If Blood Is Red, Why Are Veins Blue?

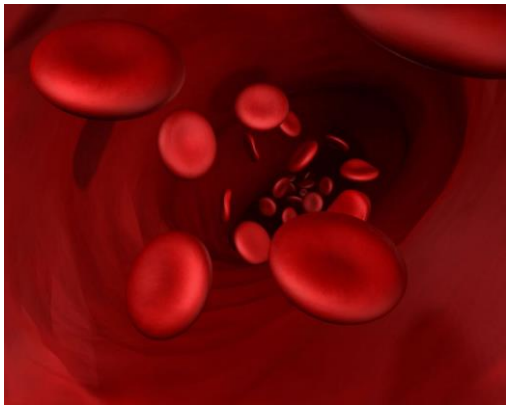
The reason blood in your veins appears blue, even though blood is red, is because for you to see them light has to be able to permeate through the skin to illuminate them. Blue and red light are of different wavelengths, so when the light passes through your skin only the blue light manages to reach your veins and reflect back, this is due to the layer of subcutaneous fat, the layer of fat below the dermis. Meanwhile any other light of warmer colours is absorbed by the skin, as it can only reach that far. The veins also appear darker, so therefore they stand out more, because blood absorbs light and they are de-oxygenated which makes them more of a brown/dark red colour.

However, blood vessels closer to the surface of the skin will still appear red, this is because blue light doesn't penetrate the skin as well as red light does, so almost all of the blue light will be absorbed by this blood vessel.

Whereas if a vessel was around 0.5mm deep, like the ones on wrists, the skin surrounding it will reflect back to our eyes more red light than blue light. Vision is also affected by relative perception, this is when certain colours are placed next to each other they might seem more vibrant to the eye.

References:

http://www.livescience.com/32212-if-blood-is-red-why-are-veins-blue.html



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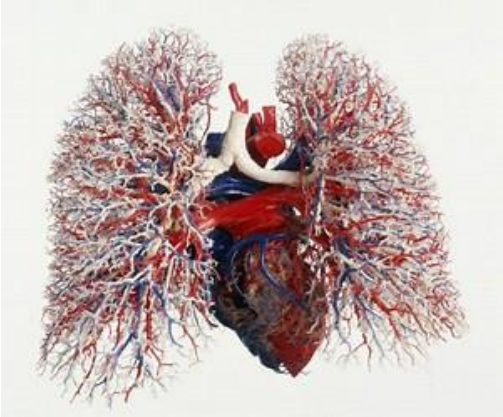
Blood is always red, actually. Veins look blue because light has to penetrate the skin to illuminate them, blue and red light (being of different wavelengths ...

http://chemistry.about.com/od/lecturenoteslab1/a/Why-Veins-Look-Blue.htm



Why Veins Look Blue

chemistry.about.com

Your blood is always red, even when it is deoxygenated, so why do your veins look blue? They aren't blue, either, but here is the reason why veins look ...

http://scienceblogs.com/scientificactivist/2008/04/17/why-are-veins-blue/

Why Are Veins Blue ? – The Scientific Activist

scienceblogs.com

When someone asks the question “why are veins blue?” a likely response is that they’re blue because the blood in veins is deoxygenated. While it’s ...