



Using Cochrane reviews to improve quality

Sally Green

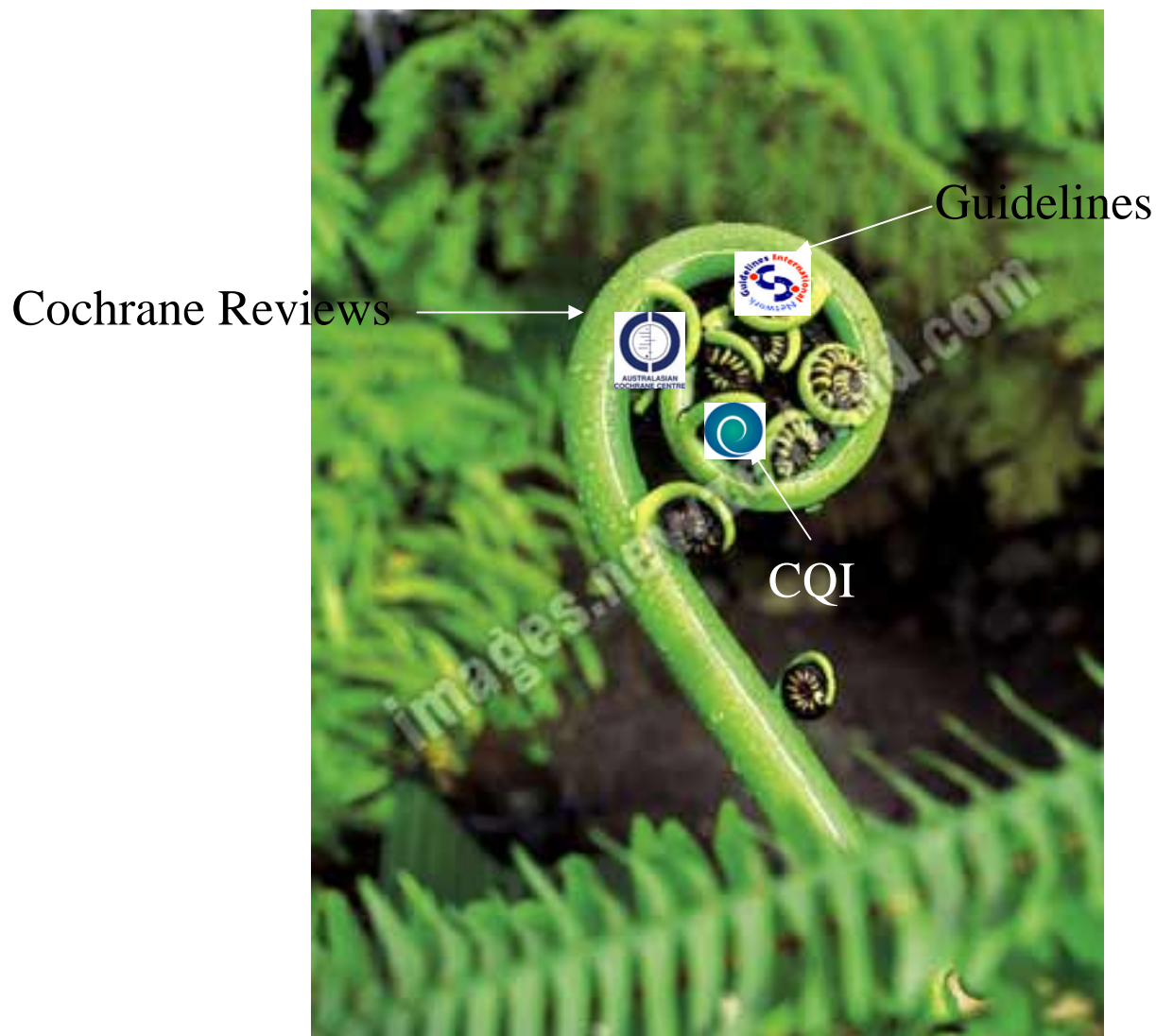
Australasian Cochrane Centre

Presentation outline

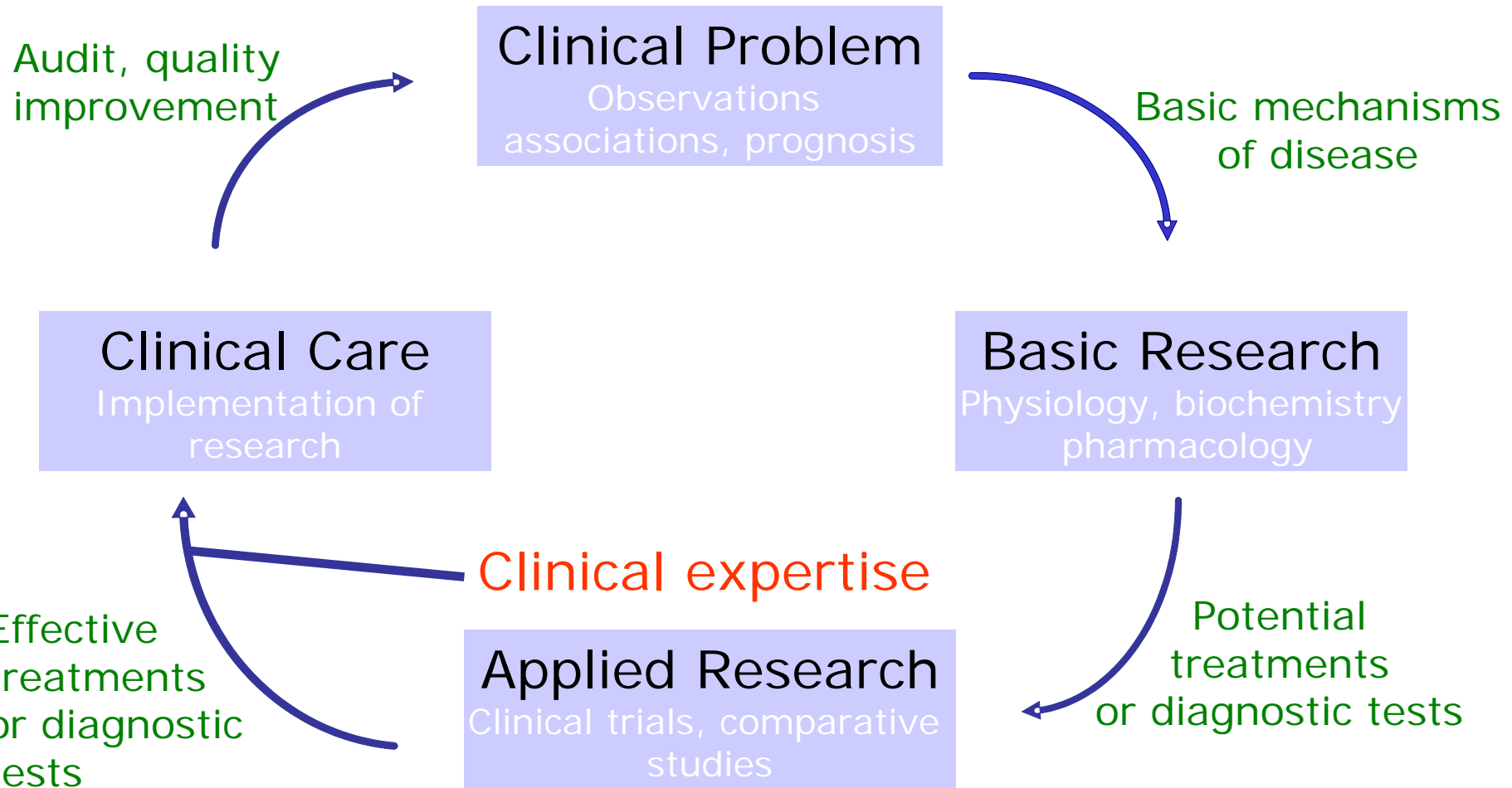
- What are Cochrane reviews?
- How do they articulate with guidelines?
- What is continuous quality improvement?
- CQI as a 'capability wheel'
- How Cochrane reviews can be used in the capability wheel
- An example

Tying it together

The evidence koru



Framework for the use of evidence to solve clinical problems



Effective treatments or diagnostic tests

Guidelines

Clinical expertise

Systematic reviews

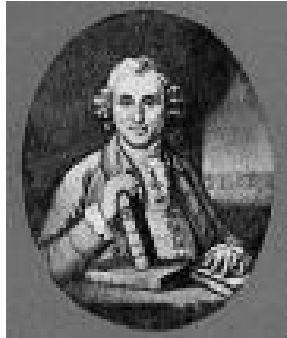


The Cochrane Collaboration

- An international organisation that aims to help people make well-informed decisions about healthcare by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of health care interventions.

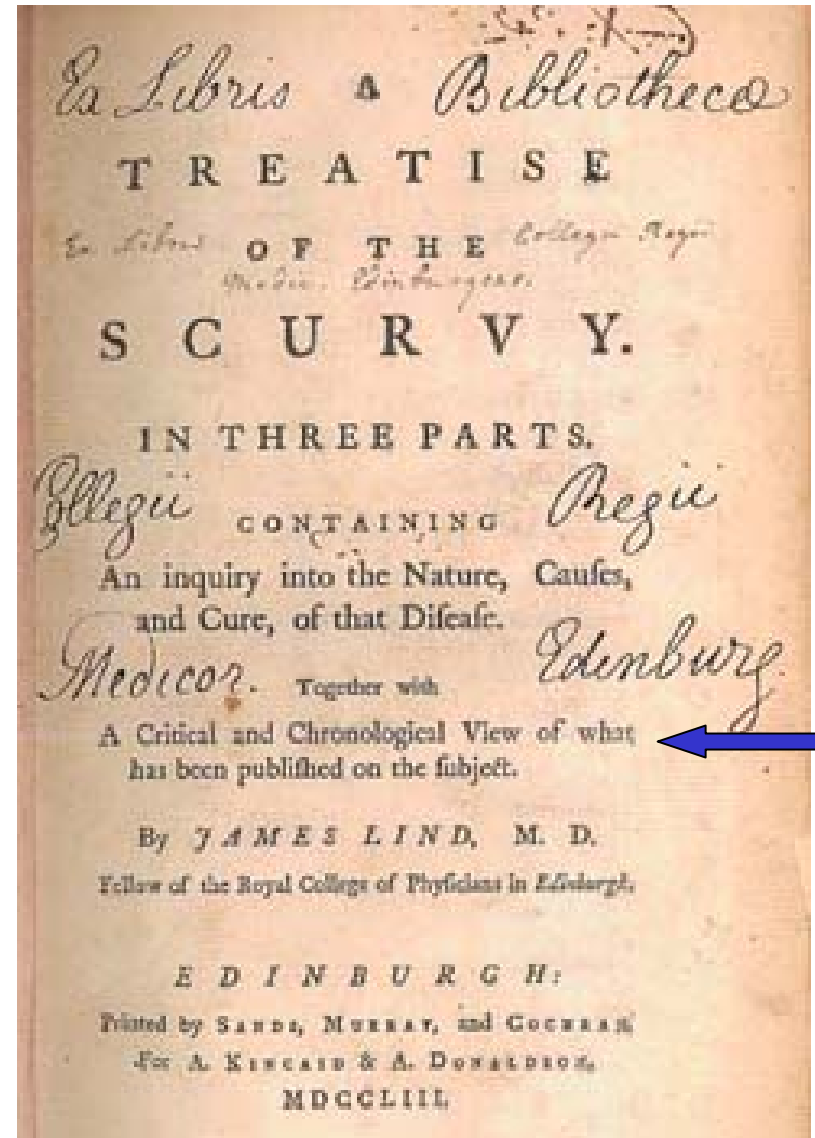
Systematic reviews

- Systematic reviews are systematic syntheses of best evidence.
- They recognise that science is cumulative and aid decisions which consider the totality of reliable evidence
- Cochrane reviews are systematic reviews conducted by contributors to the Cochrane Collaboration, following a recommended methodology and published on *The Cochrane Library*



The following are the experiments.

On the 20th of *May* 1747, I took twelve patients in the scurvy, on board the *Salisbury* at sea. Their cases were as similar as I could have



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What is continuous quality improvement

- CQI is based around process improvement, analysis of existing work processes, staff involvement and iterative problem solving to work toward and measure a defined outcome

Berwick, 1996

- The objective of CQI is to improve the performance of health care workers and ultimately improve patient care
- Emphasis on improving the process, not the person



Three types of quality problem addressed by CQI

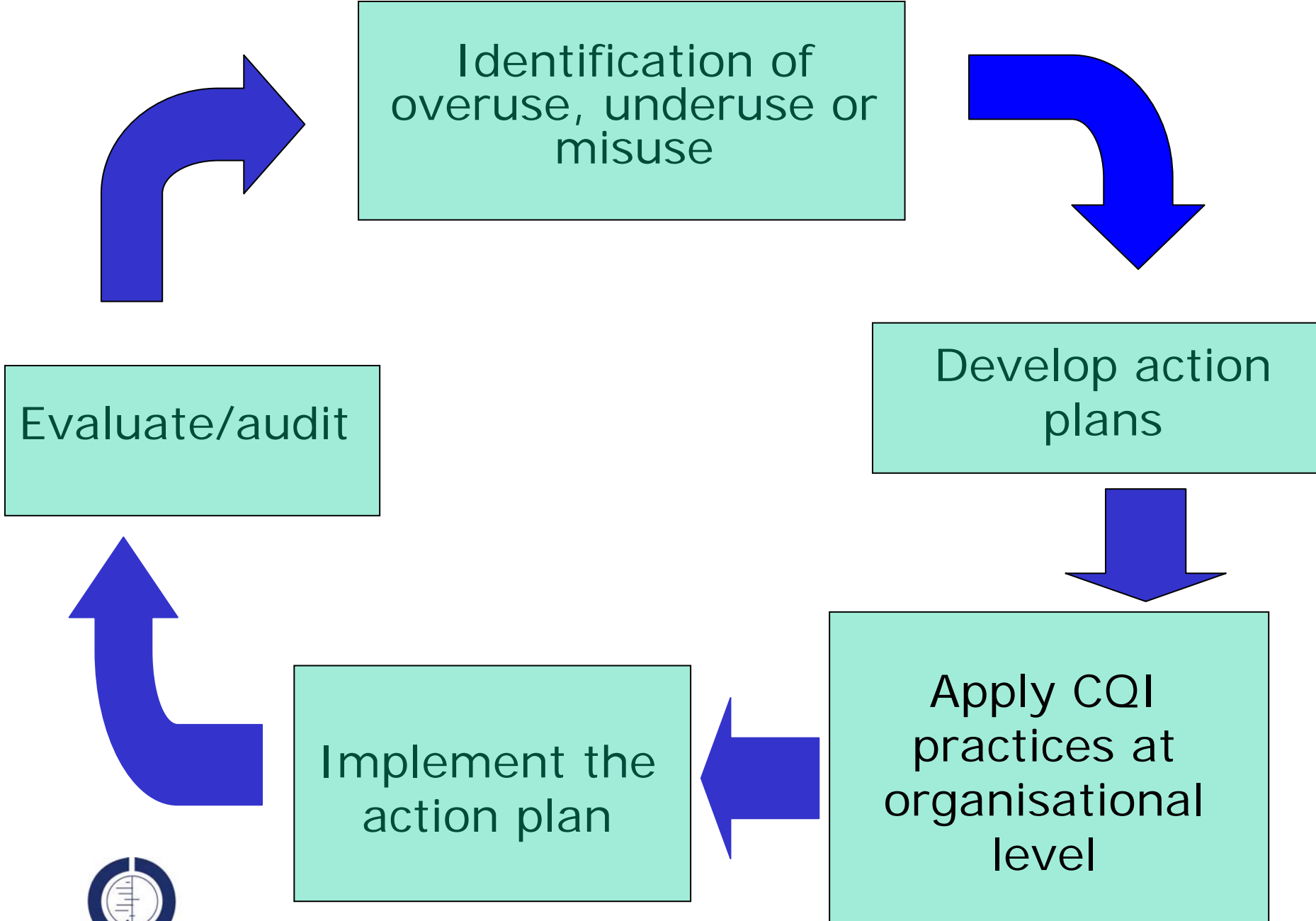
- **Underuse:** failure to provide health services when benefits outweigh the risks 7%*
- **Overuse:** provision of health services when risks outweigh the benefits 31%*
- **Misuse:** appropriate health service selected but poorly or inappropriately provided 55%*

**proportion of CQI studies addressing type of problem (Shortell 1998)*

CQI as part of a capability wheel*

- Views CQI as part of a set of capabilities that organisations need to improve quality
- The 'capability wheel' contains a set of continuously reinforcing activities which can be broken down into six key steps

* *Shortell 1998*



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graph TD; A[Identify overuse, underuse or misuse] --> B[Develop action plans]; B --> C[Apply CQI practices at organisational level]; C --> D[Implement the action plan]; D --> E[Evaluate/audit]; E --> A;
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Identification of overuse, underuse or misuse

Develop action plans

Apply CQI practices at organisational level

Implement the action plan

Evaluate/audit



STEP ONE: Determination of the current state of knowledge about a given condition (identifying misuse, overuse or underuse)

Cochrane reviews form a reliable source of evidence about best practice with respect to interventions and so help identify overuse, underuse and misuse.



STEP 2: Development of action plans (guidelines, protocols, and pathways for dealing with the condition)

Cochrane reviews inform the action
plan (e.g. underpin the guideline)

STEP 3: Application of CQI practices to care of the condition (process change and practitioner involvement)

Cochrane reviews may inform shared goal setting and assist in reaching agreement.

Universal access to reviews potentially increases knowledge acceptance and practitioner involvement

STEP 4: Undertake clinical re-engineering and general case management as necessary, redefining the entire process to create an environment to support the action plan

Cochrane reviews contain detailed descriptions of the included trials allowing assessment of like context and understanding of potential effect modifiers



STEP 5: Implementing the action plan

Effectiveness of various implementation strategies in various settings informed by Cochrane Effective Practice and Organisation of Care (EPOC) Reviews

STEP 6: Assessing the outcomes and comparing them against the performance and outcomes of similar organisations

Publishing CQI examples adds to body of literature potentially included in Cochrane Review of effectiveness of CQI

Example: Reducing the frequency of episiotomies through a continuous quality improvement program

Reynolds J. 1995. *CMAJ* 153(3)

Reported experience within a tertiary teaching women's hospital. How could Cochrane reviews have assisted this program?

STEP 1: Determination of the current state of knowledge about a given condition (Mapped out current rates within their setting, and identified overuse of episiotomy through protocol of routine use)

Best practice recommendation underpinned by: Carroli G, Belizan J. Episiotomy for vaginal birth. *The Cochrane Database of Systematic Reviews* 1999, Issue 3.



EPISIOTOMY FOR VAGINAL BIRTH

Carroli G, Belizan J



Date of most recent amendment: 20 October 2003
Date of most recent substantive amendment: 04 May 1999

This record should be cited as: Carroli G, Belizan J. Episiotomy for vaginal birth. *The Cochrane Database of Systematic Reviews* 1999, Issue 3. Art. No.: CD000081. DOI: 10.1002/14651858.CD000081.

ABSTRACT

Background

Episiotomy is done to prevent severe perineal tears, but its routine use has been questioned. The relative effects of midline compared with midlateral episiotomy are unclear.

Objectives

The objective of this review was to assess the effects of restrictive use of episiotomy compared with routine episiotomy during vaginal birth.

Search Strategy

We searched the Cochrane Pregnancy and Childbirth Group trials register.

Selection Criteria

Randomised trials comparing restrictive use of episiotomy with routine use of episiotomy; restrictive use of mediolateral episiotomy versus routine mediolateral episiotomy; restrictive use of midline episiotomy versus routine midline episiotomy; and use of midline episiotomy versus mediolateral episiotomy.

Data collection and analysis

Trial quality was assessed and data were extracted independently by two reviewers.

Main Results

Six studies were included. In the routine episiotomy group, 72.7% (1752/2409) of women had episiotomies, while the rate in the restrictive episiotomy group was 27.6% (673/2441). Compared with routine use, restrictive episiotomy involved less posterior perineal trauma (relative risk 0.88, 95% confidence interval 0.84 to 0.92), less suturing (relative risk 0.74, 95% confidence interval 0.71 to 0.77) and fewer healing complications (relative risk 0.69, 95% confidence interval 0.56 to 0.85). Restrictive episiotomy was associated with more anterior perineal trauma (relative risk 1.79, 95% 1.55 to 2.07). There was no difference in severe vaginal or perineal trauma (relative risk 1.11, 95% confidence interval 0.83 to 1.50); dyspareunia (relative risk 1.02, 95% confidence interval 0.90 to 1.16); urinary incontinence (relative risk 0.98, 95% confidence interval 0.79 to 1.20) or several pain measures. Results for restrictive versus routine mediolateral versus midline episiotomy were similar to the overall comparison.

Development of action plans (guidelines, protocols, and pathways for dealing with the condition)

Audit of current practice identified that many episiotomies performed for: maternal exhaustion. Women routinely delivered in supine/ lithotomy position. Cochrane review identified this is not the best position and upright positions result in less episiotomy.



POSITION FOR WOMEN DURING SECOND STAGE OF LABOUR

Gupta JK, Hofmeyr GJ



Date of most recent amendment: 12 November 2003

Date of most recent substantive amendment: 25 April 2003

Record should be cited as: Gupta JK, Hofmeyr GJ. Position for women during second stage of labour. *The Cochrane Database of Systematic Reviews* 2003, Issue 3. Art No.: CD002006.pub2. DOI: 10.1002/14651858.CD002006.pub2.

ABSTRACT

Background

For centuries, there has been controversy around whether being upright (sitting, birthing stools, chairs, squatting) or lying down have advantages for women delivering their babies.

Objectives

To assess the benefits and risks of the use of different positions during the second stage of labour (i.e. from full dilatation of the cervix).

Search Strategy

We searched the Cochrane Pregnancy and Childbirth Group trials register (16 April 2003).

Selection Criteria

Trials that used randomised or quasi-randomised allocation and appropriate follow up and compared various positions assumed by pregnant women during the second stage of labour.

Data collection and analysis

We independently assessed the trials for inclusion and extracted the data.

Main Results

Results should be interpreted with caution as the methodological quality of the 19 included trials (5764 participants) was variable. Use of any upright or lateral position, compared with supine or lithotomy positions, was associated with: reduced duration of second stage of labour (10 trials: mean 4.29 minutes, 95% confidence interval (CI) 2.95 to 5.64 minutes) - this was largely due to a considerable reduction in women allocated to the use of the birth cushion; a small reduction in assisted deliveries (8 trials: relative risk (RR) 0.84, 95% CI 0.73 to 0.98); a reduction in episiotomies (12 trials: RR 0.84, 95% CI 0.79 to 0.91); an increase in second degree perineal tears (11 trials: RR 1.23, 95% CI 1.09 to 1.39); increased estimated blood loss greater than 500 ml (11 trials: RR 1.68, 95% CI 1.32 to 2.15); reduced reporting of severe pain during second stage of labour (1 trial: RR 0.73, 95% CI 0.60 to 0.90); fewer abnormal fetal heart rate patterns (1 trial: RR 0.31, 95% CI 0.08 to 0.98).

Reviewers' conclusions

one

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current files

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Position for wo...

My Computer

6:30

Developed action plan based on audit

Algorithm recommending:

1. Alternative birthing positions
2. Better assessment of fetal distress
3. Interventions to manage the perineum during labour

Application of CQI practices to care of the condition (process change and practitioner involvement)

- Team included midwife, family doctor, obstetrician, post partum nurse and educator
- Evidence re benefits of restrictive protocol made available
- Areas of knowledge gap identified (assessment of fetal distress) and educational opportunities provided
- Interactive sessions as more effective in changing behaviour: EPOC review

CONTINUING EDUCATION MEETINGS AND WORKSHOPS: EFFECTS ON PROFESSIONAL PRACTICE AND HEALTH CARE OUTCOMES

Thomson O'Brien MA, Freemantle N, Oxman AD, Wolf F, Davis DA, Herrin J



Date of most recent amendment: 26 February 2001
Date of most recent substantive amendment: 09 November 2000

This record should be cited as: Thomson O'Brien MA, Freemantle N, Oxman AD, Wolf F, Davis DA, Herrin J. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *The Cochrane Database of Systematic Reviews* 2001, Issue 1. Art. No.: CD003030. DOI: 10.1002/14651858.CD003030.

ABSTRACT

Background

Educational meetings and printed educational materials are the two most common types of continuing education for health professionals. An important aim of continuing education is to improve professional practice so that patients can receive improved health care.

Objectives

To assess the effects of educational meetings on professional practice and health care outcomes.

Search Strategy

We searched the Cochrane Effective Practice and Organisation of Care Group specialised register, MEDLINE (from 1966), the Research and Development Resource Base in Continuing Medical Education in January 1999 and reference lists of articles.

Selection Criteria

Randomised trials or well designed quasi-experimental studies examining the effect of continuing education meetings (including lectures, workshops, and courses) on the clinical practice of health professionals or health care outcomes.

Data collection and analysis

Two reviewers independently applied inclusion criteria, assessed the quality of each study, and extracted study data. We attempted to collect missing data from investigators. We conducted both qualitative and quantitative analyses.

Main Results

Thirty-two studies were included with a total of 36 comparisons. The studies involved from 13 to 411 health professionals (total N= 2995) and were judged to be of moderate or high quality, although methods were generally poorly reported. There was substantial variation in the complexity of the targeted behaviours, baseline compliance, the characteristics of the interventions and the results. The heterogeneity of the results was best explained by differences in the interventions. For 10 comparisons of interactive workshops, there were moderate or moderately large effects in six (all of which were statistically significant) and small effects in four (one of which was statistically significant). For interventions that combined workshops and didactic presentations, there were moderate or moderately large effects in 12 comparisons (eleven of which were statistically significant) and small effects in seven comparisons (one of which was statistically significant). In seven comparisons of

Undertake clinical re-engineering and general case management as necessary, redefining the entire process of care to create an environment to support the action plan

- Agreement reached to not move women to case room and put them in stirrups at onset of second stage



Implementing the action plan

Strategies included:

- Monthly newsletter (educational materials)
- Publication of episiotomy rates and outcomes (audit and feedback)
- Educational sessions

TOPIC LIST

Cochrane Effective Practice and Organisation of Care Group

- ▶ Reviews of specific types of interventions
 - ▶ Continuing education and quality assurance
 - ▶ Distribution of educational materials
 - ▣ [Printed educational materials: effects on professional practice and health care outcomes](#)
 - ▣ [Electronic access to health information and/or knowledge by health professionals to improve practice and patient care](#)
 - ▶ Educational meetings (including lectures, workshops and traineeships)
 - ▣ [Continuing education meetings and workshops: effects on professional practice and health care outcomes](#)
 - ▶ Local consensus processes
 - ▣ [Local consensus processes: effects on professional practice and health care outcomes](#)
 - ▶ Educational outreach visits
 - ▣ [Educational outreach visits: effects on professional practice and health care outcomes](#)
 - ▶ Local opinion leaders
 - ▣ [Local opinion leaders: effects on professional practice and health care outcomes](#)
 - ▶ Patient mediated interventions
 - ▶ Audit and feedback
 - ▣ [Audit and feedback: effects on professional practice and health care outcomes](#)
 - ▣ [Audit and feedback versus alternative strategies: effects on professional practice and health care outcomes](#)
 - ▶ Reminders (including computerised decision support systems)
 - ▣ [Computer-generated paper reminders: effects on professional practice and health care outcomes](#)
 - ▣ [Manual paper reminders: effects on professional practice and health care outcomes](#)

Assessing the outcomes and comparing them against the performance and outcomes of similar organisations

- Reduction of episiotomy rate from 44% to 33%
- Reduction in severe perineal trauma/tear from 8.3% to 3.7%
- No increase in rates of haematoma, incontinence or infection
- Under consideration for inclusion in Cochrane review of CQI interventions

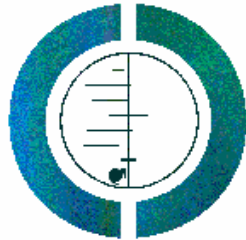
Conclusions

- Continuous quality improvement involves a capability wheel of iterative steps aimed at improving the process of care
- Cochrane reviews can inform CQI activities at all steps

Conclusions

- Access to Cochrane reviews within hospital and community settings (potentially through national licenses) can facilitate the identification and addressing of underuse, overuse and misuse of healthcare interventions

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New Zealand Branch of the Australasian Cochrane Centre

*Co-ordinating New Zealand's involvement in the
international Cochrane Collaboration*



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The New Zealand Branch of the Australasian Cochrane Centre was established on the 23rd February 2004. The Branch is an entity of the Cochrane Collaboration and its aim is to promote and support Cochrane Collaboration activities throughout New Zealand.

The Cochrane Collaboration is an international non-profit and independent organisation, dedicated to making up-to-date, accurate information about the effects of healthcare readily available world-wide.



From left: Dr Vanessa Jordan, NZ Cochrane Fellow; Denise O'Connor, Australasian Cochrane Centre; Dr Ashley Bloomfield, Ministry of Health; Prof Cindy Farquhar, Director, NZ Branch; Prof Alistair Woodward, Head of Population Health, Auckland University and Dr Mark Jeffery, Director NZ Branch, at the launch of the New Zealand branch of the Australasian Cochrane Centre.

The New Zealand Branch operates training workshops for New Zealand-based reviewers, as well as supports individual reviewers during their review preparation. Promotional activities are also undertaken throughout New Zealand in order to increase the use of the Cochrane Library in evidence-based practice.



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