Live and archived webcasts of interactive heart surgery

ArticleInfo		
ArticleID	:	4282
ArticleDOI	:	10.1186/ccf-2000-webreport1423
ArticleCitationID	:	webreport1423
ArticleSequenceNumber	:	23
ArticleCategory	:	Web report
ArticleFirstPage	:	1
ArticleLastPage	:	3
ArticleHistory	:	RegistrationDate : 2000–4–4 OnlineDate : 2000–4–4
ArticleCopyright	:	Current Science Ltd2000
ArticleGrants	:	
ArticleContext	:	1305444

JC Lyford,[Aff1]

Aff1 Medical Writer, Science Press Internet Services, Belgium

Overview

The Virtual Operating Room (VOR) was co-founded by surgeon Robert Lazzara MD, Director of Minimally Invasive Cardiac Surgery at Providence Seattle Medical Center and Associate Medical Director at The Hope Heart Institute in Seattle. VOR produced the first-ever live internet broadcast of real-time interactive heart surgery. The site is an educational resource aimed at both medical professionals and patients, and is supported by a grant from AstraZeneca. The site was nominated for the 1999 Computerworld Smithsonian Award.

Content

VOR is divided into four sections, as follows.

The **Mission** section contains a 'welcome' broadcast by Dr Lazzara, detailing the history and purpose of the site, collaborating institutions and future plans.

The **Consumer** section purports 'to empower consumers through education' so that they can 'take a more active role in preventative medicine, treatment, and recovery processes'. This section has a selection of educational videos (valve replacement, catheterisation, minimally invasive incision, sternotomy, preparing for open heart surgery) and audio clips [coronary artery bypass graft (CABG), minimally invasive bypass and off-pump heart bypass]. Each video includes a description of the procedure (with pop-up boxes explaining medical terms) and the surgeon's credentials and affiliations.

The **Live Events** section allows users to observe and interact with live surgical procedures. At the time of review this section had a summary of the most recent live event (bloodless transmyocardial laser revascularization) and an update on the patient's progress. There were also impressive webcast statistics, which showed 297,497 hits and 4,289 user sessions in 25 countries across six continents. There was no information about upcoming broadcasts.

Finally, the **Video Library** contains a growing archive of videos, lectures, presentations, demonstrations of new surgical technology and highlights from past live events. Although the site claims to cover 'all surgical and medical specialties', at present only cardiac surgery is included. Examples of archived material include: vascular brachytherapy; endoscopic vein harvesting; Batista procedure; robotic endoscopic CABG; off-pump coronary bypass; left ventricular reduction.

Other Comments

The site has a good help file explaining what software is needed to watch streaming audio and video content, and how to download it from the internet. It also provides two versions of each video - dialup and broadband - so that quality is maximised according to the speed of the internet connection. However, even with a high speed connection, playback was intermittently halted by 'net congestion'.

Minimum system requirements: Internet Explorer/Netscape Navigator v4; 28.8Kbps modem; Real Player G2 software (free download from website); 16-bit sound card; Windows 95 or NT 4.0; 65,000-colour graphics card; 90 MHz Pentium PC or equivalent; 16 MB RAM; 30 MB free on hard drive.

Evaluation

This adventurous concept works well: although the site seems very simple it must require extensive and ongoing technical input to function well. (There were no live webcasts planned at the time of review, so I cannot comment on real-time features.) I think the VOR would appeal to surgeons and physicians because of its novelty value, rather than as an educational resource. However it may of value to a lay person, perhaps someone about to undergo one of the featured procedures - assuming they're not squeamish!

References

1. The Virtual Operating Room. [http://www.thevirtualor.com/]