| **Author, Year** | **Study Design** | **Country Number of Centers and Setting** | **Inclusion Criteria** | **Number  Randomized, Analyzed Attrition** | **Intervention (n)** | **Study Participants** | **Outcome Measures** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Refractive error** | | | | | | | |
| Elliott, 200986 Also cataracts | Prospective cohort | United States 17 nursing homes | Age >55 years, with a MMSE score >13 | Screened: NR Eligible: NR Enrolled: 187 Analyzed: 187 Attrition: NR Loss to followup: NR | A. Immediate treatment of refractive error with new bifocal glasses (n=78) B. Delayed treatment of refractive error by 2 months (n=64) | A vs. B Mean age: 79 vs. 78 years Female sex: 77% vs. 75% Race: 62% white, 37% black, 1% Hispanic vs. 75% white, 25% black, 0% Hispanic Comorbidities Glaucoma: 1.3% vs. 6.5% AMD: 16.7% vs. 14.5% Cataract: 68.0% vs. 60.3% Diabetic retinopathy: 3.9% vs. 9.7% | Physical function, cognitive status, fear of falling |
| **Cataracts** | | | | | | | |
| Elliott, 200986 See also Owsley, 200796 | Prospective cohort | United States 17 nursing homes | Age >55 years, with a MMSE score >13; cataract patients had to have cataract in one or both eyes that caused functional problems | Screened: NR Eligible: NR Enrolled: 187 Analyzed: 187 Attrition: NR Loss to followup: NR | A. Cataract surgery (n=30) B. No cataract treatment (n=15) | A vs. B Mean age: 81 vs. 87 years Female sex: 73% vs. 87% Race: 77% white, 23% black vs. 80% white, 20% black Visual acuity: NR Comorbidities Glaucoma: 0% vs. 6.7% AMD: 10% vs. 20% Cataract: 100% vs. 100% Diabetic retinopathy: 0% vs. 0% | Physical function, cognitive status, fear of falling |
| Hall, 200595 Impact of Cataract on Mobility Study  (also included in prior review) | Prospective cohort | United States 10 ophthalmology practices and  2 optometry clinics | Age >55 years with cataract in one or both eyes (for those with cataract), visual acuity <20/40, no previous cataract surgery.  Exclude: amblyopia, dementia, Parkinson disease, or psychosis | Screened: NR Eligible: NR Enrolled: 301 Analyzed: 301 Attrition: NR Loss to followup: NR | A. Cataract, treated with surgery (n=122) B. Cataract, no treatment (n=87) C. No cataract (n=92) | A vs. B vs. C Mean age: 70.9 vs. 71.1 vs. 66.8 years; p<0.001 Female sex: 58% vs. 40% vs. 51%; p=0.04 Race: 90.2% vs. 81.6% vs. 82.6% White (others NR) Mean visual acuity, better eye: 0.28 vs. 0.16 vs. -0.02 Mean visual acuity, worse eye: 0.55 vs. 0.35 vs. 0.09 Mean CES depression scale score: 6.9 vs. 8.2 vs. 5.4; p=0.03 | Cognitive function, visual acuity |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Author, Year** | **Duration of Followup** | **Results** | **Adverse Events** | **Sponsor** | **Quality** |
| **Refractive error** | | | | | |
| Elliott, 200986 Also cataracts | 2 months | A vs. B Functional Independence Measure\*, baseline-followup Assessed by certified nursing assistant: 47.9-47.5 vs. 53.5-51.8; between-group p=0.16-0.37 Assessed by patient: 50.8-49.1 vs. 57.4-55.2; between-group p=0.08-0.75 Survey of Activities\*\*, baseline-followup Activity: 8.6-8.6 vs. 9.1-8.9; between-group p=0.30-0.34 Restriction: 8.1-8.4 vs. 7.5-7.5; between-group p=0.29-0.32 Mini-Mental State Examination\*\*\*, baseline-followup: 20.2-19.4 vs. 21.7-20.5; between-group p=0.06-0.72 \* Range 0-91; higher scores indicate greater independence \*\* Activity subscale range 0-14, higher scores indicate greater activity; restriction subscale range 0-14, higher score indicates more activities performed less often than 5 years earlier \*\*\* Score <24 indicates cognitive impairment | NR | Retirement Research Foundation, EyeSight Foundation of Alabama, and National Institutes of Health | Fair |
| **Cataracts** | | | | | |
| Elliott, 200986 See also Owsley, 200796 | 4 months | A vs. B Functional Independence Measure\*, baseline-followup Assessed by certified nursing assistant: 49.9-50.9 vs. 47.7-41.5; between-group p=0.78-0.07 Assessed by patient: 48.5-50.5 vs. 51.5-51.9; between-group p=0.67-0.39 Survey of Activities\*\*, baseline-followup Activity: 8.4-8.2 vs. 8.7-9.0; between-group p=0.37-0.31 Restriction: 7.8-6.5 vs. 7.0-6.4; between-group p=0.48-0.79 Mini-Mental State Examination\*\*\*, baseline-followup: 21.3-20.4 vs. 19.7-17.0; between-group p=0.32-0.27 NHVQoL, baseline-followup General vision: 57.2-79.3 vs. 65.7-67.7; p=0.005 Reading: 69.4-93.6 vs. 78.3-78.3; p=0.001 Social interaction: 86.4-98.1 vs. 94.2-91.2; p=0.033 VF-14, baseline-followup: 68.7-93.6 vs. 80.5-82.0; p=0.004 \* Range 0-91; higher scores indicate greater independence \*\* Activity subscale range 0-14, higher scores indicate greater activity; restriction subscale range 0-14, higher score indicates more activities performed less often than 5 years earlier \*\*\* Score <24 indicates cognitive impairment | NR | Retirement Research Foundation, EyeSight Foundation of Alabama, and National Institutes of Health | Fair |
| Hall, 200595 Impact of Cataract on Mobility Study  (also included in prior review) | 2 years (cognitive function assessed at 1 year) | A vs. B vs. C Mean visual acuity, better eye: 0.09 vs. 0.17 vs. -0.01; between-group p<0.001 Mean visual acuity, worse eye: 0.28 vs. 0.38 vs. 0.12; between-group p<0.001 Change in visual acuity significant only in surgery group (p=0.003 in better eye and p=0.03 in worse eye) Mean CES depression scale score: 6.0 vs. 8.7 vs. 4.5; between-group p=0.001 | NR | National Institutes of Health, Research to Prevent Blindness, and Eyesight Foundation | Fair |

**Abbreviations:** AMD = age-related macular degeneration, CES = Center for Epidmiologic Studies, MMSE = Mini-Mental State Examination, NHVQoL = Nursing Home Vision-Targeted Health-Related Quality of Life Questionairre, NR = not reported, VF-14 = Vision Function (14 Questions).