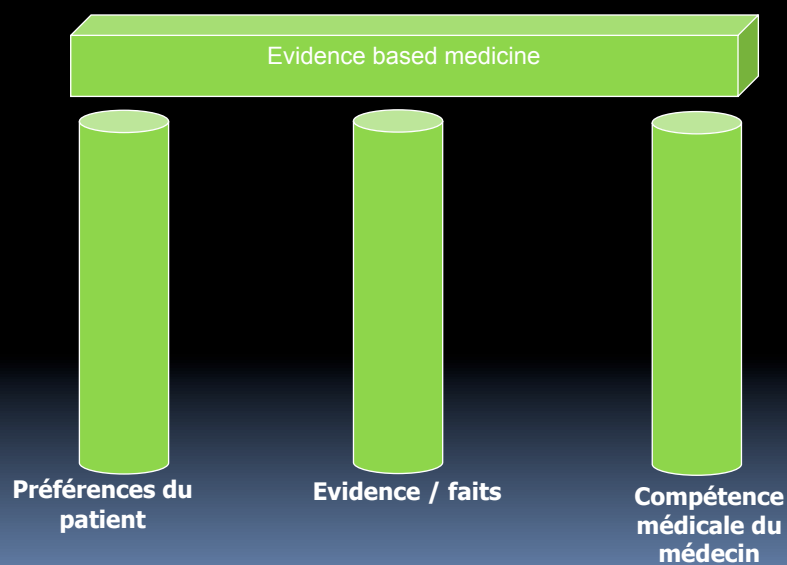
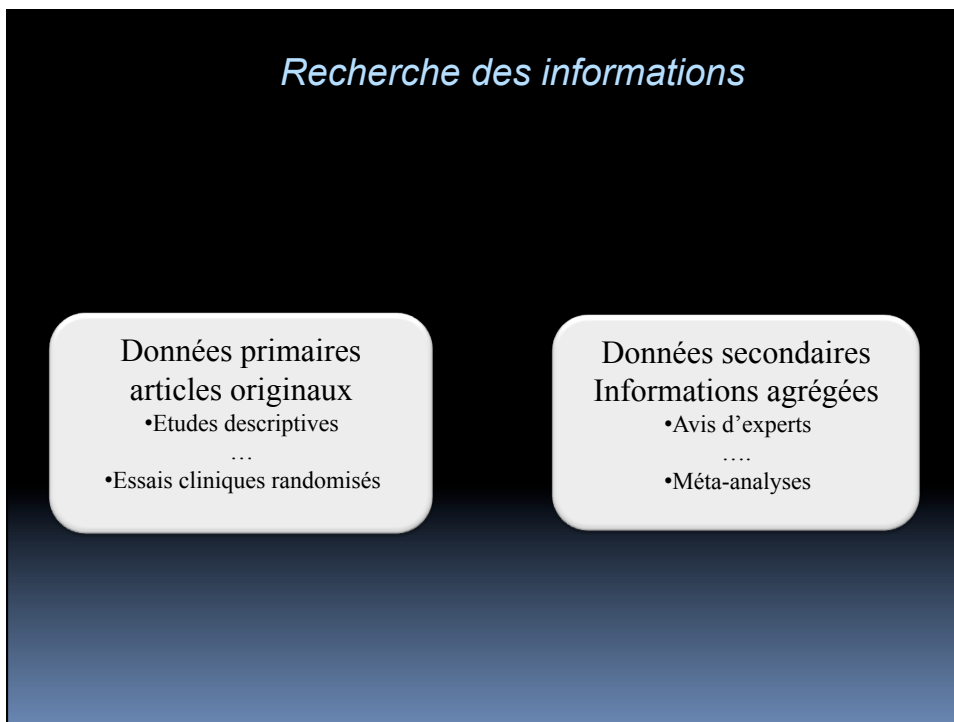
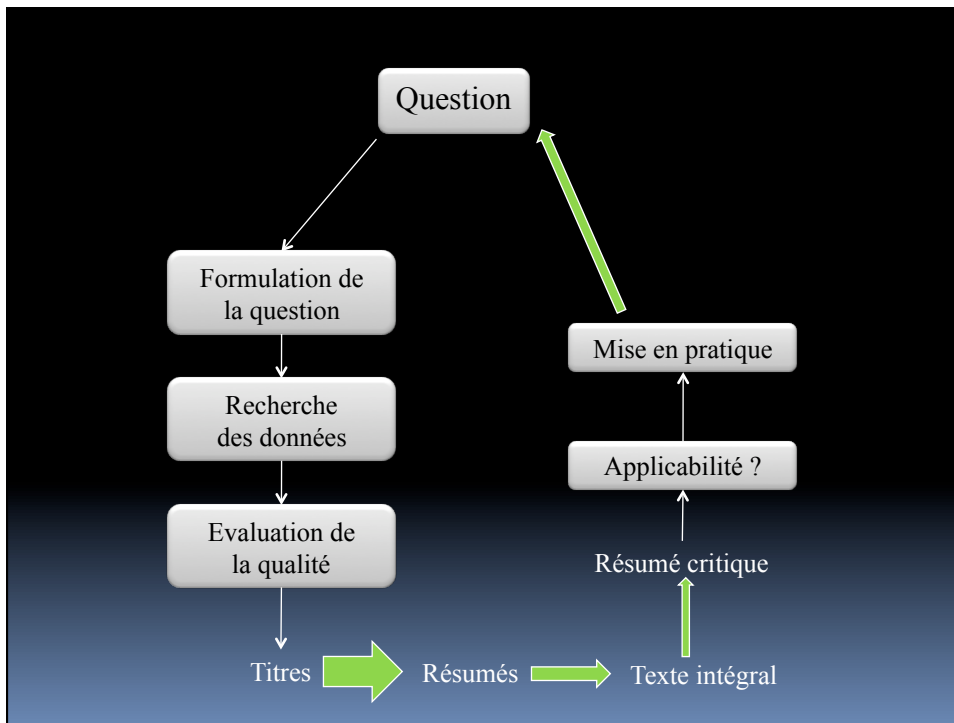


# EBM ET APPORT DE L'ÉPIDÉMIOLOGIE POUR LA PRÉVENTION DES TMS DES MEMBRES ET DU RACHIS

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## *Les piliers de l'EBM*





## Recherche d'information « Evidence Based »

- Sensibilité et spécificité des mots-clefs utilisés à connaître
- Identification des revues de la littérature dans Medline
  - Montori et al., BMJ
  - Syntaxes dans Ovid

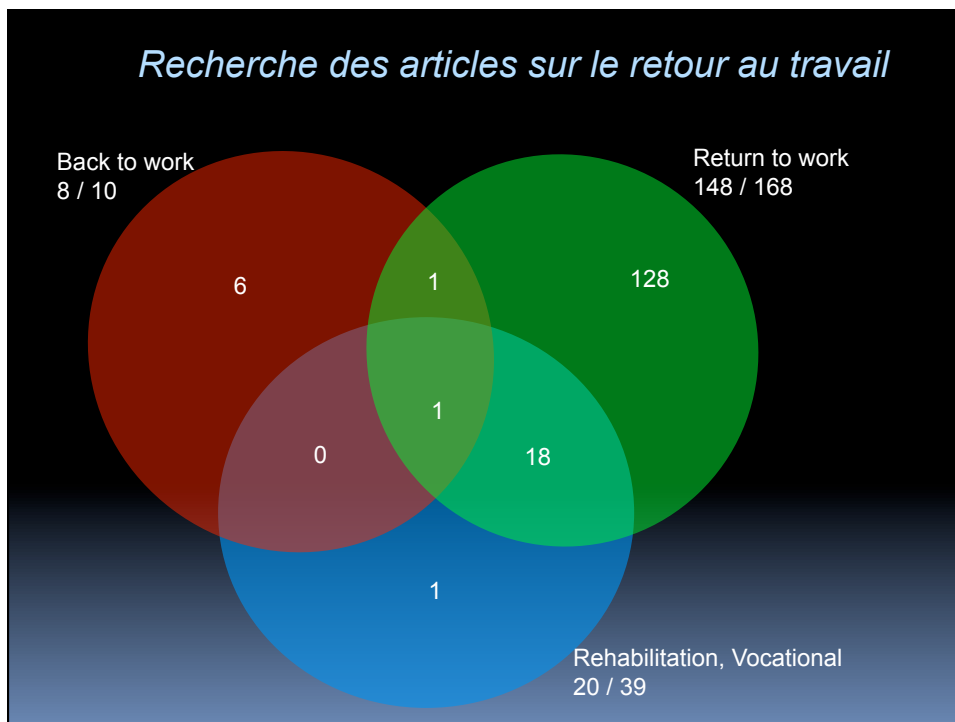
	Sensibilité	Spécificité
“cochrane database of systematic reviews.jn.”	56%	96%
Search:.tw or meta-analysis.mp,pt. or review.pt. or di.xs or associated.tw	99 %	52 %
Medline.tw or systematic review.tw or meta-analysis.pt	71,2%	99,2%

## Recherche des études d'intervention en santé au travail

	Sensibilité	Spécificité
Effect*[tw]	74,5%	63,2%
Effectiveness[tw]	21,5 %	97,8 %
Effect*[tw] OR control*[tw] OR evaluation* [tw] OR program* [tw]) AND (work* [tw] OR occupation* [tw] OR prevention* [tw] OR protect* [tw] )	89,3%	78,1%
(program [tw] OR "prevention and control" [sh]) AND (occupational [tw] OR worker*) [tw]	47%	98,2%

Verbeek et al., Occup Environ Med 2005;62:682–687

## Recherche des articles sur le retour au travail



## Evidence Based Medicine

- Médecine basée sur les preuves

Ou

- Médecine basée sur des faits

## Quelle confiance dans les résultats ?

Niveau 1 - Essais comparatifs randomisés de forte puissance - Méta-analyse d'essais comparatifs randomisés - Analyse de décision basée sur des études bien menées	A  Preuve scientifique établie
Niveau 2 - Essais comparatifs randomisés de faible puissance - Études comparatives non randomisées bien menées - Études de cohorte	B  Présomption scientifique
Niveau 3 - Études cas-témoin	C
Niveau 4 - Études comparatives comportant des biais importants - Études rétrospectives - Séries de cas - Études épidémiologiques descriptives (transversale, longitudinale)	Faible niveau de preuve scientifique

ANAES. Guide d'analyse de la littérature et gradation des recommandations; 2000

**BMJ**

**RESEARCH**

### Effect of training and lifting equipment for preventing back pain in lifting and handling: systematic review

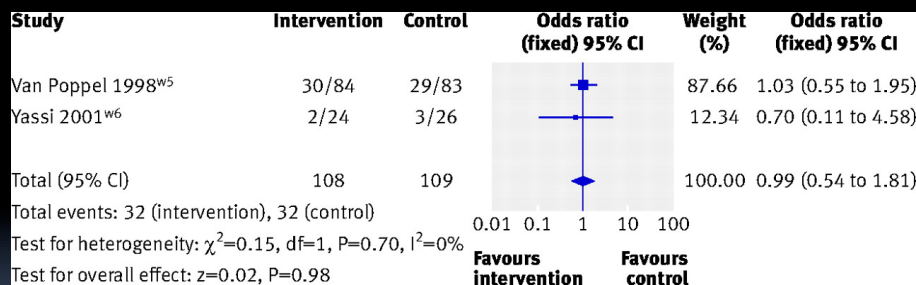
Kari-Pekka Martimo, medical specialist,<sup>1</sup> Jos Verbeek, team leader,<sup>2</sup> Jaro Karppinen, medical specialist,<sup>3</sup> Andrea D Furlan, associate scientist,<sup>4</sup> Esa-Pekka Takala, medical specialist,<sup>1</sup> P Paul F M Kuijjer, senior researcher,<sup>5</sup> Merja Jauhiainen, information specialist,<sup>6</sup> Eira Viikari-Juntura, research professor<sup>1</sup>

Martimo et al., BMJ 2008;336:429-431

## Revue de la littérature

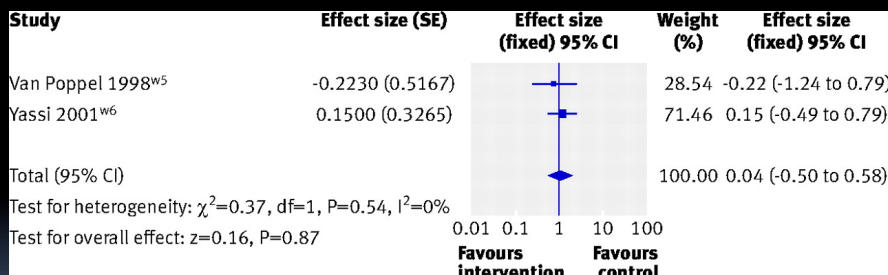
- Effet de la formation seule ou associée à des aides à la manutention
  - 3611 études identifiées
  - 12 études de bonne qualité analysées
- Formations
  - Types variés
  - Durées : 1j -> 1/ sem pendant 2 ans
- Public : pas de douleur aiguë mais antécédent possible

Effet de la formation à la manutention comparée à pas de formation sur les lombalgies au suivi intermédiaire



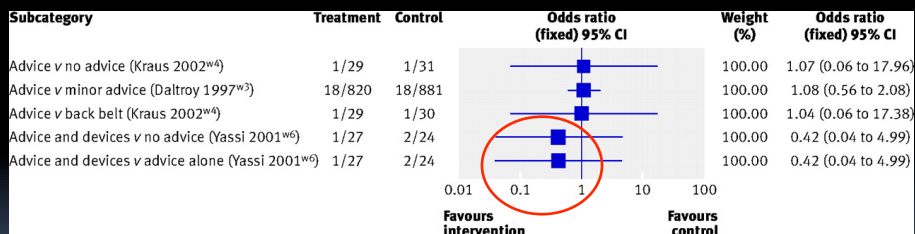
(Martimo, BMJ 2008;336:429-431)

Effet de la formation à la manutention comparée à pas de formation sur les incapacités ou arrêts de travail au suivi intermédiaire



(Martimo, BMJ 2008;336:429-431)

Effet (Odds Ratios) de la formation à la manutention avec ou sans dispositif d'aide à la manutention sur les lombalgies au suivi intermédiaire ou à long terme



(Martimo, BMJ 2008;336:429-431)

## Effect of training and lifting equipment for preventing back pain in lifting and handling: systematic review

Kari-Pekka Martimo, medical specialist,<sup>1</sup> Jos Verbeek, team leader,<sup>2</sup> Jaro Karppinen, medical specialist,<sup>3</sup> Andrea D Furlan, associate scientist,<sup>4</sup> Esa-Pekka Takala, medical specialist,<sup>1</sup> P Paul F M Kuijjer, senior researcher,<sup>5</sup> Merja Jauhainen, information specialist,<sup>6</sup> Eira Viikari-Juntura, research professor<sup>1</sup>

« There is no evidence that advice on lifting and handling with or without lifting equipment prevents back pain or consequent disability »

Martimo et al., BMJ 2008;336:429-431

## Lumbar Supports to Prevent Recurrent Low Back Pain among Home Care Workers

### A Randomized Trial

Pepijn D.D.M. Roelofs, MSc; Sita M.A. Bierma-Zeinstra, PhD; Mireille N.M. van Poppel, PhD; Petra Jellema, PhD; Sten P. Willemsen, MSc; Maurits W. van Tulder, PhD; Willem van Mechelen, MD, PhD; and Bart W. Koes, PhD

**Background:** People use lumbar supports to prevent low back pain. Secondary analyses from primary preventive studies suggest benefit among workers with previous low back pain, but definitive studies on the effectiveness of supports for the secondary prevention of low back pain are lacking.

**Objective:** To determine the effectiveness of lumbar supports in the secondary prevention of low back pain.

**Design:** Randomized, controlled trial.

**Setting:** Home care organization in the Netherlands.

**Patients:** 360 home care workers with self-reported history of low back pain.

**Intervention:** Short course on healthy working methods, with or without patient-directed use of 1 of 4 types of lumbar support.

**Measurements:** Primary outcomes were the number of days of low back pain and sick leave over 12 months. Secondary outcomes were the average severity of low back pain and function (Quebec Back Pain Disability scale) in the previous week.

**Results:** Over 12 months, participants in the lumbar support group reported an average of  $-52.7$  days (CI,  $-59.6$  to  $-45.1$  days) fewer days with low back pain than participants who received only the short course. However, the total sick days in the lumbar support group did not decrease ( $-5$  days [CI,  $-21.1$  to  $6.8$  days]). Small but statistically significant differences in pain intensity and function favored lumbar support.

**Limitations:** Study participants were unblinded, and a substantial amount of missing data required imputation. Objective data on sick days due to low back pain were not available.

**Conclusion:** Adding patient-directed use of lumbar supports to a short course on healthy working methods may reduce the number of days when low back pain occurs, but not overall work absenteeism, among home care workers with previous low back pain. Further study of lumbar supports is warranted.

*Ann Intern Med.* 2007;147:685-692.  
For author affiliations, see end of text.  
ISRCTN registration number: ISRCTN73707379.

www.annals.org

## REVIEW

# Interventions to prevent back pain and back injury in nurses: a systematic review

Anna P Dawson, Skye N McLennan, Stefan D Schiller, Gwendolen A Jull, Paul W Hodges, Simon Stewart

*Occup Environ Med* 2007;64:642-650. doi: 10.1136/oem.2006.030643

A systematic literature review was undertaken to assess the effectiveness of interventions that aim to prevent back pain and back injury in nurses. Ten relevant databases were searched; these were examined and reference lists checked. Two reviewers applied selection criteria, assessed methodological quality and extracted data from trials. A qualitative synthesis of evidence was undertaken and sensitivity analyses performed. Eight randomised controlled trials and eight non-randomised controlled trials met eligibility criteria. Overall, study quality was poor, with only one trial classified as high quality. There was no strong evidence regarding the efficacy of any interventions aiming to prevent back pain and injury in nurses. The review identified moderate level evidence from multiple trials that manual handling training in isolation is not effective and multidimensional interventions are effective in preventing back pain and injury in nurses. Single trials provided moderate evidence that stress management programs do not prevent back pain and limited evidence that lumbar supports are effective in preventing back injury in nurses. There is conflicting evidence regarding the efficacy of exercise interventions and the provision of manual handling equipment and training. This review highlights the need for high quality randomised controlled studies to examine the effectiveness of interventions to prevent back pain and injury in nursing populations. Implications for future research are discussed.

as personality and the presence of psychosomatic symptoms. Work task and work organisational factors have been shown to be significant risks in individual studies, although when all trials are considered the evidence is inconsistent. Nursing qualifications are important, with nursing assistants at greater risk for back pain than registered nurses. Years in the nursing profession may also be relevant, with a growing body of evidence suggesting that younger nurses are at greatest risk.<sup>3</sup> Identification of individual physical predictors of back pain is more elusive. Prospective studies find predominantly non-significant relationships or inconsistent results.<sup>4-10</sup> However, reduced lateral bending of the spine has been identified as a risk factor in two studies.<sup>11 12</sup> Back pain and injury have a major impact on the efficiency of the nursing workforce. Registered nurses rank seventh and nursing aides and orderlies are highest ranked across all occupations for back injuries involving days away from work in private industry.<sup>13</sup> Back injuries and resultant workers' compensation claims in nurses are expensive. In long-term care facilities in the United States, nurses' back injuries are estimated to cost over US\$6 million in indemnity and medical payments. Nurses' compensation for back injury comprises 56.4% of all indemnity costs and 55.1% of all medical costs.<sup>2</sup> In one Australian state, nurse back injury claims accounted for \$A2.39 million expenditure in one financial year.<sup>14</sup> Surprisingly, few systematic reviews have inves-

## Quelques autres conclusions

- Il existe une place pour les exercices dans le traitement des TMS touchant le cou. Le bénéfice relatif des différentes formes d'exercice doit être évalué par des études complémentaires (*Cochrane Database of Systematic Reviews*, Issue 4, 2008 )
- Nous concluons qu'il semble actuellement y avoir peu de preuves scientifiques d'une efficacité de la réhabilitation bio-psycho-sociale sur les pathologies d'hypersollicitation (*Cochrane Database of Systematic Reviews* 2000, Issue 3. Art. No.: CD002269)

*Are physiotherapy or ergonomic workplace adjustments helpful in participants with work-related arm, neck or shoulder complaints?*

- *Cochrane Database of Systematic Reviews* 2006, Issue 3: CD003471
- **Objet : troubles musculo squelettiques**
  - Impact à court et long terme des interventions de type physiothérapie ou adaptations ergonomiques du poste de travail
- **Il existe des preuves limitées d'efficacité de :**
  - Exercice comparés au massage (1 étude)
  - Massage en addition aux exercices (1 étude)
  - Faire des pauses durant le travail sur écran (1 étude)
  - Certains types de claviers chez les patients avec des syndromes du canal carpien (1 étude)
- **Il existe des données contradictoires concernant :**
  - L'efficacité des exercices comparés à l'absence de traitement (8 études)
  - L'efficacité des interventions ergonomiques comparées à l'absence de traitement (3 études)
- **Aucun effet secondaire n'était rapporté dans ces études**

*Prévention du syndrome du canal carpien*

- Lincoln A E, Vernick J S, Ogaitis S, Smith G S, Mitchell C S, Agnew J. Interventions for the primary prevention of work-related carpal tunnel syndrome. *American Journal of Preventive Medicine*. 2000;18(4 Supplement):37-50
  - Revu par Centre for Reviews and Dissemination; Volume (3), 2008
- Nombre d'études souffraient de limites méthodologiques qui limitent l'utilisation de leurs résultats
- Bien que de nombreuses études suggèrent que des approches ergonomiques complexes, des supports de poignet pour clavier, des adaptations des souris puissent être bénéfiques, aucune des études ne démontre de manière convainquante que ces interventions pourraient conduire à une prévention primaire du syndrome du canal carpien chez les travailleurs

*En conclusion*

- Preuves difficiles à produire
- Données scientifiques d'accès peu évident
- Peu de preuve d'efficacité
- Pas de preuve qu'une intervention fonctionne  $\neq$  Preuve qu'elle ne fonctionne pas
- Mais ... discussion sur les ressources et le rapport cout /bénéfice