Corneal neovascularization is abnormal blood vessel growth in the cornea, the clear window on the front of the eye. A normal, healthy cornea has no blood vessel growth. Blood vessels normally circle the cornea at the limbus, the junction of the clear cornea and the white part of the eye. The limbus is also where the colored iris ends. Any growth beyond this point into the clear cornea (threatening the portion you see through) usually requires close follow up and monitoring.

Corneal neovascularization has many different causes, among them infections, injury and inflammation. One of the most common reasons we see for neovascularization is improper contact lens wear. Usually this means contact lenses that have been worn too many hours or for too many years. Many times a particular contact lens will not breathe properly, or it is not the right lens for a particular persons' cornea. Most contact lenses decrease oxygen transmission to some extent, and blood vessel growth in the cornea is a "barometer" that tells us contact lens wear is not advancing safely.

To halt the growth of these abnormal blood vessels, it may be necessary to decrease or eliminate contact lens wear, refit to a higher oxygen permeable lens or utilize anti-inflammatory medicines. The abnormal blood vessels will never disappear completely, always threatening to refill with blood, but if controlled contact lens wear can be continued in many instances. In advanced cases the tissue overlying the blood vessels will turn opaque with scar tissue, further damaging the cornea. Also, advanced corneal neovascularization can present a situation where future eye surgery is difficult, or contact lens wear is dangerous. If the blood vessel growth is bad enough and the cornea compromised, a person may not be able to undergo laser refractive surgery. This leaves a patient with little choice but eyeglasses.