

Writing an Evidence Based Medicolegal Report

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Summary

Background

- Rise of evidence based medicine
 - “conscientious, explicit and judicious use of current best **evidence** in making decisions about the care of individual ... “
BMJ 1996;312:71-72
- David Sackett
- Paul Glasziou
- However, there are alternatives to EBM ...

- *Eminence based medicine* The more senior the colleague, the less importance he or she placed on the need for anything as mundane as evidence.
- *Vehemence based medicine* The substitution of volume for evidence ... brow beating your more timorous colleagues and convincing relatives of your ability.
- *Eloquence based medicine* ... Sartorial elegance and verbal eloquence are powerful substitutes for evidence.

- *Providence based medicine* If the caring practitioner has no idea of what to do next, the decision may be best left in the hands of the Almighty.
- *Diffidence based medicine* Some doctors see a problem and look for an answer. Others merely see a problem.
- *Nervousness based medicine* Fear of litigation is a powerful stimulus to overinvestigation and overtreatment... the only bad test is the test you didn't think of ordering.
- *Confidence based medicine* This is restricted to surgeons.

Basis of clinical practice			
Basis for clinical decisions	Marker	Measuring device	Unit of measurement
Evidence	Randomised controlled trial	Meta-analysis	Odds ratio
Eminence	Radiance of white hair	Luminometer	Optical density
Vehemence	Level of stridency	Audiometer	Decibels
Eloquence (or elegance)	Smoothness of tongue or nap of suit	Teflometer	Adhesin score
Providence	Level of religious fervour	Sextant to measure angle of genuflection	International units of piety
Diffidence	Level of gloom	Nihilometer	Sighs
Nervousness	Litigation phobia level	Every conceivable test	Bank balance
Confidence*	Bravado	Sweat test	No sweat
* Applies only to surgeons.			

Isaacs & Fitzgerald *BMJ* 1999;319:1618-1618

The request for the medicolegal report

- The content of the report should depend on
 - Request made
 - Issues identified in the course of the assessment, to some extent
- Types of issues
 - Aetiology
 - Diagnosis
 - Prognosis
 - Management / Treatment
 - Care needs

Guidelines for identifying suitable studies

- For many common issues, evidence based clinical practice guidelines, or systematic reviews and meta-analyses will provide the best evidence
- For uncommon issues careful searching for individual studies may be required

Aetiology

- “Was x a cause or contributing factor to ..”
- Contemporaneous information
 - Ambulance report
 - Incident report from workplace
 - Emergency Department record
 - Initial treating medical practitioner record

Aetiology

- Cohort study
- Clinical practice guidelines often provide a summary, eg Evidence based management of acute musculoskeletal pain, www.nhmrc.gov.au:
 - Rotator cuff tears – “Tendon tears are so common as to raise serious doubts about the clinical significance of finding a cuff tear.” – not referenced
 - Note: “The reliability and validity of individual features in histories have low diagnostic significance; the history is to be interpreted with caution when choosing a course of action. (*Level III-2)”

Evidence based management of acute musculoskeletal pain,
www.nhmrc.gov.au/publications/ pp 127 -132

Aetiology (cont.)

- Systematic reviews also can provide the information
 - For example, search of PubMed for ‘Causes of carpal tunnel syndrome’ finds ‘Associations between work-related factors and the carpal tunnel syndrome--a systematic review’. It reports
 - “The occurrence of CTS was associated with high levels of hand-arm vibration, prolonged work with a flexed or extended wrist, high requirements for hand force, high repetitiveness
 - “No association was found between any psychosocial risk factor and CTS
 - “Contradictory findings were reported for associations between computer work and CTS.”

Diagnosis

- Diagnostic test evaluation
- Comparison with gold standard

- Evidence based clinical practice guidelines
 - Evidence based management of acute musculoskeletal pain, www.nhmrc.gov.au/publications
- Imaging Guidelines
 - www.imagingpathways.health.wa.gov.au
- Specific diagnostic assessment rules
 - Canadian C spine rule

Example:

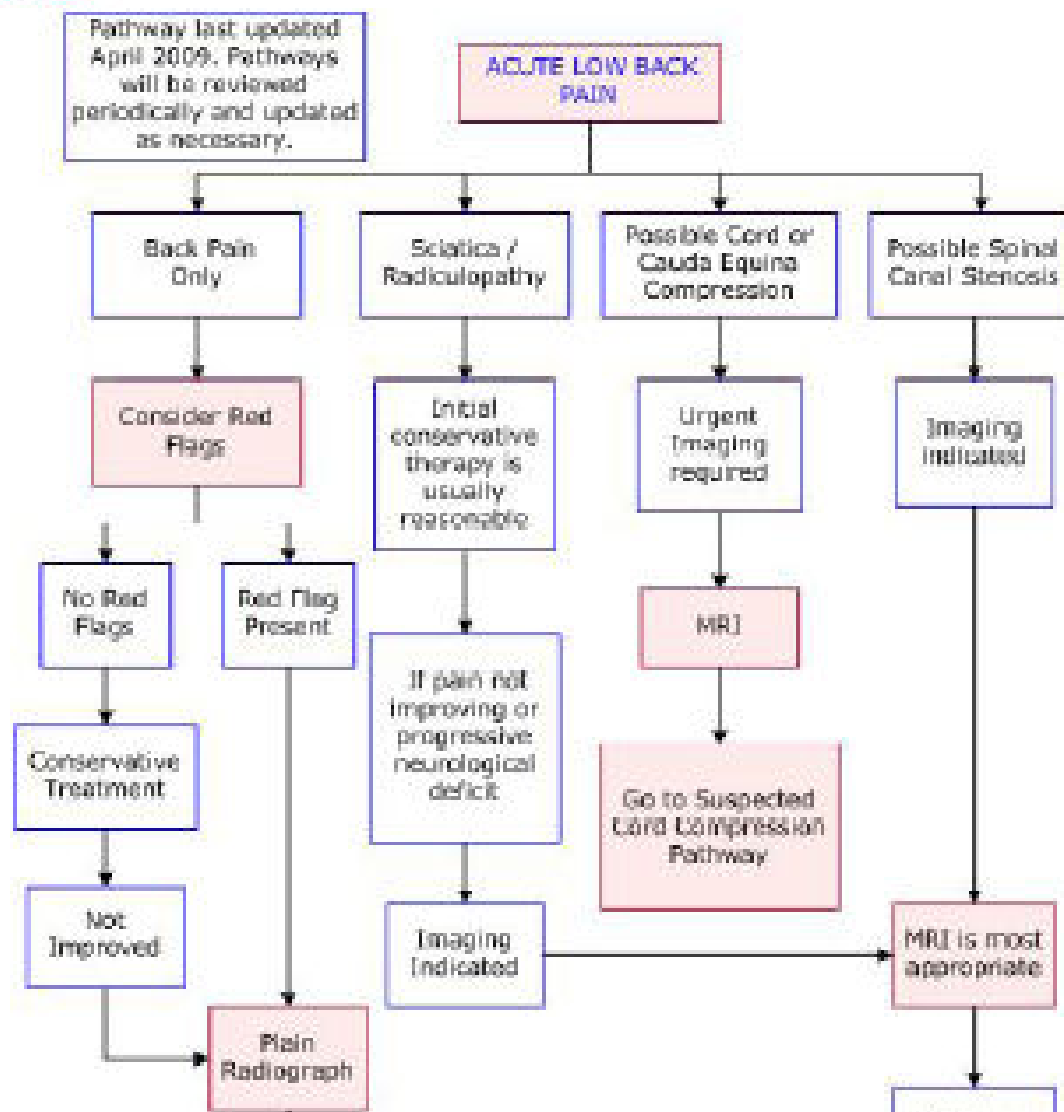
Key Message: Plain x-rays of the lumbar spine are not routinely recommended in acute non-specific low back pain as they are of limited diagnostic value and no benefits in physical function, pain or disability are observed (*Level II-2)

Evidence based management of acute musculoskeletal pain, page 38



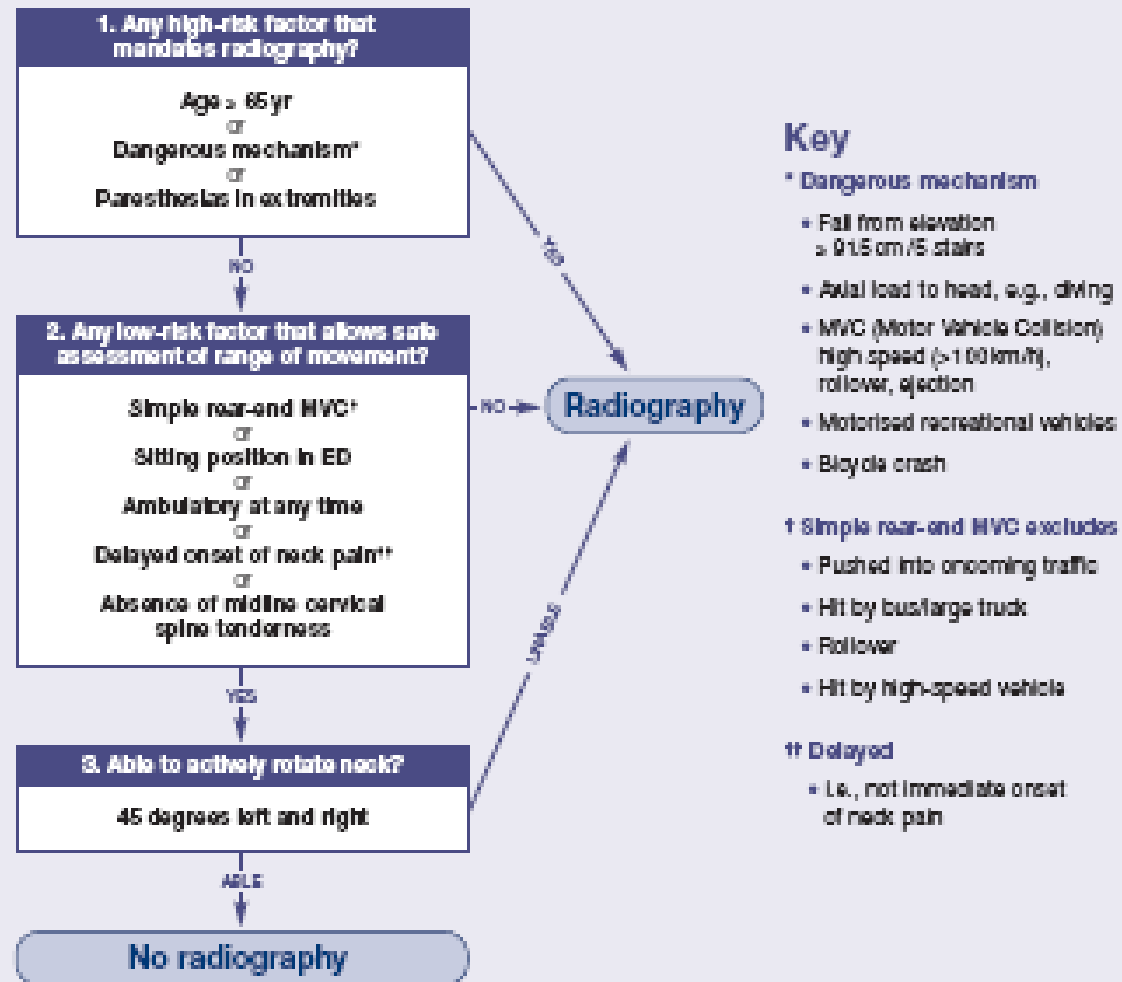
DIAGNOSTIC IMAGING PATHWAYS

www.imagingpathways.health.wa.gov.au



➔ The Canadian C-Spine Rule

For alert (GCS score = 15) and stable trauma patients when cervical spine injury is a concern.



Prognosis

- Cohort study
- Ideally an inception cohort of people with the health condition / injury of interest with similar contextual factors
- Key example is the impact of compensation on outcome

- Compensable Injuries and Health Outcomes: “There is good evidence that people with...[compensable injuries] have poorer health outcomes than people with similar injuries but are not involved in the compensation process”.
- Available from www.racp.edu.au/afom

Executive Summary

The Committee of Presidents of Medical Colleges, through the participation of The Australasian Faculty of Occupational Medicine of The Royal Australasian College of Physicians, undertook a research project aimed at identifying whether people with compensable injuries have poorer health outcomes than those with similar but non-compensable injuries should be expected, and if so, why. This included a literature review, interviews with stakeholders in the compensation process, and a multi-disciplinary seminar held on 6th October, 2000, in Sydney.

Main issue

There is good evidence to suggest that people who are injured and claim compensation for that injury have poorer health outcomes than people who suffer similar injuries but are not involved in the compensation process.

Summary

Although most people who have compensable injuries recover well, a greater percentage of these people have poorer health outcomes than do those with similar but non-compensable injuries. There is sufficient good quality evidence to show this to be true, and significant agreement among practitioners in all relevant fields (medical, legal, insurance, government oversight bodies) to support the evidence and to suggest that a complex interaction of factors is responsible for this.

However, research into causes of poor health outcomes for these people is fragmentary and inconclusive.

However, the research does clearly indicate the importance of psychosocial factors in long-term disability and recent evidence suggests that appropriate early medical intervention that takes this into account can significantly reduce chronicity and long-term disability. Such intervention should ideally be a co-ordinated interdisciplinary effort (for example, medical, psychological and physiotherapy) to provide interventions that address as many levels of the case as possible.

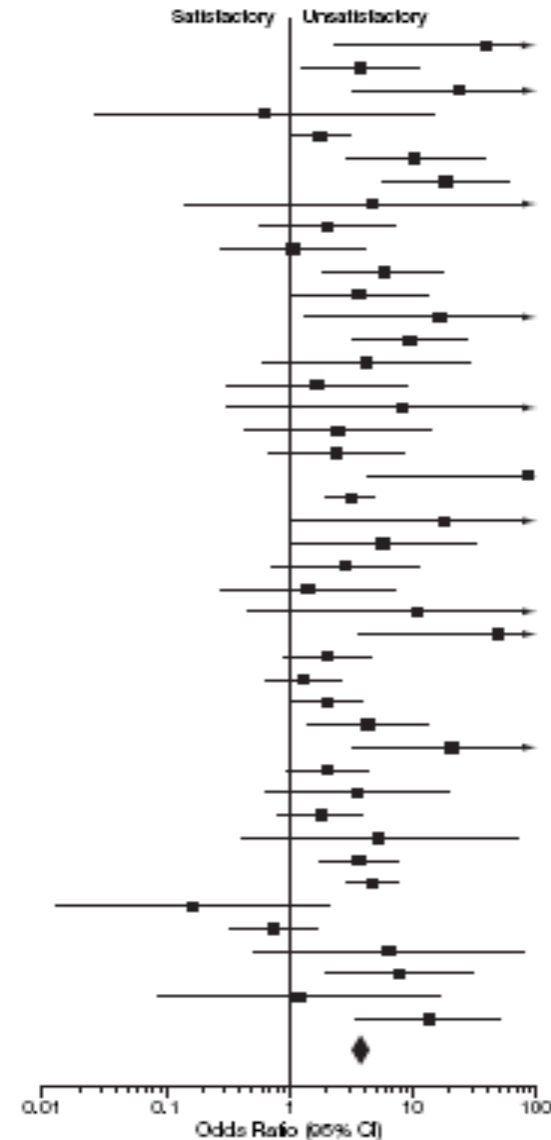
Compensation and Health Outcomes

Objective: To investigate the association between compensation status and outcome after surgery

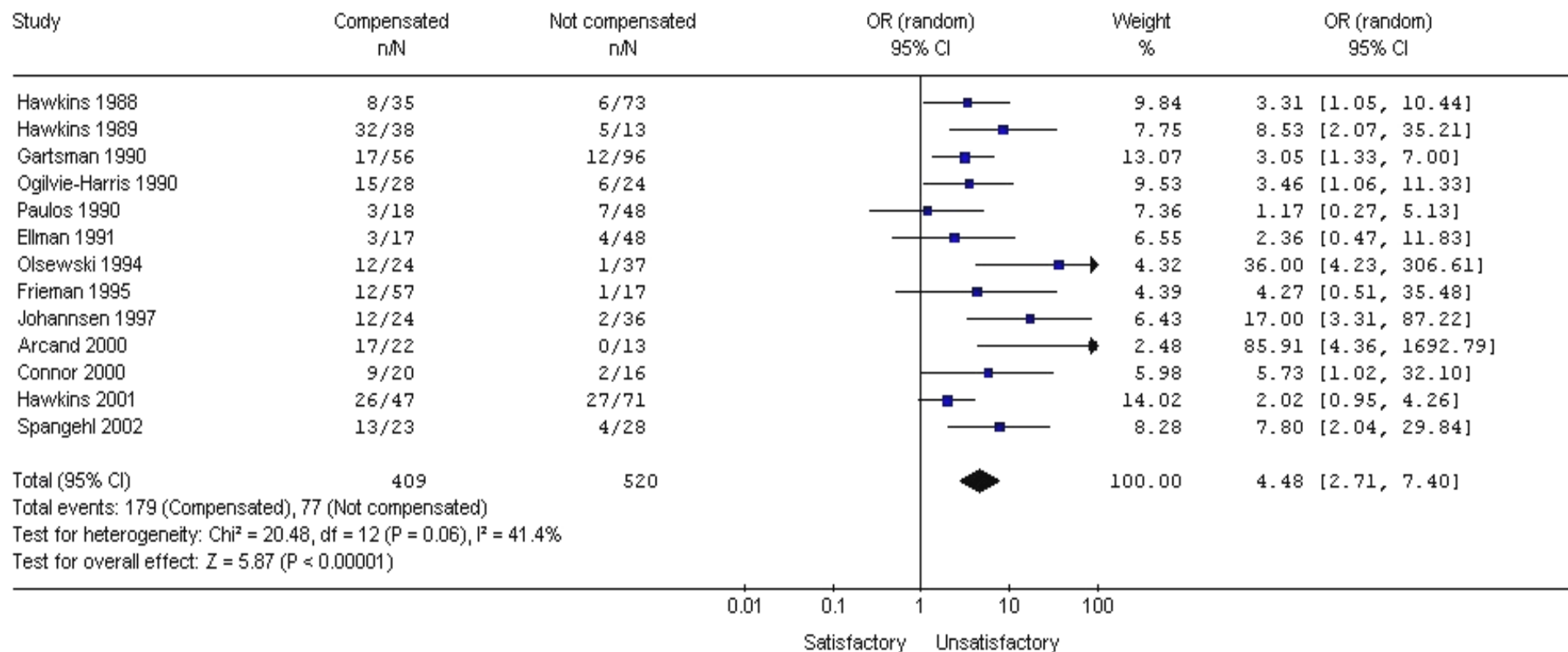
211 studies included

Results: Odds ratio for unsatisfactory outcome in compensated cases 3.8

Harris et al. JAMA 2005;293:1644

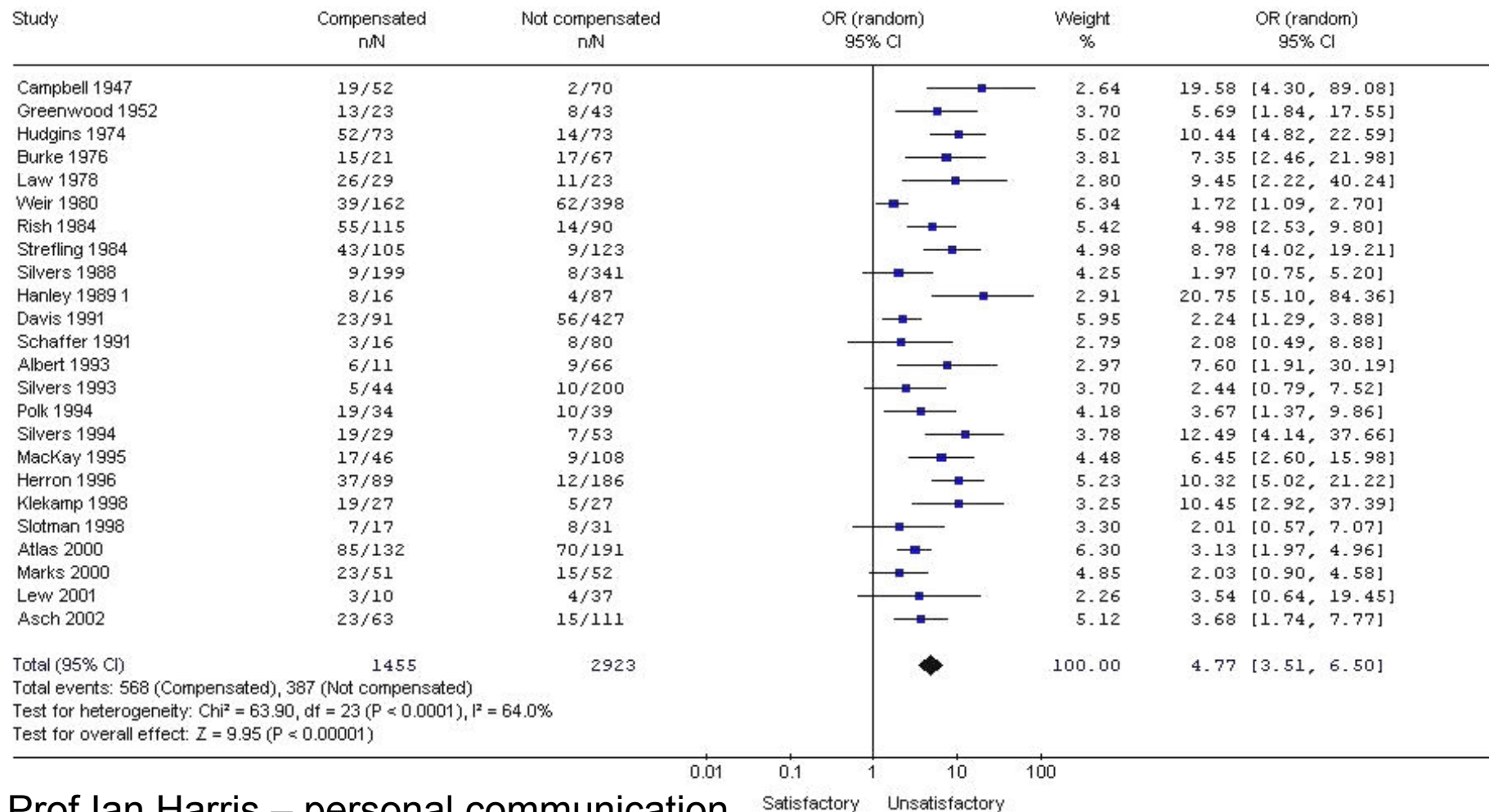


Forest plot – acromioplasty

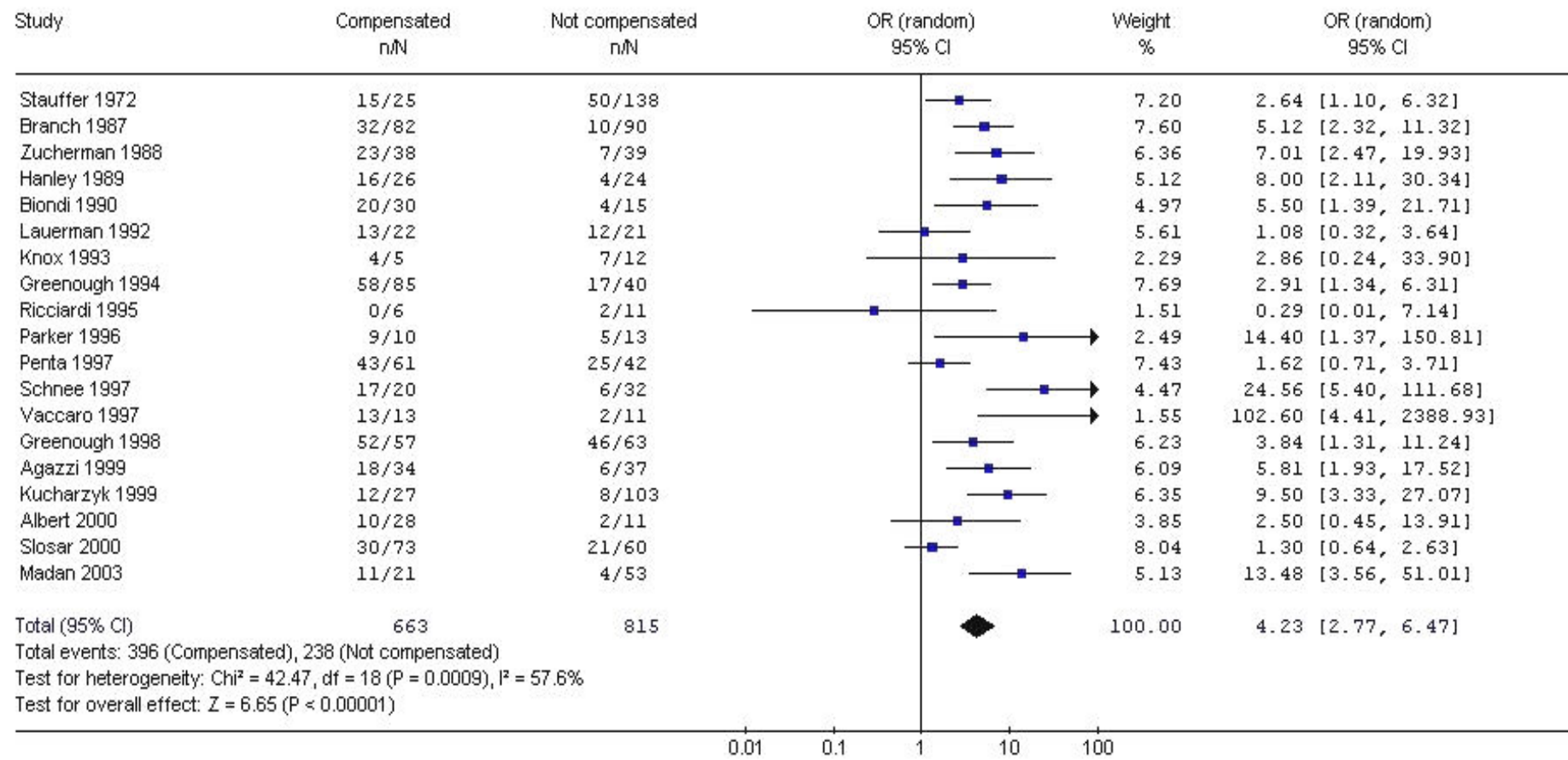


Prof Ian Harris – personal communication

Forest plot – lumbar discectomy

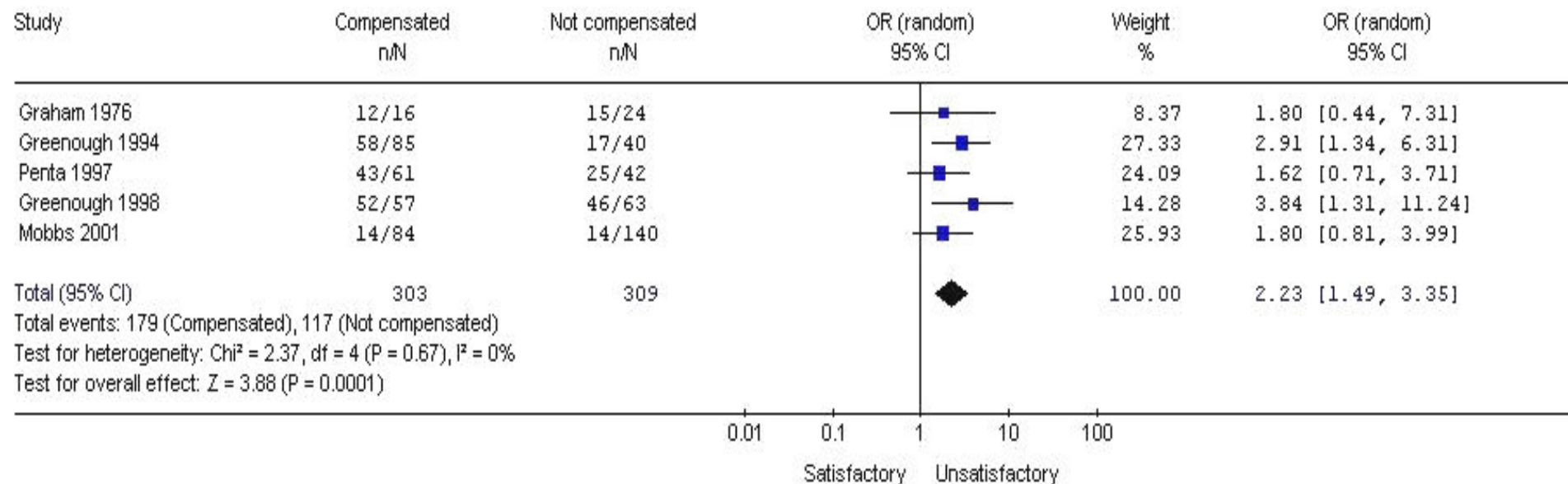


Forest plot – lumbar fusion



Prof Ian Harris – personal communication

Forest plot – Australia



Prof Ian Harris – personal communication

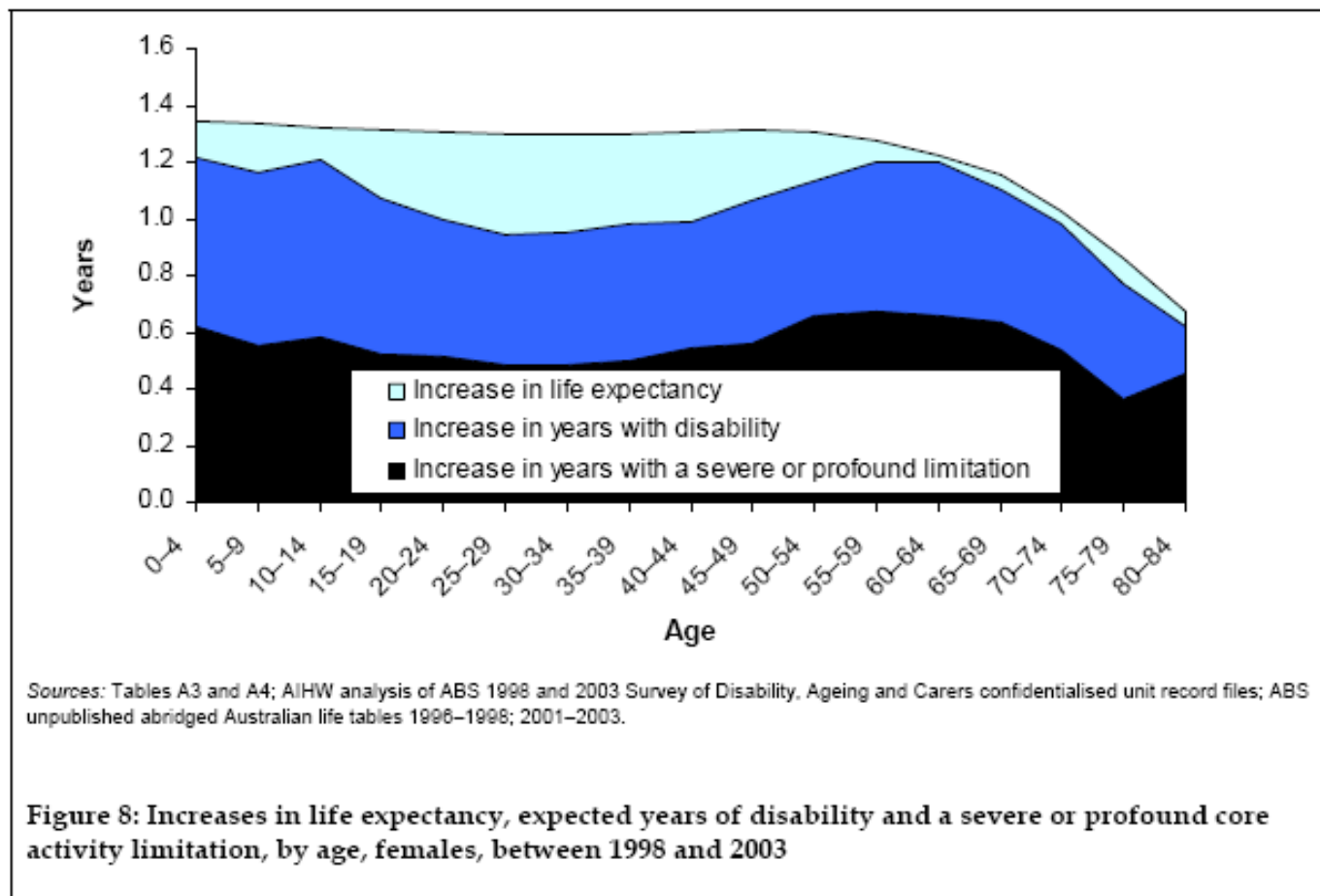
Prognosis (continued)

- Life expectancy
- Australian Bureau of Statistics Life Table
- Years of expected life, by gender, for the 'average' person
- Some data in specific groups eg spinal cord injury

Life Tables Australia

- Gender specific
- 'Average' life expectancy at each year of age
- For example
 - Age 0, male 79.0 yrs, female 83.7 yrs
 - Age 50, male 31.4 yrs, female 35.2 yrs
 - Age 70, male 14.7 yrs, female 17.4 yrs
- Need to be interpreted with reference to the patient involved

Australian Bureau of Statistics. 3302.0.55.001 - Life Tables, Australia, 2005–2007. www.ausstats.abs.gov.au



Australian Institute of Health and Welfare (AIHW) 2006. Life expectancy and disability in Australia 1998 to 2003. Disability Series. Cat. no. DIS 47. Canberra: AIHW. www.aihw.gov.au

Treatment

- Generally aim for evidence based clinical practice guidelines for common conditions
- Systematic reviews for less common conditions
- Randomised trials for uncommon conditions
- Should now be rare not to have randomised trial evidence available for treatment

Treatment – clinical practice guidelines

- Mild traumatic brain injury
 - Mild Traumatic Brain Injury (Mild TBI) Guidelines,
www.maa.nsw.gov.au/default.aspx?MenuID=148
- Acute Musculoskeletal
 - Evidence based management of acute musculoskeletal pain,
www.nhmrc.gov.au/publications

Treatment – clinical practice guidelines

- Chronic back pain
 - European Guidelines for the Management of Chronic Non-specific Low Back Pain. November 2004. Amended version June 14th 2005. Airaksinen et al www.backpaineurope.org/web/files/WG2_Guidelines.pdf
- Chronic whiplash
 - TRACsa: Trauma and Injury Recovery. Clinical guidelines for best practice management of acute and chronic whiplash-associated disorders. TRACsa, Adelaide: November 2008. www.tracsa.org.au/resources-whiplashassociated_disorders information for health practitioners

Treatment – Clinical Practice Guidelines

- National Institute of Clinical Excellence (NICE)
 - [Prosthetic intervertebral disc replacement in the lumbar spine](#) “Current evidence on the safety and efficacy of prosthetic intervertebral disc replacement appears adequate to support the use of this procedure. there is little evidence on outcomes beyond 2–3 years (1994).”

Treatment – Clinical Practice Guidelines

- National Institute of Clinical Excellence (NICE)
 - [Prosthetic intervertebral disc replacement in the cervical spine](#) “Current evidence suggests that there are no major safety concerns , and there is evidence of short-term efficacy (2005).”

Treatment – systematic reviews

- Cochrane Collaboration
 - Now have very wide range of topics
 - Title format: treatment for health condition
 - Eg “Massage for low back pain ...”
massage might be beneficial for patients with subacute (lasting four to 12 weeks) and chronic (lasting longer than 12 weeks) non-specific low-back pain, especially when combined with exercises and education.”
 - Generally high quality and carefully edited

Treatment – other evidence

- PubMed: search ‘treatment of post traumatic diabetes insipidus’
 - 21 references, no randomised trials
 - several reviews (not systematic – care needed with these)
- www.ncbi.nlm.nih.gov/pubmed

Care needs

- Highly contentious, but important because potentially is high cost
- Some consensus guidelines available eg spinal injury care guidelines
- Some validated tools available eg CANS
- Can use ADL or IADL scales eg Barthel Index, FIM and Lawton
- Ask yourself 'what would this person reasonably be expected to obtain if not compensable?'

Care needs

- Guidelines for levels of attendant care for people with spinal cord injury
 - www.maa.nsw.gov.au
- Example – L2 to S5 complete SCI:
 - Per week: ADL 0 to 7 hrs; IADL domestic 3 to 10 hrs, gardening home maintenance 0.5 to 2 hrs, transport 0 hrs
 - Pain not a factor considered explicitly

Care Needs

- Care and Needs Scale (CANS)
- Eight-category scale developed in order to capture the range of support needs
- Good sensitivity and validity (Tate. Brain Inj. 2004;18(5):445-60)
- Used by NSW Lifetime Care and Support Authority
- Excellent inter-rater and test-retest reliability (Soo et al. J Head Trauma Rehabil. 2007;22(5):288-95)
- Useful in severe disability

Interpretation

- Information derived from these sources should be interpreted and explained carefully
- Who is the audience?
 - Solicitors
 - Claims managers
 - Generally not for the injured person / patient

Developing a library / database

- Library of materials can be readily developed
 - Almost all relevant resources are now available as electronic publications
 - Clinical practice guidelines are generally published on the Internet
 - Care needed as resources rapidly become out of date (currency is noted on website)
 - May be easier to maintain a database of Web links, than each publication

Answering the questions / addressing issues

- Often same or similar format – easier to address
- Tend to be common issues – as discussed
- Sometimes specific issues important – more detailed searches necessary
- Comment may be requested with reference to other report(s) – play the issue not the man or woman

Conclusion

- The information required to produce an evidence based medicolegal report is readily available
- The additional time to produce such a report is not large

References

- Cochrane Collaboration (www.cochrane.org)
- NICE in the United Kingdom (www.nice.org.uk)
- SIGN from Scotland (www.sign.ac.uk)
- Australian National Health and Medical Research Council sponsored or endorsed clinical guidelines
(<http://www.nhmrc.gov.au/guidelines/index.htm>)
- PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/>)

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