

Lens extraction or laser iridotomy for primary angle-closure glaucoma: Results from the EAGLE trial

Primary angle-closure glaucoma (PACG) is a leading cause of irreversible blindness worldwide. In its early stage, primary angle-closure (PAC), there is increased intraocular pressure (IOP) but no visual loss. Because the crystalline lens has a major mechanistic role, lens extraction as initial treatment may be more effective than standard treatment, laser peripheral iridotomy.

EAGLE was a Medical Research Council-funded, international, multicentre, randomized controlled trial that compared the effectiveness of lens extraction versus laser peripheral iridotomy for PACG or PAC. The hypothesis was that those patients randomized to initial lens extraction would have a higher EQ-5D quality of life questionnaire score (mean difference of 0.05) and lower IOP (mean difference of 1.75 mmHg), and a 15% lower glaucoma surgery rate than those randomized to standard care at three years.

We enrolled 419 participants from 30 hospital eye services in five countries (UK, Hong Kong, Singapore, Malaysia, People's Republic of China and Australia). Participants were at least 50 years of age, without cataract, and newly diagnosed with either PAC with IOP above 30 mmHg (n=155) or PACG (n=263). The primary outcome was multidimensional measuring, at three years, of patient reported health



Our Asian collaborators:
Research team at Singapore Eye Institute

status (EQ-5D), clinical efficacy (IOP) and efficiency (incremental cost effectiveness ratio [ICER] per Quality Adjusted life year [QALY] gained, from a UK health service perspective). IOP measurements were masked. An intent-to-treat analysis was conducted.

The study findings were that EQ-5D and IOP data at three years were complete in 351 (83.8%) and 366 (87.4%) participants, respectively. After lens extraction (n=208), EQ-5D was significantly higher and IOP was significantly lower than after laser iridotomy (n=211); the ICER was £14,284 for initial

lens extraction versus standard care (n=285). Additional glaucoma surgery was performed in one patient in the lens extraction group and 24 patients in the laser iridotomy group. Ethnicity, status of fellow eye, and diagnosis did not influence the results.

The study concluded that initial treatment with lens extraction for PACG and PAC is more effective and cost-effective than laser iridotomy after three years and should be considered as an alternative to current practice.

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Mesh, graft, or standard repair for women having primary transvaginal anterior or posterior compartment prolapse surgery: two parallel-group, multicentre, randomised, controlled trials



Widespread concerns about the use of mesh and graft in prolapse surgery have been raised in public, with some patients reporting serious complications. Existing trials of these augmentations are individually too small to be conclusive. The PROSPECT trial, funded by the NIHR HTA programme, compared the outcomes of prolapse repair involving either synthetic mesh inlays or biological grafts against standard repair in women. It consisted of two parallel randomised controlled trials (RCTs), involving 1348 women having surgery for pelvic organ prolapse recruited from 35 hospitals across the UK.

Of the 1348 participants, 865 were assigned to the mesh trial (430 assigned to standard repair alone, 435 to mesh augmentation) and 735 were assigned to the graft trial (367 assigned to standard repair alone, 368 to graft augmentation). Participants used a self-assessment questionnaire (Pelvic Organ Prolapse Symptom Score [POP-SS]) to record their prolapse symptoms. Other symptoms and side-effects were also measured. The results revealed that there was no significant clinical or statistical difference between those who had

the mesh or graft surgery, compared to the standard native tissue repair, at one or two years after the surgery (the mean POP-SS at one year was standard repair 5.4 [SD 5.5] vs mesh 5.5 [5.1], mean difference 0.00, 95% CI -0.70 to 0.71; p=0.99; standard 5.5 [SD 5.6] vs graft 5.6 [5.6]; mean difference -0.15, -0.93 to 0.63; p=0.71). The study also revealed that more than one in ten women who had synthetic (non-absorbable) mesh had a mesh complication – though most were asymptomatic. However, there were no similar risks with biological grafts.

Because half the prolapse surgeries that fail do so within 12 years, the NIHR HTA has funded following up the same women at regular intervals up to at least 12 years. This is vital to determine whether mesh or graft repairs might prove more durable in the longer term.

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Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence: the DECIDE project



How information is presented needs to be tailored to the user. The 5-year EU-funded DECIDE project (<http://www.decide-collaboration.eu>) has worked on innovative ways to present research evidence in guidelines that is specifically tailored to meet the needs of different types of user: health professionals; policymakers and managers; patients and public, people making diagnostic decisions and people making decisions about health system interventions. DECIDE has some substantial outputs. A multi-layered approach to presenting guideline information to health professionals has been developed: (<http://journal.publications.chestnet.org/article.aspx?articleid=1916306>). DECIDE has contributed to new international guidance on how to produce patient versions of guidelines through a collaboration with the Guideline International Network (<http://www.g-i-n.net/working-groups/gin-public/toolkit>).

Literature reviews of grading systems for diagnostic tests (<http://www.implementationscience.com/content/8/1/78>) and the public's attitudes to, and awareness of, guidelines have been published: (<http://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-14-321>). Our Evidence to Decision Frameworks have been developed to support guideline panels to explicitly consider research evidence in their judgements and were tested with the World Health Organisation guideline panels and others. A DECIDE tool to present interactive versions of evidence summaries called an interactive Summary of Findings (iSoF) table allows users to tailor a presentation to their own needs. An online randomised trial of the iSoF found that people want numbers in health information (rarely provided now) and that members of the public could not answer questions about benefits and harms with the current versions of patient information used in the trial. The GRADEpro Guideline Development Toolkit (GRADEproGDT, <http://gradepro.org>) has been developed by DECIDE and a key collaborator, the GRADE Working Group, to package much of DECIDE's work into a single tool and currently has over 11,000 users. DECIDE has provided new information for guideline producers about how they can best meet the needs of the different users of their guidelines as well as how they can be more systematic about using research evidence when making their recommendations. GRADEproGDT, and the link to the GRADE Working Group, means that guideline producers and others will benefit from DECIDE's results well beyond the end of the project.

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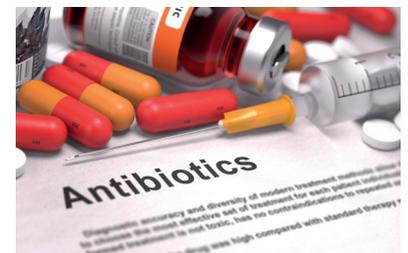
Intensive Care Syndrome: Promoting Independence and Return to Employment (InS:PIRE): Evaluation of scaling up

Evaluation of the scaling up of The Health Foundation-funded 'Intensive Care Syndrome: Promoting Independence and Return to Employment' (InS:PIRE) programme from one site (Glasgow Royal Infirmary (GRI)) to others across Scotland. InS:PIRE is a five-week rehabilitation programme for recovering intensive care patients and their family care givers.

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Behavioural approaches to optimise antibiotic stewardship in hospitals

Antibiotic stewardship is seen as a key strategy to prevent antibiotic resistance and reduce healthcare associated infections. Led by HSRU, this Joint Programming Initiative for Antimicrobial Resistance funded international working group comprising world experts in antibiotic stewardship from UK, Canada, Norway, and Germany in partnership with experts in implementation science and behaviour change interventions aims to address the following: what behaviour change approaches can be recommended now to optimise hospital stewardship programmes; how can these programmes be designed to optimise implementation across countries; and what is the research agenda to optimise efficient implementation of hospital antibiotic stewardship programmes worldwide.



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News

PhD candidates, Rumana Newlands and Jan Jansen, successfully defended their PhD theses.



Research Fellow Heather Morgan, has been awarded the Principal's Prize for Public Engagement with Research, which builds on her Outstanding Achievement award in the same category last year.

HSRU hosted the 2016 Hot Topics in Health Services Research Conference at King's College Conference Centre, University of Aberdeen. The conference included a celebration of the life and work of the late Professor Adrian Grant, Director of the Health Services Research Unit, 1994-2007.



Lynda Constable was appointed to the Board for the Society for Clinical Trials.

HSRU and CHaRT hosted its inaugural cohort of six summer interns, working on a variety of projects for a period ranging between eight and twelve weeks long.



A team of HSRU public engagers took to an Aberdeen street to run 'Explorachoc' as part of the University's annual Explorathon/European Researchers' night.

Visitors to the Unit:

PhD student Cecilia Kållberg from the Norwegian Institute of Public Health, Junior scientist Lara Kahale from the American University of Beirut, PhD student Anne Prip from the University of Copenhagen and Tomas Pantoja, Associate Professor of Pontificia Universidad Catolica de Chile.

Recent Publications

1. Alonso-Cuello, P, Oxman, A, Moberg, J, Brignardello-Petersen, R, Akl, A, Davoli, M, Treweek, S, Mustafa, MS, Vandik, O, Meerpohl, J, Guyatt, G, Schunemann, HJ. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: Clinical practice guidelines. *BMJ* 2016;353:i2089.
2. Azuara-Blanco, A, Burr, J, Ramsay, CR, Cooper, D, Foster, P, Friedman, D, Scotland, G, Javanbakht, M, Cochran, C, Norrie, J. The effectiveness of early lens extraction for the treatment of primary angle-closure glaucoma: a randomized controlled trial (EAGLE) *Lancet* 2016;388:1389-97
3. Cruickshank, M, Henderson, L, MacLennan, G, Fraser, C, Campbell, M, Blackwood, B, Gordon, A, Brazzelli, M. Alpha-2 agonists for sedation of mechanically ventilated adults in intensive care units: a systematic review. *Health Technol Assess* 2016;20(25).
4. Elouafkaoui, P, Young, L, Newlands, R, Duncan, EM, Elders, A, Clarkson, JE, Ramsay, CR. An audit and feedback intervention for reducing antibiotic prescribing in general dental practice: The RAPID cluster randomised controlled trial. *PLoS Med* 2016;13(8):e1002115. doi:10.1371/journal.pmed.15.
5. Entwistle, V, Cribb, A, Owens, J. Why health and social care support should be oriented towards enabling people to live well with long-term conditions. *Health Care Anal* 2016:DOI 10.1007/s10728-016-0335-1.
6. Glazener, C, Constable, L, Hemming, C, Breeman, S, Elders, A, Cooper, K, Freeman, RF, Smith, A, Hagen, S, McDonald, A, McPherson, G, Montgomery, I, Kilonzo, M, Boyers, D, Goulao, B, Norrie, J. Two parallel, pragmatic, UK multicentre, randomised controlled trials comparing surgical options for upper compartment (vault or uterine) pelvic organ prolapse (the VUE Study): study protocol for a randomised controlled trial *Trials* 2016;17:441.
7. Glazener, C, Breeman, S, Elders, A, Hemming, C, Cooper, K, Freeman, RF, Smith, A, Reid, F, Hagen, S, Montgomery, I, Kilonzo, M, Boyers, D, McDonald, A, McPherson, G, MacLennan, G, Norrie, J. Mesh, graft or standard repair for women having primary anterior or posterior 1 prolapse surgery? Two randomised controlled trials (the PROSPECT Study). *Lancet* 2016;389(10067):381-92.
8. Morgan, HM. "Pushed" self-tracking using digital technologies for chronic health condition management: a critical interpretive synthesis. *Digital Health* 2016:DOI: 10.1177/2055207616678498, Nov 2016.
9. Sterne, J, Hernan, M, Reeves, B, [Ramsay, CR] et al. ROBINS-I: a tool for assessing risk of bias in non-randomized studies of interventions. *Br Med J* 2016;355:i4919
10. Watson, A, Hudson, J, Wood, J, Kilonzo, M, Brown, S, McDonald, A, Norrie, J, Bruhn, H, Cook, JA. Comparison of stapled haemorrhoidopexy with traditional excisional surgery for haemorrhoidal disease (eTHoS): a pragmatic, multicentre, randomised controlled trial. *Lancet* 2016;388(10058):2375-2385.



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