Evidence Table 1. Systematic review evidence I

| **Study** | **KQs** | **Aims of the study** | **Conclusions** | **Types of participants** | **Types of interventions** |
| --- | --- | --- | --- | --- | --- |
| **OAG** | **OHT** | **ACG** | **NTG** | **Other** |  |
| Aptel 20081 | 3,6 | “This systematic meta-analysis was performed to evaluate the intraocular pressure (IOP) lowering effects and tolerabilityof latanoprost, bimatoprost, and travoprost." | “The findings suggest a greater efficacy of bimatoprost compared with latanoprost and travoprost, although the incidence of hyperemia was lower with the latter 2 agents. | Y | Y | N | N | POAG or OHT in at least 90% of trial participants | Latanoprost, travopost, or brimatoprost monotherapy |
| Burr 20042 | 1,2,3,4,6 | "To study the relative efficacy of medical and surgical treatmentfor OAG in terms of measures of glaucoma progression and adverseeffects of treatment." | "Evidence from one trial suggests, for mild OAG, that VF deterioration up to five-years is not significantly different whether treatmentis initiated with medication or trabeculectomy. Reduced vision, cataract and eye discomfort are more likely with trabeculectomy. Thereis some evidence, for more severe OAG, that initial medication (pilocarpine, now rarely used as first line medication) is associated withgreater VF deterioration than surgery. In general, surgery lowers IOP more than medication." | Y | N | N | N |  | IOP lowering meds compared with trabeculectomy w/ or w/o use of anti-scarring agents; non-penetrating trabeculectomy w/ or w/o use of antiscarring agents; any other antiglaucomatous surgery |
| Chai 20103 | 3,6 | Compare the efficacy and safety profile of viscocanalostomy | "Trabeculectomy was found to have a greater pressure lowering effect compared with viscocanalostomy. However, viscocanalostomyhad a significantly better risk profile." | NR | NR | NR | NR | 1.7% of participants with primary chronic angle closure glaucoma | Viscocanalostomy versus trabeculectomy |
| Cheng 20084 | 3,6 | "Toevaluate the efficacy and tolerability of bimatoprostcompared with latanoprost in reducing intraocularpressure." | "Bimatoprost was associated with significantlygreater efficacy in lowering morning IOPthan latanoprost at all time points. Comparable proportionsof patients reached the IOP target with bimatoprostand latanoprost. Both agents were welltolerated, although bimatoprost was associated with asignificantly greater frequency of conjunctival hyperemiathan latanoprost." | NR | Y | NR | NR | Glaucoma | Bimatoprost versus latanoprost |
| Cheng 20095 | 3,6 | "The aim of this study was to evaluate the effi cacy and tolerability of latanoprost, compared with the combination of dorzolamide and timolol, in the treatment of patients with elevated intraocular pressure." | "Latanoprost was associated with significantly greater effi cacy in lowering diurnal mean IOP than combined dorzolamide and timolol in patients with IOP insuffi ciently controlled by timolol alone, and latanoprost was as effective as combined dorzolamide and timolol in patients without baseline timolol treatment. The combination of dorzolamide and timolol was less tolerated than latanoprost." | Y | Y | Y | N | Pigmentary, mixed glaucoma as well as 1 trial with chronic angle closure glaucoma participants | Latanoprost versus combined dorzolaminde and timolol (concomitant administration or fixed combination) |
| Cheng 20106 | 3,6 | "To evaluate the efficacy and tolerability of nonpenetratingfiltering surgery in the treatment of patients withopen-angle glaucoma." | "Viscocanalostomy and deep sclerectomy wereless effective than trabeculectomy in the treatment of open angleglaucoma, and deep sclerectomy plus mitomycin C (MMC) was also less effective than trabeculectomy plus MMC. However, viscocanalostomyand deep sclerectomy were associated withfewer complications than trabeculectomy." | Y | N | N | N |  | Viscocanalostomy versus trabeculectomy with or without antimetabolite; deep sclerectomy versus trabeculectomy with or without mitomycin C |
| Cox 20087 | 3,6 | "To evaluate the efficacy of the fixed combinationocular hypotensive therapies compared with their nonfixedcomponents used concomitantly for loweringintraocular pressure in glaucoma and ocularhypertension." | "Fixed combination therapies are equallysafe and effective at lowering IOP as their non-fixedcomponents administered concomitantly." | NR | Y | NR | NR | Glaucoma | Fixed combination medications compared with non-fixed components used (concomitant) (travoprost, brimonidine, dorzolamide, bimatoprost) and a beta blocker |
| Eyawo 20098 | 3,6 | "To identify randomized trials evaluatingthe head-to-head effectiveness of prostaglandin analogs in the treatmentof POAG and ocular hypertension and to conduct ameta-analysis of their results to improve understanding ofthe drugs’ relative efficacy." | "Randomized head-to-head evaluations of prostaglandin therapy demonstratesimilar efficacy effects, but differing hyperemia effects." | Y | Y | N | N | Other types of chronic open angle glaucoma | Travoprost versus latanoprost or bimatoprost; latanoprost versus bimatoprost |
| Fung 20079 | 3,6 | "To compare the efficacy and tolerability of latanoprost versus brimonidine in the treatment of open angleglaucoma, ocular hypertension or normal-tension glaucoma." | "Latanoprost is more effective than brimonidine as monotherapy in lowering IOP. Brimonidine isassociated with a higher rate of fatigue." | Y | Y | N | Y | Mixed glaucoma | Latanoprost versus brimonidine  |
| Hodge 200810 | 3,6 | "To systematically review the literature on theefficacy and harm of prostaglandin analogues compared to brimonidine and dorzolamide in treatingelevated intraocular pressure." | "Latanoprost was found to be significantlysuperior to dorzolamide but not brimonidine. However,ocular adverse events were significantly fewer inlatanoprost users than in brimonide users. Neithertravoprost nor bimatoprost was compared to dorzolamideor brimonidine in the present literature." | N | Y | N | N |  | Latanoprost versus dorzolamide and brimonidine |
| Honrubia 200911 | 6 | "To conduct a meta-analysis of randomised clinicaltrials to evaluate the development ofconjunctival hyperaemia after the use of latanoprostversus travoprost and bimatoprost, in patients with ocularhypertension or glaucoma." | "According to available data, the use oflatanoprost is associated with a lower incidence ofconjunctival hyperaemia when compared with travoprostand bimatoprost in the treatment of patients with ocularhypertension or glaucoma." | NR | Y | NR | NR | Glaucoma | Latanoprost versus travoprost and bimatoprost |
| Jampel 200312  | 3,4,6 | "The objectives of this evidence report were to: identify the most important questions pertinent to treatment of patients with coexisting cataract and glaucoma; assess the published literature with respect to quality and content regarding these questions; and to inform clinical practitioners and identify areas where future research is needed, based on the literature findings" | "The literature does not point to one optimal strategy for controlling IOP in patients with coexisting cataract and glaucoma needing surgery. Therefore, there is a continued need for high quality studies with greater duration and more information on optic nerve and visual field findings." | Y | N | Y | N | OAG or ACG with coexisting cataract | Laser treatment, filtration surgery, endoscopic cyclophotocoagulation, nonpenetrating surgeries. Clear corneal and scleral cataract incision and nuclear expression/phacoemulsification |
| Kirwan 200913 | 3,6 | "To assess the effectiveness of beta radiation during glaucoma surgery (trabeculectomy)." | "Trabeculectomy with beta irradiation has a lower risk of surgical failure compared to trabeculectomy alone. A trial of beta irradiationversus anti-metabolite is warranted." | Y | Y | Y | Y | 1st surgical procedure; no simultaneous bilateral surgery; all types of glaucoma included in review inclusion criteria, but included studies enrolled participants with OAG |  |
| Li 200614 | 3,6 | "To evaluatethe incidence of reported side-effects and intraocular pressure-lowering effect of travoprost versus otherprostaglandin analogues (latanaprost, bimatoprost, unoprostone)or timolol." | "Travoprost is moreeffective than timolol in lowering IOP in patients with openangleglaucoma or ocular hypertension. Compared withother prostaglandin analogues, travoprost appears to beequivalent to bimatoprost and latanoprost. Although a limitednumber of local side-effects were reported, no serioustreatment-related side-effects were reported." | Y | Y | N | N |  | Travoprost compared with other prostagladin analogs or timolol |
| Liu 201015 | 1,3,6 | "This meta-analysisevaluated the efficacy and tolerability of one-site versus two-site phacotrabeculectomy in the treatment of patients withcoexisting cataract and glaucoma." | "Two-site phacotrabeculectomy is superior to one-site phacotrabeculectomy in reducing IOP, but otherpost-operative effects are similar. One-site and two-site phacotrabeculectomies have similar adverse event rates." | NR | NR | NR | NR | Coexisting cataract and glaucoma | Phacotrabeculectomy (1 site versus 2 site) |
| Loon 200816  | 3,6 | "To compare the efficacy and tolerability oftimolol versus brimonidine in the treatment of glaucoma." | "Both drugs are effective in lowering IOP. Brimonidine is associated with ahigher rate of allergy." | Y | Y | NR | NR | Other glaucoma (2%) |  Timolol versus brimonidine  |
| Maier 200517 | 4 | "To summarize the evidence of the effectiveness of introacular pressure lowering treatment to 1) delay OAG among those with OHT ocular hypertension 2) delay progression of OAG" | "Lowering intraocular pressure in patients withocular hypertension or manifest glaucoma is beneficial inreducing the risk of visual field loss in the long term." | Y | Y | N | Y |  | Medical and/or surgical treatment (timolol, betaxolol, various medications, laser trabeculoplasty, betaxolol, and latanoprost versus concurrent untreated control group (Includes OHTS, EMGT, CNGTS) |
| Minckler 200618 | 1,3,6 | "This review compares aqueous shunts for IOP control and safety." | "Relatively few randomized trials have been published on aqueous shunts and methodology and data quality among them is poor. Todate there is no evidence of superiority of one shunt over another." | Y | NR | Y | NR | Glaucoma patients irrespective of lens status; %OAG unknown | Aqueous shunts versus standard surgery or cyclodestruction |
| Rolim de Moura 200719 | 2,3,4,6 | "To study the effects of laser trabeculoplasty for OAG" | "Evidence suggests that, in people with newly diagnosed OAG, the risk of uncontrolled IOP is higher in people treated with medicationused before the 1990s when compared to laser trabeculoplasty at two years followup.Trabeculoplasty is less effective than trabeculectomyin controlling IOP at six months and two years follow up. Different laser technology and protocol modalities were compared to the traditional laser trabeculoplasty and more evidence is necessary to determine if they are equivalent or not. There is no evidence todetermine the effectiveness of laser trabeculoplasty compared to contemporary medication (prostaglandin analogues, topical anhydraseinhibitors and alpha2-agonists) and also with contemporary surgical techniques." | Y | N | N | N |  | Argon laser trabeculoplasty versus medication, trabeculectomy, diode laser trabeculoplasty or ND: Yag laser; Lasertrabeculoplasty,betaxolol, andlatanoprost versus observation for POAG or NTG (Includes EMGT) |
| Vass 200720 | 4,6 | "To assess and compare the effectiveness of topical pharmacological treatment for POAG or OHT to prevent progression or onset ofglaucomatous optic neuropathy." | "The results of this review support the current practice of IOP lowering treatment of OHT. A visual field protective effect has beenclearly demonstrated for medical IOP lowering treatment. Positive but weak evidence for a beneficial effect of the class of beta-blockershas been shown.Direct comparisons of prostaglandins or brimonidine to placebo are not available and the comparison of dorzolamide to placebo failedto demonstrate a protective effect. However, absence of data or failure to prove effectiveness should not be interpreted as proof ofabsence of any effect. The decision to treat a patient or not, as well as the decision regarding the drug with which to start treatment,should remain individualised, taking in to account the amount of damage, the level of IOP, age and other patient characteristics." | Y | Y | N | N |  | Topical medications versus placebo or untreated control group; head to head comparisons of medications; unspecified medications versus untreated control group (Includes OHTS) |
| Wilkins 200521 | 3,6 | "To assess the effects of intraoperative mitomycin C compared to placebo in trabeculectomy." | "Intraoperative mitomycin C reduces the risk of surgical failure in eyes that have undergone no previous surgery and in eyes at high risk of failure.Compared to placebo it reduces mean IOP at 12 months in all groups of participants in this review. Apart from an increase in cataractformation following MMC, there was insufficient power to detect any increase in other serious side effects such as endophthalmitis." | NR | NR | NR | NR | Glaucoma; Two included studies enrolled participants with ACG; Unsure if two additional included studies enrolled ACG participants | Intraoperative mitomycin C versus placebo or control |
| Wormald 200122 | 3,6 | "To assess the effects of postoperative injections of 5-FU in eyes of people undergoing surgery for glaucoma." | "Postoperative injections of 5-FU are now rarely used as a planned series but are increasingly used on an ad hoc basis. This presumablyreflects an aspect of the treatment that is unacceptable to both patients and doctors. None of the trials reported on the participants’perspective of care which constitutes a serious omission for an invasive treatment such as this." | NR | NR | NR | NR | People undergoing glaucoma surgery (high risk of failure, combined glaucoma and cataract surgery, and primary trabeculectomy; At least one included study enrolled participants with ACG | Post-operative injection of 5-FU (any dose) versus placebo or no injection |
| Zhang 200123 | 3,6 | "To evaluate the comparative efficacyand tolerance of latanoprost versustimolol through a meta-analysis of randomisedcontrolled trials." | "This meta-analysis suggeststhat latanoprost is more effective thantimolol in lowering IOP. However, it oftencauses iris pigmentation. While currentevidence suggests that this pigmentationis benign, careful lifetime evaluation ofpatients is still justified." | Y | Y | N | N |  | Latanoprost versus timolol |