## A non-technical explanation of how images are downloaded and displayed in browsers:

In a website, such as SUNLearn, the traffic to and from that website fluctuates from minute to minute, one way to help with the loading times of images in SUNLeearn is to create it using interlaced or progressive images.

Interlaced or progressive images look and function almost the same way as a non-interlaced or non-progressive images with one exception - how they appear to load in your browser. If you have a large image in your assessment and a student with a slower Internet connection comes to view that image, a non-interlaced image will simply be blank until the data transfers and then slowly it will appear from top to bottom.

An interlaced image will appear completely, but it will be highly pixelated. As the data transfers, the picture will begin to get clearer and clearer until the full resolution becomes apparent.

Interlacing or progressive formats are supported by all the top image formats: PNG, GIF & JPEG,

The advantage of an interlaced image is that a viewer can start seeing the image as a whole (although not clear) from the very start of the page load. Believe it or not, even though both types of images load at about the same speed, the perception is that the interlaced image loads faster!

However, the issue that we faced on the 28 April was that during the download of the ECG images and the data stream was interrupted on some student devices/connections and students were left with an incomplete pixelated image.

I trust this explanation will help you understand the challenges that students face with these online assessments during the COVID 19 lock down.

Pressing F5 once the page has finished loading will force a refresh of the page and for the image to be downloaded again from SUNLearn. This is not the same as pressing NEXT!

Students can also look for the  $\odot$  symbol on the address bar of their browser to refresh their browser.

I hope that this articulates the way images are displayed in SUNLearn.