Methods of stabilizing collagen fibrils in a cornea comprising administering a composition comprising a protein that crosslinks collagen fibrils and a pharmaceutically acceptable carrier are disclosed. Patients that would benefit from the practice of the methods include patients' having a refractive surgical procedure, patients with keratctasia, and patients with keratodconus. In some embodiments, a protein that crosslinks collagen fibrils by binding to each of two different fibrils to form a bridge there between is used in the method. An example of a protein of this type is decorin. In other embodiments, a protein that crosslinks collagen fibrils by catalyzing the formation of a covalent bond between an amino acid in one collagen fibril and an amino acid in a second collagen fibril is used. Proteins that catalyze formation of covalent bonds between collagen fibrils include transglutaminase.
WHAT IS CLAIMED IS:

1. A method of stabilizing collagen fibrils in a cornea, comprising administering a composition comprising a protein that crosslinks collagen fibrils and a pharmaceutically acceptable carrier to the eye of a patient who is scheduled to undergo a refractive surgical procedure.
2. The method of claim 1, wherein the protein is decorin.
3. The method of claim 1, wherein the refractive surgical procedure is laser in-situ keratomileusis (LASIK).
4. A method of stabilizing collagen fibrils in a cornea, comprising administering a composition comprising a protein that crosslinks collagen fibrils and a pharmaceutically acceptable carrier to the eye of a patient who is undergoing a refractive surgical procedure.
5. The method of claim 4, wherein the protein is decorin.
6. The method of claim 4, wherein the refractive surgical procedure is laser in-situ keratomileusis (LASIK).
7. A method of stabilizing collagen fibrils in a cornea, comprising administering a composition comprising a protein that crosslinks collagen fibrils and a pharmaceutically acceptable carrier to the eye of a patient who has undergone a refractive surgical procedure.
8. The method of claim 7, wherein the protein is decorin.
9. The method of claim 7, wherein the refractive surgical procedure is laser in-situ keratomileusis (LASIK).
10. A method of treating keratectasia, comprising administering to the eye of a patient who has keratectasia a composition comprising a protein that crosslinks collagen fibrils and a pharmaceutically acceptable carrier.
11. The method of claim 10, wherein the protein is decorin.
12. The method of claim 10, wherein the keratectasia develops following a refractive surgical procedure.
13. The method of claim 12, wherein the refractive surgical procedure is laser in-situ keratomileusis (LASIK).

15. The method of claim 14, wherein the protein is decorin.