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WHAT DO WE WANT TO ACHIEVE?

Scientists are investigating which pluripotent or adult stem cell types can be used to treat blindness. One focus of stem cell research is how stem cells can contribute to repairing or restoring the retina and the cornea.

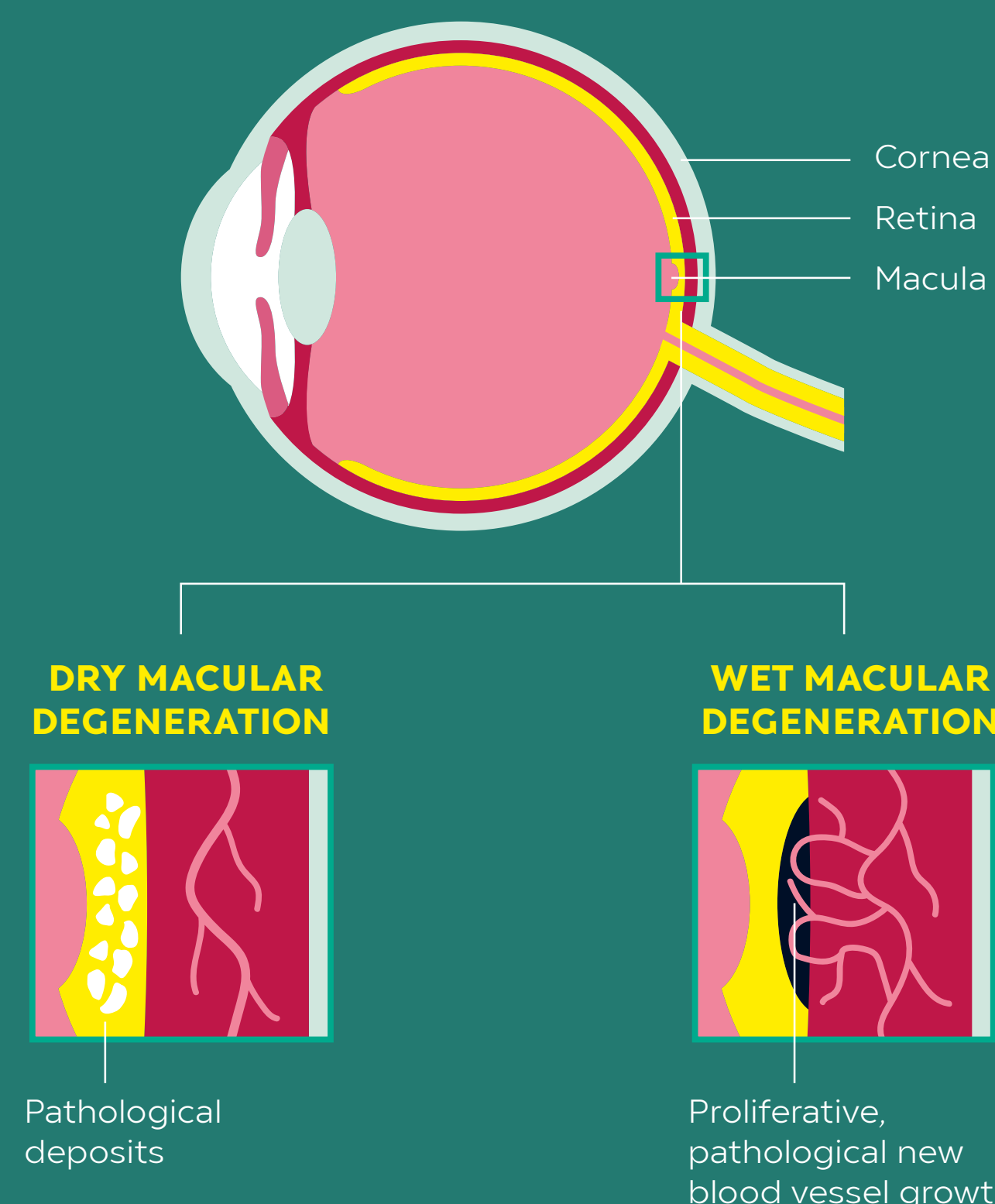
STEM CELL THERAPY OFFERS THE HOPE FOR A CURE

Blindness and visual impairment

Blindness deprives a person of one of their main senses. The vision loss may be caused by damage to the cornea or by age-related macular degeneration (AMD). In patients with AMD, damage to the retina impairs visual acuity. Up to now, most of the reasons for blindness have barely been treatable, or not at all. But in some cases, stem cell therapy has already been successful.

WHERE DO WE STAND?

Macular degeneration



1
Investigating
types of stem
cells in the eye

2
Preventing the
causes of
blindness

3
Restoring tissue
in the eye

4
Developing
transplant
methods

What do we know?

In patients with macular degeneration, damaged retinal pigment epithelial cells lose the ability to support the retina, which is responsible for image processing in the eye, leading to vision loss. For damage to the cornea, however, stem cell therapy (Holoclar®) has now been used to replace the damaged corneal cells and, in so doing, retain vision. To do this, limbal stem cells must still be present in the patient's eye.

What are we investigating?

For patients with cornea damage, researchers are searching for treatment methods that are not dependent on the presence of the patient's own stem cells, but that restore vision through a stem cell transplant. For the treatment of macular degeneration, clinical studies are being carried out that study how cell layer obtained from stem cells can repair the damaged retina.