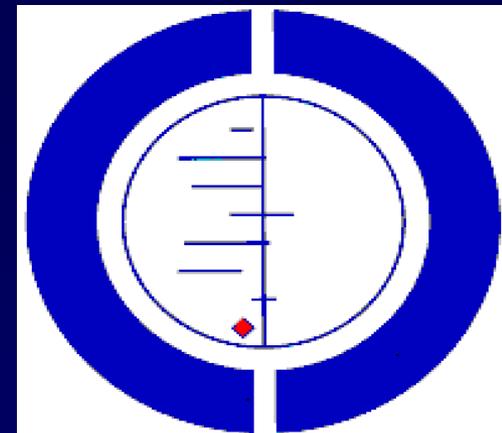


Agreement between Cochrane Neonatal reviews and Danish guidelines for newborns

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Background

Neonatology includes interventions for newborns and preterm infants

5% of newborns are preterm (< 37 week) or have low birth weight (< 2500 g)

Very preterm < 28 week:

- 1975: 85% mortality
- 2002: 20% mortality

Background

Reasons for this study:

- Disagreements between research and clinical practice
- Cochrane Neonatal Group has completed 173 reviews in 2004 ☺
- Free access to Cochrane Library for all in Denmark

Aims

To assess the agreement between Cochrane reviews and Danish guidelines for newborns

To assess the use of Cochrane reviews during guidelines development

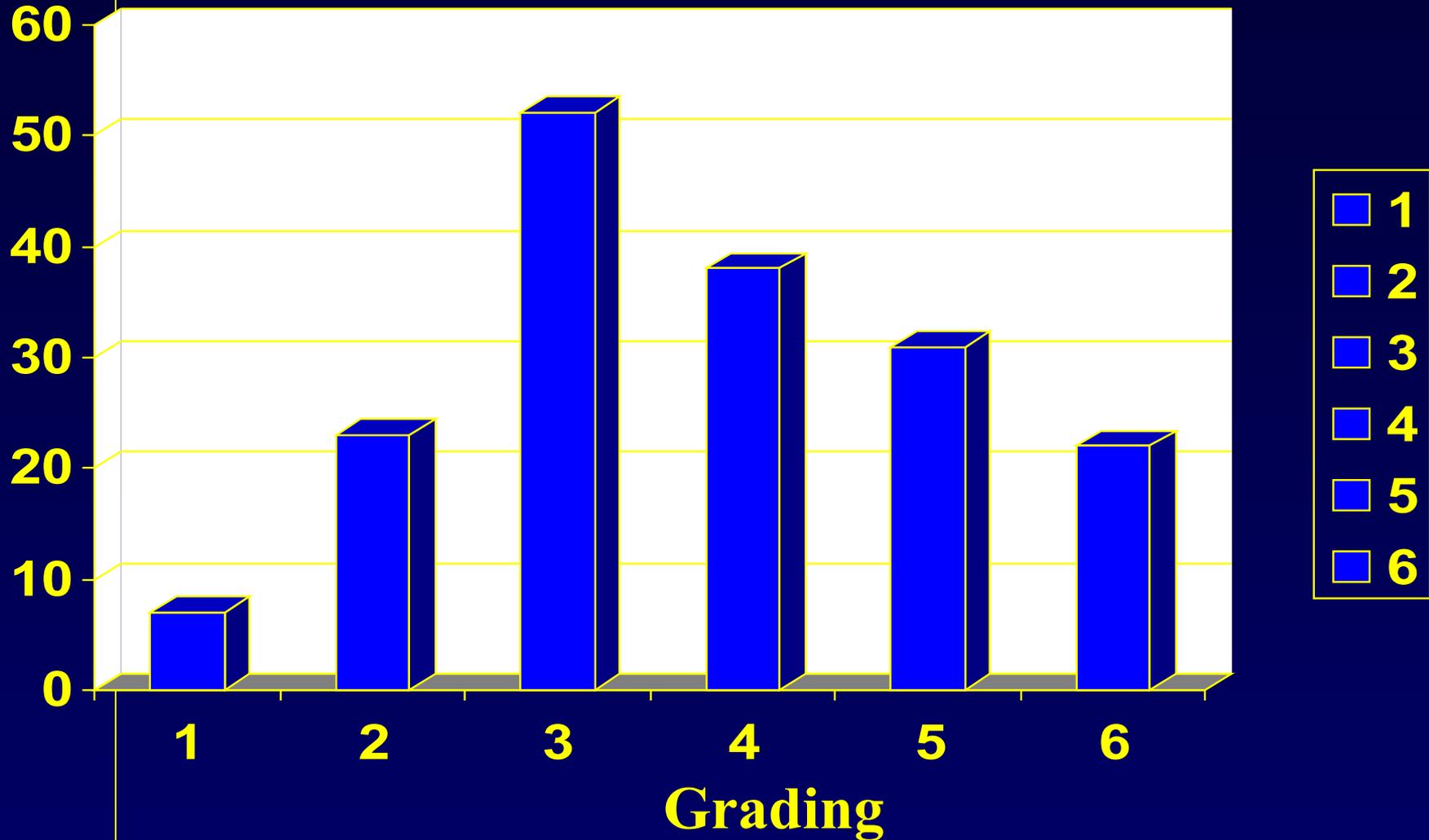
To assess the reasons for disagreements



Grading of Neonatal reviews

- 1 Intervention harmful or without effect
- 2 Intervention probably without effect
- 3 Insufficient or no evidence
- 4 Weak evidence - maybe beneficial
- 5 Intervention probably beneficial
- 6 Intervention beneficial

Grading of Neonatal reviews



Agreement Yes/No?

Agreement between reviews and guidelines

Guidelines

Grading	Recommended	Not mentioned
1		
2	Disagreement	Agreement
3		
4		
5	Partly agreement	Partly disagreement
6	Agreement	Disagreement

Results

Agreement between reviews and guidelines

•

Guidelines

Grading	Recommended	Not mentioned
1	0	7
2	0	23
3	3	49
4	3	35
5	11	20
6	19	3

Results

173 interventions included

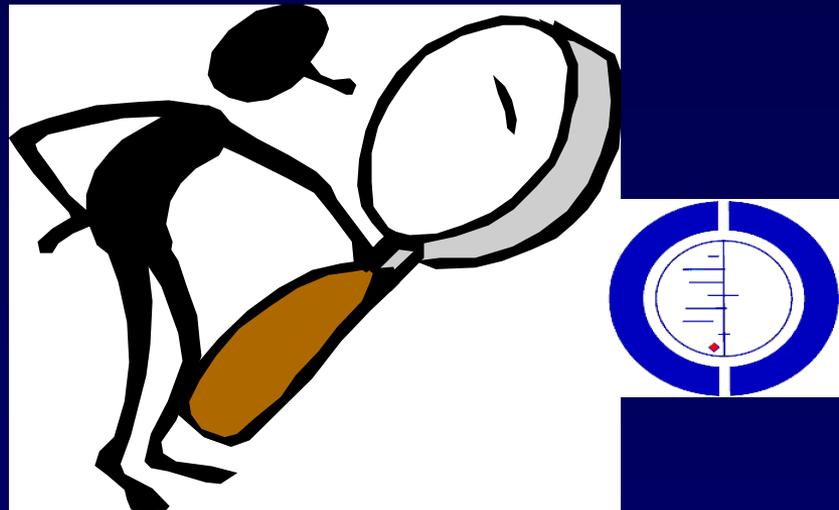
- Agreement for 131 interventions (76%)



- Disagreement for 9 interventions (5%):
 - *6 interventions recommended in guidelines, but not in reviews*
 - *3 interventions recommended in reviews, but not in guidelines*

Use of Cochrane reviews?

*We searched for references to
Cochrane reviews in guidelines and
interviewed guideline authors*



Results

Agreement between reviews and guidelines

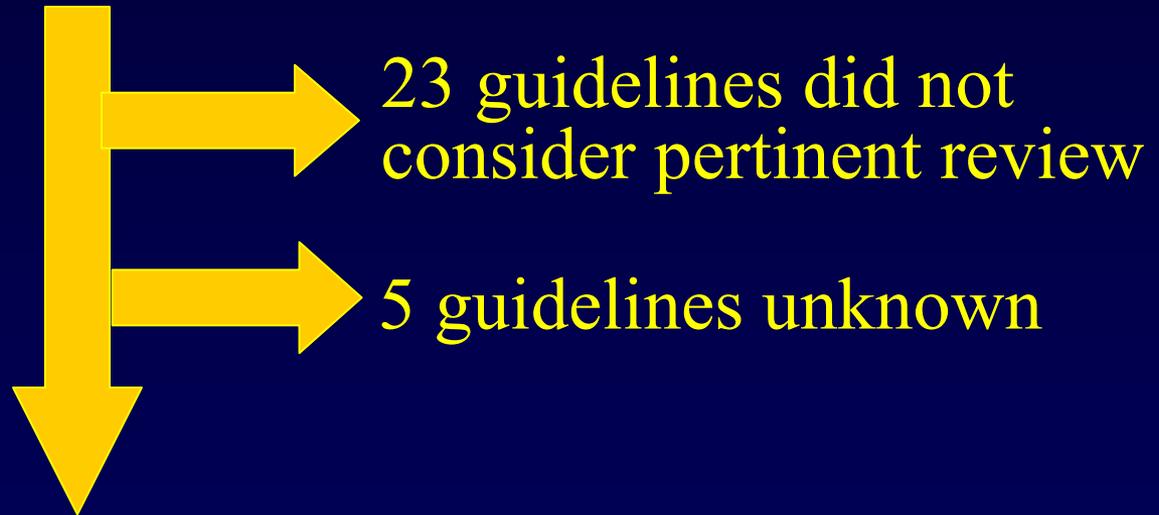
Guidelines

Grading	Recommended	Not mentioned
1	0	7
2	0	23
3	3	49
4	3	35
5	11	20
6	19	3

36

Use of Cochrane reviews

36 included interventions
assessed in reviews



8 guidelines clearly
considered review

Use of Cochrane reviews

Only 8/36 (22%) guidelines authors considered the pertinent Cochrane review during guidelines development



Reasons for disagreements

We asked the guideline authors what they considered the evidence basis for the guideline



Results

Agreement between reviews and guidelines

Guidelines

Grading	Recommended	Not mentioned
1	0	7
2	0	23
3	3	49
4	3	35
5	11	20
6	19	3

Reasons for disagreement

Evidence used:

- Surrogate markers
- Observational studies *Insufficient evidence*
- Consensus statements
- Expert opinion
- Basic pharmacology / physiology

Reasons:

- Economical constraints
- Lack of external validity *Clear evidence*
- Unaware of the Cochrane review

Evidence base for guidelines

Several reasons for disagreement
between reviews and guidelines

Conclusions

Most neonatal guidelines are in agreement with Cochrane reviews

Cochrane reviews were rarely used in guideline development

We identified various reasons for the disagreements between reviews and guidelines

Implications

This study illustrates one way to do ‘spring-cleaning’ and:

- initiate debate on current guidelines
- avoid disagreement between practice and research

Physicians’ comments to authors of reviews are needed to improve the quality of reviews

These initiatives may minimise the gaps between research and clinical practice

Implications

This study illustrates one way to do ‘spring-cleaning’ and:

- avoid disagreement between practice and research
- initiate debate about current guidelines

Physicians’ comments to authors of reviews are needed to improve the clinical relevance of reviews as they are continuously updated

It can be used within all fields of medicine

Combined this might minimise the gaps between research and clinical practice, which should benefit patients

Eksempler og forklaringer på uoverensstemmelser (1)

Adrenalin til hjertestop/bradycardi?

CR: Score 3 (ingen forsøg)

RH: Anbefales (frekvens < 60)

Argument: Internationale anbefalinger

Vurdering:

- overbevisende effekt, “intet at tabe”
- etisk uforsvarligt med forsøg

‘There is an urgent need for randomised, controlled trials to establish if the administration of epinephrine to the apparently stillborn or extremely bradycardic newborn affects mortality and morbidity’

Eksempler og forklaringer på uoverensstemmelser (2)

NCPAP til preterme (< 28 uge)?

CR: Score 3 (få forsøg med “ingen” effekt)

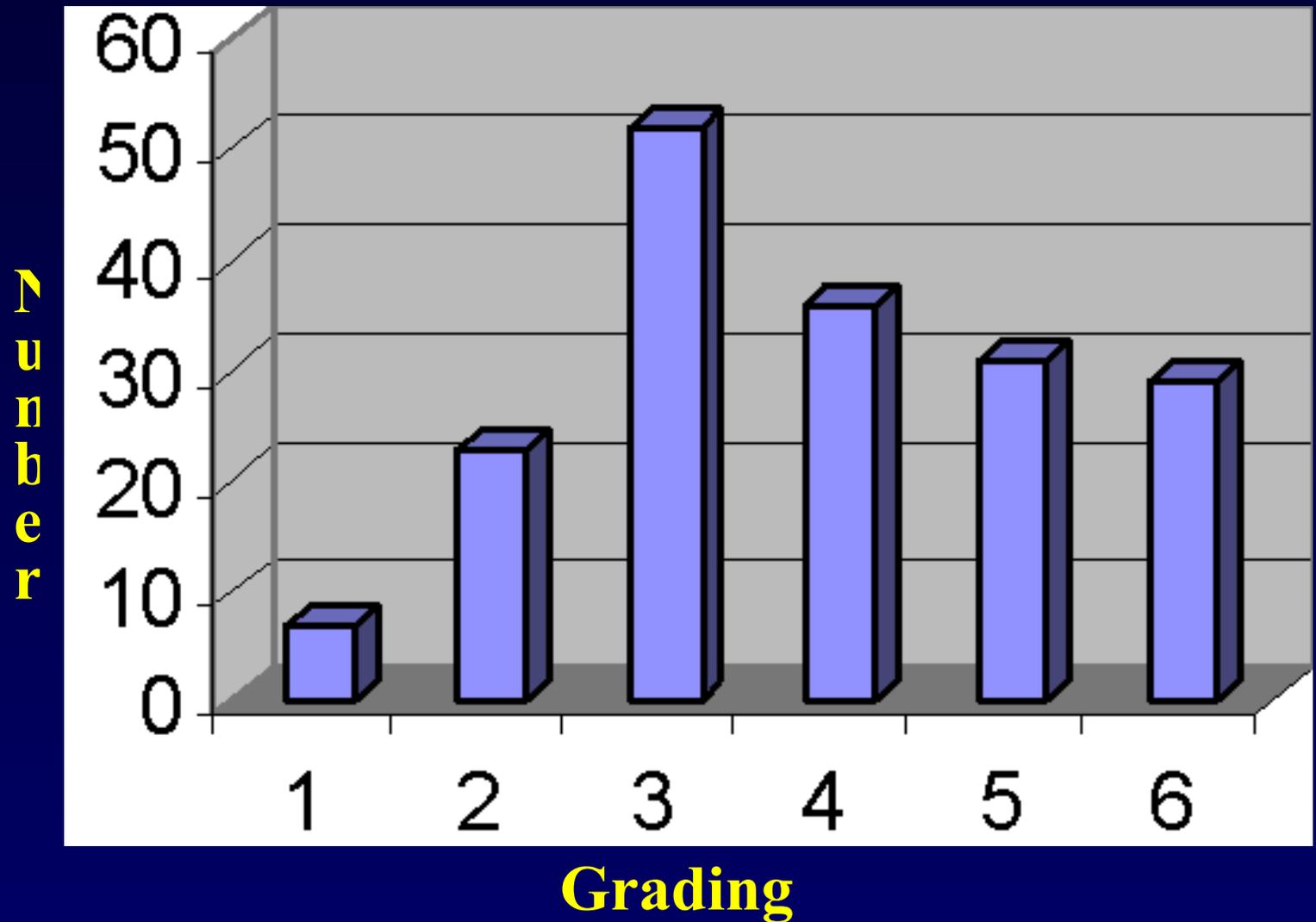
RH: Anbefales som standard

Argument: Observationelle studier, tradition

Vurdering:

- ikke overbevisende effekt
- etisk forsvarligt med forsøg

Grading of Neonatal reviews



Eksempler og forklaringer på uoverensstemmelser (3)

Surfaktant til preterme (< 28 uge)?

CR: Score 6 (talrige forsøg)

RH: Anbefales ikke

Argument: Vi giver NCPAP - i de inkluderede forsøg gives NCPAP ikke

Vurdering:

– ekstern validitet (andre patient-typer)

Grading of Cochrane reviews

Who?

**To doctors (non-neonatologists)
independently assessed reviews**

**Disagreements were solved
through discussion**

Baggrund

Evidenshierarkiet:

- **Meta-analyser af randomiserede kliniske forsøg (Cochrane oversigter)**
 - **Randomiserede kliniske forsøg**
-
- **Kliniske observationsstudier**
 - **Basal forskning (fysiologi + kemi)**
 - **Klinisk erfaring uden systematisk observation**

Baggrund

Personlige:

- **Bekendt med arbejdet bag Cochrane reviews - interesse i at forskningen implementeres**
- **Kolleger: 'Cochrane reviews ofte svære og "tunge" at læse'**
- **Børnelæge**

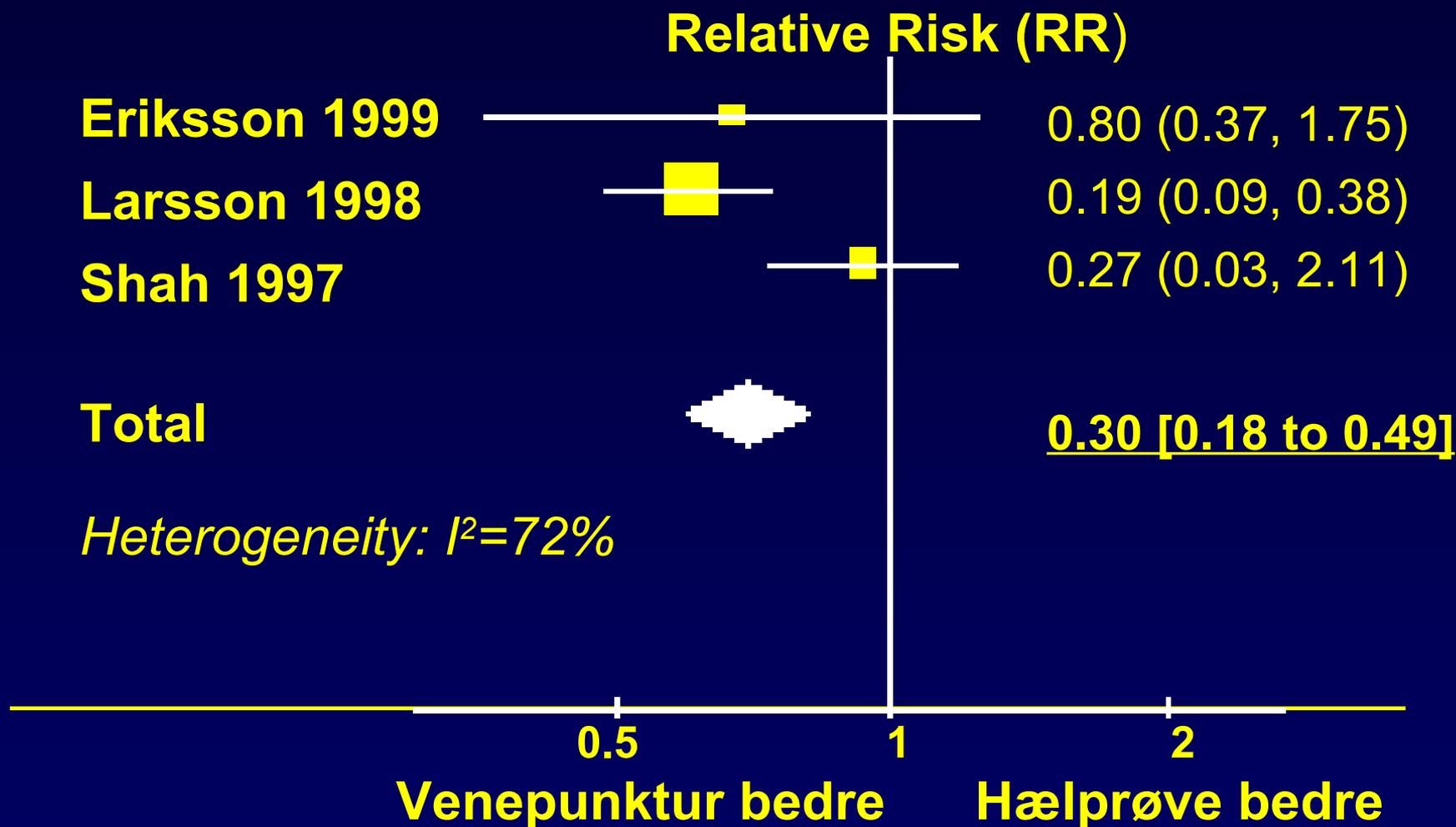
Baggrund

Hvorfor uoverensstemmelse?

- **12.500 randomiserede forsøg årligt**
- **Anbefalinger i lærebøger efter 5-10 år efter udviklingen**
- **Anbefalinger i lærebøger ikke altid valide**
- **Klinikers viden om evidensbaseret medicin**

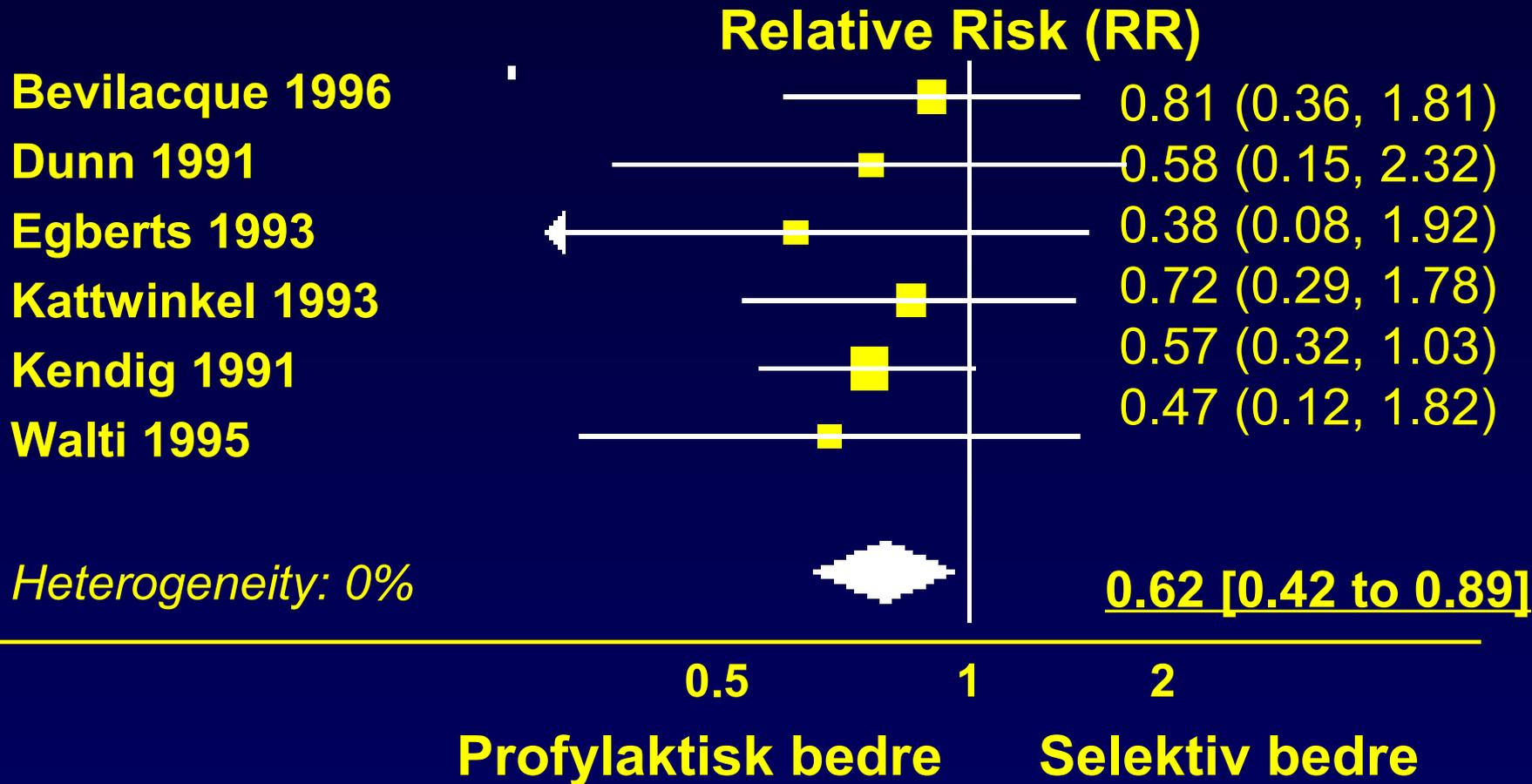
Venepunktur vs. hælprøve

Effektmål: Fejlstik



Profylaktisk vs. selektiv surfaktant

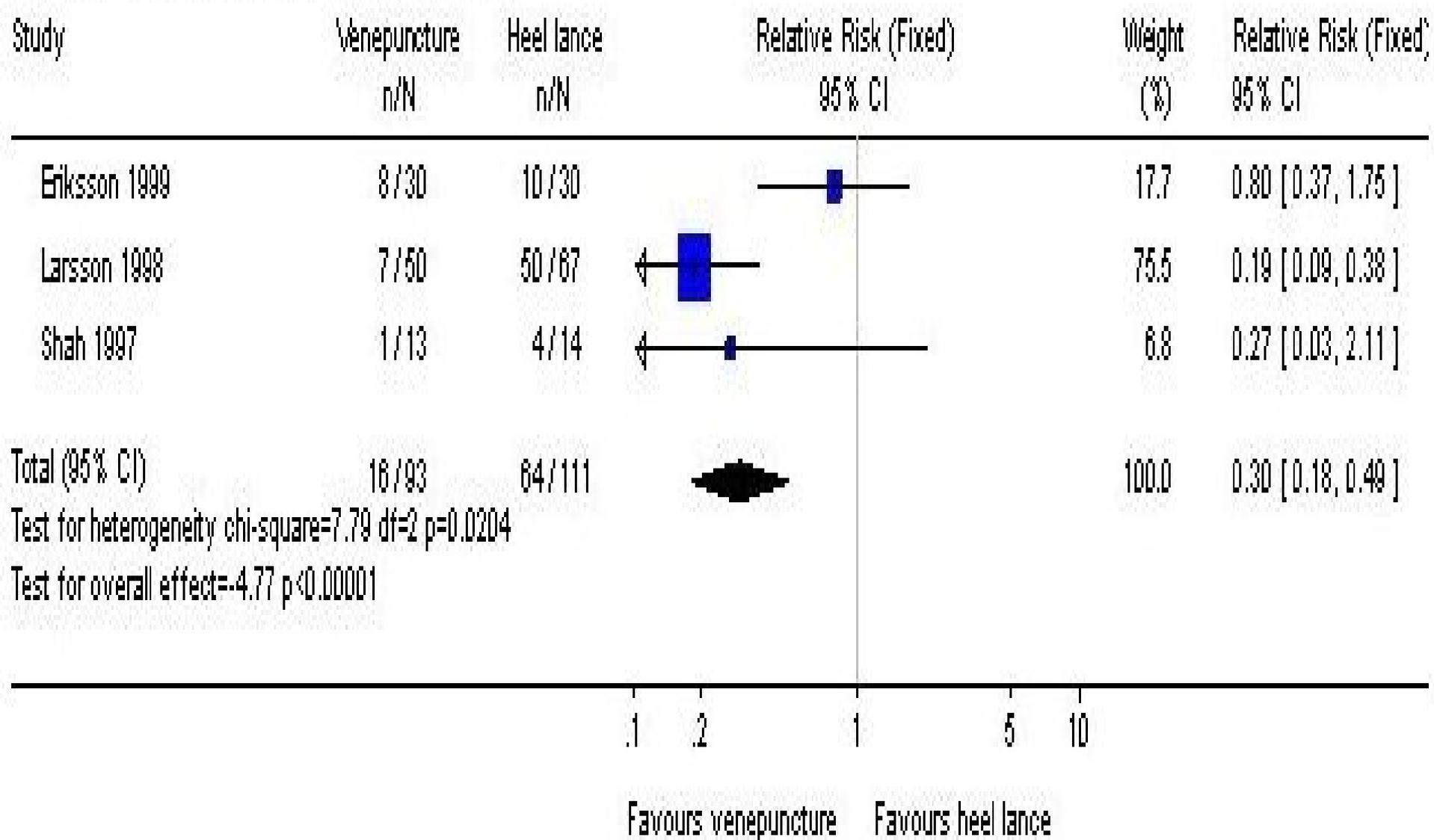
Effekt mål: Pneumothorax



Review: Venepuncture versus heel lance for blood sampling in term neonates

Comparison: 01 Venepuncture vs. heel lance

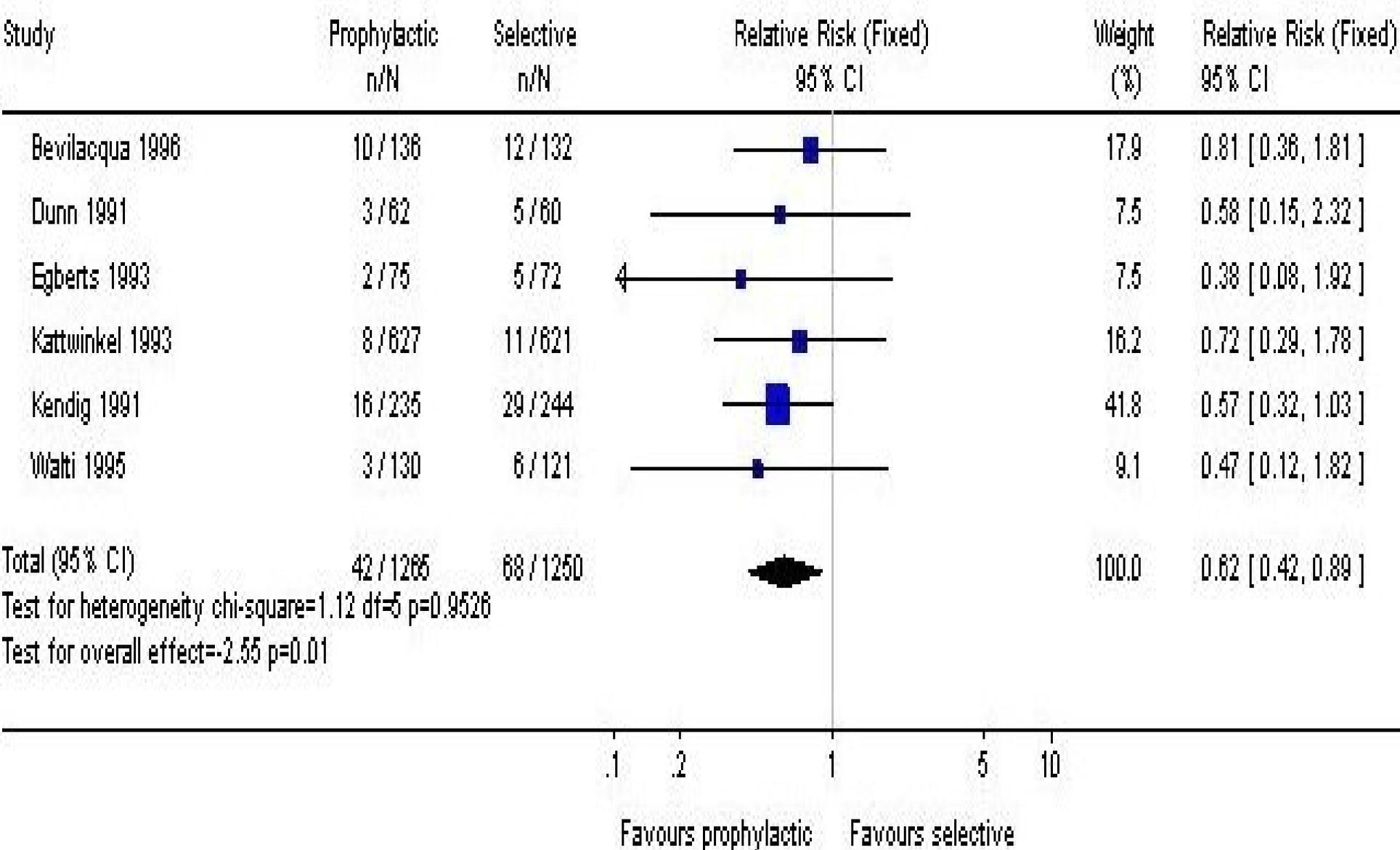
Outcome: 01 Need for more than one skin puncture



Review: Prophylactic versus selective use of surfactant in preventing morbidity and mortality in preterm infants

Comparison: 01 Prophylactic Surfactant vs. Treatment with Surfactant

Outcome: 01 Pneumothorax



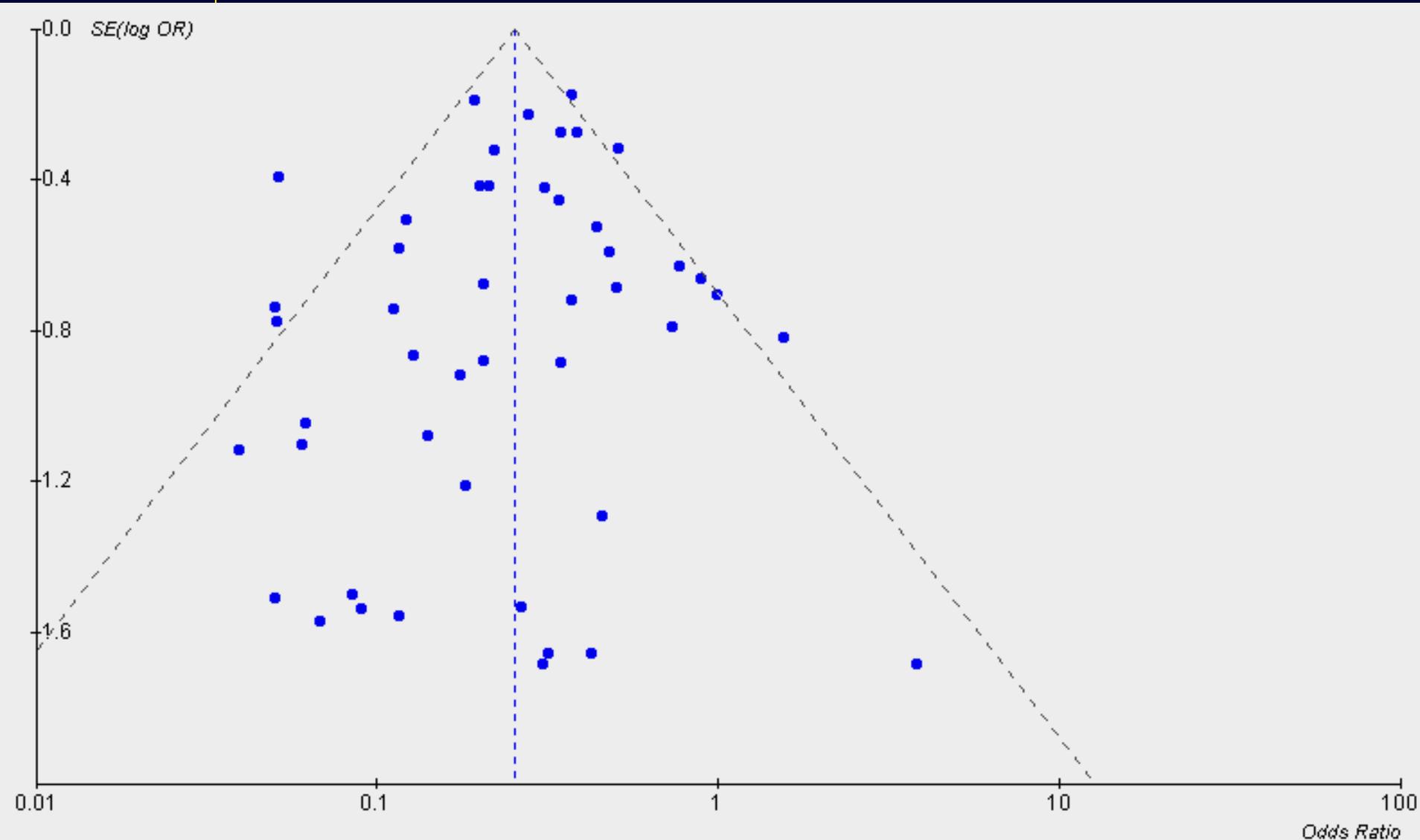
Eks: Rigshospitalet

172 behandlinger vurderet i Cochrane
Neonatal oversigter

Instrukser:

- 130 overensstemmelse
- 17 delvis overensstemmelse
- 10 uoverensstemmelse
- 15 delvis uoverensstemmelse

Eksempel på Funnel plot



Deltagelse i NEONATAL - GRIP

Alle pædiatriske/neonatal afdelinger på danske hospitaler blev inviteret:

OK - fra 18 hospitaler: Aalborg, Esbjerg, Gentofte, Glostrup, Herning, Hillerød, Holbæk, Hvidovre, Kolding, Næstved, Nykøbing Falster, Odense, Rigshospitalet, Roskilde, Sønderborg, Viborg, og Århus.