**What Color is Blood?**

In humans and other hemoglobin-using creatures, oxygenated blood is bright red. This is due to oxygenated iron in the red blood cells. Deoxygenated blood is a darker shade of red, which can be seen during blood donation and when venous blood samples are taken. However, due to an optical effect caused by the way in which light penetrates through the skin, veins typically appear blue in color. This has led to a common misconception that venous blood is blue before it is exposed to air. Another reason for this misconception is that medical charts always show venous blood as blue in order to distinguish it from arterial blood which is depicted as red on the same chart. The blood of horseshoe crabs is blue, which is a result of its high content in copper-based hemocyanin instead of the iron-based hemoglobin found, for example, in humans.

De-oxygenated human blood is **NOT** blue. Blood in veins is **NOT** blue. Human blood is **ALWAYS red** regardless of whether it is venous or arterial blood, regardless of whether it is oxygenated or deoxygenated, regardless of whether it is inside the body or outside the body. **Human blood is red.** Veins **appear** blue from outside the skin because of the way light interacts with skin and blood - NOT because blood is blue in color.