CLAIMS

1. A method of treating myopia, hyperopia, or presbyopia of a subject by replacing tissue in the subject's capsular bag comprising the steps of:

(a) calculating a refractive index correction factor based on an estimate of the refractive power correction required, if any, derived by measurement and/or examination of the subject's eye;

(b) determining the sum of the refractive index correction factor of step (a) if any with a neutral reference refractive index of between 1.421 and 1.450;

(c) obtaining an ocular replacement material having a refractive index of the sum determined in step (b); and

(d) replacing the tissue in the subject's capsular bag with the ocular replacement material.

2. A method of treating presbyopia of a subject by replacing tissue in the subject's capsular bag comprising the steps of:

(a) obtaining an ocular replacement material having a refractive index equivalent to a neutral reference refractive index of between 1.421 and 1.450; and

(b) replacing the tissue in the subject's capsular bag with the ocular replacement material.

3. A method of determining the IOL refractive index for an ocular replacement material for replacing tissue in the capsular bag comprising combining a neutral reference refractive index of between 1.421 and 1.450 with a refractive index correction factor ascertained by reference to a refractive power required to correct a patient's refractive error.

4. A method of producing an ocular replacement material for a subject having ametropia or presbyopia comprising:

(a) calculating a refractive index correction factor based on an estimate of the

refractive power correction required, if any, derived by measurement and/or examination of a subject's eye;

(b) determining the sum of the refractive index correction factor of step (a) if any with a neutral reference refractive index of between 1.421 and 1.450; and

(c) producing an ocular replacement material having a refractive index of the sum determined in step (b).

5. A method according to any one of the preceding claims wherein the neutral reference refractive index is between 1.426 and 1.442.

6. A method according to any one of the preceding claims wherein the neutral reference refractive index is 1.427.

7. Use of an ocular replacement material for replacing tissue in a subject's capsular bag having a refractive index of the sum of: (a) a neutral reference refractive index of between 1.421 and 1.450; and (b) a refractive index correction factor ascertained by reference to refractive power required to correct the patient's refractive error, for the manufacture of an accommodating intraocular lens for use in treating myopia, hyperopia or presbyopia.

8. A method according to any one of claims 1 to 6 in which the ocular replacement material is a polymer cured in situ from a cross-linkable siloxane macromonomer.

CLAIMS

1. A method of producing an ocular replacement material for a subject having ametropia or presbyopia, the method comprising:
   (a) determining a refractive index correction factor based on an estimate of the refractive power correction required, if any, derived by measurement and/or examination of the subject's eye;
   (b) determining the sum of (i) the refractive index correction factor of step (a), if any, with (ii) a neutral reference refractive index of between 1.426 and 1.442; and
   (c) producing an ocular replacement material having a refractive index of the sum of (i) and (ii) determined in step (b).

2. A method of determining the intraocular lens refractive index for an ocular replacement material for replacing tissue in a subject's capsular bag, the method comprising combining a neutral reference refractive index of between 1.426 and 1.442 with a refractive index correction factor ascertained by reference to a refractive power required to correct the subject's refractive error.

3. A method of producing an ocular replacement material for a subject having ametropia or presbyopia, the method comprising selecting an ocular replacement material having a refractive index determined by summing (i) a refractive index correction factor based on an estimate of the refractive power correction required, derived by measurement and/or examination of the subject's eye, and (ii) a neutral reference refractive index of between 1.426 and 1.442.

4. A method according to any one of claims 1 to 3, wherein the neutral reference refractive index is between 1.426 and 1.438.

5. A method according to any claim 4, wherein the neutral reference refractive index is 1.427.

6. A method according to any one of claims 1 to 5, wherein the ocular replacement material is curable in situ.

7. A method according to any one of claims 1 to 6 in which the ocular replacement

material is a polymer cured in situ from a cross-linkable siloxane macromonomer.

8. A method according to any one of claims 1 to 7, wherein the ocular replacement material is shaped by the subject's capsular bag.

9. Use of an ocular replacement material for replacing tissue in a subject's capsular bag, the ocular replacement material having a refractive index of the sum of: (a) a neutral reference refractive index of between 1.426 and 1.442; and (b) a refractive index correction factor ascertained by reference to refractive power required to correct a subject's refractive error, for the manufacture of an accommodating intraocular lens for use in treatment of myopia, hyperopia or presbyopia.

10. Use of an ocular replacement material for replacement of tissue in a subject's capsular bag, the ocular replacement material having a refractive index equivalent to a neutral refractive index of between 1.426 and 1.442, for the manufacture of an accommodating intraocular lens for use in treating presbyopia.

11. The use of claim 9 or 10, wherein the ocular replacement material has a neutral reference refractive index between 1.426 and 1.438.

12. The use of claim 11, wherein the ocular replacement material has a neutral reference refractive index of 1.427.

13. The use of any one of claims 9 to 12, wherein the ocular replacement material is curable in situ.

14. The use of any one of claims 9 to 13, in which the ocular replacement material is a polymer cured in situ from a cross-linkable siloxane macromonomer.

15. The use of any one of claims 9 to 14, wherein the ocular replacement material is shaped by the subject's capsular bag.

16. An accommodating intraocular lens for correcting refractive error in an eye, or maintaining the refractive power of an eye, formed from a polymer ocular replacement material formed in situ from a cross-linkable siloxane macromonomer and having the refractive index calculated by the method of claim 2.