Claims

1. A contact lens for use in preventing or slowing the development or progression of myopia, the lens including:

an optic zone having an optic axis; and

a peripheral zone surrounding the optic zone, the peripheral zone having a variation in thickness configured to control rotation of the lens;

wherein the optic zone comprises:

a central region, the central region having a base power provided by at least one surface having a curvature, the central region thereby focusing light from distant point objects to a distal focal surface, said light forming a blur circle or ellipse as it passes through a proximal focal surface; and

an annular region circumferentially surrounding the central region and including an add power region having an add power provided by at least one surface having a curvature, the add power being 0.5 D or more and the area of the add power region being less than 75% of the area of the annular region;

wherein a series of points defining centres of curvature of the add power region form a segment of an annulus, the add power region thereby focusing light from distant point objects to form a focused arc at the proximal focal surface.

2. A contact lens according to claim 1, wherein the area of the add power region is less than 25% of the area of the annular region.

3. A contact lens according to claim 1 or claim 2, wherein the variation in thickness of the peripheral zone is symmetric about a lens diameter, wherein the lens diameter divides the annular region into two halves, and wherein the add power region is confined to one half of the annular region.

4. A contact lens according to claim 3, wherein each half of the annular region is divided into an upper quadrant and a lower quadrant, and wherein the add power region is confined to a single quadrant.

5. A contact lens according to any preceding claim, wherein the add power region has a curvature providing an add power of 5.0 D or more.

6. A contact lens according to any preceding claim, wherein annular region further comprises a lower add power region having a curvature providing an add power of between 0 D and 5.0 D.

7. A contact lens according to any preceding claim, wherein the annular region further comprises a base power region, having the curvature providing the base power and centred on the centre of curvature of the central region.

8. A contact lens according to claim 7, wherein at least 25% of the area of the annular region has the base power.

9. A contact lens according to any preceding claim, wherein the add power region is a continuous region having an area that is approximately 50% of the area of the annular region, and the area of the base power region is a continuous region having an area that is approximately 50% of the annular region.

10. A contact lens according to any preceding claim, wherein the add power region has an asymmetric power profile.

11. A contact lens according to claim 6, wherein the lower add power region has an asymmetric power profile.

12. A contact lens according to any preceding claim, wherein the annular region has a substantially circular outer circumference.

13. A contact lens according to any of claims 1-11, wherein the annular region has a substantially elliptical outer circumference.

14. A contact lens according to any preceding claim, wherein the curvatures are curvatures of the anterior surface of the lens.

15. The contact lens according to any preceding claim, wherein the central region is substantially circular in shape and has a diameter of between 2 and 7 mm.

16. The contact lens according to any preceding claim, wherein the annular region extends radially outwards from a perimeter of the central region by between 0.5 and 1.5 mm.

17. The contact lens according to any preceding claim, wherein the base power is between 0.5 D and -15.0 D.

18. The contact lens according to any preceding claim, wherein the lens comprises an elastomer material, a silicone elastomer material, a hydrogel material, or a silicone hydrogel material, or mixtures thereof.

19. The contact lens according to any preceding claim, wherein the lens is formed using a lathing process.

20. ~~The~~ A method of manufacturing a contact lens, the method comprising:

forming a contact lens, the lens including an optic zone and a peripheral zone surrounding the optic zone, the peripheral zone having a variation in thickness configured to control rotation of the lens, the optic zone comprising:

wherein the optic zone comprises:

a central region, the central region having a base power provided by at least one surface having a curvature, the central region thereby focusing light from distant point objects to a distal focal surface, said light forming a blur circle or ellipse as it passes through a proximal focal surface; and

an annular region circumferentially surrounding the central region and including an add power region having an add power provided by at least one surface having a curvature, the add power being 0.5 D or more and the area of the add power region being less than 75% of the area of the annular region;

wherein a series of points defining centres of curvature of the add power region form a segment of an annulus, the add power region thereby focusing light from distant point objects to form a focused arc at the proximal focal surface.

~~21. A method of reducing progression of myopia, comprising:~~

~~providing a contact lens according to any one of claims 1 to 19 to a myopic person who is able to accommodate for varying near distances.~~

~~22. The method of claim 21, further comprising using the ballasting means to orient the lens such that the add power region focuses light at an identified target region of the person's retina.~~