

# How to Establish an Interactive eConference and eJournal Club

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With our hand team scattered across several different locations, it is difficult to find a time to get together for our weekly didactic hand conference and monthly hand journal club. In addition, traffic and tight clinical schedules sometimes force conferences to start late or be canceled. Our solution was to set up an on-line conference. Using TeamViewer to host our conference and Skype to host our journal clubs, we experienced increased attendance by both faculty and residents in our meetings. In this article, we establish a method of hosting effective on-line videoconferences to facilitate nearly universal participation of our hand team, and we hope to assist others who wish to establish similar setups in their communities. (*J Hand Surg Am.* 2014;39(1):129–133. Copyright © 2014 by the American Society for Surgery of the Hand. All rights reserved.)

**Key words** Conference, journal club, on-line, Web meeting.

JOURNAL CLUBS AND WEEKLY didactics are a crucial component of graduate medical education. In 1 study surveying hand surgery fellows and fellowship program directors, most participants thought that journal club was successful and was an important part of their training.<sup>1</sup> The most frequently suggested improvement was increased faculty participation. At many institutions as well as our own, the faculty and trainees are scattered among several different locations and it is difficult for everyone to physically attend these weekly teaching conferences and our monthly hand journal club. In addition, traffic and tight clinical schedules frequently force conferences to start late or be canceled. Fortunately, with the advances of modern technology, such concerns can be overcome. Videoconferencing has been around for some time and has gained popularity in the

past decade. Several institutions are adopting this technology from on-line radiology teaching sessions to virtual grand rounds.<sup>2,3</sup> In our article, we share our experiences in setting up a successful and interactive videoconference for our local, monthly hand journal club and our weekly hand didactic conference.

## MATERIALS AND METHODS

### Software

Our conferences are run using TeamViewer 8 (TeamViewer, Inc., Tampa, FL), which is software capable of on-line meetings. It operates on all of the leading platforms including Windows, Mac, and Linux. The software supports Mac OS X 10.5 and later, including Mountain Lion (Apple Computer, Cupertino, CA) and Windows 8, 7, Vista, XP, 2000, and Server (Microsoft Corporation, Redmond, WA). The software also has its own app called TeamViewer for Meetings, which works on mobile devices such as the iPhone, iPad (Apple Computer), and Android (Google, Mountain View, CA). TeamViewer is Health Insurance Portability and Accountability Act compliant because it offers full encryption based on 1,024-bit RSA private/public key exchange and 256-bit AES encoding of each session, which ensures security and privacy. The software license is free for all noncommercial users. Although most

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presentations are made using PowerPoint (Microsoft Corporation) or Keynote (Apple Computer), any media presented on the computer can be seen by all users connecting remotely.

For journal club, which is hosted in a faculty member's home, we use Skype (Microsoft Corporation), because it provides better audio and video optimization on a slower residential broadband connection. Aside from the improved audio and video, Skype was a better fit for journal club because the goal was not to present slides but to encourage participant discussion. However, slide presentation is possible and runs smoothly when using the screen sharing feature of Skype. A premium subscription that starts from \$4.99/mo is required for group video chat functionality within Skype. Only the host computer needs to have a premium account, and it can support up to 10 people on the same video call. The software is compatible with Mac, Windows, and Linux. All participants will need to install Skype and create a free account to connect to the journal club.

#### Hardware

With the TeamViewer software installed, the host computer can be either a laptop or a desktop. We used a laptop for ease of portability. The laptop is connected to a liquid-crystal display projector for presentation to local attendees, and those who join remotely will also see everything that is projected as all media displayed on the computer screen are shared with the participants. Connected to the host computer via Universal Serial Bus is a ClearOne Chat160 group speakerphone (ClearOne, Inc., Salt Lake City, UT). The speakerphone features 3 built-in microphones array with 360° audio pickup up to 3.7 m (12 ft). It has the ability for full-duplex audio as well as advanced noise and echo cancellation algorithms. This is critical because using a standard speaker and microphone will cause annoying audio feedback loops.

During our monthly journal club, we do not use a projector; instead, we use a Logitech HD Pro WebCam C920 (Logitech International S.A., Morges, Switzerland) that supports full high-definition 1080p video calls on Skype. The webcam is mounted on a video tripod that allows a journal club participant to pan toward the active speaker. We use the same ClearOne speakerphone at our journal club to minimize audio feedback as well as filter out background noise.

For the participants, the type of microphone, soundcard, speaker, and webcam is of less importance. Most have been able to join with their existing setup and peripheral devices. To eliminate excessive

background noise and feedback, an audio headset is preferred. Users also have the option to mute their audio within the TeamViewer program. Almost all users have a broadband Internet connection, and those on the go are able to connect via 3G or LTE wireless technologies.

#### Format

Weekly hand conferences are held every Tuesday, and at the appointed time, interested participants access the meeting remotely from their office, laptop, or mobile device. Local participants gather in a conference room equipped with the computer, projector, and speakerphone. Journal club is held monthly in a similar fashion. The meeting takes place at the residence of a faculty member, and local participants sit around the living room. The host laptop, speakerphone, and webcam are set up as previously described. Attendees joining remotely may do so from home, office, or hospital, and can be fully engaged with the help of group video chat.

#### Logistics

Shortly before each meeting, an e-mail message containing the conference hyperlink is sent to participants to connect remotely. TeamViewer automatically generates this message, which can be easily copied and pasted into an e-mail. Although there are several ways to join a meeting, the easiest and quickest is to use the link from the invitation e-mail. No additional data have to be entered, and one is connected directly to the meeting. Clicking that link will take conference participants to a Web page that downloads and installs TeamViewer QuickJoin. It already contains the Meeting ID and will connect automatically to the meeting.

#### RESULTS

Over a span of 8 months, we have found an effective way to host successful weekly didactic conferences and monthly journal clubs, with participants signing in remotely from as far away as San Francisco. Faculty and resident participation have increased because those who were unable to attend before now regularly join remotely.

Conferences hosted with TeamViewer produced excellent results especially with the high bandwidth of an institutional Internet connection. Audio and video quality is outstanding. Although audio feedback was an issue in other setups, we have eliminated the problem with the dedicated ClearOne speakerphone with built-in echo cancellation.<sup>3</sup> Users report that they are able to follow the presentation as if they were

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