Figure 1. PRISMA study selection flowchart

Table 1. Eligible comparisons of surgical versus medical interventions

| Surgical arm | Drug arm | Disease | Outcomes (studies/N) |
| --- | --- | --- | --- |
| Surgical decompression | Dexamethasone, antihypertensives and intermittent diuresis | Primary supratentorial intracerebral haemorrhage | Death or dependence at end of follow up (9/1994) |
| Aspirin and carotid surgery | Aspirin | Carotid stenosis | Any stroke or operative death (3/6090) |
| Aspirin and carotid surgery | Aspirin | Carotid stenosis | Ipsilateral ischaemic stroke, and any operative stroke or death near occlusion (3/6090) |
| Laparoscopic ovarian drilling | Medical ovulation induction | Polycystic ovarian syndrome | Live birth (9/1015) |
| Laparoscopic ovarian drilling | Medical ovulation induction | Polycystic ovarian syndrome | Multiple pregnancy (14/1161) |
| Surgical reimplantation of ureters | Antibiotics | Primary vesicoureteric reflux | Rate of patients with symptomatic UTI (1/297) |
| Open section of the carpal ligament | NSAID and splinting or corticosteroid injections | NA | Improvement in clinical symptoms at three months of follow‐up (2/245) |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of moderately or severely sore throat children (4/564) |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of sore throat of any severity (adults) (2/156) |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of sore throat of any severity (children) (5/795) |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Sore throat days (adults) (2/156) |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Sore throat days (children) (5/776) |
| Carotid endarterectomy and Aspirin 325 mg daily | Aspirin 325 mg daily | Asymptomatic carotid stenosis | Perioperative stroke or death, or stroke of any territory or type during follow up (2/2103) |
| Surgery including primary amputation | Thrombolysis (w/ rt-Pa or urokinase) | Acute limb ischaemia | Limb salvage (30 d) (3/841) |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Abortion not completeted with intended method (2/472) |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Ongoing pregnancy (2/472) |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Pelvic infection (1/419) |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | GORD-specific quality of life (<1 y) (4/1160) |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | GORD-specific quality of life (1-5 y) (3/994) |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Health-related quality of life (<1 y) (3/605) |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Health-related quality of life (1-5 y) (2/323) |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Serious adverse events (2/637) |
| Surgical excision | ALA-PDT | Basal cell carcinoma of the skin | Recurrence at five years (1/173) |
| Surgical excision | ALA-PDT | Basal cell carcinoma of the skin | Recurrence at three years (1/173) |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Observer‐rated good/excellent cosmetic outcome (1/344) |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Patient‐rated good/excellent cosmetic outcome (1/326) |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Recurrence at five years (1/383) |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Recurrence at three years (1/401) |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Observer‐rated good/excellent cosmetic outcome (2/351) |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Patient‐rated good/excellent cosmetic outcome (2/351) |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Recurrence at three years (1/68) |
| Lateral internal sphincterotomy | Medical therapy (mainly GTN and Botox) | Anal fissure | NON-Healing (persistence or recurrence) 2 mo. (15/979) |
| Surgical decompression | Osmotic agents, blood pressure control, and glucose control | Cerebral oedema in acute ischaemic stroke | Death at the end of follow-up (3/134) |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Angina reduction (7/1051) |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Early postoperative mortality (30 d) (6/967) |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Overall mortality (7/1053) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Adverse events at 4 months (1/186) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 2 y (1/173) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 4 mo. (1/186) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 5 y (1/140) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 2 y (1/173) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 4 mo. (1/186) |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 5 y (1/141) |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Failure to control IOP (3/735) |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Optic neuropathy progression (2/264) |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Visual field progression (2/624) |
| Surgical closure | IV indomethacin | Patent ductus arteriosus | Death before discharge (1/154) |
| Decompressive craniectomy | Medical treatment (including barbiturates) | High ICP in closed TBI | Mortality 6 mo (3/571) |
| Decompressive craniectomy | Medical treatment (including barbiturates) | High ICP in closed TBI | Neurological unfavourable outcome 6 mo (3/571) |
| Surgery | Tamoxifen | Primary breast cancer | Overall survival (3/495) |
| Saphenofemoral disconnection | Therapeutic LMWH | Superficial thrombophlebitis | Major bleeding (1/60) |
| Saphenofemoral disconnection | Therapeutic LMWH | Superficial thrombophlebitis | Symptomatic VTE (1/60) |
| Surgical correction | Botulinum toxin | Strabismus | Improved ocular alignment > 10 dioptres, adults (1/30) |
| Surgical correction | Botulinum toxin | Strabismus | Improved ocular alignment > 10 dioptres, children (2/102) |
| Dilation and evacuation | Misoprostol | Pregnancy | Combined major and minor complications (1/94) |
| Decompressive surgery | Prednisolone | Leprosy | Change in motor score after one year (1/57) |
| Decompressive surgery | Prednisolone | Leprosy | Change in sensory score after one year (1/57) |
| Decompressive surgery | Prednisolone | Leprosy | Proportion of ulnar nerves with motor improvement after one year (1/62) |
| Decompressive surgery | Prednisolone | Leprosy | Proportion of ulnar nerves with sensory improvement after one year (1/62) |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Complete miscarriage |
| (15/3862) |  |  |  |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Death or serious complication (5/1248) |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Surgical evacuation (13/3070) |
| Surgical orbital decompression | IV Methylprednisolone 1x3 followed by oral prednisolone | Thyroid eye disease | Proportion of successes compared to the proportion of treatment failures as defined by the study authors based on the use of composite outcome scores (1/15) |
| Open unilateral sympathectomy (L2-4) | IV prostanoid iloprost | Critical limb ischaemia | Complete ulcer healing w/o rest pain or major amputation (24 w) (1/162) |
| Amniotic membrane transplantation and medication | Lubrication, Antibiotics and Pressure lowering medication | Acute ocular burns | Epithelial defect 21 d post-injury (1/68) |
| Amniotic membrane transplantation and medication | Lubrication, Antibiotics and Pressure lowering medication | Acute ocular burns | Visual acuity at final follow-up (1/68) |
| Laparoscopic ovarian drilling | Gonadotropins | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. (1/35) |
| Laparoscopic ovarian drilling | Gonadotropins | Polycystic ovarian syndrome | Improvement in androgenic symptoms 6 mo. (1/126) |
| Laparoscopic ovarian drilling | Letrozele | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. (1/260) |
| Laparoscopic ovarian drilling | Metformin | Polycystic ovarian syndrome | Improvement in androgenic symptoms 6 mo. (1/50) |
| Laparoscopic ovarian drilling | Metformin | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. (2/236) |
| Laparoscopic ovarian drilling | Metformin, Clomiphene | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. (2/332) |
| Laparoscopic ovarian drilling | Metformin, Letrozol | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. (1/156) |
| Open surgery | Corticosteroid injection | Trigger finger | Resolution of triggering (2/270) |
| Pancreatic resection | Chemoradiotherapy | Pancreatic cancer | Overall mortality (5 y) (2/98) |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Oswestry Disability index 6 w (1/38) |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Pain intensity (VAS) 6 w (1/38) |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Zurich claudication questionnaire (symptom evaluation) 6 w (1/38) |
| Laparoscopic ovarian drilling | Letrozele | PCOS | Live birth (3/548) |
| Laparoscopic ovarian drilling | Letrozele | PCOS | Rate of ovarian hyperstimulation syndrome (1/250) |
| Epilepsy surgery | Continued antiepileptic drugs | Epilepsy | Proportion free from all seizures including auras (1 y) (1/80) |
| Epilepsy surgery | Continued antiepileptic drugs | Epilepsy | Proportion free from seizures (1 y) (2/196) |
| Open thoracotomy | Thoracostomy drainage (with fibrinolytics) | Pleural empyema | Mortality (1/30) |
| VATS | Thoracostomy drainage (with fibrinolytics) | Pleural empyema | Mortality (7/367) |
| Laser surgery | intravitreal anti-VEGF | Pathological myopia | Change in best corrected visual acuity (1/36) |
| Laser surgery | intravitreal anti-VEGF | Pathological myopia | Proportion of participants with a gain of 3+ lines in BCVA at 1 y (1/36) |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Long-term mortality (3/511) |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Medium-term health-related quality of life (1/62) |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Serious adverse event (3 months) (1/80) |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Short-term health-related quality of life (1/165) |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Short-term mortality (5/689) |
| Grommets (ventilation tubes) | Antibiotic prophylaxis | Recurrent acute otitis media | Proportion of patients who have no AOM recurrences (6 mo.) (2/96) |
| Suction aspiration | Misoprostol | Miscarriage | Complete miscarriage (22/5285) |
| Dilatation and curretage | Misoprostol | Miscarriage | Complete miscarriage (1/107) |
| Suction aspiration | Misoprostol | Miscarriage | Composite outcome of death or serious complication (9/2146) |
| Dilatation and curretage | Misoprostol | Miscarriage | Composite outcome of death or serious complication (2/157) |
| Suction aspiration | Misoprostol and mifepristone | Miscarriage | Complete miscarriage (2/716) |
| Suction aspiration | Misoprostol and mifepristone | Miscarriage | Composite outcome of death or serious complication (1/618) |
| iStent | Latanoprost/timolol | Open angle glaucoma | Proportion of participants who were drop‐free 6-18 mo (2/285) |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Knee pain (0-100, 12 mo.) (1/50) |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Participant global assessment of success (1-100, 12 mo.) (1/50) |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Withdrawal rate (1/52) |
| Surgical rotator cuff repair | Non-operative treatment including corticosteroid injection and exercise | Rotator cuff tear | Pain (VAS) 12 mo (1/56) |

Table 2. Comparisons with effective surgical treatment and those with more effective medical treatment

Table 2A. Comparisons with effective surgical treatment

| Surgical arm | Drug arm | Disease | Outcome | Effect type | Treatment effect (95% CI) | GRADE assessment |
| --- | --- | --- | --- | --- | --- | --- |
| Surgical decompression | Dexamethasone, antihypertensives and intermittent diuresis | Primary supratentorial intracerebral haemorrhage | Death or dependence at end of follow up | OR | 0.71 (0.58-0.88) |  |
| Aspirin and carotid surgery | Aspirin | Carotid stenosis | Any stroke or operative death | RR | 0.85 (0.77-0.95) | Moderate |
| Laparoscopic ovarian drilling | Medical ovulation induction | Polycystic ovarian syndrome | Multiple pregnancy | OR | 0.34 (0.18-0.66) | Moderate |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of sore throat of any severity (adults) | MD | -3.61 (-7.92–0.7) | Moderate |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of sore throat of any severity (children) | MD | -0.56 (-1.04–0.07) | Moderate |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Sore throat days (adults) | MD | -10.64 (-15.52–5.76) | Moderate |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Sore throat days (children) | MD | -5.13 (-8.03–2.2) | Moderate |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | GORD-specific quality of life (<1 y) | SMD | 0.58 (0.46-0.7) | Low |
| Surgical excision | ALA-PDT | Basal cell carcinoma of the skin | Recurrence at five years | RR | 0.08 (0.02-0.34) | Moderate |
| Surgical excision | ALA-PDT | Basal cell carcinoma of the skin | Recurrence at three years | RR | 0.09 (0.02-0.38) | Moderate |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Recurrence at five years | RR | 0.13 (0.05-0.36) | Moderate |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Recurrence at three years | RR | 0.1 (0.03-0.31) | Moderate |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Recurrence at three years | RR | 0.04 (0-0.61) | Low |
| Lateral internal sphincterotomy | Medical therapy (mainly GTN and Botox) | Anal fissure | NON-Healing (persistence or recurrence) 2 mo. | OR | 0.11 (0.06-0.23) | High |
| Surgical decompression | Osmotic agents, blood pressure control, and glucose control | Cerebral oedema in acute ischaemic stroke | Death at the end of follow-up | OR | 0.19 (0.09-0.37) |  |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Angina reduction | OR | 4.63 (3.43-6.25) | Low |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Adverse events at 4 months | RR | 0.26 (0.15-0.46) | Moderate |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 2 y | RR | 1.29 (1.06-1.57) | Low |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 4 mo. | RR | 2.66 (1.94-3.64) | Moderate |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 2 y | RR | 1.4 (1.13-1.74) | Moderate |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 4 mo. | RR | 2.8 (1.96-3.99) | Moderate |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Failure to control IOP | RR | 0.8 (0.71-0.91) |  |
| Surgical correction | Botulinum toxin | Strabismus | Improved ocular alignment > 10 dioptres, adults | RR | 2.63 (1.18-5.9) | Low |
| Dilation and evacuation | Misoprostol | Pregnancy | Combined major and minor complications | OR | 0.12 (0.03-0.46) |  |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Complete miscarriage | RR | 1.04 (1.02-1.06) | Very Low |
| Open unilateral sympathectomy (L2-4) | IV prostanoid iloprost | Critical limb ischaemia | Complete ulcer healing w/o rest pain or major amputation (24 w) | RR | 1.76 (1.35-2.29) | Low |
| Laparoscopic ovarian drilling | Gonadotropins | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. | OR | 19.2 (3.17-116.45) | Very Low |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Zurich claudication questionnaire (symptom evaluation) 6 w | MD | -0.6 (-0.77–0.43) | Low |
| Epilepsy surgery | Continued antiepileptic drugs | Epilepsy | Proportion free from all seizures including auras (1 y) | RR | 15 (2.08-108.23) | Very Low |
| Epilepsy surgery | Continued antiepileptic drugs | Epilepsy | Proportion free from seizures (1 y) | RR | 9.78 (4.73-20.21) | Low |
| Grommets (ventilation tubes) | Antibiotic prophylaxis | Recurrent acute otitis media | Proportion of patients who have no AOM recurrences (6 mo.) | RR | 1.68 (1.07-2.65) | Very Low |
| Suction aspiration | Misoprostol | Miscarriage | Complete miscarriage | RR | 1.11 (1.06-1.17) | Very Low |
| Dilatation and curretage | Misoprostol | Miscarriage | Complete miscarriage | RR | 1.18 (1.1-1.27) | Very Low |
| iStent | Latanoprost/timolol | Open angle glaucoma | Proportion of participants who were drop‐free 6-18 mo | RR | 125.43 (17.8-883.89) | Very Low |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Knee pain (0-100, 12 mo.) | MD | -28.3 (-41.79–14.81) | Low |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Participant global assessment of success (1-100, 12 mo.) | MD | 33.9 (18.74-49.06) | Low |

Table 2B. Comparisons with effective drug treatment

| Surgical arm | Drug arm | Disease | Outcome | Effect type | Treatment effect (95% CI) | GRADE assessment |
| --- | --- | --- | --- | --- | --- | --- |
| Laparoscopic ovarian drilling | Medical ovulation induction | Polycystic ovarian syndrome | Live birth | OR | 0.71 (0.54-0.92) | Low |
| Tonsillectomy or adrenotonsillectomy | Watchful waiting with or without analgesics and antibiotics | Tonsillitis | Episodes of moderately or severely sore throat children | MD | 0.62 (0.22-1.03) | Low |
| Carotid endarterectomy and Aspirin 325 mg daily | Aspirin 325 mg daily | Asymptomatic carotid stenosis | Perioperative stroke or death, or stroke of any territory or type during follow up | RR | 6.49 (2.53-16.61) |  |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Serious adverse events | RR | 1.46 (1.01-2.11) | Very Low |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Observer‐rated good/excellent cosmetic outcome | RR | 0.59 (0.47-0.74) | Low |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Observer‐rated good/excellent cosmetic outcome | RR | 0.85 (0.79-0.92) | Moderate |
| Surgical excision | MAL-PDT | Basal cell carcinoma of the skin | Patient‐rated good/excellent cosmetic outcome | RR | 0.53 (0.44-0.65) | Moderate |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Surgical evacuation | RR | 20 (9.1-50) | Very Low |
| Amniotic membrane transplantation and medication | Lubrication, Antibiotics and Pressure lowering medication | Acute ocular burns | Visual acuity at final follow-up | MD | -0.83 (-1.32–0.34) | Very Low |
| Pancreatic resection | Chemoradiotherapy | Pancreatic cancer | Overall mortality (5 y) | HR | 2.63 (1.72-4) | Very Low |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Oswestry Disability index 6 w | MD | 5.7 (0.57-10.83) | Low |
| Decompressive surgery with or without fusion | Epidural steroid injection | Lumbar spinal stenosis | Pain intensity (VAS) 6 w | MD | 2.4 (1.92-2.88) | Low |
| Laser surgery | intravitreal anti-VEGF | Pathological myopia | Change in best corrected visual acuity | MD | 0.22 (0.01-0.43) | Low |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Serious adverse event (3 months) | RR | 1.73 (1.11-2.67) | Very Low |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Short-term health-related quality of life | MD | -0.93 (-0.24–1.62) | Very Low |

Table 3. Review direction of effects of reviews compared to re-analysis (second is the reanalysis)

| Var1 | Freq |
| --- | --- |
| drug | 15 |
| inconclusive | 52 |
| surgical | 36 |

| Var1 | Freq |
| --- | --- |
| drug | 9 |
| inconclusive | 66 |
| surgery | 28 |

Table 4. Preponderance of direction of RCT results, and Journal type

|  | drug | inconclusive | surgery |
| --- | --- | --- | --- |
| general | 5 | 37 | 27 |
| mostly non-surgical | 15 | 56 | 22 |
| mostly surgical | 14 | 79 | 40 |

|  | drug | inconclusive | surgical |
| --- | --- | --- | --- |
| composite | 3 | 5 | 3 |
| mortality | 1 | 10 | 1 |
| nonmortality | 11 | 37 | 32 |

Table 5. GRADE assessment across specialties

## Warning: The `x` argument of `as\_tibble.matrix()` must have unique column names if  
## `.name\_repair` is omitted as of tibble 2.0.0.  
## ℹ Using compatibility `.name\_repair`.  
## ℹ The deprecated feature was likely used in the tidyr package.  
## Please report the issue at <https://github.com/tidyverse/tidyr/issues>.  
## This warning is displayed once every 8 hours.  
## Call `lifecycle::last\_lifecycle\_warnings()` to see where this warning was  
## generated.

| Specialty | Very Low | Low | Moderate | High | None available |
| --- | --- | --- | --- | --- | --- |
| cardiac surgery | 0 (0) | 1 (25) | 0 (0) | 2 (50) | 1 (25) |
| dermatology | 0 (0) | 3 (33) | 6 (67) | 0 (0) | 0 (0) |
| general surgery | 9 (69) | 3 (23) | 0 (0) | 1 (8) | 0 (0) |
| neurosurgery | 5 (50) | 2 (20) | 1 (10) | 0 (0) | 2 (20) |
| obstetrics and gynecology | 14 (45) | 4 (13) | 7 (23) | 1 (3) | 5 (16) |
| ophthalmology | 2 (20) | 5 (50) | 0 (0) | 0 (0) | 3 (30) |
| orthopaedic surgery | 2 (20) | 6 (60) | 1 (10) | 0 (0) | 1 (10) |
| otolaryngology | 1 (14) | 1 (14) | 4 (57) | 0 (0) | 1 (14) |
| thoracic surgery | 0 (0) | 1 (50) | 1 (50) | 0 (0) | 0 (0) |
| urology | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (100) |
| vascular surgery | 0 (0) | 1 (17) | 2 (33) | 0 (0) | 3 (50) |

# Supplementary material

[page]

Supplementary table 1. Reviews per specialty

| Specialty | Total reviews | Reviews with comparison (%) |
| --- | --- | --- |
| cardiac surgery | 6 | 2 (33) |
| dermatology | 5 | 1 (20) |
| general surgery | 35 | 5 (14) |
| neurosurgery | 12 | 5 (42) |
| obstetrics and gynecology | 31 | 8 (26) |
| ophthalmology | 25 | 5 (20) |
| orthopaedic surgery | 23 | 6 (26) |
| otolaryngology | 23 | 3 (13) |
| thoracic surgery | 9 | 1 (11) |
| urology | 7 | 1 (14) |
| vascular surgery | 12 | 4 (33) |

## [1] "Fisher's exact test, p = 0.62"

Supplementary Table 2. Inconclusive comparisons between surgery and drugs

| Surgical arm | Drug arm | Disease | Outcome | Effect type | Treatment effect (95% CI) | GRADE assessment |
| --- | --- | --- | --- | --- | --- | --- |
| Aspirin and carotid surgery | Aspirin | Carotid stenosis | Ipsilateral ischaemic stroke, and any operative stroke or death near occlusion | RR | 0.89 (0.6-1.32) | Moderate |
| Surgical reimplantation of ureters | Antibiotics | Primary vesicoureteric reflux | Rate of patients with symptomatic UTI | RR | 0.95 (0.67-1.35) |  |
| Open section of the carpal ligament | NSAID and splinting or corticosteroid injections | NA | Improvement in clinical symptoms at three months of follow‐up | RR | 1.09 (0.91-1.32) |  |
| Surgery including primary amputation | Thrombolysis (w/ rt-Pa or urokinase) | Acute limb ischaemia | Limb salvage (30 d) | OR | 0.89 (0.27-2.91) | Low |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Abortion not completeted with intended method | OR | 0.62 (0.02-16.6) |  |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Ongoing pregnancy | OR | 1.82 (0.54-6.25) |  |
| Suction aspiration | Vaginal suppositories or im inj. of 9-methylene-PGE2 | Pregnancy | Pelvic infection | OR | 0.46 (0.14-1.56) |  |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | GORD-specific quality of life (1-5 y) | SMD | 0.28 (-0.27-0.84) | Very Low |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Health-related quality of life (<1 y) | SMD | 0.14 (-0.02-0.3) | Very Low |
| Laparoscopic fundoplication | Protein pump inhibitors | GERD | Health-related quality of life (1-5 y) | SMD | 0.03 (-0.19-0.24) | Very Low |
| Surgical excision | Imiquimod | Basal cell carcinoma of the skin | Patient‐rated good/excellent cosmetic outcome | RR | 1 (0.94-1.06) | Low |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Early postoperative mortality (30 d) | OR | 1.19 (0.63-2.24) | High |
| Transmyocardial lazer revascularization | Continued medication | Refractory angina | Overall mortality | OR | 1.12 (0.77-1.63) | High |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Control of bleeding (cure or improvement to acceptable level) 5 y | RR | 1.14 (0.97-1.34) | Very Low |
| Transcervical resection of endometrium using rollerball coagulation | Hormone therapy or antifibrinolytic | Heavy menstrual bleeding | Overall satisfaction with treatment 5 y | RR | 1.13 (0.94-1.37) | Very Low |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Optic neuropathy progression | RR | 0.71 (0.38-1.34) |  |
| Argon laser trabeculoplasty | IOP reducing medication | Open angle glaucoma | Visual field progression | RR | 0.7 (0.42-1.16) |  |
| Surgical closure | IV indomethacin | Patent ductus arteriosus | Death before discharge | RR | 0.67 (0.34-1.31) |  |
| Decompressive craniectomy | Medical treatment (including barbiturates) | High ICP in closed TBI | Mortality 6 mo | RR | 0.66 (0.43-1.01) | Moderate |
| Decompressive craniectomy | Medical treatment (including barbiturates) | High ICP in closed TBI | Neurological unfavourable outcome 6 mo | RR | 1 (0.71-1.4) | Low |
| Surgery | Tamoxifen | Primary breast cancer | Overall survival | HR | 0.98 (0.81-1.2) | Low |
| Saphenofemoral disconnection | Therapeutic LMWH | Superficial thrombophlebitis | Major bleeding | RR | NA (NA-NA) |  |
| Saphenofemoral disconnection | Therapeutic LMWH | Superficial thrombophlebitis | Symptomatic VTE | RR | 5 (0.25-100) |  |
| Surgical correction | Botulinum toxin | Strabismus | Improved ocular alignment > 10 dioptres, children | RR | 1.1 (0.86-1.41) | Low |
| Decompressive surgery | Prednisolone | Leprosy | Change in motor score after one year | MD | 0.82 (-1.34-2.98) | Very Low |
| Decompressive surgery | Prednisolone | Leprosy | Change in sensory score after one year | MD | 0.08 (-2.45-2.61) | Very Low |
| Decompressive surgery | Prednisolone | Leprosy | Proportion of ulnar nerves with motor improvement after one year | RR | 0.91 (0.64-1.28) | Very Low |
| Decompressive surgery | Prednisolone | Leprosy | Proportion of ulnar nerves with sensory improvement after one year | RR | 1.13 (0.71-1.77) | Very Low |
| Suction aspiration | Vaginal or oral misoprostol | Pregnancy | Death or serious complication | RR | 1 (0.04-25) |  |
| Surgical orbital decompression | IV Methylprednisolone 1x3 followed by oral prednisolone | Thyroid eye disease | Proportion of successes compared to the proportion of treatment failures as defined by the study authors based on the use of composite outcome scores | RR | 0.16 (0.01-1.98) |  |
| Amniotic membrane transplantation and medication | Lubrication, Antibiotics and Pressure lowering medication | Acute ocular burns | Epithelial defect 21 d post-injury | RR | 0.71 (0.27-1.85) | Low |
| Laparoscopic ovarian drilling | Gonadotropins | Polycystic ovarian syndrome | Improvement in androgenic symptoms 6 mo. | OR | 3.02 (0.56-16.33) | Low |
| Laparoscopic ovarian drilling | Letrozele | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. | OR | 1.08 (0.64-1.84) | Very Low |
| Laparoscopic ovarian drilling | Metformin | Polycystic ovarian syndrome | Improvement in androgenic symptoms 6 mo. | OR | 1 (0.42-2.37) | Low |
| Laparoscopic ovarian drilling | Metformin | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. | OR | 1.51 (0.62-3.71) | Moderate |
| Laparoscopic ovarian drilling | Metformin, Clomiphene | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. | OR | 1.02 (0.64-1.64) | Very Low |
| Laparoscopic ovarian drilling | Metformin, Letrozol | Polycystic ovarian syndrome | Menstrual regularity at 6 mo. | OR | 0.95 (0.49-1.81) | Very Low |
| Open surgery | Corticosteroid injection | Trigger finger | Resolution of triggering | RR | 1.48 (0.79-2.76) | Very Low |
| Laparoscopic ovarian drilling | Letrozele | PCOS | Live birth | RR | 0.72 (0.5-1.05) | Moderate |
| Laparoscopic ovarian drilling | Letrozele | PCOS | Rate of ovarian hyperstimulation syndrome | RD | 0 (-0.01-0.01) | High |
| Open thoracotomy | Thoracostomy drainage (with fibrinolytics) | Pleural empyema | Mortality | RR | NA (NA-NA) | Moderate |
| VATS | Thoracostomy drainage (with fibrinolytics) | Pleural empyema | Mortality | RR | 0.8 (0.04-14.89) | Low |
| Laser surgery | intravitreal anti-VEGF | Pathological myopia | Proportion of participants with a gain of 3+ lines in BCVA at 1 y | RR | 0.32 (0.08-1.33) | Low |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Long-term mortality | RR | 1.03 (0.92-1.14) | Low |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Medium-term health-related quality of life | MD | -0.95 (-2.1-0.2) | Very Low |
| Oesophagectomy | Chemoradiotherapy and/or radiotherapy | Oesophageal cancer | Short-term mortality | RR | 0.39 (0.11-1.35) | Very Low |
| Suction aspiration | Misoprostol | Miscarriage | Composite outcome of death or serious complication | RR | 1.53 (0.45-5.16) | Very Low |
| Dilatation and curretage | Misoprostol | Miscarriage | Composite outcome of death or serious complication | RR | 0.79 (0.34-1.85) | Very Low |
| Suction aspiration | Misoprostol and mifepristone | Miscarriage | Complete miscarriage | RR | 1.29 (0.96-1.73) | Very Low |
| Suction aspiration | Misoprostol and mifepristone | Miscarriage | Composite outcome of death or serious complication | RR | 0.14 (0.01-2.74) | Very Low |
| Arthroscopic surgery | Sclerosing injection | Jumper’s knee | Withdrawal rate | OR | 1 (0.06-16.89) | Very Low |
| Surgical rotator cuff repair | Non-operative treatment including corticosteroid injection and exercise | Rotator cuff tear | Pain (VAS) 12 mo | MD | -0.49 (-1.02-0.05) | Moderate |