

3.2 Eye Redness

When assessing eye redness, the first question to ask is:
Which part of the eye is red??

CONJUNCTIVA:

- The conjunctiva can be inspected without additional manipulation in the region of the medial canthus (third eyelid), as can the superior bulbar conjunctiva, i.e., in the scleral region superior to the cornea.
- If not pigmented, the conjunctiva is always more or less red.
 - Excitation during the examination (blood pressure!).
 - Irritation – due to the use of eye drops.
 - Ectropion of the lower lid leads to constant exposure of the conjunctiva, making it even redder.
- A Schirmer tear test is always required for diagnosis of red eye!

SCLERA:

- When scleral redness is found, it is important to determine exactly which structure is affected: The bulbar conjunctiva above the sclera or the sclera itself?
- Unlike conjunctival blood vessels, scleral vessels are non-displaceable (probe with forceps).
- What is present: diffuse reddening (capillary hyperemia) or vascular congestion ("injected vessels")?
- Scleral vessels usually run a straight course and submerge and disappear just before the limbus. Conjunctival vessels become clearly convoluted when congested. They extend up to the limbus.
- When a drop of adrenaline solution is instilled into the eye, capillary conjunctival hyperemia subsides immediately (see Part 1).

CORNEA:

- The cornea should always be transparent. Vascularization of the cornea is always pathological.
- The blood vessels always emerge from the limbus.
- Superficial stromal vascularization exhibits a branching pattern (tree-like). This develops quickly.
- Deeper vascularization arising from the long ciliary arteries exhibits a parallel line pattern (comb-like). Here, vascular growth occurs at a much slower rate (ca. 1 mm per week).
- Causes of corneal vascularization:
 - Ulceration, injury
 - Chronic irritation (KCS, distichia)
 - Immune-mediated inflammation (KCS)
- Once they develop, the vessels may remain in the cornea permanently, even after the underlying cause has been resolved.

- So-called “ghost vessels” may also develop. In this case, empty vessel tubes are left behind after inflammation has subsided and the blood supply is cut off. This is a typical feature of FHV-1-related keratitis in cats.

IRIS:

- Hyperemia of the iris is clearly visible, especially in animals with a light-colored iris (in cats; blue iris in dogs).
- Since the iris of most dogs is dark brown, making it usually necessary to carefully inspect the iris under magnification. Oftentimes, the iris will then appear swollen and will lack sharp surface contours (“velvety” appearance).



Figure 148

Aniridia of the right eye in an Australian Shepherd. There is no iris and a bright red fundus reflex can be seen.

Eye Redness (Diseases)

