

## The Keratoconus Year

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### INTRODUCTION

Several events have marked the ophthalmological practice in this year 2016, in terms of innovation, equipment and consumables as well as diagnosis and treatment.

One of the most striking facts is the obtaining, in April, of the FDA authorization for corneal collagen cross-linking (CXL) in the treatment of keratoconus, when this process is widely used outside the United States since its Developed in Germany by Dr Theo Seiler in 1998. This technique allows the stabilization of the evolution of the keratoconus by stiffening the cornea. Under the effect of UVA, the riboflavin instilled on the cornea generates free radicals at the origin of covalent bonds from the corneal collagen. Several studies have demonstrated the effectiveness of this technique; variants of the procedure have been proposed to bypass certain difficulties encountered during the CXL. The accelerated CXL (by increasing the intensity and reducing the exposure time) makes it possible to reduce the total time of the procedure; the use of a contact lens makes it possible to propose this treatment even in the case of thin pachymetry.

CXL alone or in combination with other processes (PRK, intra-corneal rings) becomes essential in the management of keratoconus; it is the first step from the age of 12 years, before the introduction of an optical treatment.

Today, several companies offer more and more efficient devices; it is even possible to use a removable CXL device mounted on the slit lamp for easier handling and better performance.

The use of CXL has demonstrated its destructive effect on living organisms and keratocytes. Therefore, PACK-CXL (photo activated chromophore for infectious keratitis) has been proposed for the treatment of corneal infections, in the case of severe ulcers and then alone as a first-line treatment for bac

terial infections. It may help reduce the global burden of microbial resistance to antibiotics and other therapeutic agents.

The celebration of the World Keratoconus Day, for the first time this year on November 10th, testifies to the interest of the medical ophthalmological community in keratoconus and the need to support patients, who are often helpless in the face of the multiplicity of solutions and the lack of a single consensus of care.

The keratoconus, far from being a fashionable phenomenon, remains a potentially blinding capricious disease requiring precise and early clinical and therapeutic diagnosis and whose treatment will firstly involve corneal cross-linking to stabilize the disease and then discuss on a case by case basis the different solutions (Glasses, lenses, PRK, rings or implants) to obtain optimal refraction. A long way over but much remains to be done.