

## Keratoconus Management: Role of GP Contact Lenses

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### Editorial

Keratoconus is a corneal disorder progressive characterized by thinning and steepening of the central and paracentral cornea, which leads to protrusion [1]. The exact cause of the disease remains to be fully elucidated although its etiology probably is multifactorial with a genetic predisposition to keratoconus influenced by external environmental factors (eye rubbing and atopy) [2] with different systemic involvement [3]. In the early stages, keratoconus can be managed with spectacles or contact lenses (CL), but when keratoconus progresses, other surgical techniques are often required.

For example, anterior lamellar (dDALK) or penetrating keratoplasty (PK) permit than 3 of 4 patients achieve best-corrected visual acuity of 20/40 or better [4]. Intracorneal ring segment (ICRS) are proposed to increase corneal stability and decrease the astigmatism asymmetry normalizing the corneal contour with slight improvement of patients' visual acuity [5,6]. Corneal collagen cross-linking (CXL) is a common technique proposed to reduce disease progression with a light improvement of visual acuity (1 to 2 Snellen lines) [7].

However, visual rehabilitation of keratoconus patients with gas-permeable (GP) CL permits to improve patients' visual acuity until levels near to 20/208; masking corneal irregular astigmatism improving patients' vision. This management's option allows improving patients' quality of live [8,9] and delays the need of corneal graft. Unfortunately, GP CL wear do not stop disease progression [6].

So, future challenges in keratoconus management could require two major milestones; proposing a safe, secure and effective technique to reduce disease progression (minimizing the economic cost to patients and payers, especially if corneal graft will be necessary [10]) and improving GP CL fitting techniques to simplify and facilitate this correction in early or mild disease stages improving the visual rehabilitation. A significant new on-line open-access tool ([www.calculens.com](http://www.calculens.com)) has been recently developed to help eye care practitioners in keratoconus patient management fitting GP CL.

In summary, GP CL remains fundamental in visual rehabilitation of keratoconus patient representing the major nonsurgical option to

manage these patients. Therefore, co-management between Ophthalmologist, CL practitioners and Optometrist will help to provide best care to keratoconus patients to avoid or delay the need of corneal transplantation improving patient quality of life.

### References

1. Gomes JA, Tan D, Rapuano CJ, Belin MW, Ambrósio R, et al. (2015) Global consensus on keratoconus and ectatic diseases. *Cornea* 34: 359-369.
2. McGhee CN, Kim BZ, Wilson PJ (2015) Contemporary treatment paradigms in Keratoconus. *Cornea* 34: S16- S23.
3. Bahar I, Vinker S, Livny E, Kaiserman I (2010) Possible Association between Keratoconus and Renal Diseases. *J Clin Exp Ophthalmol* 1:112.
4. Arnalich-Montiel F, Alió del Barrio JL, Alió JL (2016) Corneal surgery in keratoconus: which type, which technique, which outcomes? *Eye and Vision* 3:2.
5. Poulsen DM, Kang JJ (2015) Recent advances in the treatment of corneal ectasia with intrastromal corneal ring segments. *Curr Opin Ophthalmol* 26: 273-277.
6. Mandathara PS, Stapleton FJ, Willcox MD (2016) Outcome of Keratoconus Management: Review of the Past 20 Years' Contemporary Treatment Modalities. *Eye Contact Lens* 11.
7. Meiri Z, Keren S, Rosenblatt A, Sarig T, Shenhav L, et al. (2016) Efficacy of corneal collagen cross-linking for the treatment of Keratoconus: A systematic review and Meta-Analysis. *Cornea* 35: 417-428.
8. Visser ES, Wisse RP, Soeters N, Imhof SM, Van der Lelij A (2016) Objective and subjective evaluation of the performance of medical contact lenses fitted using a contact lens selection algorithm. *Cont Lens Anterior Eye* 22: S1367-0484.
9. Ortiz-Toquero S, Perez S, De Juan V, Rodriguez G, Agustin Mayo-Iscar A, et al. (2015) The influence of the refractive correction on the Vision-Related Quality of Life in keratoconus patients. *Quality of Life Research* 25:1043-251051.
10. Rebenitsch RL, Kymes SM, Walline JJ, Gordon MO (2011) The lifetime economic burden of keratoconus: a decision analysis using a markov model. *Am J Ophthalmol* 151: 768-773.