewers. Can the reviewer remain unbiased? The Heart Surgery Forum™ does not reveal the authors, institutions or peer reviewers to each other. This ensures impartiality of review. Acceptance or rejection is thus based on the quality of the presentation and not on the personal reputation of the parties, a more fair and equitable method to judge a new contribution to our field.

Dynamic peer review: In traditional journals, the expert opinion of the editorial reviewers is lost forever. Any insightful comment or criticism by the reviewer is only shared with the author. If the author responds appropriately, the article is accepted (with possible revisions). However, the reader never knows what the reviewer said. Is not a reviewer an expert opinion? Would you like to know what the experience and wisdom of the reviewer uncovered? The Heart Surgery Forum™ provides the analysis of the reviewers and the response of the author in a special section at the conclusion of each copy of the submission. The "Review and Commentary" section presents this all-important dialogue between the two individuals who know the most about the science of the manuscript, the reviewer and the author. Readers are encouraged to click the "Review and Commentary" link at the top of each Web-based manuscript to learn additional depths from each article published by the HSF.

Multiple reviews: Most scientific journals choose two or three individuals to evaluate a manuscript for publication. One of those reviewers could be unfamiliar with or find unfavorable the technique or concept being presented. Does this mean there is no value in publishing the manuscript? In my brief experience with the unique peer review which I designed for the HSF, I have learned that the depth and comprehension of the review process depends on multiple reviews. Fortunately it is easy to achieve this goal using email and the Web. It is not uncommon for a new HSF manuscript to receive 8 or 10 reviews, many in the first day or two after posting notification to the Board. Each review explores the manuscript with increasing depth and scrutiny. The quality and thoroughness is often beyond the capacity of the traditional two or three reviewers. With majority decision making for acceptance or rejection, the breadth, depth, and fairness of the review process offered by the HSF is unequaled in any journal.

The Online Manuscript Editor: This revolutionary concept has completely erased all other forms of manuscript submission. The OME is a separate software application I wrote to facilitate the composition, editing and submission of scientific manuscripts over the Internet. Authors can either type or paste the content of a new manuscript into a form on the HSF Web site and transmit the data via the Internet to the HSF computers. The server assembles a final draft and requests the authors approval. Corrections can be made over the Web and the approved version is immediately sent to the Editorial Board who can begin the peer review process. There is no other system of its kind anywhere.

Full color graphics: Black and white photographs from surgical cases are rarely useful for publication and instruction. The detail and contrast is poor. Tissue planes and anatomical structures are indistinct. To faithfully represent the surgeons visual perspective, full color imagery is needed. In a traditional journal, this means significant added expense for color separations and printing. Not only does this slow down journal production, but increases the costs which are then passed on to the author. The World Wide Web in combination with distributed CD-ROMs brings an end to the dependency on black and white, line drawings or artist's sketches to illustrate what the surgeon sees through his/her eyes at the operating room table. The door is now open to publish multiple full color photographs, charts, graphs, etc. in support of the scientific manuscript. Each copy of the HSF printed journal will include a cross-platform multimedia CD-ROM indexed with vivid color graphics for each article in the printed magazine. An icon will be included beside each figure reference to clue the reader to the fact that the image is on the CD-ROM disk. This breakthrough allows the HSF to present color on the Web while distributing the same color graphics to the readership of the print journal without cost to the author or publisher.

Selective emphasis: Surgeons are scan readers. We berry-pick key information from a larger body of information. Each author knows more about the subject than reader. The HSF encourages authors to emphasize (in bold typeface) points that are key to understanding the manuscript. This draws the readers eyes to the essence of the presentation, which is what most busy surgeons are seeking as they peruse their journals.

Multimedia: Surgeons are truly visual learners. We can see a procedure performed by someone else and learn nearly everything we need to duplicate that operation. The value of this learning skill is exemplified by the use of videotapes in virtually every cardiothoracic conference held in this era. However, until now there has been no equivalent teaching tool available in our scientific journal. The Video Journal of Cardiothoracic Surgery began this pathway, but the HSF is pioneering a full compendium of information besides the video images. The HSF multimedia journal provides a full scientific manuscript (methods, results, statistical analysis) in conjunction with the video and still color imagery, sound, and real-time diagnostics. For the first time, the scientific basis of a technique as well as the technique itself is published in synchrony and in a way that any surgeon can quickly and clearly assimilate. Affordable computers are now reaching in to every home and the HSF will surely give every surgeon a strong reason to join the technology age in front of the computer screen. By distributing the CD-ROM inside the journal, HSF manuscripts can be viewed simultaneously on screen and on paper. Imagine yourself in front of your office PC with your printed HSF journal opened to a new surgical technique. You are reading the Results section while at the same time reviewing full color movies of the procedure in slow motion, stop frame, or real time.

Rapid communication with colleagues: Email messages transmit over great distances within seconds. The Internet (and particularly email) erases all geographic and time barriers to communicating with colleagues around the world. Experience with a surgical procedure (or complication) is no longer confined to one group until published several years later. The OpenHeart-L is an automated email discussion group open to all CT surgeons. At this time, there are nearly 1,600 members sharing clinical cases, problems and solutions with their colleagues on a daily (or hourly) basis. The discussions are an integral part of the services offered by The Heart Surgery Forum™. Many of those cases have subsequently germinated publications on the Web site and the printed journal, but the advice, counsel, and problem solving began with real-time discussions amongst surgical colleagues using email and the OpenHeart-L. There is no other service of its kind. Please join the discussions by sending any email to <OpenHeart-L-ON@lists.hsforum.com>. Announcements of new articles published in the journal will be disseminated to a global audience of surgeons through this mailing list. Not only can the HSF shorten the time to publication for any contribution, but the presence of an accepted manuscript will be immediately announced to your colleagues in over 65 countries using the OpenHeart-L.

Reader participation. Contributions, questions, and criticisms by the readership can be included in the Web version of any HSF article. Space in the "Review and Commentary" section is expandable. There is no longer a need to separate letters to the Editor and the authors response by many months or issues from the original article. The HSF will include these additional valued comments into the "Review and Commentary" section at the end of the original article. This tightens the linkage between the authors and their readership plus adds additional wisdom and value to the article as a whole.

Author's Photographs: Who are these mysterious people who publish the gold standard concepts of our profession? Have you wondered what they look like or if they are as tangible as your everyday surroundings? The graphical power of the Web has shown that authors speak more to their audience when the readership can see their visage along with their contribution. The human touch that we as physicians know works with our patients also communicates to the readership as well.

Full integration between the print, multimedia, the HSF Web site, and other resources: Although it will take some time and effort to fully integrate all components of my vision, there are many within reach now. The manuscripts on the Web site are all indexed with a unique serial number, beginning with the year of publication. The same identifying number is prominently labeled on the printed and multimedia versions of each paper. In the near future, we anticipate that the reader can simply enter this unique serial number into the Web site and retrieve any article, including the dynamic peer review and any links to other resources. Integration between the paper and Web versions increases the amount of information each manuscript can offer. We hope to feature full integration with abstracts on the National Library of Medicine databases as well. Readers will be able to click on a reference on the disk version which will launch their phone connection and Web browser and automatically download the selected abstract from the NLM web site. Use of the Internet and these new technological tools creates an endless thread that unravels forever into new sources of knowledge within our field.

The time for The Heart Surgery Forum™ and its new paradigm of scientific publishing has come, with immense benefits to every surgeon in every country. I am grateful to the vision of Bill Carden, Joe Jennings, and Russel Speidel of Carden-Jennings Publishing. They share my vision and have brought to the HSF the kind of human resources to make this happen. My personal gratitude to all Editorial Board members for their devotion to the quality and science of peer review and for taking this upstart journal seriously enough to make my vision come true. My personal thanks to Curt Tribble, MD, Professor of Cardiothoracic Surgery at the University of Virginia and member of the Thoracic Surgery Directors Association for his clarity of thinking and undying support during the formative years.

My special thanks also to the founding members of the International Society of Minimally Invasive Cardiac Surgery (ISMICS) and to the Brazilian Society of Cardiovascular Surgery (SBCCV) who also share this vision of a new era in surgical information. To Bob Emery, MD, friend, colleague, and mentor and to Fabio Jatene, MD, editor of the Revista Braziliare, my warmest thanks.

Since the beginning, the HSF has existed for dialogue. The staff welcomes your comments by email at: <hsforum@hsforum.com>. And welcome to the new era!

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