

## Basic Video Troubleshooting Guide: Clinic/Provider

This troubleshooting guide is geared toward the clinic provider to include the use of stand-alone carts, laptops, desktops, and tablets as video conferencing endpoints. It should be noted that audio/video platforms vary, and it is important to read and follow the manufacturers' specific troubleshooting guidelines as well as the recommendations of your IT support team.

### Getting Started Quick Check

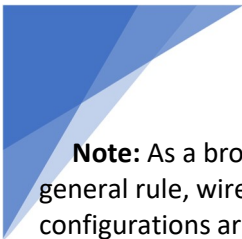
When starting your video connection there are a few things you can do to help ensure a quick and effective video call.

- **Reboot Computer-** Starting each day with a fresh reboot of your computer or device can help ensure that your devices resources are free and ready for a call.
- **Check for system updates-** Make sure the operating system is updated (e.g. Windows, MacOS, Android or IOS (for mobile devices))
- **Check for Video Platform updates-** is your software up to date
- **Check for browser updates-** If you are using a browser-based video application (that runs in a web browsing tab) you will want to make sure that your browser is supported by the video software and is up to date.
- **Check for connected Camera**
  - Is your webcam plugged into a USB port?
  - Is your camera showing as a selection in your video software?
- **Check for connect Microphone**
  - Do you have a microphone, speaker pod, or headset plugged into a USB port?
  - Is your microphone showing as a selection in your video software?
- **Check for adequate lighting in room**
  - Is the lighting in the room bright enough? Do you need more light?
  - Are there light sources behind you that could cause backlighting? (See "Problem: My Video is too Dark" below)
- **Quiet and secure room environment**
  - Close doors and windows and eliminate noise sources (e.g. fans, appliances, etc.)
- **Verify that you are able to access to the internet**
  - See "Problem Software/Connectivity Issues" below

## Software/Connectivity issues

Problem: I can't open my video software.

- You may have too many applications open. Close all unneeded software applications to free up computer resources (e.g. browser tabs, email clients, productivity software (like Word or Excel)).
- Antivirus- Your personal or corporate Antivirus software may be blocking some of the features of your video software.
  - On a corporate/organizational network contact IT if unable to access the application.
  - At home- check antivirus software settings to allow video software access.
- Firewall- Your personal or corporate network firewall may be blocking some of the features of your video software.
  - On a corporate/organizational network contact IT if unable to access the application.
  - At home- check firewall settings to allow video software access.
- Connectivity- Check to see if you are connected to the internet with a wired or wireless connection.
  - Run a speed test ([www.speedtest.net](http://www.speedtest.net)) to ensure adequate connectivity to a network
  - A network speed of 5 megabit/s download and 2 megabit/s upload for live video is generally recommended. Bandwidth requirements vary based on clinical platform and specialty.
  - **Problem: The speed test will not load, or the speed is too low.**
    - Check for Wi-Fi or wired connection to the local network.
      - If using a wired ethernet connection check to see if cables are loose/unplugged at both the back of your device and at the access point.
      - If using Wi-Fi verify that you are connected to the desired wireless or mobile network.
    - (At Home) Sometimes a simple reboot of both the computer/tablet and the local router will re-establish network connections and re-establish usable network speeds.
    - If the network is connected and the internet is still unavailable or too slow
      - Contact your organization's IT support (or your Internet Service Provider if at home) to run diagnostics on your network.



**Note:** As a broad general rule, wired configurations are more secure and provide more reliable connections to both computer and network. While wired connections reduce mobility, they can sometimes be more reliable than Wi-Fi networks.

### Problem: I can't start a video call.

- Verify the connection method for your call
  - Are you joining through a link?
    - Verify that you have the most recent link for this call.
    - Does the call have a password? (Generally found in an email invite)
  - Are you connecting to a contact?
    - Verify that you have the correct contact selected
  - Still can't connect?
    - Contact organizational IT support

### Problem: I can't see other participants

- Check Participant Camera: Verify that other participant
  - Has a camera plugged in?
  - Has selected the camera in the video software, and does not have their video stream muted in the video software
  - Does not have other software open that may be using the camera
- Check Participant View Settings: Check that your video software application is set to show active speakers, or multiple participants.
- Content may be hiding participants: If content is being shared it may be taking priority on your screen over participants.
- Wrong monitor (multi-Monitor setups): If using multiple monitors check to see if your video participants are on another screen.

### Problem: Other participants can't see me

- No Camera: Verify that you have a camera plugged in.
- Wrong Camera: Make sure the right camera is selected in the video software.
- Camera muted: Make sure your camera is unmuted in the video software.
- Privacy Filter: Some webcams have a manual privacy filter that slides over the camera lens. Look at your webcam to verify that the privacy filter is disengaged.
- Camera being used by another application: Close any other applications that may be using your camera. You may need to restart your video call to see updated camera availability.
- Camera is not recognized by Device
  - Camera software (drivers) may be out of date
    - Try using a different camera or unplugging and re-plugging in the camera (may require a call restart)
    - Download driver updates from camera manufacturers website and install on your device

- Bad USB port/hub
  - Try another USB port on your device
  - If using a USB Hub, unplug the device from the hub and connect it directly to your device.

### Problem: Can't hear other participants

- Check Participant Microphone: Participants may have muted their microphone- they will likely still be able to hear you, or you can use chat to ask them to unmute.
- Audio is muted in the video software- generally a speaker icon with a line through it.
- Device volume (PC/tablet/Cart) may be muted or low. Increase the volume of the device locally.
- No audio output device is selected- Verify that speakers/headsets/ or other audio output is plugged in and selected in video software.

### Problem: Other participants can't hear me

- Verify that the microphone is plugged in and selected in video software.
- Check Microphone Mute: Your microphone may be muted in the video software. Generally, there is a microphone icon with a red line through it if you are muted. Some microphones also allow you to mute on the microphone directly. Verify that the device is not muted.
- Participants may have audio muted or volume low on their device
- Microphone may be being used by another application- Close any other applications that may be using your microphone. You may need to restart your video call to see updated camera availability.

## Audio quality issues

### Problem: Echo sounds and High Pitch Noise from speakers (Echo and/or Feedback)

When multiple microphones and speakers are in the same room speaker echoes or high-pitched feedback can occur. This is a product of the microphone picking up and amplifying the already amplified output from the speaker. Initially this can cause an echoey effect that can escalate into a loop of increasingly amplified audio that makes an unpleasant squeal or howl.

If you hear an echo or feedback generally the problem is on the participant's end. If the participants hear the feedback but you, don't you are likely generating the feedback.

- Only have one set of microphones speakers in a single location- Have multiple participants in that location join from a single device
- Mute any non-speaking participants in the video call - in the video software you may be able to mute the microphones of participants. You can also ask all non-speaking participants to mute themselves to reduce the chance of feedback. Remember, you will need to ask participants to unmute themselves when they want to speak.
- Many headsets and all in one speaker/microphone units have built in feedback suppression technology that can help with feedback issues.

### Problem: Audio is too loud or distorted

- If participants' sound is distorted or too loud, ask them to move further away from the microphone or to adjust their microphone gain settings in the video software.
- Check to see if there are other noise sources that can be turned off or moved (computer fans, appliances, etc.)
- Low quality microphones will tend to distort at lower volumes- an investment in an improved microphone for the speaker may produce clearer sound.

## Video Quality Issues

### Problem: My image is frozen or stutters

- Poor network connection
  - Check to see if you are connected to the internet with a wired or wireless connection.
    - Run a speed test ([www.speedtest.net](http://www.speedtest.net)) to ensure adequate connectivity to a network
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        - Contact your organization's IT support (or your Internet Service Provider if at home) to run diagnostics on your network.
- Poor device performance
  - Your device may be struggling to output a good video signal due to overtaxed processing resources
  - Close all other (non-needed) applications to free up resources
  - Reboot device to free up memory resources
  - Verify that you are running the most up to date Operating System and Video Software for your device

### Problem: My image is too bright

- Overly bright overhead lights or front facing lights may cause glare and overload your camera sensor. Try closing windows or turning off other light sources to reduce the amount of brightness.
- Make sure both patient and provider are situated in close proximity to the camera and try to reduce brightness of background lighting (or pull shades on windows) as much as possible.

The goal is to optimize lighting on the camera side of the patient. The patient's comfort level with the provider is increased when the provider's face is well lit and background distractions are limited.

### Problem: My image is too dark

- Avoid having windows, or other light sources directly behind you. This can overload the sensor on your camera and create an effect called backlighting where the speaker is overly dark in the image, but the background light source is overly bright
- Turn on additional overhead or directional lighting in your space.
- A ring light is designed to go around your camera and provide direct illumination. Some webcams have ring lights (or other light sources) built in.
- Lower quality webcams and built-in device cameras will not perform as well in low-light settings. Investing in an improved webcam can help produce a better lit image.

