

# Troubleshooting Telehealth Issues

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## TROUBLESHOOTING CHECKLIST

You can use this checklist to solve many of the Telehealth issues you might experience on a laptop or desktop:

- Make sure that you have a reliable Internet connection.
  - Google provides an easy way to test your internet connection directly from the google homepage. Search for [internet speed test](#) and click the blue button that says Run Speed Test. If it's under 10mbps and you're using Wi-Fi, try using a wired internet connection or restarting your router.
- Make sure that your computer meets the hardware and software requirements.
  - The [internet speed test](#) mentioned above can confirm this for you.
  - See the [necessary equipment](#) section below to learn more.
- Move closer to your router.
- Confirm that your speakers and volume control both work.
- Confirm that your computer can play video.
  - Test this by watching a video on YouTube.
- Make sure that you've granted permissions for the browser to use the camera and the microphone.
  - See [appendix A: Enabling your camera and microphone access for Telehealth](#) for more detail.
  - Make sure that any security software that you've installed on your computer or browser isn't blocking access to your webcam or microphone.
- Clear your Cache.
  - See appendix B: [Clearing your browser cache.](#)
- [Refresh the page on your browser.](#)
- Restart the browser.
- Use browser recommended by your telehealth vendor.
- Restart your computer.

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## NECESSARY EQUIPMENT

You'll need the following equipment to make sure that you have high quality Telehealth appointments:

- **A computer (laptop or desktop)**
  - Newer devices (purchased in the last two years) will be better equipped to provide Telehealth appointments.
  - Using a device that has a 2.5 GHz processor and 4 GB of RAM works better
  - Your computer needs to have an integrated or external [microphone](#).
  - Your computer also needs to have an integrated or external [web camera](#).
- **A mobile device (can be used in place of a computer)**
  - Recommend using *at least* iOS 10 or Android 7.0.
- **A reliable internet connection**
  - A reliable, high-speed internet connection with a minimum bandwidth of 10 mbps, but preferably 35 mbps or higher, will minimize connection issues and provide the best quality.
  - If your practice will be having multiple clinicians on Telehealth calls simultaneously, it may be helpful to ask your internet service provider to increase your internet package. For multiple clinicians, a bandwidth over 35 mbps is recommended.

**Note:** If your device does not meet the minimum requirements, the quality of your Telehealth appointments will be impacted. Reach out [to your telehealth vendor](#) for what their recommended minimum requirements are.

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## RESOLVING AUDIO ISSUES

If you're having audio issues, follow the steps below to troubleshoot:









- Make sure that your volume isn't muted.
- Check to see if your computer is using the correct audio device. Applications that use sound usually let you select a source.
- Try using a headset or speakers to confirm your computer can play audio.
- Close any open media player (Spotify, Facebook, etc.).
  - Open applications and media players can control your speakers until they're closed.
- [Clear your browser cache](#) and reopen the site.
- Update your web browser to the latest version.
  - Your browser settings can get corrupted and prevent your audio from working properly.
- Update your operating system.
- If you're using a dedicated sound card, be sure to update its drivers.
- Reboot your computer and try to play audio again.
- See [Appendix C: Why am I hearing an echo?](#) if you're having issues with an echo.

## ADDITIONAL TIPS

Connection problems can be caused by a variety of outside factors. In general, poor video quality is usually caused by a poor internet connection.

Here are some basic steps that can improve the overall quality of your Telehealth calls:

- **Use wired Ethernet instead of Wi-Fi whenever possible.** Wi-Fi will work, but you may experience a lag and interference, which can make your video and audio choppy. Moving closer to your router can help decrease the amount of lag or interference you experience on Telehealth appointments. Consistent delays in audio is usually caused by high latency. Switching to using wired internet will give you an even smoother and more consistent experience.
- **Test your internet connection speed.** Google provides an easy way to test your internet connection directly from the google homepage. Search for [internet speed test](#) and click the blue button that says Run Speed Test. If it's under 10mbps and you're using Wi-Fi, try using a wired internet connection or restarting your router.
- **Close other programs.** If you have several programs running in the background, closing them will improve the quality of your call.
- **Adjust your light.** Some small lighting tweaks that can have a huge impact on your video quality. You can place a lamp or other light source behind your monitor, pointed towards you. Also make sure that you don't have too much light behind you. If you're on a laptop, make sure the camera is at eye level and not pointing up at the ceiling lights or down at the floor.

<b>Use recommended browser</b>	
<b>Update your Browser</b>	
<b>High Speed Internet</b>	
<b>Close unused programs</b>	
<b>Check your lighting</b>	
<b>Wear headphones</b>	
<b>Clear your cache</b>	
<b>Camera at eye level</b>	

APPENDIX A:

## ENABLING YOUR CAMERA AND MICROPHONE ACCESS FOR TELEHEALTH

Telehealth is built to run in your browser so your clients can access your video office by simply clicking a link. This does mean that your browser needs to have permission to use your camera and microphone. If you or your client are not able to hear or see each other, your browser might not be allowed to use your camera or microphone.

### Chrome

1. **On a Mac**
  - Go to System Preferences > Security & Privacy > Privacy.
  - Choose the Camera and Microphone from the available options on the left and make sure that there is a checkmark next to Google Chrome giving it access to your camera and microphone.
2. **On a PC**
  - Go to Start > Settings > Privacy.
  - Choose Camera and Microphone from the available options and select their permissions for Allow apps to access your (camera/microphone).
  - Under Choose which apps can access your (camera/microphone), turn on for Google Chrome.
3. **Within Chrome**
  - Open Chrome
  - At the top right, click the three vertical dots > Settings.

- Scroll to Privacy and Security and click Site settings.
- Click Camera and Microphone.
- Make sure [video/your telehealth vendor] is listed under Allow. If it's under Block, click the trashcan to the right.

## Safari

- Open Safari.
- Go to Safari > Preferences > Websites.
- For both the Camera and the Microphone:
  - If [video/your telehealth vendor] has Deny next to it, change it to Allow from the dropdown menu on the right.

## Firefox

1. [On a Mac](#)
  - Go to System Preferences > Security & Privacy > Privacy.
  - Choose the Camera and Microphone from the available options on the left and make sure that there is a checkmark next to Firefox giving it access to your camera and microphone.
2. [On a PC](#)
  - Go to Start > Settings > Privacy.
  - Choose Camera and Microphone from the available options and select their permissions for Allow apps to access your (camera/microphone).
  - Under Choose which apps can access your (camera/microphone), turn on for Firefox.
3. [Within Firefox](#)
  - Click on the padlock in the URL bar at the top of the browser and click Permissions.
  - Next to Use the Camera and Use the Microphone choose Allow.

Once you've enabled your browser to access your camera and microphone, please close your browser and then restart it.

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## APPENDIX B:

### CLEARING YOUR BROWSER CACHE

All web browsers store a little bit of info from websites you visit regularly to speed up the time a page takes to load. However, sometimes it can cause a problem when websites are updated and developed as files saved in the cache may conflict with what's coded into the website. Therefore, clearing your cache regularly may limit troubles.

#### Keyboard shortcut


For most browsers, you can quickly clear cache with a keyboard shortcut. While in your browser, press **Ctrl + Shift + Delete** (or **Shift + Command + Delete** on Mac) simultaneously on the keyboard to open the appropriate window.

**Important:** Be sure and close/quit the browser and restart it after clearing the cache.

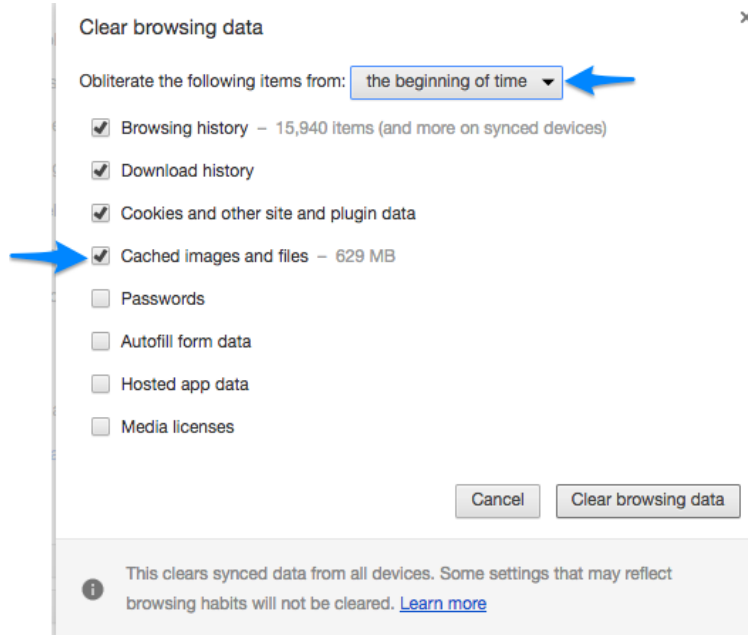
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If you weren't able to get the shortcut above to work, here are instructions on clearing your cache in [Chrome](#), [Firefox](#), and [Safari](#).

### Chrome

1. Open Chrome.
2. In the top right, click the Menu .
3. Click [More tools > Clear browsing data](#).
4. In the dialog that appears, select the checkboxes for the types of information that you want to remove.
5. Use the menu at the top to select the amount of data you want to delete. Select [beginning of time](#) to delete everything. Be sure that the box for [Cached images and files](#) is checked, as

shown below.



6. Click [Clear browsing data](#).

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## Firefox

1. Click the menu button and choose [Preferences](#).
2. Select the [Advanced](#) panel.
3. Click on the [Network](#) tab.
4. In the Cached Web Content section, click [Clear Now](#).
5. Close the [About: Preferences](#) page. Any changes you've made will automatically be saved.

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## Safari

1. In the Safari menu bar, click the Safari option.
2. Select the [Preferences](#) link > [Advanced](#) tab.
3. At the bottom of the window, select the [Show Develop](#) menu in menu bar checkbox.
4. Return to the Safari menu bar and click the Develop option.
5. Select the [Empty Caches](#) link.

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## APPENDIX C

### WHY AM I HEARING AN ECHO?

If you hear your own audio back as an echo, the issue is on your client's end. If the situation is reversed, then the echo is coming from your end. If the echo is coming from your end, you can try the following steps to resolve the issue. If the echo is coming from your client's end, they can follow the steps below.

Follow these [steps to eliminate an echo](#):

- If you're using external speakers, place the speakers as far away as possible from the laptop mic, and lower the volume to a comfortable level.
- If you're using an external microphone, move the microphone about a foot away from the speakers. You can also reduce the microphone level to 50 percent or less and reduce or turn off the microphone boost option.

- Some computers have an echo cancellation feature, but it could be requiring a high CPU load. Closing other programs on your computer can help enable that feature.
- Using a headset or headphones instead of speakers can stop the echo issue.

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## APPENDIX D

### RESOURCES

[CCNC CORONAVIRUS \(COVID-19\) INFORMATION](#)

[CCNC Telehealth Guidance and Resources](#)

[NC DHHS COVID-19 Updates](#)

[Centers for Disease Control and Prevention \(CDC\) Coronavirus Disease 2019](#)