

Supplementary Table 1. Comparison in pre-operative phacoemulsification cataract surgery risk scoring

| Study | Year | New or used a previous one | Factors included in the risk calculation | Scoring system |
|----------------------|------|----------------------------|---|--|
| Muhtaseb et al. (1) | 2004 | New | <p>High risk (3 points each)</p> <ul style="list-style-type: none"> Dense/total/white or brunescent cataract Pseudoexfoliation Phacodonesis <p>Low risk (1 point each)</p> <ul style="list-style-type: none"> Previous vitrectomy Corneal scarring Small pupil (3 mm) Shallow anterior chamber (depth,2.5 mm) Age.88 years High ametropia (.6 D of myopia or hyperopia) Posterior capsule plaque Posterior polar cataract Miscellaneous risks assessed by the surgeon (eg, poor position of eye/patient) | Four risk groups: group 1 (no added risk) 0 points; group 2 (low risk) 1–2 points; group 3 (moderate risk) 3–5 points; group 4 (high risk) 6 points or more |
| Kaur et al. (2) | 2020 | New Literature review!! | <ul style="list-style-type: none"> hard sclerotic nucleus white cataract pseudoexfoliation posterior polar cataract subluxated cataract small pupil | Just identified risk factors |
| Blomquist et al. (3) | 2011 | New | <p>On univariate analysis</p> <ul style="list-style-type: none"> older age poor preoperative corrected distance visual acuity (CDVA) left eye history of trauma prior pars plana vitrectomy dementia phacodonesis zonule dehiscence posterior polar cataract white/mature cataract dense nuclear sclerotic cataract poor red reflex <p>On multivariate analysis</p> <ul style="list-style-type: none"> older age poor preoperative CDVA left eye prior pars plana vitrectomy dementia zonule dehiscence | Just identified risk factors |
| Mylona et al. (4) | 2020 | New | <p>high-risk (9 points each)</p> <ul style="list-style-type: none"> Phacodonesis dense/total/ white or brunescent cataract pseudoexfoliation <p>moderate-risk (3 points each)</p> <ul style="list-style-type: none"> Glaucoma poor cooperation | 3 risk groups and a no-risk group 1: -Low risk group : 1 point -Moderate-risk group : sum of 3 points -High-risk group : sum of 9 points |

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| | | | <ul style="list-style-type: none"> • corneal scarring • shallow anterior chamber <p>low-risk (1 point each)</p> <ul style="list-style-type: none"> • deep orbit • ametropia • vitrectomy • loss of 1 eye • small pupil • age younger than 50 years or older than 85 years • diabetes • a1-antagonist use | |
| Zetterberg et al.(5) | 2020 | New | <ul style="list-style-type: none"> • best-corrected visual acuity (BCVA) ≤ 0.1 • pseudoexfoliation (PEX) • sight-threatening ocular comorbidity other than age-related macular degeneration (AMD), diabetic retinopathy, glaucoma, or cornea guttata ; • use of Trypan blue • mechanical pupil dilation • iris hooks at the rhexis margin | A composite risk score using odds ratio |
| Ergun et al. (6) | 2018 | New | <ul style="list-style-type: none"> • Age (60–69/B80) • male gender • pupil size B3 mm • mature- brunescent cataract • anterior chamber depth ≥ 2.5 mm posterior polar cataract • diabetic retinopathy • coronary artery disease • surgeon factor (junior resident/senior resident; senior resident/specialist in ophthalmology; junior resident/specialist in ophthalmology) | A composite risk score using odds ratio |
| Nderitu et al. (7) | 2018 | New | <p>Factors associated with PCR</p> <ul style="list-style-type: none"> • age • male sex • systemic a-blocker use • glaucoma • diabetic retinopathy • axial length (AL) • small pupil less than 4.0 mm • poor positioning • white cataract • no fundal view • pseudoexfoliation or phacodonesis <p>Patient-specific factors</p> <ul style="list-style-type: none"> • significant hearing impairment • previous iridectomy • previous cystoid macula edema [CME] or retinal vein occlusion • guttata, or increased corneal thickness • anterior chamber depth [≥ 2.5 mm], or spherical equivalent more than 5.0 diopters • permanent poor vision in the unoperated eye | <p>5 complexity groups:</p> <ul style="list-style-type: none"> -Group 1: score 0 to 1 -Group 2: score 2 to 3 -Group 3: score 4 to 7 -Group 4: score 8 to 9 -Group 5: score 10 or more <p>(Each variable is attributed an approximate proportional score)</p> |
| Hashemi et al. (8) | 2013 | New | <p>On univariate analysis</p> <ul style="list-style-type: none"> • diabetes mellitus • shallow anterior chamber | Just identified risk factors |

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| | | | <ul style="list-style-type: none"> • absence of supervision by a faculty member • larger capsulorhexis • anterior capsule tear • longer effective phacoemulsification time (EPT) <p>On multivariate analysis</p> <ul style="list-style-type: none"> • anterior capsule tear • longer EPT • lack of supervision by attending physicians | |
| Rutar et al. (9) | 2009 | New | <p>On univariate analysis</p> <ul style="list-style-type: none"> • challenging case (mature cataracts and potential zonular pathology were most strongly associated with major complications) • wound type • phacoemulsification technique preoperative visual acuity <p>On multivariate analysis</p> <ul style="list-style-type: none"> • challenging case | Just identified risk factors |
| Lomi et al. (10) | 2015 | New | <ul style="list-style-type: none"> • Increase in success rate was seen with increase in semester and number of surgeries performed. <p>Systemic and ocular features of patients as well as type of machine (longitudinal versus torsional longitudinal) had no significant association in terms of complication rate.</p> | Just identified risk factors |
| Gharaei et al. (11) | 2015 | New | <ul style="list-style-type: none"> • poor red reflex • pseudoexfoliation • poor pupil dilation • corneal clouding • dense cataract • shallow anterior chamber • advanced age | Just identified risk factors |
| Narendran et al. (12) | 2009 | New | <ul style="list-style-type: none"> • increasing age • male gender • presence of glaucoma • diabetic retinopathy • brunescant/white cataract • no fundal view/vitreous opacities • pseudo-exfoliation/phacodonesis • reducing pupil size • axial length > or = 26.0 mm • the use of the alpha-blocker doxazosin • inability to lie flat • trainee surgeons performing operations | A composite risk score using odds ratio |
| Saifee et al. (13) | 2020 | New | <ul style="list-style-type: none"> • pseudoexfoliation • proliferative diabetic retinopathy • previous vitrectomy • a 4+ dense, white, or brunescant cataract • current tamsulosin use • preexisting zonular dialysis • intraoperative use of iris hooks • intraoperative use of a pupillary expansion device | 3 risk groups: low risk (0 risk factors) intermediate risk (1 risk factor) high risk (≥2 risk factors) |
| Habib et al. (14) | 2005 | New | <p>General condition</p> <ul style="list-style-type: none"> • Unable to lie flat (spinal deformity, asthma, heart failure) • Severe anxiety | A cumulative risk score (Total scores could range from 1 in simple cases to a maximum possible score of |

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|-----------------------|------|-----|---|--|
| | | | <ul style="list-style-type: none"> • Head tremors <p>Ocular history</p> <ul style="list-style-type: none"> • Previous angle closure glaucoma • History of complications in fellow eye • Previous vitrectomy plus or minus silicone oil <p>Ocular co-morbidity</p> <ul style="list-style-type: none"> • Corneal cloudiness • Shallow anterior chamber • Poor pupillary dilatation and/or posterior synechiae • Pseudoexfoliation • Weak zonules • High hypermetropia (axial length ,20) • High myopia (axial length .27) <p>Cataract density</p> <ul style="list-style-type: none"> • Nuclear density grade 1–2 • Nuclear density grade 3 • Mature brunescant cataract | <p>13 points in difficult cases)</p> <p>(Each variable is attributed an approximate proportional score)</p> |
| Najjar and Awwad (15) | 2003 | New | <ul style="list-style-type: none"> • Age • type of anesthesia administered • density of the cataract • frontal bossing or sunken globes • pseudoexfoliation • extremes of refraction • a history of glaucoma or uveitis • previous intraocular surgery • a history of complications in the fellow eye • poor pupil dilation • shallow anterior chamber • corneal cloudiness • poor red reflex | <p>A cumulative risk score (The risk score can vary from 2 to 25, with 2 given to the simplest case and 25 to the most complex)</p> <p>(Each variable is attributed an approximate proportional score)</p> |

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