



Video Calling Guide

Everything you need to make video calls with Video Call®



Video Calling Guide

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Audience - People who: ensure that network environments are Video Call-ready; set up video calling equipment; set up suitable locations for making video calls; make video calls; provide Video Call troubleshooting advice.

If you need assistance relating to the content of this book,
contact videocallsupport@healthdirect.org.au

PDF note: For best results when printing this document, use your printer's double-sided setting if available.

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First steps: Preparing to make video calls



What you need to make a video call

Desktop/laptop computer Android tablet/smartphone	Apple iPhone or iPad
	
 Make sure that you use the Google Chrome web browser.  (Computer users) Make a test call to check web-camera, microphone and speakers some time before your appointment.	 Make sure that you get the free Healthdirect Video Call app from the Apple App Store.

Computer users will also need

- A **web camera** (built-in or USB)
- A **microphone** (usually built in to most laptop computers and external webcams)
- **Speakers and headsets**, if required (speakers are usually built into most laptop computers, but not necessarily into external webcams)

Everyone will also need

- A **reliable connection to the internet** (if you can watch a video online, you can make a video call)
- A **private, well-lit area** where you will not be disturbed during the consultation

Making sure everything works

See *Test your video calling equipment* on page 12 and *Test your WebRTC network readiness* on page 26 to determine if you are Video Call-ready.

Hardware requirements

Device

When making video calls with Video Call, make sure that your device meets the following requirements:

Device type	Minimum requirement	Operating system
Windows computer	2GHz dual-core, i5 processor 3GB of RAM See also <i>Additional equipment</i> , below.	Microsoft Windows 7 or later
Apple computer (iMac, Mac Pro, Mac Mini, MacBook, MacBook Air, or MacBook Pro)	Intel 2GHz dual-core, i5 processor 3GB of RAM See also <i>Additional equipment</i> , below.	MacOS 10.9 or later
Android Smartphone or Tablet	Less than two years old with a front-facing camera	Android 4.3 or later
Apple iPhone or iPad	iPad 4 or later, iPad Mini 2 or later, iPhone 5 or later	iOS 9 or later

Where can I see my computer's operating system, processor, and memory (RAM) information?

Windows PC

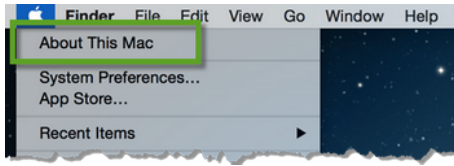
Press the **Windows key + Pause key** to open the system information window.



Note: If your computer doesn't have a **Pause** key, open the Windows Control Panel, and navigate to **System and Security > System**.

Mac PC

Click the Apple menu, select **About this Mac**, and then click **More Info**.



Can Video Call be used in virtual desktop environments such as Citrix?

Can Video Call be used in virtual desktop environments such as Citrix?

Although WebRTC-based video calling has been successfully lab-tested in a virtual desktop environment by both Citrix and Dell, results are very dependent on the specifications of the client hardware used. Healthdirect Australia advises caution when attempting this. The architecture, network, and equipment standards typically applied to Citrix desktop implementations are not always suitable for the high-performance, peer-to-peer video required for a quality call experience.

Video Call is suitable for use with Citrix 7.6 or later, with appropriate client hardware.

Requirements

- **Google Chrome** installed, and run on, the Citrix Xen App server
- **Webcam drivers** installed on the Citrix XenApp server
- **The HDX Real Time Media Engine extension (RTME)** installed on each client and the Citrix XenApp server
- **External web camera** for each client (most cameras built into thin client hardware have low resolution and poor optics)

Important: For a quality call experience, it is very likely that you will require higher-than-normal specification thin clients, or computers running Citrix Receiver.

Typical issues

- Media quality is very dependent on the thin client's hardware and operating system
- Typical thin client hardware is low-powered and may not be sufficient to handle the audio and video throughput
- Not all thin client types can take full advantage of the HDX RTME
- There are implications for the number of concurrent video sessions per server, and server process capacity

Additional equipment

Speakers/headphones

Video Call's **Call Screen** uses your device's default audio output (such as its speakers, or headphone port/jack)

Plugging in a headset (which combines a microphone and headphones) can help reduce background noise, and prevent others from over-hearing your conversation.

i For conference room or group meetings, use a USB echo-cancelling microphone/speaker unit wherever possible. This will provide better sound for all participants.

For a range of example speaker units and headsets, see *Equipment Guide* on page 13.

Microphone

- On tablets, smartphones, and notebook/laptop PCs, Video Call's **Call Screen** uses the built-in microphone
- For PCs without a microphone, any currently-available USB microphone is suitable.
 - i** Many USB web cameras also have built-in microphones. Depending on the level of ambient noise where you make video calls, this may prove sufficient.
- Microphones integrated into combined USB speaker/microphone devices
- A headset (combines headphones and microphone - includes earbud/microphone sets used with smartphones and tablets).
 - i** A headset is especially useful where background noise may be a problem.

For a range of example speaker units and headsets, see *Equipment Guide* on page 13.

Web camera

- On tablets, smartphones, and notebook/laptop PCs, Video Call's **Call Screen** uses the built-in camera.
 - i** Tablets and smartphones require a front-facing camera.
- For PCs without a camera, any currently available USB web camera is suitable.

For a range of example web cameras, see *Equipment Guide* on page 13.

Tip: Where more than one participant will be in the same room during the video call, use a web camera with a wide-angle lens.

Tip: Make sure that you have the most current software drivers installed for your web camera.

Test your video calling equipment

 Desktop and laptop computers  Android tablets/smartphones

The **Video Call Setup** test checks your web browser, the speed of your internet connection, and whether your microphone, speakers, and web camera are working as expected.

You can run this test from the Video Call Management Platform, or from any web page that displays the following button:



If the test results indicate issues with your current setup, see the topic *Troubleshoot device setup* on page 73.

For more information, see:

- *Hardware requirements* on page 9
- *Web browser requirements* on page 18
- *Internet connection requirements* on page 21

Equipment Guide

Disclaimer

The presence of any particular product on this page should not be considered as an endorsement of that product by Video Call. The items described here are provided solely as a guide to the current range of suitable equipment to successfully hold video calls; there are many alternatives to those listed. Always evaluate products for suitability in your own environment before purchasing.

Cameras

In-built cameras

Cameras built into a laptop or notebook PC are designed for one person seated within 1.5 metres of the screen. While they can work well (the built-in cameras in Apple devices are particularly good), camera quality varies and their performance in low or bright light tends to be poor.

Tip: Where feasible, you will usually get superior results from a separate USB web camera. The first three cameras below are all designed for single-person use.

USB cameras

Auto-focus USB camera and microphone for small groups (**one to six people**).
(\$80)

<https://www.logitech.com/en-au/product/hd-webcam-c525>

HD 720p; noise reduction

i You can select this device as both camera and microphone .



Auto-focus USB camera and microphone for small groups (**one to six people**).
(\$100)

<http://www.liquiddigital.com.au/product-page/agent-v6-brushed-steel-webcam>

HD 720p; good frame rate in low light

i You can select this device as both camera and microphone.



Auto-focus USB camera and microphone for small groups (**one to six people**). (\$169)

<https://www.logitech.com/en-au/product/c922-pro-stream-webcam>

HD 1080p or HD 720p

i You can select this device as both camera and microphone.



Premium auto-focus, USB, pan/tilt/zoom, video conferencing camera for **ten to fifteen people** (\$950).

<https://www.logitech.com/en-au/product/conferencecam-ptz-pro>

Full HD 1080p; superior optics; pan, tilt, and zoom controls

Important: Using this camera will require a separate microphone, or microphone/speaker (or speakerphone) combination.



Microphones & Speakers

In-built microphones and speakers

Microphones built into a laptop or notebook PC are designed for one person seated within 1.5 metres of the screen. While they can work well, microphone quality varies considerably between manufacturers.

Tip: Where feasible, you will usually get superior results from a USB headset.

USB microphone/speaker combinations (speakerphones)

USB speakerphone for **small groups (two to six people)** sitting in front of the speaker. (\$270)

http://www.clearone.com/products_chat50

If you already have a camera, the Chat 50 is good for small groups sitting up to 2.5 metres away from, and in front of, the speaker. This model's microphone's only has a 120 degree arc to the front of the unit, which will not clearly pick up people sitting to the side of, or behind, the speaker.

i Make sure that you select the Chat50 as both your microphone and speaker to ensure the best quality audio.



USB speakerphone for **larger groups (six to eight people)** sitting around the speaker. (\$750)



http://www.clearone.com/products_chat150

If you already have a camera, the Chat 150 is good for slightly larger groups sitting up to 2.5 metres away from the speaker. The microphone's 360 degree arc ensures that people can be heard regardless of their position around the unit.

❶ Make sure that you select the Chat 150 as both your microphone and speaker to ensure the best quality audio.

USB speakerphone array for **larger groups (ten to fifteen people)** sitting around a large conference table. (approx. \$1650)



http://www.clearone.com/products_chatattach150

The ChatAttach 150 is two Chat 150 speakerphones daisy-chained together for wider reach.

❶ Make sure that you select the Chat 150 as both your microphone and speaker to ensure the best quality audio.

Headsets

Headsets provide an often better desktop alternative to built-in microphones and speakers. They provide increased privacy for the call, and in open-plan environments, reduce both distractions for others in the area, and ambient feedback heard by call participants.

If you already use headsets that connect to a computer in your existing work environment, you should be able to continue using them, regardless of the video calling technology adopted.

Microphone noise-cancelling or noise-reduction features can be very useful, especially in busy surroundings.

Wireless headsets can help to reduce cable clutter, although they are more expensive - make sure that they have a recharging cradle.

Microsoft's LifeChat range of USB headsets provide good quality audio, and range between \$40 and \$70.

<https://www.microsoft.com/accessories/en-au/headsets>



Logitech make a range of quality headsets that vary in price from \$30 for simple USB models to \$190 for high-end wireless/Bluetooth sets.

<https://www.logitech.com/en-au/headsets>



Camera/microphone/speaker all-in-one units

Powered, USB, pan/tilt/zoom 'stalk' camera with in-built speaker and microphone for **four to six people** sitting in-front of the device. (\$380)

<https://www.logitech.com/en-au/product/conferencecam-bcc950>

Great all-in-one pan, tilt zoom camera, noise-cancelling microphone and speaker for small groups. Requires power.



USB camera and speakerphone bundle for **medium size conference rooms** (\$1600)

<https://www.logitech.com/en-au/product/conferencecam-group>



Monitors

Video consultations

Video Call strongly recommends that service providers have two monitors when conducting video consultations. This allows them to display the consumer and other call participants on one monitor, while using the other to display notes and data.

Monitors range considerably in size, price, and quality.

When using a second monitor, it's a good idea to use the better monitor to display video.

Alternatives as a second monitor

If you have an Android or iOS tablet/smartphone, you can use the **Splashtop Wired XDisplay** app (\$10) to turn that device into a second monitor for your Windows or MacOS computer. This is potentially a great option for providers who use laptop or notebook computers and don't

necessarily have the desk space for a permanent second monitor.

- Splashtop Wired XDisplay: <https://www.splashtop.com/wiredxdisplay>

If you have an iOS device (iPhone or iPad running iOS7 or later) you can alternatively use the **Duet Display** app (\$19.95) to connect it to your Windows or MacOS computer.

- Duet display: <https://www.duetdisplay.com/>

Group meetings

When holding video meetings with medium to large groups of people sharing a conference room, it's a good idea to use a larger monitor (27" to 30" widescreen works well) or digital projector to display the video participants.

A good quality monitor costs between \$300 and \$500, while projectors typically range in price between \$500 and \$1500. Projectors also require a screen or suitable wall space on which to display the image.

i Modern TVs usually have extra HDMI ports and in some cases older-style video ports, all of which will allow you to connect the TV to your PC and use it as a monitor.

Types of video port

Make sure that you have compatible ports on the PC and the monitor/TV that you intend to use, as well as the correct cables of suitable length for the room in which you set up the conference.

Web browser requirements

Windows and Mac PCs, and Android devices

If you're not sure what a web browser is, see *What is a Web browser?* on the facing page

You must use **version 53 or later** of the Google Chrome web browser to use Video Call.

Important: If your workplace's policies do not permit Google Chrome to update automatically, Video Call recommends that your IT department schedule a manual update at least twice a year.

Video Call always recommends using the latest version of Chrome for best video calling performance.

I don't know what web browser I use. How do I find out?

Visit <http://www.whatbrowser.org>. This website shows you the brand and version of the web browser you view it with, and tells you if you have the latest version.

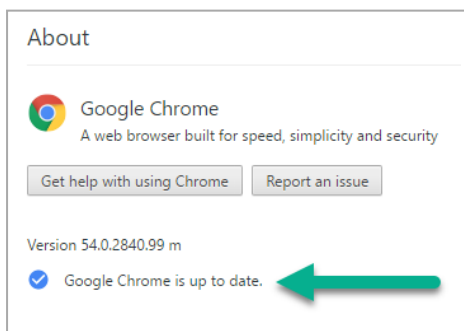
I don't use Google Chrome. How do I install it?

Visit the Google Chrome website (<https://www.google.com/chrome>), and follow the instructions from there.

I'm using Google Chrome. How do I know if I have the latest version?

In the Address Bar, type: `chrome://help/` and then press the **Enter** key.

This opens Chrome's **About** page. Text below the version number information tells you if you have the current version:



When the page first opens, Chrome checks to see if a new version is available. If there is, it updates automatically.

iOS devices

You can use any web browser (including Safari), in conjunction with the Healthdirect Video Call app.

Healthdirect Video Call app (iPads and iPhones only)

You must have the Healthdirect Video Call app installed to be able to make a video call.


The Healthdirect Video Call app is available for free from the App Store. You can either download and install it before your first video call, or wait until prompted to install it the first time you try to make a call.


Important: You need the app to take part in video calls, but you still launch the call from a website's **Start video call** button. Unlike other devices, you can use any web browser to do this.

The Healthdirect Video Call app starts when you begin your call.

What is a Web browser?

A web browser is software installed on your computer, tablet, or smartphone. You use a web browser to visit and read web pages, and use web applications like Healthdirect Video Call.

 Google Chrome, Mozilla Firefox, Apple Safari, Microsoft Edge, and Microsoft Internet Explorer are all types of web browser.

To successfully make video calls using Video Call, you must use a recent version of **Google Chrome** .

Google Chrome is free to download and use.

Is 'Google' the same as 'Google Chrome'?

- The *Google search engine* was created by Google, the software company. Like all of the other search engines out there (*Yahoo*, *Bing*, and so on), you can use the Google search engine from any brand of web browser.
- *Google Chrome* is a web browser, also created by Google.

To use Healthdirect Video Call from your computer, smartphone, or tablet, you must have the Google Chrome *web browser* installed on that device.

What web browser am I using now?


Visit <http://www.whatbrowser.org> to find out what brand of web browser you use, and its version.

Why do I have to use Google Chrome?

WebRTC (*Web Real-Time Communications*) is a web browser technology, and a soon-to-be ratified web standard. It facilitates secure, real-time communications from web-based applications.

Video Call uses WebRTC to make video calls over the internet. It allows users to access Video Call's calling features without having to download and install special software or plug-ins.

Currently, only *Google Chrome* fully supports WebRTC, and provides all of the features that are needed to use Video Call.

 If you do not have *Google Chrome* installed on your PC, you will need to download and install it.

Where can I get a copy of Google Chrome?

Google Chrome is available free from <https://www.google.com/chrome/browser/desktop/>

Internet connection requirements

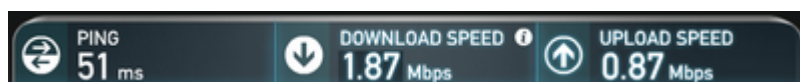
When making video calls with Video Call, make sure that your internet connection meets the following requirements:

- **Recommended latency** (also called 'ping'): Less than 150 milliseconds (ms)
- **Minimum download speed:** 0.8 Megabits per second (Mbps) - provides lower-quality video
Recommended: 1.1 Mbps or better
- **Minimum upload speed:** 0.25 Mbps - provides lower-quality video to other participants
Recommended: 0.7 Mbps or better

Download speed, upload speed, and latency

You can test your speed and latency at <http://www.speedtest.net>.

When the test completes, the results will look something like this:



Compare your results to the minimum and recommended values above.

i A wired internet connection will provide best video quality, but you can also use a fixed-wireless or mobile (3.5/4G) data service.

How much internet data will I use?

- Consumers don't use any data while waiting for a service provider to join them.
- A video consultation uses less than half of the data you would use while watching a YouTube video in High Definition*, over the same time.
- Data use is less on lower-speed internet connections, or if you're using a less powerful computer, tablet, or smartphone. These factors can also reduce the overall quality of the call.
- Data use increases when there are more than two participants in the call.

Smartphone & tablet users

If you can, connect to a work or home Wi-Fi network to avoid using your mobile data allowance.

* About 230 MB on a mobile device, and 450 MB on a PC for a 20 minute call, which is similar to Skype® or FaceTime®.

Network requirements

For IT Administrators

The Video Call system is designed to work in as many different corporate or institutional networks as possible, with little to no special network configuration required.

Base requirement: Each Video Consulting Management Platform user's desktop or laptop computer must have access to the Internet via **secure port 443**. This is the same access requirement as for other secure internet websites.

The Video Call **WebRTC Network Readiness Test** evaluates how your network setup connects to the outside world, and whether your available bandwidth is sufficient to make video calls.

Although this test is targeted at IT administrators, anyone can use it. It takes less than a minute, and can be run from your web browser.

Important: This test only evaluates your network connection. It does not test your current equipment setup.

For more information, see *Test your WebRTC network readiness* on page 26.

Video Consulting Management Platform: Signalling access

All Video Consulting Management Platform web pages use the *Hypertext Transfer Protocol Secure* (HTTPS) communications protocol.

The Video Consulting Management Platform's background real-time signalling uses HTTPS in **Long-Polling** mode. This holds web connections open for just under two minutes, to allow messages to be sent to the user side as they occur.

Media pathways

The Video Consulting Management Platform will attempt to use the best network path as it can find.

The following table lists the network paths it will look for, in order of preference:

Order	Network path	STUN/Relay server port
1	<p>Direct peer-to-peer UDP, with STUN server-assisted NAT traversal</p> <p>Each endpoint will discover its external Internet address using the provided STUN Server. This address is provided to the other endpoint and used to set up the connection through Network Address Translation.</p> <p>Media flows over randomly selected ports over large range of UDP ports 49152 - 65535.</p>	3478 (UDP)
2	<p>Via Video Call Relay Server, using UDP-routed egress</p> <p>If a connection cannot be established using the above direct peer to peer, then the configured TURN server UDP port 3478 will be tried to establish a relay to the remote endpoint. This relay address is provided to the other endpoint and used to set up the connection through the relay, back through the local endpoint's connection to the TURN server.</p> <p>Media flows outwards through UDP Port 3478, to the TURN Server.</p>	3478 (UDP)
3	<p>Via Video Call Relay Server, using TCP-routed egress</p> <p>If a connection cannot be established using UDP to the TURN Server, the connection to the TURN Server is established via TCP 443 not UDP 3478.</p> <p>Media flows outwards through TCP Port 443, to the TURN Server.</p>	3478 (TCP)
4	<p>Via Video Call Relay Server, using TCP tunnelling through a local Web Proxy Server</p> <p>If a routed connection via NAT cannot be established to the TURN Server, a tunnelled connection to TCP port 443 will be attempted via the browsers configured web proxy server.</p> <p>Media flows outwards through the web proxy, to TCP Port 443, to the TURN Server.</p>	443 (TCP)

Order	Network path	STUN/Relay server port
5	Via Video Call Relay Server, using Secure TCP tunnelling through local Web Proxy Server As for 4 above, but using a TLS TCP connection to the TURN Server.	443 (TCP/TLS)

For more information, see *Video Call Relay Servers* on page 28.

Video Call Relay Server address: vcct.healthdirect.org.au

Achieving the best-quality connection

For most network paths, the negotiation will likely result in a valid media connection.

Direct peer-to-peer via UDP provides the best connection, but will often be unavailable across institutional networks, due to the security constraints of their network policies.

A secure tunnelled TCP connection (preference 5 in the table above) is the least-desirable option for media transfer, but most likely to be supported with no network security changes.

Recommended option: For many networks, allowing NAT egress to UDP port 3478 on the Relay Server (preference 2, above) will provide low latency with little overhead. This should require only a minor, low-risk change to your network configuration.

Bandwidth Usage

Video Call WebRTC video connections are configured for Standard Definition resolution (640 x 480) at 30 fps. This specification will degrade gracefully based on available CPU and Network capacity. Video calls can be sustained with bandwidth as low as 192 Kbps per remote party, but with a reduced quality experience.

What is WebRTC?

Web Real Time Communications (WebRTC) is web browser technology that enables secure, real-time communications from websites or web-based applications.

The Video Consulting Management Platform uses WebRTC to facilitate secure video calling between Callers and Video Call Users. It allows users to access Video Call's calling features without having to download and install software or plug-ins.

As of publication, only Google Chrome fully supports WebRTC. Mozilla Firefox and Opera also support most of its feature set, with Microsoft Internet Explorer and Apple Safari still to implement WebRTC in their current generation of web browsers.

Bandwidth per remote party in a call

- Minimum recommended: 384 Kbps
- Standard recommended: 768 Kbps
- Optimal: 1 Mbps and above

WebRTC Peer connections can use up to 4 Mbps under unrestricted conditions. Constraints can be configured to reduce this maximum if necessary.

How does the peer-to-peer model impact bandwidth for multi-party calls?

As Video Call is a peer-to-peer system, bandwidth is specified as per remote party. Multiple parties in the call will increase the bandwidth required at each endpoint. If this is not available for a particular endpoint, the video to or from each party will degrade to fit within that endpoint's available bandwidth.

As connections are established independently, this may only impact a particular party and possibly only in one direction.

Technical testing and troubleshooting

Options:

- Live calls with subjective observation
- Collect network statistics during live calls
- Automated tests and report generation: See *Test your WebRTC network readiness* on the next page

Test your WebRTC network readiness



Desktop and laptop computers



Android tablets/smartphones

The Video Call **WebRTC Network Readiness Test** evaluates how your network setup connects to the outside world, and whether your available bandwidth is sufficient to make video calls.

Although this test is targeted at IT administrators, anyone can use it. It takes less than a minute, and can be run from your web browser.

Important: This test only evaluates your network connection. It does not test your current equipment setup.

The WebRTC Network Readiness Test is located at <https://vcc.healthdirect.org.au/webrtctest>

There are five possible connection results. In decreasing order of quality, they are:

Excellent > Great > Good > Adequate > No Connection

When the test is complete, the page displays information about the best connection type currently available between your organisation's network, and a Video Call Relay Server.

- Any result except for **No Connection** means that you can make successful video calls. However, the better the result, the more reliable and higher quality the connections will be.
- If the result is other than **Excellent**, the page also displays information to help you improve it.
- The page also displays a **Send Test Results** button that makes it easy to email the results to your network administrator.


Technical note: To provide a known location, the test uses a Video Call Relay Server to determine how well you will be able to make successful peer-to-peer video calls. Under normal circumstances, a relay server is not required when making calls, unless specific restrictions have been applied to your network.

Example 1

The test returns results that indicate good connection to the Video Call Relay Server, with suggestions for improving connection quality.

WebRTC network readiness test

Results

**GOOD**
CONNECTION TYPE

Your network has access to:



vcct.healthdirect.org.au:443?transport=tcp

To improve the connection result, allow access to one of the following servers:

vcct.healthdirect.org.au:3478 (Excellent)

vcct.healthdirect.org.au:3478?transport=tcp (Great)

[More information on network requirements](#)


[Send Test Results](#)  [Reset Test](#) 

Example 2

The test cannot find any possible connection to the Video Call Relay Server. The results list the various connection methods and the resulting quality of those connections.

WebRTC network readiness test

Results

**NO CONNECTION**
CONNECTION TYPE

Allow access to one of the following servers:



vcct.healthdirect.org.au:3478 (Excellent)

vcct.healthdirect.org.au:3478?transport=tcp (Great)

vcct.healthdirect.org.au:443?transport=tcp (Good)

vcct.healthdirect.org.au:443?transport=tcp (Adequate)

[More information on network requirements](#)


[Send Test Results](#)  [Reset Test](#) 

Example 3

The test returns results that indicate good connection to the Video Call Relay Server, with suggestions for improving connection quality. However, the test also determines that the available bandwidth for making calls is low, so the results also indicate the type and quality of call that users can realistically participate in from this connection.

WebRTC network readiness test

Results

 **GOOD**
CONNECTION TYPE


Your network has access to:

vcct.healthdirect.org.au:443?transport=tcp

To improve the connection result, allow access to one of the following servers:

vcct.healthdirect.org.au:3478 (Excellent)

vcct.healthdirect.org.au:3478?transport=tcp (Great)

 **POOR**
BANDWIDTH

0.41 Megabits per second to:


vcct.healthdirect.org.au:443?transport=tcp


You can participate in:

Two-Way calls at Standard quality

Three-Way calls at Moderate / Low quality

[More information on network requirements](#)

Send Test Results 

Reset Test 

Video Call Relay Servers

Video Call Relay Servers - technically, *Traversal Using Relays around NAT* (TURN) servers - have several important functions:

- Provide a common, well-known internet address that web browsers can connect to if they are unable to establish a valid peer-to-peer connection
- Act as a protocol converter from TCP to UDP, should a web browser not be able to obtain network egress via UDP
- Act as an endpoint for a web proxy tunnelling connection, should a web browser not be able to route to the internet on the required UDP or TCP port

i The relay process cannot inspect the encrypted media data; it only forwards the data to the negotiated endpoint.

Is latency an issue with Video Call Relay Servers?

Variable latency can occur, depending on the location of call participants in relation to the Relay Server being used for that call.

Setting up your equipment and environment



Set up preferred camera and microphone

Desktop and laptop computers

Healthdirect Video Call uses the audio and video technology built into your Google Chrome web browser. For the Call Screen to know which microphone and camera to use, the web browser must be able to identify it.

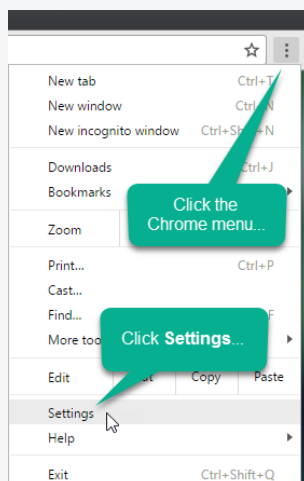
You can switch devices either **during call setup**, or **while in a call**.

During call setup

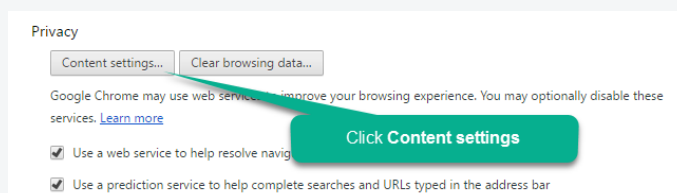
If you experience microphone or video issues during call setup, make sure that your web browser correctly identifies which video and audio devices to access.

To select microphone and camera

1. Click the **Customise and Control Google Chrome** menu.

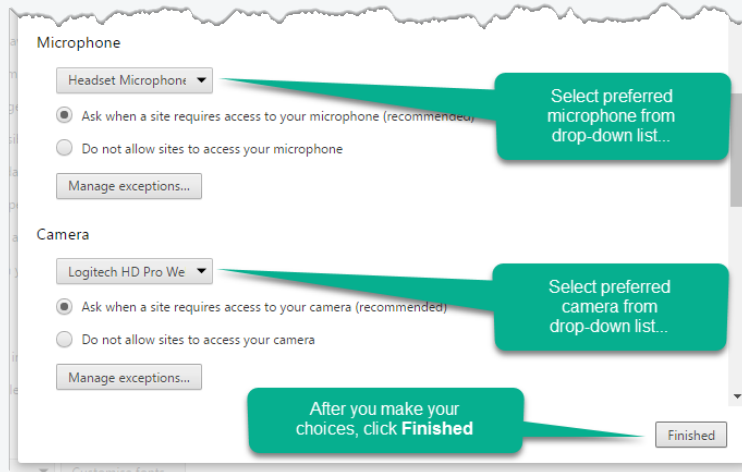


2. From the menu, select **Settings**.
3. Click the **Show advanced settings** link at the bottom of the page.
4. In the **Privacy** section, click **Content** settings.



To select microphone and camera

5. In the **Content Settings** dialog:



- Scroll to the **Microphone** section, and from the drop-down button, select the microphone you want Chrome to use.
 - Scroll to the **Camera** section, and from the drop-down button, select the camera you want Chrome to use.
6. Click **Finished**.
7. Close the **Settings** page.
8. From the health service's web page, click the **Start video call** button again.

This will re-run the setup tests, where you can confirm that the problem is resolved.

End of procedure

When in a call

You can switch camera and microphone from the Call Screen.

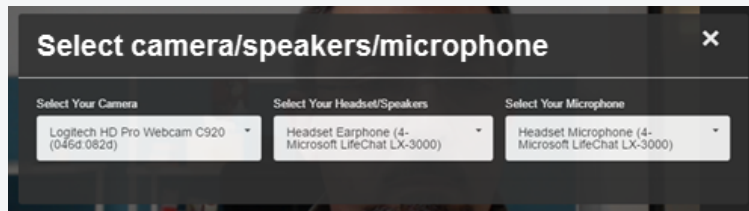
To switch devices from the Call Screen

1. From the Call Screen, click the device selection button.



2. In the Select **Camera/speakers/microphone** panel, select the devices you want to use from the three drop-down lists.

To switch devices from the Call Screen



The Call Screen switches to using each selected device immediately.

3. To close the panel, click the **X** button.

End of procedure

Set up preferred speakers or headphones

Desktop and laptop computers

Use the following steps to make sure the audio for your video calls is output through the appropriate speakers or headset.

Basic things to check first

- Is your computer's audio on mute? If so, un-mute.
- Is the volume loud enough?
- If you are using a headset or external speakers:
 - Are they plugged-in securely?
 - Are they plugged into the correct output port?
- If your headset or external speakers have their own volume control, is that set so the audio is loud enough?

If none of the above options are the problem, use the following instructions to make sure that your computer recognises your headset or speakers, and that the device is enabled for use.

Switching devices

You can switch devices either **during call setup**, or **while in a call**.

During call setup

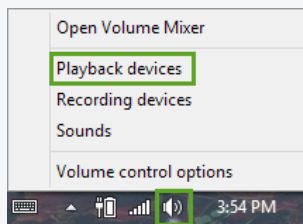
Choose your computer's operating system from the following:

Windows 7 or later

To set up speakers or headphones

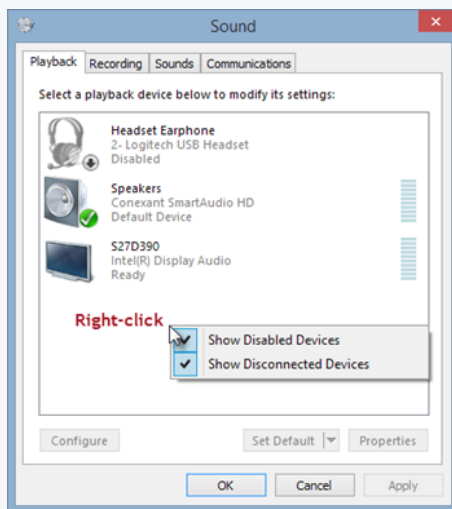
1. In the Taskbar's Notification area, right-click the speaker icon.
2. From the displayed menu, select **Playback devices**.

To set up speakers or headphones

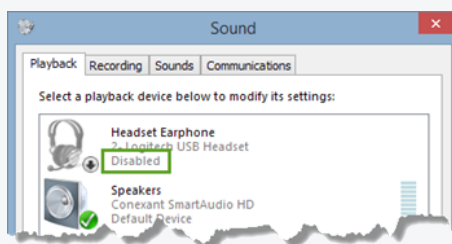


The **Sound properties** window opens, displaying the **Playback** tab.

3. Right-click the window area, and make sure that both of the 'Show...' menu options are selected.

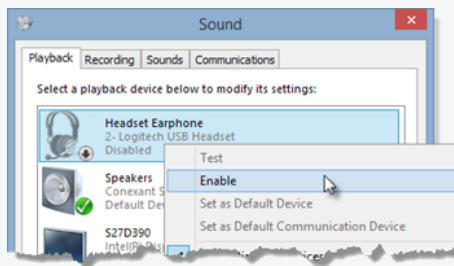


4. From the list of playback devices shown, is the one that you want to use greyed-out, or labelled as **Disabled**?



- **No:** The device is enabled. It should be working correctly.
- **Yes:** The device is currently disabled. Right-click it, and select **Enable** from the menu.

To set up speakers or headphones

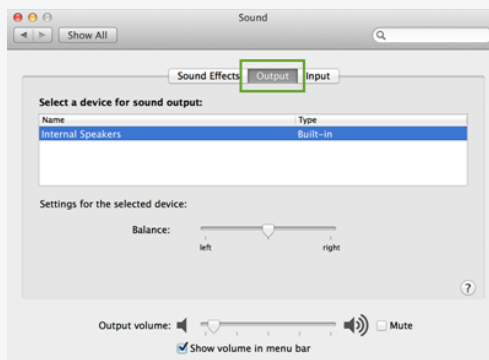


5. Click **OK**.
 6. Run through the set up sequence again.
- End of procedure

MacOS

To set up speakers or headphones

1. From the **Apple** menu, select **System Preferences**.
2. From the **System Preferences** window, double-click **Sound**.
3. In the **Sound** window, click **Output**.



4. Select the preferred audio device from the list.
5. Make sure that **Output volume** is set to a suitable level, and that the **Mute** check box is not selected.
6. Click the close button.



To set up speakers or headphones

7. Run through the set up sequence again.

End of procedure

When in a call

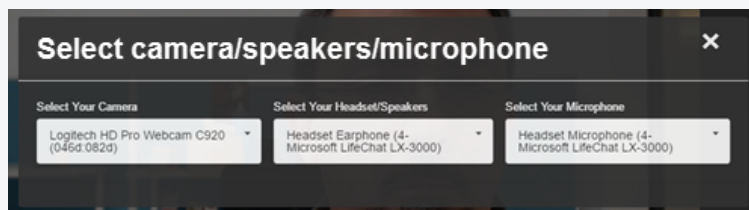
You can switch camera and microphone from the Call Screen.

To switch devices from the Call Screen

1. From the Call Screen, click the device selection button.



2. In the Select **Camera/speakers/microphone** panel, select the devices you want to use from the three drop-down lists.



The Call Screen switches to using each selected device immediately.

3. To close the panel, click the **X** button.

End of procedure

Tips to improve the call experience

Environment

A quiet, private room is best for medical or otherwise sensitive meetings

- If you wouldn't hold an in-person meeting in an open environment, then it is similarly unsuitable for a video call.
- The only people who should be able to hear your conversation are the people involved in it.

Make sure that you are well-lit

- Normal room lighting is usually sufficient, but avoid sitting directly beneath the light source if possible.
- Side-lighting works well.
- While many web cameras can work well in low light conditions, unless they are specifically rated for low-light environments, both frame rate and picture quality will suffer.

Be aware of incidental movement behind you

Even if you are holding a video call from a private room, make sure that you aren't sitting in front of a window or transparent wall. People or other elements behind you can be distracting for participants.

Equipment

Test your equipment before the call

- Take time to familiarise yourself with the equipment and software before you have to use them.
- Understand what to do if things go wrong, and how to fix basic problems.
- Know who to contact if you can't resolve any problems that do occur.
- Always be aware of current audio and video settings.
- Run a setup test if one is available, or call a colleague to make sure everything works.

Making the call from a desktop or laptop computer

- Try to make sure that no updates will occur while you're in the middle of a call.
- Only run the software you need to use while in the video call: this increases the resources available to your computer.

Set up the camera in a good position

- Place the camera in a location where the participants stay within camera view.
- Position the camera at eye level where feasible, to provide the most natural call experience.
- Keep the participants centred in the camera view.
- Cameras perform better with good lighting. Even those that handle low-light conditions well perform better when lighting is like that in an office environment.

Choose microphone and speakers based on location and environment

- Laptop microphones and speakers are adequate, but be aware of echo or feedback during conversations.
- Headsets work well for single-person locations.
- Use a noise-cancelling speakerphone device when multiple people are sharing the same room.
- Position the microphone so that voices are clear and neither too loud or soft.

Etiquette

Wear appropriate clothing

- As a rule of thumb, dress as you would when holding in-person consultations.
- Wear neutral, muted solid colours where possible
- Patterns, stripes, dots, white, and red can all cause distracting screen effects, such as strobing or moiré patterns.
- If feasible, make a dummy call or equivalent to make sure that your clothing choices present well on screen.

Be mindful of body language and behaviour

- Remember that the other participants can see you. Act like they're in the room with you.
- Avoid raising your voice.
- Never shout.

Have alternative contact information available

If something goes wrong during the video call, you may have need to contact other participants by – for example – phone.

Focus on the call

- Do not check your email or phone while in a video call.
- When you talk, look at the camera, not at the screen. This helps other participants engage more effectively.

Understand the subtle differences between meeting via video and meeting face-to-face

- There is always a small amount of lag in conversations, which can make it seem like people are talking over each other when in fact, they thought they had interjected during a pause.
- Be patient, and allow other participants time to finish speaking.
- When the call ends, make sure all video and audio equipment is switched off.

Resources

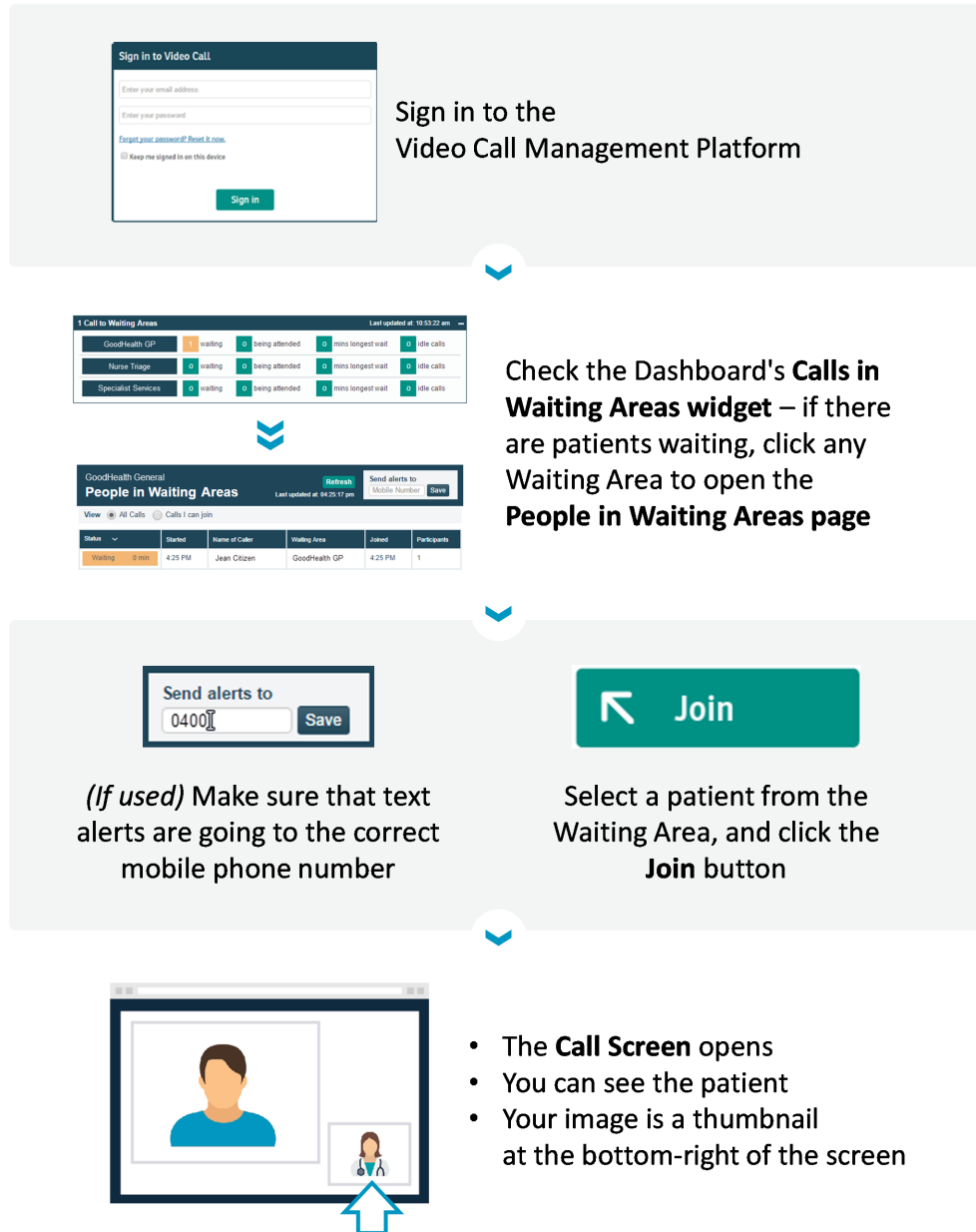
- **7 simple etiquette tips for video conferencing** (Small Biz Daily - <http://www.smallbizdaily.com/7-simple-etiquette-tips-video-conferencing/>)
- **Is there proper etiquette for video conferencing?** (Entrepreneur - <https://www.entrepreneur.com/article/220542>)
- **How to look good on video chat** (Mashable - <http://mashable.com/2012/07/27/look-good-on-video/#JlOsv4joukqw>)
- **5 tips for video calls: Body language** (Pocket-lint - <http://www.pocket-lint.com/news/119047-video-calling-body-language-tips>)
- **6 ways to look great on a video call** (Fast Company - <https://www.fastcompany.com/3026273/work-smart/6-ways-to-look-great-on-a-video-call>)

Making a video call



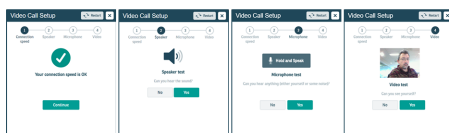
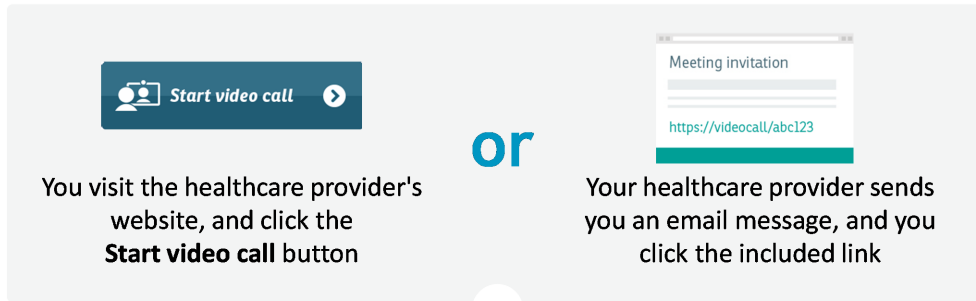
Entering a Waiting Area (Providers)

The following diagram illustrates the provider's experience when entering a Waiting Area:



Entering a Waiting Area (Consumers)

The following diagram illustrates the consumer's experience when entering a Waiting Area:



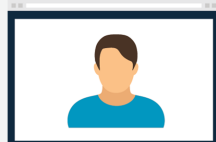
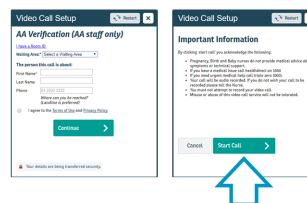
The **Video Call Setup wizard** tests your:

- Internet connection
- Speakers
- Microphone
- Camera

When all the tests succeed...

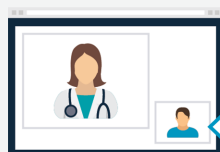
The **Video Call Setup wizard** prompts you to:

- Provide your name and phone number
- Accept the Terms of Use
- Click the **Start Call** button



- The **Call Screen** opens
- You can see yourself
- Waiting music plays
- Information messages may display on the screen

When a provider joins your call...



- You can see the provider
- Your image becomes a thumbnail, and moves to the bottom-right of the screen

Tablet and smartphone users: The speaker, microphone, and camera tests are not performed, as those components are built-in and always available.

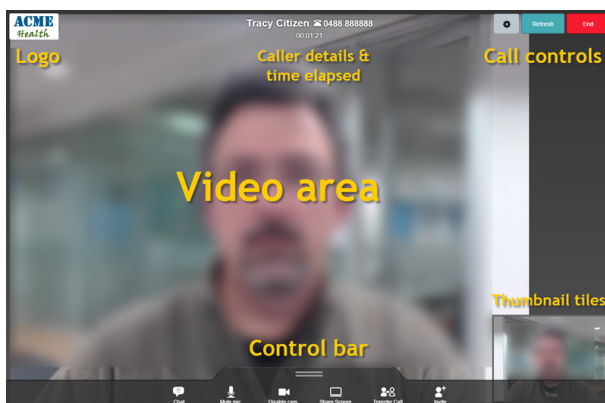
The Call Screen (Provider version)

When you join a video call from the **People in Waiting Areas** page, Video Call opens the Call Screen in a new browser window.

The Call Screen displays all participants in the video room, as well as controls to refresh the session, leave the call, send text chat messages to other participants, transfer the consumer to another Waiting Area, mute or enable microphone and camera, and share screen data.

Note: Consumers, and guests invited by a provider, are presented with a much simpler version of the Call Screen. See *The Call Screen (Consumer version)* on page 49.

Components



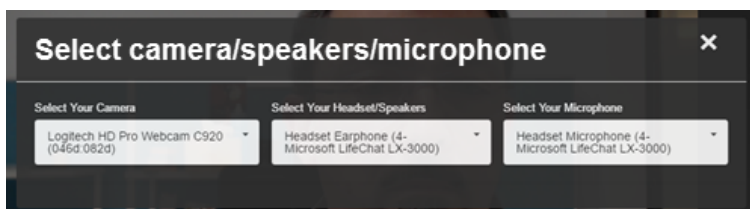
The logo, call controls and control bar hide from view after a few seconds of inactivity, and return on mouse-over (or screen tap on mobile devices).

Controls

Select camera/speakers/microphone



Click to display the **Select camera/speakers/microphone** panel:



Select your preferred camera, headset/speakers, and microphone from each of the drop-down lists. As you select each item, the Call Screen automatically switches to it.

When you have made your selections, click the **X** to close the panel, and continue your call.

i If an option displays **Default** instead of a particular device, this means that the currently-selected device is also the camera or speaker device you have set as default in Windows/MacOS. The drop-down list will also display the actual device among all of those available, should you wish to specifically select it.

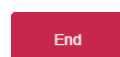
Refresh



Click to refresh the call session, and re-establish connection with all callers.

Use when the connection drops out, or the video freezes for a prolonged period.

End



Click to leave the call.

Displays a confirmation dialog.

Layout (when 3 or more tiles present)

Click to change the current tile layout.



Preferred Speaker: The person you select occupies most of the video area; the other participants display in small tiles along the side of the area.



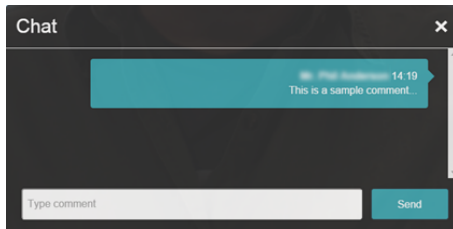
All Equal: All video tiles take up the same area, and are spaced evenly within the video area.

For more information, see *Call Screen layout options* on page 56.

Chat



Click to display the chat window:



Use the chat window to send messages that all participants can see. This can be useful when communicating the names of medication, website addresses, or similar details.

To use the chat window: Enter text in the field, and click the **Send** button.

Mute Mic



Click to mute your microphone.

Click again, to unmute.

Disable Cam



Click to pause your video feed to the call. Participants can still hear you; they just can't see you.

Note: While paused, other callers will see a still image in place of your video.

Click again to resume the video.

Share Screen



Click to share your desktop or the content of a specific application with the other participants in the call. Click again to stop sharing.

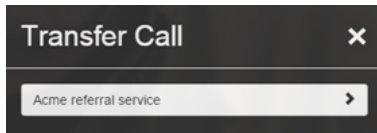
For more information, see in the Video Call Management Platform online help.

Transfer Call



Click to transfer the call to another Waiting Area.

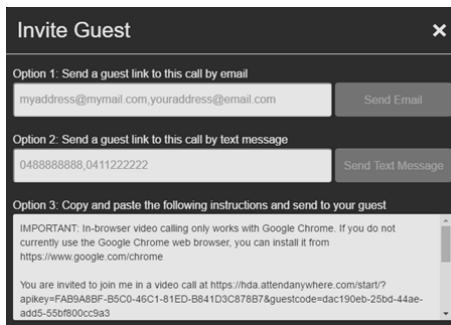
Displays a list of the Waiting Areas to which you can transfer the call. Click the Waiting Area you require.



Invite



Click to invite a guest to the video call. Displays the **Invite Guest** dialog.



The text explains how to invite someone to the call.

Record (Only visible when call recording enabled)



- When recording is running, click **Stop Rec** to stop the recording.
- When recording is stopped, click **Record** to start it.

Recording status

Indicates whether call recording is in the start-up state...



...or in progress:



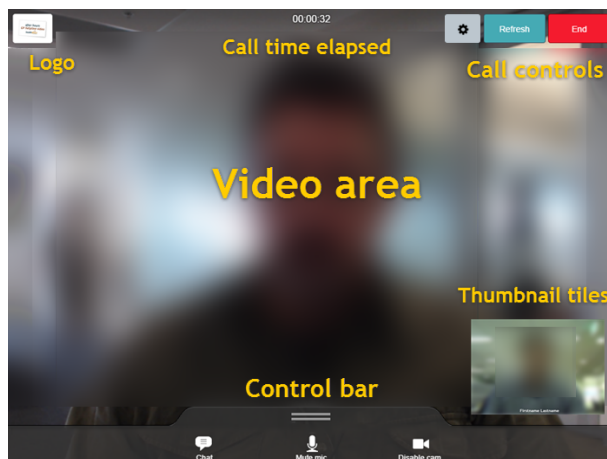
Note: If recording is stopped, or not enabled for the Waiting Area, nothing displays in this area.

The Call Screen (Consumer version)

When consumers make a video call to a Waiting Area, the Call Screen opens in a new browser window.

The Call Screen displays all participants in the video room, as well as controls to refresh the screen, leave the call, send text chat messages to other participants, and mute or enable microphone and camera.

Components



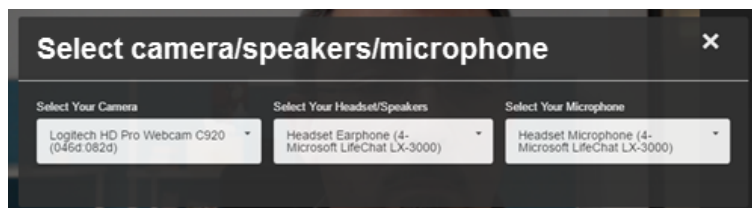
The logo, call controls and control bar hide from view after a few seconds of inactivity, and return on mouse-over (or screen tap on mobile devices).

Controls

Select camera/speakers/microphone



Click to display the **Select camera/speakers/microphone** panel:

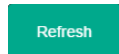


Select your preferred camera, headset/speakers, and microphone from each of the drop-down lists. As you select each item, the Call Screen automatically switches to it.

When you have made your selections, click the **X** to close the panel, and continue your call.

i If an option displays **Default** instead of a particular device, this means that the currently-selected device is also the camera or speaker device you have set as default in Windows/MacOS. The drop-down list will also display the actual device among all of those available, should you wish to specifically select it.

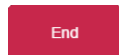
Refresh



Click to refresh the call session, and re-establish connection with all callers.

Use when the connection drops out, or the video freezes for a prolonged period.

End



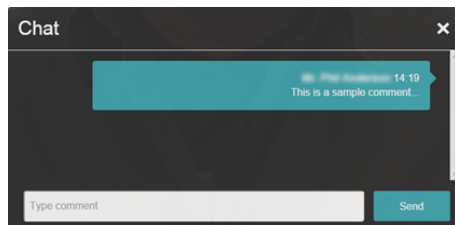
Click to leave the call.

Displays a confirmation dialog.

Chat



Click to display the chat window:



Use the chat window to send messages that all participants can see. This can be useful when communicating the names of medication, website addresses, or similar details.

To use the chat window: Enter text in the field, and click the **Send** button.

Mute Mic



Click to mute your microphone.

Click again, to unmute.

Disable Cam



Click to pause your video feed to the call. Participants can still hear you; they just can't see you.

Note: While paused, other callers will see a still image in place of your video.

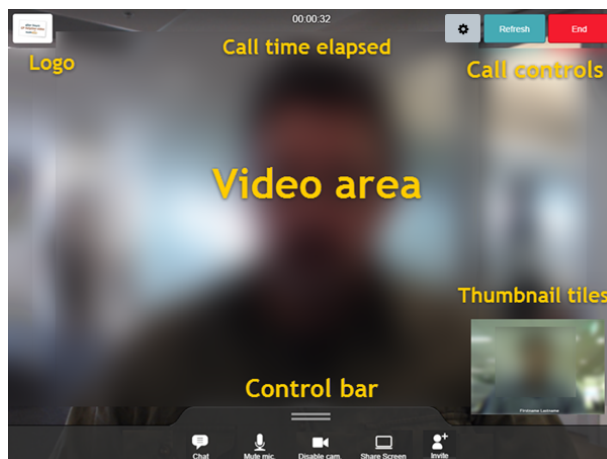
Click again to resume the video.

The Call Screen (Meeting Rooms)

When you join a video call in a Meeting Room, the Call Screen opens in a new browser window.

The Call Screen displays all participants in the Meeting Room, as well as controls to refresh the session, leave the call, send text chat messages to other participants, mute or enable microphone and camera, and share screen data.

Components



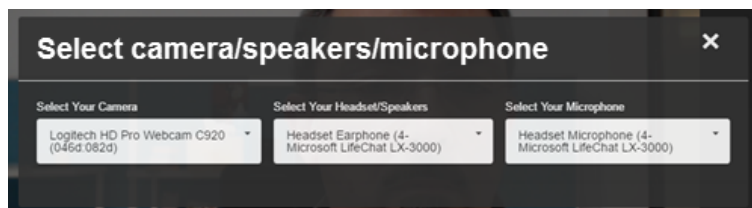
The logo, call controls and control bar hide from view after a few seconds of inactivity, and return on mouse-over (or screen tap on mobile devices).

Controls

Select camera/speakers/microphone



Click to display the **Select camera/speakers/microphone** panel:

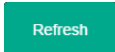


Select your preferred camera, headset/speakers, and microphone from each of the drop-down lists. As you select each item, the Call Screen automatically switches to it.

When you have made your selections, click the **X** to close the panel, and continue your call.

i If an option displays **Default** instead of a particular device, this means that the currently-selected device is also the camera or speaker device you have set as default in Windows/MacOS. The drop-down list will also display the actual device among all of those available, should you wish to specifically select it.

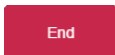
Refresh



Click to refresh the call session, and re-establish connection with all callers.

Use when the connection drops out, or the video freezes for a prolonged period.

End



Click to leave the call.

Displays a confirmation dialog.

Layout (when 3 or more tiles present)

Click to change the current tile layout.



Preferred Speaker: The person you select occupies most of the video area; the other participants display in small tiles along the side of the area.



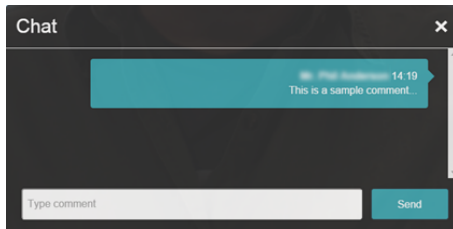
All Equal: All video tiles take up the same area, and are spaced evenly within the video area.

For more information, see *Call Screen layout options* on page 56.

Chat



Click to display the chat window:



Use the chat window to send messages that all participants can see. This can be useful when communicating the names of medication, website addresses, or similar details.

To use the chat window: Enter text in the field, and click the **Send** button.

Mute Mic



Click to mute your microphone.

Click again, to unmute.

Disable Cam



Click to pause your video feed to the call. Participants can still hear you; they just can't see you.

Note: While paused, other callers will see a still image in place of your video.

Click again to resume the video.

Share Screen



Click to share your desktop or the content of a specific application with the other participants in the call. Click again to stop sharing.

For more information, see in the Video Call Management Platform online help.

Invite



Click to invite a guest to the video call. Displays the **Invite Guest** dialog.

Invite Guest

Option 1: Send a guest link to this call by email

myaddress@mymail.com, youraddress@email.com

Send Email

Option 2: Send a guest link to this call by text message

048888888,041122222

Send Text Message

Option 3: Copy and paste the following instructions and send to your guest

IMPORTANT: In-browser video calling only works with Google Chrome. If you do not currently use the Google Chrome web browser, you can install it from <https://www.google.com/chrome>

You are invited to join me in a video call at <https://hda.attendanywhere.com/start/?apikey=FAB9A8BF-B5C0-46C1-81ED-B841D3C878B7&guestcode=dac190eb-25bd-44ae-add5-55bf00cc3a3>

The text explains how to invite someone to the call.

- 55 -

Call Screen layout options

Video tiles

The video area displays one 'tile' for each person in the call. Depending on the layout you select, and the number of participants in the call, the size and position of each tile may change:

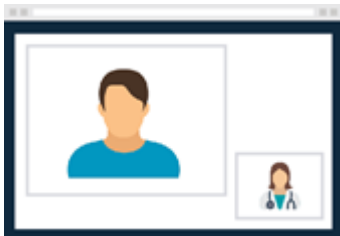
When you are the only participant in the call

Your video image occupies the main video area.

When a second participant joins

Their image occupies the main video area, and your image becomes the bottom-right thumbnail tile.

This is called the **preferred speaker** layout.



When additional participants join after the second

The screen layout automatically changes so that all participants, except for you, occupy equal parts of the main video area.

This is called **all equal** layout.

You can use the layout button to switch between this and preferred speaker layout at any time.



If you choose to use the preferred speaker layout when there are three or more tiles on the screen, click a thumbnail tile to move it to the main display area.



Tap tile to move
to main position

Note: You cannot move yourself (the 'You' tile) to the main display area.

Conference rooms and group meetings

In addition to one-on-one, or similar scale video calls, you can also use Video Call to hold video conferences with larger groups of people sharing a single camera and microphone/speaker setup.

To improve the quality of the experience for participants, you may prefer to use a more suitable webcam, microphone/speaker unit, and screen.

Wide-angle web camera, and echo-cancelling microphones

If you regularly use Video Call for conference room-style meetings, it may be worth investing in a portable USB echo-cancelling microphone/speaker unit, and a wide-angle web camera. This will result in better sound and vision for all call participants.

Tip: Search on the internet for 'USB conference camera' and 'USB speakerphone', and find a solution that suits your environment.

Example: Logitech BCC 950 ConferenceCam

This USB device incorporates a wide-angle web camera, and echo-cancelling speakerphone in a portable design.

(For illustration purposes only. Video Call does not specifically endorse this model or manufacturer.)



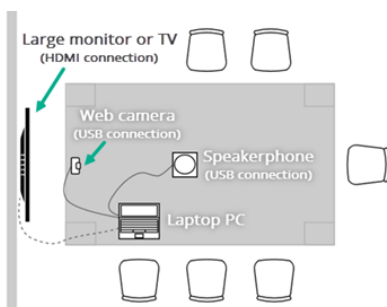
Large monitor or TV

All modern TVs and monitors have one or more HDMI ports:



If your meeting room has a large screen available for use, consider connecting it to the PC or laptop you use for Video Call, and display the Call Screen on that screen.

Sample setup



Troubleshooting



Troubleshoot video calling

If you're having issues during a video call, see if any of the following situations match your problem.

These troubleshooting suggestions are also available as a single-page, downloadable PDF.

Download the troubleshooting reference from <https://vcc.healthdirect.org.au/makingcalls>

General issues

Does my computer, tablet, or smartphone meet the minimum requirements to make a video call?

- **Windows PC** with an i5 processor and 3GB of RAM (Windows 7 or later)
- **Apple Mac** with an i5 processor and 3GB of RAM (MacOS 10.9 or later)
- **Android-based smartphone or tablet** (Android 4.3 or later)
- **iPhone or iPad** with the Healthdirect Video Call app installed (iOS 9 or later)

Am I using the correct web browser?

You must use the current version of the Google Chrome web browser.

Go to the **www.whatbrowser.org** website to quickly find out which web browser and version you are using to view this page.

I can't hear others in the call

Check your speakers or headset.

- Do you have your volume set at an audible level?
- *(If your speakers are external, or you're using a headset)* Are the speakers or headset plugged in securely?
- *(If your speakers or headset is powered)* Are the speakers or headset switched on?
- Can your computer detect the speakers or headset?

Check your computer's audio settings.

- Are you hearing an echo?

Check your computer's audio settings.

Others can't see me in the call

Check your web camera.

- *(If your web camera is external)* Is your camera plugged in securely?
- Is Google Chrome accessing the correct camera?

Click the camera icon in the Call Screen's address bar, and make sure that the correct camera is selected.

- Is other software using the camera at the same time?

If another program (such as *Skype*) is trying to use the camera as well, close that program, and try again. If you still can't use the camera, you may wish to restart your computer and then try again.

- Do your firewall settings allow video streams through?

Ask whoever looks after your network for help.

Others can't hear me

Check your microphone:

- *(If your microphone is external)* Is your microphone plugged in securely?
- Can your computer detect the microphone?

Check your computer's audio settings.

- Is Google Chrome accessing the correct microphone?

Click the **camera** icon in the Call Screen's address bar, and make sure that the correct microphone is selected.

- Is the microphone muted?

Check the **Mute Mic** control in the Call Screen, the audio controls on your computer, tablet, or smartphone, and (if you're using an external microphone) the mute button on the microphone or headset itself.

- Is other software using the microphone at the same time? (Example: *Skype* also running.)

If another program (such as *Skype*) is trying to use the microphone as well, close that program, and try again. If you still can't use the microphone, you may wish to restart your computer and then try again.

My audio/video quality is poor

- Is your connection to the internet okay?

Check your download and upload speed and latency at the website, **www.speedtest.net**

- Are others on your network using lots of bandwidth?

Example: Watching videos on Netflix® or YouTube®

- Is your modem/router working properly?

(If you're connected to a wireless network) Move closer to your WiFi access point

Video performance issues

Other people in the call say that my video is flickering

Open your web camera's configuration software (this will be different for every camera, so we can't provide you with instructions on how to do this), and look for an *anti-flicker* or *anti-banding* option. Make sure that this option is set to **50Hz**.

I can't see another participant in the call: I just see a black rectangle instead

First, make sure that you are using the latest version of the Google Chrome web browser.

If you are, and the problem persists, it is possible that your computer's firewall may be blocking the incoming video signal. Check your firewall settings, and make sure that it allows communications from Google Chrome.

For instructions on how to do this, consult your computer's help documentation.

Important: If you are in an office environment, or part of a larger computer network, ask your IT administrator for assistance.

I keep seeing a message in the Call Screen that says I may not be able to see all participants, but refreshing the call doesn't fix the problem

First, make sure that you are using the latest version of the Google Chrome web browser.

If you are, and the problem persists, it is possible that your computer's firewall may be blocking the incoming video signal. Check your firewall settings, and make sure that it allows communications from Google Chrome.

For instructions on how to do this, consult your computer's help documentation.

Important: If you are in an office environment, or part of a larger computer network, ask your IT administrator for assistance.

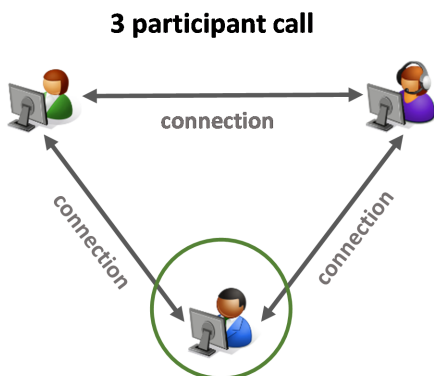
Video calls and call quality

Each link between two participants in a video call is called a *connection*. Each connection uses some of your available internet bandwidth and data allocation, as each participant sends and receives video and audio.

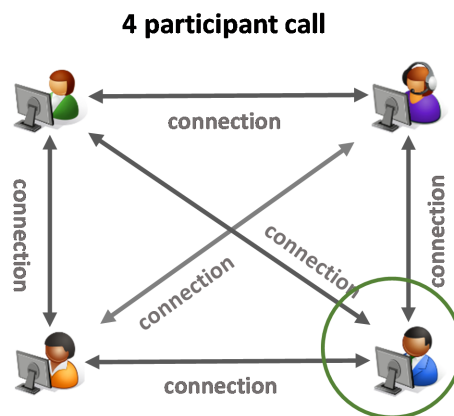


Each participant has **1 connection**

Each new participant in a video call creates an additional connection for each participant:



Each participant has **2 connections**



Each participant has **3 connections**

The actual amount of bandwidth and data used during a video call depends upon factors such as the resolution and quality of your web camera, and the quality of your internet service. The bigger and better those things are, the more bandwidth and data you will use.

If the connections try to use more of these resources than your device can easily provide, the quality of your call experience may be affected.

Note: Your upload speed determines the overall quality of the video and audio that you send to other participants. As most internet plans provide slower upload speeds than download speeds, this is the limiting factor in overall call quality for most people.

For most people, a two-person video call provides the best overall call experience. This will look and sound just fine on most devices, even over quite modest internet connections.

Create a diagnostic report for connection issues

Introduction

On rare occasions, a video call will appear to connect successfully, but the participants in the call cannot see or hear each other.

The reasons why this problem arises are often not simple; to help the Video Call support team diagnose the cause of the problem, they may need additional information from you.

Use the following steps to create this diagnostic information, and send it to Video Call support.

Before you begin

Make sure that you do not end the call or close the Call Screen before you proceed.

After you complete Tasks A and B below, you can end the call.

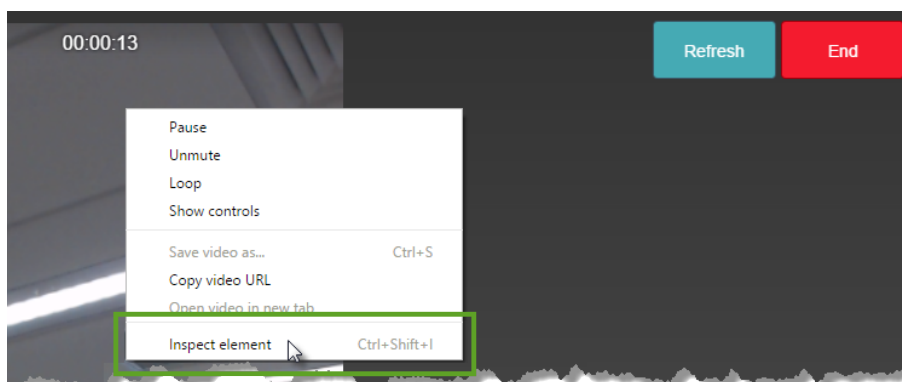
Note: Some of the following tasks might look a little intimidating, as to get some of the information, you will go 'behind the curtain' of your otherwise simple-looking web browser. Just follow the steps below, and remember that there's nothing you can break.

Instructions

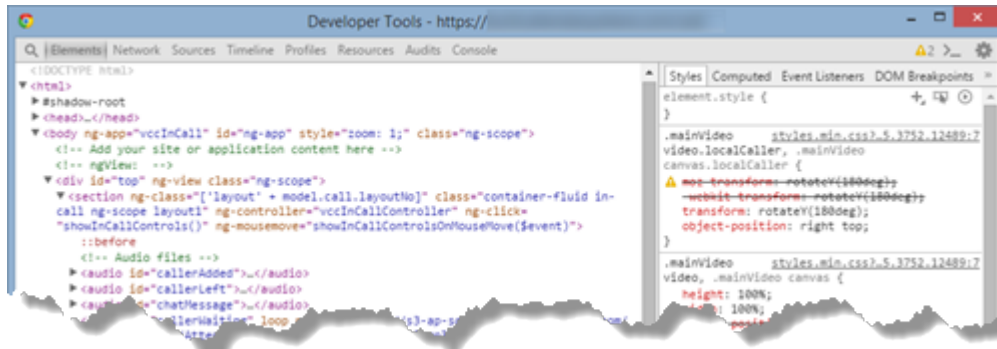
Complete all four of the following tasks:

Task A: Create a logfile

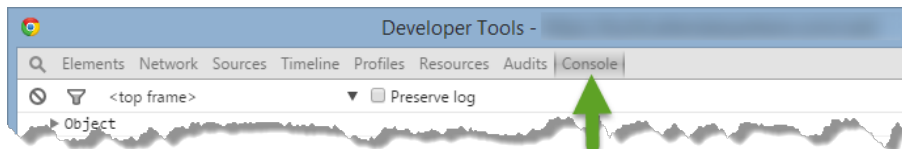
1. In the Call Screen, right-click anywhere on the video image; from the displayed menu, select **Inspect element**.



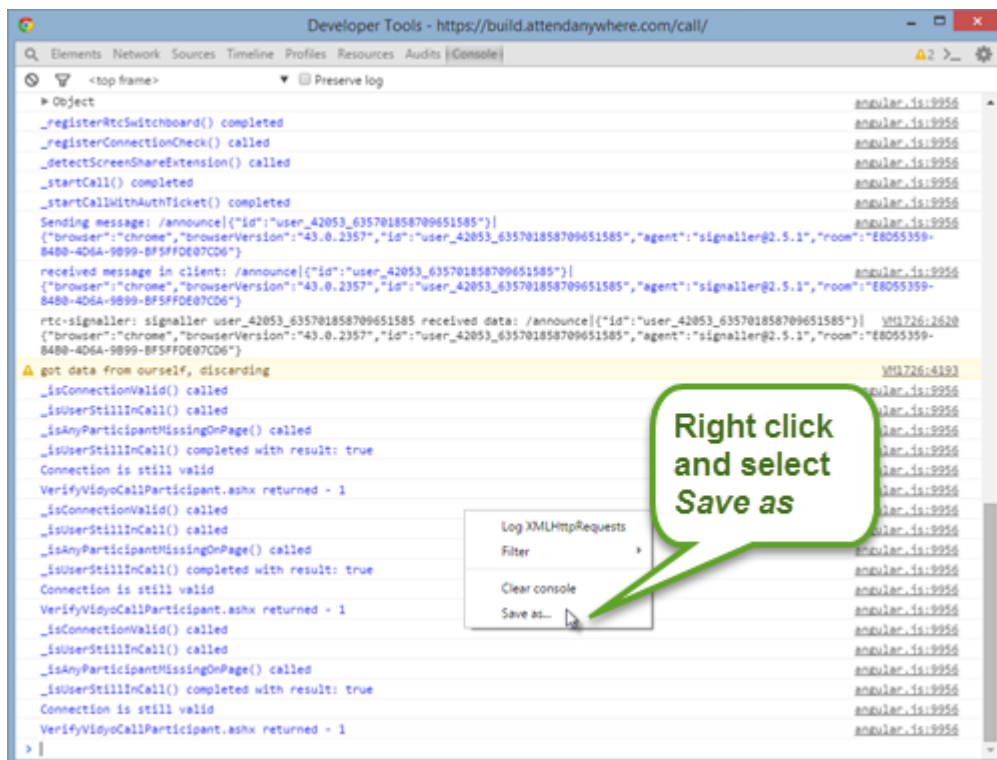
The browser's **Developer Tools** window opens.



2. From the window's menu bar, click **Console**.



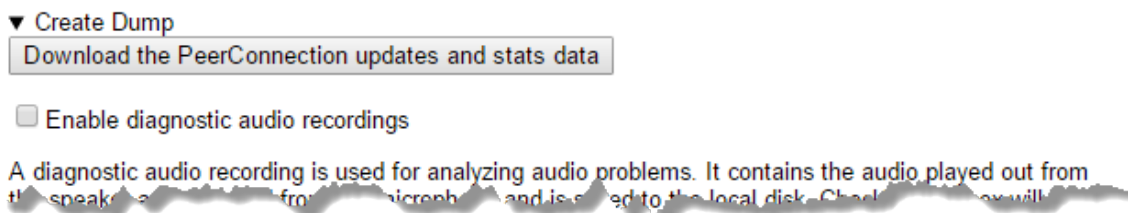
3. Right-click anywhere on the console page and from the displayed menu, select **Save as**.



4. From the **Save As** dialog, select the location to which you want to save the logfile.
5. Accept the default name for the file, and click **Save**.
6. Proceed to **Task B**.

Task B: Create a WebRTC diagnostic file

1. In the Chrome web browser, open a new window or tab.
2. In the Address bar, type `chrome://webrtc-internals` and press the **Enter** key.
3. The following prompt displays:
 - ▶ **Create Dump**
4. Click **Create Dump**.
5. The following information displays:



6. Click **Download the PeerConnection updates and stats data**.
7. Chrome saves a file called `webrtc_internals_dump.txt` in your **Downloads** folder.
8. Proceed to **Task C**.

Task C: Record your IP and if relevant, IPV6 address

1. In the Chrome web browser, open a new window or tab.
2. In the address bar, type `whatsmyip.net` and press the **Enter** key.
3. The **What's My IP** website opens, displaying your current IP address, and (if relevant) your current IPV6 address.



4. Make a note of both the IP address, and the IPV6 address.
5. Proceed to **Task D**.

Task D: Email the files and information to Healthdirect Australia

1. Open your email software, and create a new message.
2. In the **To** field, enter videocallsupport@healthdirect.org.au
3. In the **Subject** field, enter **Video Call Connection Diagnostics**
4. In the **Message** area, enter the IP address information you gathered in **Task C**.
5. Attach the files you created in **Task A** and **Task B** to the message.
6. Click **Send**.

End of procedure

Troubleshoot screen sharing

The Call Screen uses a Google Chrome web browser extension to provide screen sharing features during video calls. Occasionally, problems may arise that are a result of issues with this extension.

Note: Screen sharing is only available to participants in Meeting Rooms, and to providers in a consultation.

In many cases, the **Call Screen** will be able to identify the problem and either resolve it automatically, or walk you through the process of fixing it. However, should you need to take further action, consult the following troubleshooting issues.

Issues

My Call Screen doesn't have a Share Screen button

The screen sharing feature is only available to some participants on desktop and laptop PCs.

If you entered a call from a Waiting Area, you can see shared screens, but you cannot share your own screen.

If you are using a mobile device (smartphone or tablet) to make a video call, you cannot share your screen with other participants. You can, however, view other participants' shared screens.

I clicked the Share Screen button, but nothing happened

One of the following may be true; try to resolve the issue in the following order:

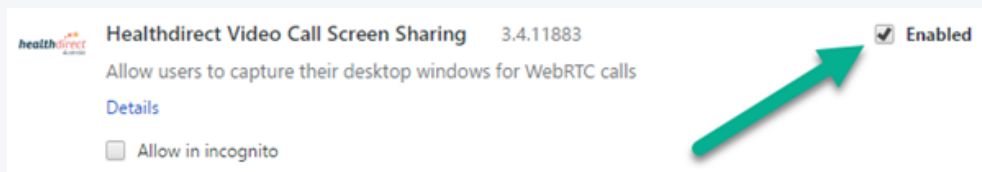
Screen Sharing extension is installed, but disabled

Solution: Enable the Screen Sharing extension

1. Open the Google Chrome Extensions page.
 - a. In Google Chrome's address bar, type `chrome://extensions`
 - b. Press **Enter**.

The Chrome Extension page opens.
2. Scroll down the page and look for an item called **Healthdirect Video Call Screen Sharing**.

Solution: Enable the Screen Sharing extension



3. Make sure that the **Enabled** checkbox is selected.
4. Close the browser extension tab and return to the Call Screen.
5. Click the **Share Screen** button again.



End of procedure

Screen Sharing extension is installed, but out of date

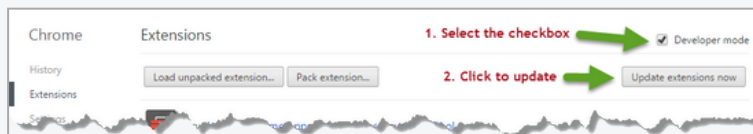
Solution: Update the Screen Sharing extension

The Call Screen should automatically update the extension whenever an updated version is released. However, if this doesn't occur, and you see an 'extension out of date' message, then you can update the extension manually:

1. Open the Google Chrome Extensions page.
 - a. In Google Chrome's address bar, type `chrome://extensions`
 - b. Press **Enter**.

The Chrome Extension page opens.

2. In the **Extensions** page, select the **Developer mode** check-box and then click **Update extensions now**.



3. Close the page.

End of procedure

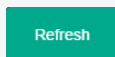
The Call Screen asked me to Refresh the call

The Screen Sharing Extension is installed and enabled, but not working.

Solution: Refresh the Call Screen

If the Call Screen cannot determine why screen sharing is not working, it will prompt you to refresh the page.

1. Click the **Refresh** button.



2. Wait for the Call Screen to reload.
3. Click **Share Screen** again.



End of procedure

Note: If for some reason you cannot click the **Refresh** button, or the page has frozen, press **Ctrl+R** instead (On Mac PCs, this is **Cmd+R**)

I installed the Screen Sharing extension, but it didn't appear to install correctly

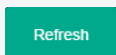
Solution: Repeat the installation

The simplest solution to this problem is to try installing the extension again: click the Call Screen's **Share Screen** button and repeat the installation steps.



If this doesn't work, you may wish to try one or more of the following:

- Click the Call Screen's **Refresh** button, rejoin the call, and click **Share Screen**



- Leave the call, close and restart your web browser, then rejoin the call, and click **Share Screen**
- *(If neither of the above work)* Leave the call, restart your PC, and then rejoin the call, and click **Share Screen**

If none of these are successful, talk to your IT support team.

Solution: Repeat the installation

Note: If for some reason you cannot click the Refresh button, or the page has frozen, press **Ctrl+R** instead (On Mac PCs, this is **Cmd+R**)

The Call Screen tells me that the Screen sharing extension is out of date

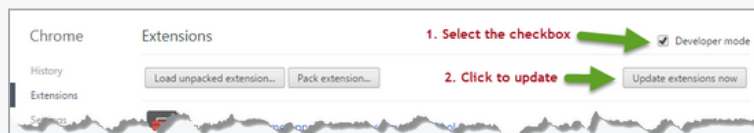
Solution: Manually update your copy of the Screen Sharing extension

The Call Screen should automatically update the extension whenever an updated version is released. However, if this doesn't occur, and you see an 'extension out of date' message, then you can update the extension manually:

1. Open the Google Chrome **Extensions** page.
 - a. In Google Chrome's address bar, type `chrome://extensions`
 - b. Press **Enter**.

The Chrome Extension page opens.

2. In the **Extensions** page, select the **Developer mode** check box and then click **Update extensions now**.



3. Close the page.

End of procedure

I'm making a call from an 'Incognito' browser window, and Screen Sharing doesn't work

Solution: Configure the Screen Sharing extension to work in Incognito mode

By default, Google Chrome does not allow extensions to work when it runs in Incognito mode. However, you can configure the extension to work in Incognito windows.

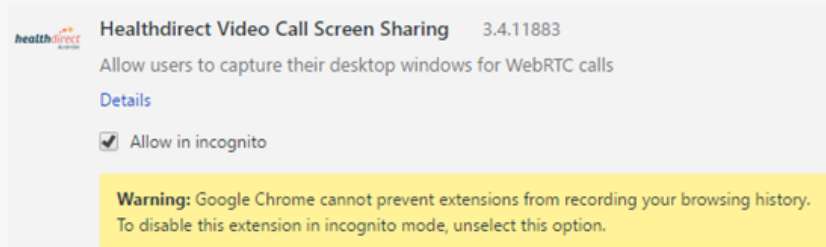
1. Open the Google Chrome **Extensions** page.
 - a. In Google Chrome's address bar, type `chrome://extensions`

Solution: Configure the Screen Sharing extension to work in Incognito mode

- b. Press **Enter**.

The Chrome Extension page opens.

2. Scroll down the page and look for an item called **Healthdirect Video Call Screen Sharing**.



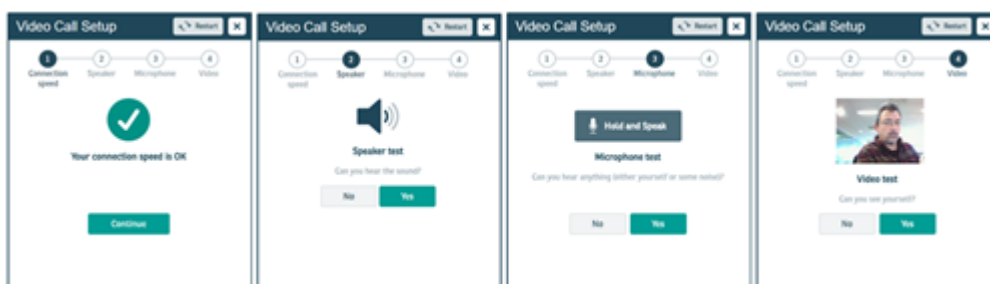
3. Make sure that the **Allow in incognito** check box is selected.
4. Close the browser extension tab and return to the Call Screen.
5. Click the **Share Screen** button again.



End of procedure

Troubleshoot device setup

When you make a video call, or use the **Test call** button (available on some provider websites alongside the **Start video call** button), Healthdirect Video Call runs a short series of tests to make sure that you have what you need to make a successful call. The following illustration shows what you see when each test occurs; this topic discusses what to check, should any of those steps be unsuccessful:



Connection speed test

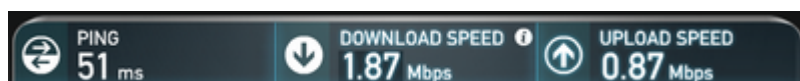
My connection speed test failed

To make a successful video call, you need an internet connection that receives and transmits data quickly enough to allow for an acceptable level of video quality between you and the other participants in the call.

How can I find out the speed and latency of my internet connection?

You can test your speed and latency at www.speedtest.net.

When the test completes, the results will look something like this:



Compare your results to the following minimum and recommended values.

- **Recommended latency** (also called 'ping'): Less than 150 milliseconds (ms)
- **Minimum download speed**: 0.8 Megabits per second (Mbps) - provides lower-quality video
Recommended: 1.1 Mbps or better
- **Minimum upload speed**: 0.25 Mbps - provides lower-quality video to other participants
Recommended: 0.7 Mbps or better

A wired internet connection will provide the best video quality, but you can also use a fixed-wireless, or mobile 3.5/4G data service.

How can I improve the quality of my existing connection for video calling?

- If you are using a wireless home or office network, try moving closer to - or at least in line-of-sight of - the Wi-Fi base station.
- If you are using a mobile internet connection, try moving to an area with better reception.
- Make sure that no one else in your home is using the same internet connection, and streaming video or downloading large files. This will substantially reduce the bandwidth available to make a good quality video call.
- Make sure that you don't have more than one connection to the internet active at the same time (for example a wired and a wireless connection running at the same time)
- Make sure that you have not used all of your internet plan's data allocation for the month, which often results in your internet provider reducing the speed of your service.
- When you first switch on your computer after not using it for a while, it may automatically download updates. This will reduce available bandwidth. You can either wait for the updates to finish, or postpone the downloads until after you have made your video call.

Speaker test

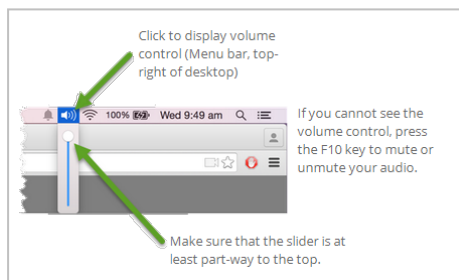
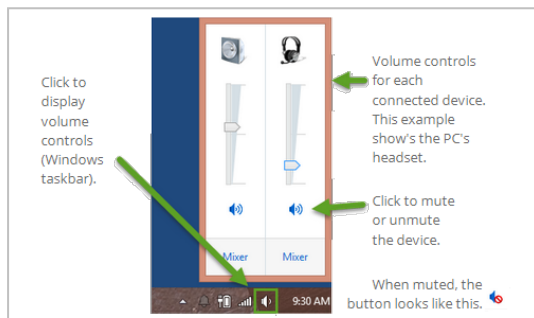
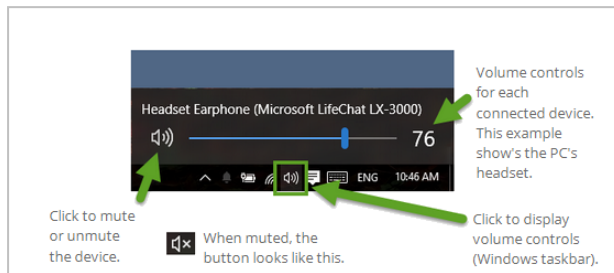
I can't hear any sound from my speakers/headset

Are your speakers separate to your device? (also applies to earphones/headphones)

- (*Speakers only*) If your speakers are powered separately, make sure that their power adapter is plugged in and switched on.
- Make sure that the speakers are correctly plugged into the relevant USB port or audio output jack.
- If your speakers or headphones have a separate volume control, make sure that it is set to an audible level.

Have you checked the device's volume?

- Make sure that the audio volume on your device is not on mute.



- Make sure that the device's volume is turned up to an audible level.
- Check if your audio is working by playing something else on your device. If you can't hear anything then, make sure that the speakers are not disabled as an audio device.

Microphone test

I can't hear anything when I hold the test button and speak into the microphone

Is your microphone separate to your device? (can also apply to earphones or a headset)

- Is it plugged in?
- If it is plugged in, is it plugged in *firmly*?

Tip: If your microphone uses a USB plug, unplug it, and plug it in again (this forces your computer to try and detect it again).

Have you checked the microphone volume?

- Check that the volume on your device, headset microphone, or external camera is turned up and not muted.

Note: On smartphones, the microphone will always be active, as it is also accessed by the telephone.

- Check that the microphone is enabled in your device's Sound or Audio settings.
- Make sure that the Call Screen is using the correct microphone.

Important: If you have checked all of the above, and you still can't hear anything during the microphone test, click **Yes** and proceed to the next step. It is possible that only the wizard has trouble playing your audio back to you, and your microphone will work fine during the actual video call. (This is a known issue that occurs in rare cases.)

I can't hear myself very clearly

This could be due to additional noise like fan noise from your computer, background noise in the room, feedback from your speaker audio being picked up by your microphone, or just being too far away from the microphone.

- Make sure that the Call Screen is using the correct microphone.
- If you have an **external USB web camera**, its microphone will likely be better than an inbuilt one and pick up less noise from the computer.
- If you have a **headset with a microphone**, it will provide the clearest audio with least background noise.
- If you have a **USB echo-cancelling combined microphone/speaker unit**, make sure it is selected for use as both the microphone and speaker.

Video test

I can't see myself in the video test window

Make sure that the Call Screen is using the correct camera.

Is your web camera a separate peripheral?

- Is it plugged in?
- If it is plugged in, is it plugged in *firmly*?

Tip: Unplug the camera, and plug it in again (this forces your computer to try and detect it again)

- You may need to update your web camera's software. Check the web camera manufacturer's website for updates to supporting software or drivers.

Is your camera built in to the device (such as on laptop PCs, tablets, and smartphones)?

Can other people see anything from your side?

- **No:** Make sure that your camera has not been disabled in the device's settings.
- **Yes:** Make sure that your device is using its front camera (the one on the same side as the screen).

I think I'm using the wrong camera

- If the video is showing the room in front of you, and not you, the device's front-facing camera may have been selected by default.
- Make sure that the Call Screen is using the correct camera.

Tip: If you have an external USB web camera, it may provide better quality video than a built-in one.

My test image is very dark

Bright light behind you will cause the camera to darken. If possible, have the light to one side, or in front of you, behind the camera. This will allow the person at the other end to see you better.

Tip: Make sure that there are no bright lights or windows that the camera can see. Most will be behind you, but if your web camera has a wide field-of-view, this may also include light sources to your left and right rear as well.

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