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| **Endothelial Cell Change in Myopic Eyes - Part 1** | | | | | | | |
| Study | Publication | FU-time (year) | EC change (%) | Adjusted EC change (%) | Eyes (count) | EC change from | Notes |
| Aerts et al. | 2015 | 2 | 2.1 ±0.9 | - | 262 | 6 months |  |
| Benedetti et al. | 2005 | 2 | 5.4 | - | 93 | baseline |  |
| Benedetti et al. | 2007 | 2 | 4.7 | - | - | baseline |  |
| 3 | 6.7 | - | - | baseline |  |
| 4 | 8.3 | - | - | baseline |  |
| 5 | 9.0 | - | - | baseline |  |
| Bohac et al. | 2016 | 3 | 0.97\* | - | 166 (out of 198) | baseline | \* EC loss annually |
| Bouheraoua et al. | 2015 | 2 | 11.26 | - | 68 | baseline |  |
| 3 | 11.96 | - | 68 | baseline |  |
| 4 | 14.58 | - | 68 | baseline |  |
| 5 | 15.15 | - | 68 | baseline |  |
| Budo et al. | 2000 | 2 | 1.7 | - | 129 subgroup (out of 518) | baseline |  |
| 3 | 0.7 | - | 129 subgroup (out of 518) | baseline |  |
| Chebli et al. | 2018 | 2 | 0.87\* | - | 101 (out of 113) | 1 year | calculated with mixed model, \* EC loss annually |
| 5 | 0.87\* | - | 63 (out of 113) | 1 year | calculated with mixed model, \* EC loss annually |
| 7 | 0.87\* | - | 44 (out of 113) | 1 year | calculated with mixed model, \* EC loss annually |
| 10 | 0.87\* | - | 16 (out of 113) | 1 year | calculated with mixed model, \* EC loss annually |
| Choi et al. | 2014 | 2 | 1.32 | - | 63 (out of 66) | baseline |  |
| 3 | 2.14 | - | 53 (out of 66) | baseline |  |
| 4 | 3.44 | - | 53 (out of 66) | baseline |  |
| 5 | 3 | - | 52 (out of 66) | baseline |  |
| 6 | 3.33 | - | 42 (out of 66) | baseline |  |
| 7 | 5.43 | - | 45 (out of 66) | baseline |  |
| 8 | 4.91 | - | 43 (out of 66) | baseline |  |
| 9 | 7.38 | - | 20 (out of 66) | baseline |  |
| 10 | 22.5 | - | 6 (out of 66) | baseline |  |
| Guell et al. - group 1 | 2008 | 2 | 10.1 | - | 80 (out of 97) | baseline |  |
| 3 | 7.4 | - | 68 (out of 95) | baseline |  |
| 4 | 1.5 | - | 93 (out of 93) | baseline |  |
| 5 | 11.3 | - | 88 (out of 89) | baseline |  |
| Guell et al. - group 2 | 2008 | 2 | 5.11 | - | 136 (out of 170) | baseline |  |
| 3 | 8.57 | - | 150 (out of 168) | baseline |  |
| 4 | 2.07 | - | 155 (out of 168) | baseline |  |
| 5 | 10.9 | - | 165 (out of 166) | baseline |  |
| Jonker et al. | 2018 | 5 | 7.9 | 5.2\* | 193 (out of 381) | 6 months | calculated with linear mixed model, \* ECC loss adjusted for 0,6% physiological cell loss per year |
| 5 | 4.1 | - | 193 (out of 381) | baseline | direct subgroup analysis |
| 10 | 16.6 | 10.9\* | 127 (out of 381) | 6 months | calculated with linear mixed model, \* ECC loss adjusted for 0,6% physiological cell loss per year |
| 10 | 11.5 | - | 127 (out of 381) | baseline | direct subgroup analysis, as normally done |
| Landesz et al. | 2000 | 2 | - | 9.1±8.9\* | 67 (out of 67) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year |
| 3 | - | 10.9±8.6\* | 61 (out of 67) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year |
| Landesz et al. | 2001 | 2 | n.r. | n.r. | 10 (out of 91) | - |  |
| Menezo et al. | 2004 | 2 | 7.63 | - | 61 | baseline | also older Worst-Fechner IOL was used, but no significant difference in ECC loss between old and new pIOL group |
| 5 | 10.51 | - | 61 | baseline | also older Worst-Fechner IOL was used, but no significant difference in ECC loss between old and new pIOL group |
| Moshirfar et al. | 2014 | - | - | - | - | - |  |
| Moshirfar et al. | 2007 | 2 | 6±10.75 | 4.80±10.7\* | n.s. (out of 56) | baseline | \* ECC loss adjusted for 0,5% physiological cell loss per year |
| Na et al. | 2013 | 2 | -0.26 ±14.69 | -0.27±17.32\* | 40 (out of 52) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year, gain in ECC was found |
| Pop et al. | 2004 | 2 | -0.75 ±17.41\* | 0.42±17.41\* | 293 (out of 765) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year |
| Qasem et al. | 2010 | 2 | 1.33ᵟ | - | 84ᵟ | - | ᵟdata including 6 hyperopic eyes and 10 toric pIOL eyes |
| 3 | 2.22ᵟ | - | 38ᵟ | - | ᵟdata including 2 hyperopic eyes and 6 toric pIOL eyes |
| 5 | 0 | - | 11 (out of 151) | - |  |
| Saxena et al. | 2008 | 2 | 0.8 | -0.4\* | 168 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment, gain in adjusted ECC was found |
| 3 | 2.2 | 0.4\* | 122 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment |
| 4 | 6.5 | 4.1\* | 69 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment |
| 5 | 8.3 | 5.3\* | 51 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment |
| 6 | 9.1 | 5.5\* | 28 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment |
| 7 | 12.6 | 8.5\* | 13 (out of 318) | baseline | data including 57 myopic toric and 17 myopic Artiflex lenses; \*0,6% physiological loss adjustment |
| Senthil et al. | 2006 | 2 | 6.38 | - | 60 (out of 60) | - |  |
| Shajari et al. | 2016 | 2 | 6.2 | - | 78 (out of 95) | - |  |
| 3 | 8.8 | - | 67 (out of 95) | - |  |
| 4 | 11 | - | 95 (out of 95) | - |  |
| Silva et al. | 2008 | 3 | 9.98 ±16.86 | - | 20 (out of 26) | baseline |  |
| 5 | 14.05 ±21.39 | - | 16 (out of 26) | baseline |  |
| Stulting et al. | 2008 | 2 | 1.43±9.5 | - | 57 (consistent cohort) | baseline |  |
| 3 | 4.8 ±7.8 | - | 107 | baseline |  |
| 3 | 3.8 ±9.8 | - | 57 (consistent cohort) | baseline |  |
| Tahzib et al. | 2007 | 6 | - | -3.26±18.96\* | 89 (out of 89) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year, gain in ECC was found |
| 10 | - | -8.86±16.01\* | 89 (out of 89) | baseline | \* ECC loss adjusted for 0,6% physiological cell loss per year, gain in ECC was found |
| Titiyal et al. | 2012 | 2 | 9.26 | - | 51 (constant cohort) | - |  |
| 3 | 11.07 | - | 51 (constant cohort) | - |  |
| 4 | 12.48 | - | 51 (constant cohort) | - |  |
| 5 | 15.59 | - | 28 (out of 85) | - |  |
| Yasa et al. | 2016 | 2 | 0.3 | - | 62 (out of 62) | 6 months |  |
| Yuan et al. | 2011 | 2 | 7.8 | - | 84 | baseline |  |
| 3 | 2.9 | - | 84 | baseline |  |
| 4 | 1.5 | - | 84 | baseline |  |
| 5 | <1.5 | - | 84 | baseline |  |
| - = no data available or not specified; FU-time=follow-up time; EC=endothelial cell; ECC=endothelial cell count; pIOL=phakic intraocular lens; n.r=not reported | | | | | | | |

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| **Endothelial Cell Change in Myopic Eyes - Part 2** | | | | | | | |
| Study | Publication | FU time (year) | minimum ACD (mm) | mean ACD (mm) | pre-op ECC (cells/mm2) | post-op ECC (cells/mm2) | Notes |
| Aerts et al. | 2015 | 2 | - | 3.6±0.34 | - | - |  |
| Asano-Kato et al. | 2005 | 2 | 3.0 epi | - | 2831±304 | 2750±284 |  |
| Benedetti et al. | 2005 | 2 | 3.0 ( n.r. epi or endo) | - | 2658±360 | 2514±305 |  |
| Benedetti et al. | 2007 | 2 | 3.0 ( n.r. epi or endo) | - | 2616±347 | 2493±277 |  |
| 3 | 3.0 ( n.r. epi or endo) | - | 2616±347 | 2441±349 |  |
| 4 | 3.0 ( n.r. epi or endo) | - | 2616±347 | 2398±347 |  |
| 5 | 3.0 ( n.r. epi or endo) | - | 2616±347 | 2379±344 |  |
| Bohac et al. | 2016 | 3 | 2.8 endo | 3.35±0.36 | 2613 ±185 | around 2400\* | \* data from graph, number is estimated |
| Bouheraoua et al. | 2015 | 2 | 3.0 epi | 3.44±0.41 | 2629±366 | 2341±314 |  |
| 3 | 3.0 epi | 3.44±0.41 | 2629±366 | 2324±366 |  |
| 4 | 3.0 epi | 3.44±0.41 | 2629±366 | 2263±354 |  |
| 5 | 3.0 epi | 3.44±0.41 | 2629±366 | 2250±454 |  |
| Budo et al. | 2000 | 2 | 3.0 (n.r. epi or endo) | 3.38±0.71 | 2876±410 | 2626±424 |  |
| 3 | 3.0 ( n.r. epi or endo) | 3.38±0.71 | 2876±410 | 2607±442 |  |
| Chebli et al. | 2018 | 2 | 3.0 endo | 3.42±0.26 | 2770±265 | - |  |
| 5 | 3.0 endo | 3.42±0.26 | 2770±265 | - |  |
| 7 | 3.0 endo | 3.42±0.26 | 2770±265 | - |  |
| 10 | 3.0 endo | 3.42±0.26 | 2770±265 | - |  |
| Choi et al. | 2014 | 2 | 3.0 endo | 3.76±0.22 | 2853±249 | 2815±252 |  |
| 3 | 3.0 endo | 3.76±0.22 | 2853±249 | 2792±292 |  |
| 4 | 3.0 endo | 3.76±0.22 | 2853±249 | 2755±366 |  |
| 5 | 3.0 endo | 3.76±0.22 | 2853±249 | 2767±257 |  |
| 6 | 3.0 endo | 3.76±0.22 | 2853±249 | 2758±311 |  |
| 7 | 3.0 endo | 3.76±0.22 | 2853±249 | 2698±300 |  |
| 8 | 3.0 endo | 3.76±0.22 | 2853±249 | 2713±355 |  |
| 9 | 3.0 endo | 3.76±0.22 | 2853±249 | 2642±434 |  |
| 10 | 3.0 endo | 3.76±0.22 | 2853±249 | 2211±146 |  |
| Guell et al. - group 1 | 2008 | 2 | 3.2 epi | - | 2836±398 | 2548±398 |  |
| 3 | 3.2 epi | - | 2836±398 | 2625±447 |  |
| 4 | 3.2 epi | - | 2836±398 | 2791±246 |  |
| 5 | 3.2 epi | - | 2836±398 | 2514±529 |  |
| Guell et al. - group 2 | 2008 | 2 | 3.2 epi | - | 2755±362 | 2614±469 |  |
| 3 | 3.2 epi | - | 2755±362 | 2519±372 |  |
| 4 | 3.2 epi | - | 2755±362 | 2698±576 |  |
| 5 | 3.2 epi | - | 2755±362 | 2454±588 |  |
| Jonker et al. | 2017 | 5 | 2.8 endo | 3.86±0.34 | 2670±359 | 2588±425 |  |
| 10 | 2.8 endo | 3.86±0.34 | 2670±359 | 2302±451 |  |
| 5 | 2.8 endo | 3.86±0.34 | 2670±359 | 2588±425 |  |
| 10 | 2.8 endo | 3.86±0.34 | 2670±359 | 2302±451 |  |
| Landesz et al. | 2000 | 2 | - | 3.7 | - | - |  |
| Landesz et al. | 2001 | 2 | 3.2 ( n.r. epi or endo) | 2.9-4.5 range | 2857 | 3049 | 1 patient (2 eyes) with ACD of 2.9 & 3.1mm was implanted with IF-pIOL |
| Menezo et al. | 2004 | 2 | 3.2 ( n.r. epi or endo) | 3.41±0.12 | - | - | also older Worst-Fechner IOL was used, but no significant difference in ECC loss between old and new pIOL group |
| 5 | 3.2 ( n.r. epi or endo) | 3.41±0.12 | - | - | also older Worst-Fechner IOL was used, but no significant difference in ECC loss between old and new pIOL group |
| Moshifar et al. | 2014 |  | - | - | - | - | - |
| Moshirfar et al. | 2007 | 2 | 3.2 ( n.r. epi or endo) | - | 2713±361 | 2534±394 | \* ECC loss adjusted for 0,5% physiological EC loss per year |
| Na et al. | 2013 | 2 | 3.0 ( n.r. epi or endo) | - | 2984±357 | 2847±445 | \* ECC loss adjusted for 0,6% physiological EC loss per year |
| Pop et al. | 2004 | 2 | - | - | 2631±422 | 2577±495 |  |
| Qasem et al. | 2010 | 2 | 3.2 ( n.r. epi or endo) | - | 3171±456 | - |  |
| 3 | 3.2 ( n.r. epi or endo) | - | 3171±456 | - |  |
| 4 | 3.2 ( n.r. epi or endo) | - | 3171±456 | - |  |
| 5 | 3.2 ( n.r. epi or endo) | - | 3171±456 | - |  |
| Saxena et al. | 2008 | 2 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2777±376 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| 3 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2729±342 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| 4 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2616±307 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| 5 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2581±293 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| 6 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2560±270 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| 7 | 2.6 epi | 3.70±0.30 (min. 2.89) | 2817±356 | 2451±256 | data including 57 myopic toric and 17 myopic Artiflex lenses |
| Senthil et al. | 2006 | 2 | 2.9 ( n.r. epi of endo) | 3.24±0.24 | 2741±313 | 2566±315 |  |
| Shajari et al. | 2016 | 4 | 2.6 ( n.r. epi or endo) | 3.11±0.40 | 2805±95 | 2497±329 |  |
| 2 | 2.6 ( n.r. epi or endo) | 3.11±0.40 | 2805±95 | 2632 |  |
| 3 | 2.6 ( n.r. epi or endo) | 3.11±0.40 | 2805±95 | 2559 |  |
| Silva et al. | 2008 | 3 | 3.2 ( n.r. epi or endo) | 3.87±0.34 | 2481±291 | 2256±370 |  |
| 5 | 3.2 ( n.r. epi or endo) | 3.87±0.34 | 2481±291 | 2156±495 |  |
| Stulting et al. | 2008 | 3 | 3.2 ( n.r. epi or endo) | - | - | - |  |
| 2 | 3.2 ( n.r. epi or endo) | - | - | - |  |
| 3 | 3.2 ( n.r. epi or endo) | - | - | - |  |
| Tahzib et al. | 2007 | 6 | 3.0 ( n.r. epi or endo) | 3.30±0.28 | 2817±359 | 2734±360 |  |
| 10 | 3.0 ( n.r. epi or endo) | 3.30±0.28 | 2817±359 | 2800±292 |  |
| Titiyal et al. | 2012 | 2 | 2.8 ( n.r. epi or endo) | 3.39±0.25 | 2858±313 | 2587±298 | constant cohort of 51 eyes |
| 3 | 2.8 ( n.r. epi or endo) | 3.39±0.25 | 2858±313 | 2536±281 | constant cohort of 51 eyes |
| 4 | 2.8 ( n.r. epi or endo) | 3.39±0.25 | 2858±313 | 2499±354 | constant cohort of 51 eyes |
| 5 | 2.8 ( n.r. epi or endo) | 3.39±0.25 | 2923±237 | 2462±258 | cohort of 28 eyes |
| Yasa et al. | 2016 | 2 | 3.0 endo | 3.4±0.2 | 2723±311 | 2612±264 |  |
| Yuan et al. | 2011 | 2 | 3.2 ( n.r. epi or endo) | 3.4 | - | - |  |
| 3 | 3.2 ( n.r. epi or endo) | 3.4 | - | - |  |
| 4 | 3.2 ( n.r. epi or endo) | 3.4 | - | - |  |
| 5 | 3.2 ( n.r. epi or endo) | 3.4 | - | - |  |
| - = no data available or not specified; FU-time=follow-up time; EC=endothelial cell; ECC=endothelial cell count; pIOL=phakic intraocular lens; pre-op= preoperative; post-op=postoperative; n.r.= not reported; epi=from corneal epithelium; endo=from corneal endothelium; ACD=anterior chamber depth | | | | | | | |

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| **Endothelial Cell Change in Hyperopic Eyes - Part 1** | | | | | | | |
| Study | Publication | FU time (year) | EC loss (%) | Adjusted EC loss (%) | Eyes (count) | EC loss from | Notes |
| Guell et al. | 2008 | 2 | 5.4% | - | 35 (out of 40) | baseline |  |
|  |  | 3 | 8.4% | - | 34 (out of 39) | baseline |  |
|  |  | 4 | 6.4% | - | 34 (out of 39) | baseline |  |
|  |  | 5 | - | - | 28 (out of 33) | baseline |  |
| Saxena et al. | 2003 | 2 | 8.5% | - | 15 (out of 26) | baseline |  |
|  |  | 3 | 11.7% | 10.1% | 10 (out of 26) | baseline | EC loss adjusted for 0,6% physiological cell loss per year |
| -= no data available; FU time=follow-up time; EC=endothelial cell; No.=number | | | | | | | |

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| **Endothelial Cell Change in Hyperopic Eyes - Part 2** | | | | | | | |
| Study | Publication | FU time (year) | minimum ACD (mm) | mean ACD (mm) | pre-op ECC (cells/mm2) | post-op ECC (cells/mm2) | Notes |
| Guell et al. | 2008 | 2 | 3.2 endo | - | 2735±355 | 2587±551 |  |
|  |  | 3 | 3.2 endo | - | 2735±356 | 2505±508 |  |
|  |  | 4 | 3.2 endo | - | 2735±357 | 2560±335 |  |
|  |  | 5 | 3.2 endo | - | 2735±358 | - |  |
| Saxena et al. | 2003 | 2 | 2.6 (n.r. epi or endo) | 3.25±0.25 (min 2.87) | 2749±348 | 2611±472 | minimum required ACD was later changed to 3,0mm |
|  |  | 3 | 2.6 (n.r. epi or endo) | 3.25±0.25 (min 2.87) | 2749±348 | 2471±372 |  |
| FU-time=follow-up time; ECC=endothelial cell count; pre-op= preoperative; post-op=postoperative; n.r.= not reported; epi=from corneal epithelium; endo=from corneal endothelium; ACD=anterior chamber depth | | | | | | | |