

Appendix 1: Search Strategy

Number	Searches	Results
1	ophthalmic viscosurgical device/ or ([ophthalmic adj2 {viscoelastic or viscosurgical*}] or DisCoVisc or "Healon 5" or OcuSeal or DuoVisc or Provisc or Viscoat or Viskoat).mp.	1471
2	exp eye surgery/ or exp cataract extraction/ or lens implantation/ or exp refractive surgery/ or exp vitreoretinal surgery/ or exp eye disease/su or anterior eye chamber/	324300
3	(viscosurgical device or OVD or OVDs or [viscoelastic adj {substance? or agent}]).mp.	3442
4	2 and 3 [OVD and ophthalmic surgery]	1522
5	hyaluronic acid/ or chondroitin sulfate/ or (hyaluronate or [chondroitin adj3 {sulfate or sulfuric sulphate}] or chondroitinsulph or chondroitinsulf).mp.	96736
6	Alcon.mp.	9620
7	5 and 6 [Alcon produced materials]	360
8	4 and 7	76
9	1 or 4 or 8	2007
10	limit 9 to English language	1801
11	limit 10 to human	1480
12	11 not (editorial or letter or note or short survey or tombstone).pt.	1310
13	limit 12 to yr="1996 -Current"	1195
14	13 use oemezd	837
15	([ophthalmic adj2 {viscoelastic or viscosurgical*}] or DisCoVisc or "Healon 5" or OcuSeal or DuoVisc or Provisc or Viscoat or Viskoat).mp.	1471
16	exp Ophthalmologic Surgical Procedures/ or Refractive Surgical Procedures/ or exp Eye Diseases/su or exp Cataract Extraction/ or Lens Implantation, Intraocular/ or exp Anterior Eye Segment/	441305
17	Viscosupplements/ or (viscosurgical device or OVD or OVDs or [viscoelastic adj {substance or agent}]).mp.	4723
18	16 and 17 [OVD and ophthalmic surgery]	1692
19	hyaluronic acid/ or chondroitin sulfate/ or (hyaluronate or [chondroitin adj3 {sulfate or sulfuric sulphate}] or chondroitinsulph or chondroitinsulf).mp.	96736
20	Alcon.mp.	9620
21	19 and 20 [Alcon produced materials]	360

22	18 and 21	78
23	15 or 18 or 22	2155
24	limit 23 to English language	1935
25	limit 24 to human	1597
26	25 not (address or autobiography or bibliography or biography or comment or dictionary or directory or editorial or "expression of concern" or historical article or interactive tutorial or lecture or legal case or legislation or news or newspaper article or patient education handout or personal narrative or portrait or video-audio media or webcast or [letter not (letter and randomized controlled trial)].pt.	1435
27	limit 26 to yr="1996 -Current"	1309
28	27 use ppez	441
29	14 or 28	1278
30	remove duplicates from 29	966

* The asterisk (*) symbol in PubMed searches serves as a truncation symbol, allowing for searching multiple variations of a word by including any ending of the truncated word.

Appendix 2

Equation 1. Calculation of percentage change for outcome measures.

$$\% \text{ change} = 100 \times \frac{\text{preoperative} - \text{postoperative}}{\text{preoperative}}$$

Equation 2. The Delta method derivation to compute standard deviation of percent change.

$$\text{Var}(g(t)) \approx \sum_{i=1}^k g'_i(\theta) g'_j(\theta) \text{Cov}(t_i, t_j)$$

$$\frac{\partial}{\partial \mu_X} g(\mu_X, \mu_Y) = -\frac{\mu_Y}{\mu_X^2}$$

$$\frac{\partial}{\partial \mu_Y} g(\mu_X, \mu_Y) = \frac{1}{\mu_X}$$

$$\text{Var}\left(\frac{Y}{X}\right) \approx \left(\frac{\mu_Y^2}{\mu_X^4}\right) \text{Var}(X) + \left(\frac{1}{\mu_X^2}\right) \text{Var}(Y) - 2 \cdot \left(\frac{\mu_Y}{\mu_X^3}\right) \text{Cov}(X, Y)$$

$$SE\left(100 \cdot \left(Y - \frac{X}{X}\right)\right) \approx 100 \cdot \sqrt{\frac{\text{Var}(Y)\mu_X^2 - 2 \cdot \text{Cov}(X, Y)\mu_X\mu_Y + \text{Var}(X)\mu_Y^2}{\mu_X^4}}$$