CLINICAL REASONING FOR MANUAL PHYSICAL THERAPISTS

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Head, School of Health Sciences

24 October 2014
Reasoning in action...masterclasses
For a better start in life  
start COLA earlier!

How soon is too soon?  
Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

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According to repeated nationwide surveys, More Doctors Smoke CAMELS than any other cigarette!

Doctors in every branch of medicine were asked, "What cigarette do you smoke?"
The brand named most was Camel.

You'll enjoy Camel for the same reasons so many doctors smoke them: Camel has cool, mild flavor, just slips back, and a flavor unmatched by any other cigarette. Make this sensible test: Smoke one Camel for 30 days and see how well Camel pleased your taste. How well they suit your throat or your mouth. You'll see how completely a cigarette can be.

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!

For 30 days, test Camels in your "T-Zone" - (T for Throat, T for Taste).
EBMedicine: paradigm shift?

Increasing public accountability and decreasing public funds has led to the need for assurance of quality health care through evidence substantiated decisions.

However, health practitioners have always attempted to base their decisions and actions on the best available evidence.

(Jones & Higgs 2000, Sackett et al 1997)

“…the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients”

(Sackett et al 1997)

A systematic approach to the use of research data to assist in optimal and unbiased clinical decision-making

(Belanger 2002)
EBMedicine: a misinterpretation?

Cookbook practice?

Tyrannized by RCTs?

Clinicians’ experience and knowledge discarded?

Patients’ values ignored?

(Hush & Allison 2011, Straus & McAlister 2000)
EBMedicine: a misinterpretation?

Research is only **one third** of EBP!

“Clinical experience…is a central tenet of the paradigm of evidence-based practice, pivotal in the judicious application of research evidence to decision-making and patient care.”

(Hush & Allison 2011)

(Hush & Allison 2011, Sackett et al 1996)
Hierachy of Evidence
(Sackett et al 1991; Guyatt et al 1995)

- Systematic reviews/meta-analyses
  - RCTs
  - Cohort studies
  - Case-control studies
  - Cross sectional surveys
  - Case reports/series

Need different methods to overcome RCT limitations eg case reports
RCTs in manual therapy

Gold standard of clinical research of treatment effect, but applicability to manual therapy questionable (Milanese 2011)

Is a standardised, pre-determined treatment applicable to manual therapy? (Milanese 2011)

“…the average response is analysed, so even in studies where the effect size is large, not all subjects in the experimental group have a favorable outcome” (Palisano 2010)
Thomas L, Rivett DA, Bolton PS
Validity of the Doppler velocimeter in examination of vertebral artery blood flow and its use in pre-manipulative screening of the neck, MANUAL THERAPY, 14, 544-549 (2009)

Effect of selected manual therapy interventions for mechanical neck pain on vertebral and internal carotid arterial blood flow and cerebral inflow, PHYSICAL THERAPY, 93, 1563-1574 (2013)
“The controversial findings of the blood flow studies highlight the necessity for caution and..."
RCTs in manual therapy

“Which has more value, a study of **exceptional rigour** but which **does not reflect clinical practice**, or a study of lower rigour with higher generalisability?” (Milanese 2011)
Systematic reviews in physical therapy

Considered highest level of evidence

But…
of 143 systematic reviews in last decade in

- Journal of Physiotherapy
- Physical Therapy
- Physical Therapy Reviews
- Journal of Orthopaedic & Sports Physical Therapy

57% were unable to arrive at a conclusion (Crosbie 2013)

How valuable is this in guiding clinical practice?
EBPractice: limitations

There is a human and contextual element to practice which cannot simply be reduced to quantifiable terms: evidence should inform but not dominate clinical reasoning.

EBP should not be a cost-cutting exercise or a search for the absolute truth (Belanger 2002, Jones & Higgs 2000).

Results from RCTs and meta-analyses can at best provide only broad guidelines (Jones & Higgs 2000).

It should be combined with other information about individual patients’ specific needs and preferences (Herbert et al 2001).

Tendency to take research findings as ‘textbook’ prescriptions or recipes for best practice…
Parachutes!

- Systematic review of RCTs

- Failed to find any evidence to support the assumption that parachutes prevent death and major trauma

- The authors concluded that “everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double blind, randomised, placebo controlled, crossover trial of the parachute”

(Smith & Pell 2003, BMJ 327, p.1459)
Even given the same extent of tissue injury or illness, **no two people will have exactly the same presentation**, since the way in which they manifest their pain or illness is shaped in part by who they are

(Gifford 1998, Jones & Rivett 2004, Jones 2014)

**Personalised physiotherapy and genomic medicine**

(Cornwall & Osmotherly, Australasian Medical Journal, 2014)
EBP and clinical reasoning: key points

External evidence can inform but never replace clinical expertise

Most patient problems are multifactorial and RCT results are unlikely to match a given patient presentation sufficiently to use in a prescriptive manner (Jones & Higgs 2000, Jones 2014)

Estimate of the effect of therapy can be adjusted up or down based on what clinical intuition says about how more or less likely the particular patient is to respond (Herbert et al 2001)

“Practice knowledge is critical for translation of research to practice (and) enables therapists to apply research to the individual” (Palisano 2010)

“Without clinical expertise, practice risks becoming tyrannized by evidence, for even excellent external evidence may be inapplicable to or inappropriate for an individual patient” (Sackett 1997)
Clinical reasoning: definition

Thinking and decision-making associated with clinical practice which enables best-judged actions for individual patients

(Jones & Rivett 2004, Jones 2014)
Clinical expertise

Depends on:
- technical proficiency
- communication skill
- knowledge base

but especially…
- clinical reasoning skill
Expert clinician attributes

1. Multidimensional and patient-centred knowledge

2. Observational and manual skill in movement, with a focus on function

3. Consistent virtues

4. Collaborative and reflective clinical reasoning

Clinical reasoning: models

• Clinical reasoning process in clinical practice is both hypothesis oriented and collaborative

• Two main diagnostic reasoning processes:
  1. Hypothetico-deductive (backwards/analytical) reasoning
  2. Pattern recognition (forwards/non-analytical reasoning)
Hypothetico-deductive reasoning

Involves the **generation** of hypotheses based on clinical data and knowledge, and **testing** of these hypotheses through further inquiry

(Elstein et al 1978)
## Hypothesis categories

<table>
<thead>
<tr>
<th>Category</th>
</tr>
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<tbody>
<tr>
<td>Activity and participation capabilities / restrictions</td>
</tr>
<tr>
<td>Patient’s perspectives &amp; beliefs / psychosocial factors</td>
</tr>
<tr>
<td>Pathobiological mechanisms</td>
</tr>
<tr>
<td>Physical impairments &amp; associated structure / tissue sources</td>
</tr>
<tr>
<td>Contributing factors</td>
</tr>
<tr>
<td>Precautions &amp; contraindications</td>
</tr>
<tr>
<td>Management &amp; treatment</td>
</tr>
<tr>
<td>Prognosis</td>
</tr>
</tbody>
</table>

(Jones & Rivett 2004)
“Diagnosis…is both a process, and the outcome of that process” (Spoto & Collins 2008)
## Interpretive reasoning strategies

<table>
<thead>
<tr>
<th>Reasoning strategy</th>
<th>Brief description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative</td>
<td>Cooperative goal setting and decision-making regarding management</td>
</tr>
<tr>
<td>Ethical</td>
<td>Consideration of ethical dilemmas within decision-making and management</td>
</tr>
<tr>
<td>Interactive</td>
<td>Social interaction as a means of developing rapport &amp; enhanced understanding of client perspective</td>
</tr>
<tr>
<td>Narrative</td>
<td>Interprets the complexity of the client’s personal perspective of their problems via story telling</td>
</tr>
<tr>
<td>Predictive</td>
<td>Predicting implications of management options within decision-making</td>
</tr>
<tr>
<td>Procedural</td>
<td>Relating to treatment / management procedures</td>
</tr>
<tr>
<td>Teaching</td>
<td>Client education towards further understanding of the person and their problems</td>
</tr>
</tbody>
</table>

Hypothesis categories & reasoning types

Hypothesis types:
1. Activity / participation
2. Patient’s perspective / psychosocial
3. Pathobiological mechanisms
4. Physical impairments / structural sources
5. Contributing features
6. Precautions and contraindications
7. Management and treatment
8. Prognosis

Based on Edwards & Jones 2007
(Jones & Rivett 2004)
Metacognition

Being aware of one’s cognitive processes and exerting control over these processes, and the cognitive skills that are necessary for the management of knowledge and other cognitive skills

(Higgs & Jones 2000)

Critically reflective clinical learning
Clinical experts

- **Excel** in their own domain

- Are **faster** than novices at performing the skills of their domain, and solve problems with greater **accuracy** and less effort

- Have strong self-monitoring/metacognitive skills

- See and represent a problem in their domain at a **deeper** and more principled level than novices (contextual cues)

- Recognise large number of meaningful **patterns** in their domain, i.e. prototypes of frequently experienced situations

  (Jones & Rivett 2004, Jones 2014)
Pattern recognition

• Direct **automatic retrieval** of information from a well-structured knowledge base dependent on prior exposure to similar cases

• Characteristic of **experts** as it is fast and efficient – ‘if→then’ associations

• Clinical reasoning that is **reflective** will lead to recognition of patterns hidden within the ambiguity of the presentation or to the acquisition of new patterns

(Groen & Patel 1985, Jones et al 2000)
Input of clinical data into patterns

Clinical Data → Broad Pattern → Significant case features → Specific Pattern
## Common elements of pattern recognition

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Research articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing</td>
<td>Immediate / almost instantaneous</td>
<td>Coderre et al, 2003 Doody &amp; McAteer, 2002</td>
</tr>
<tr>
<td>Result</td>
<td>Hypothesis formation</td>
<td>Coderre et al, 2003 Doody &amp; McAteer, 2002</td>
</tr>
<tr>
<td>Reliance</td>
<td>Organised knowledge from prior experience</td>
<td>Gale &amp; Marsden, 1982 Ridderikhoff, 1985</td>
</tr>
<tr>
<td>Utilises</td>
<td>Significant case features</td>
<td>Coderre et al, 2003 Groves et al, 2002</td>
</tr>
<tr>
<td>Basis</td>
<td>Highly organised knowledge</td>
<td>Ridderikhoff, 1985 Roberts, 1996</td>
</tr>
<tr>
<td></td>
<td>Prototype of single patient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prototype of abstract model</td>
<td></td>
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</tbody>
</table>
Knowledge

Research investigating the nature and development of expertise across a range of professions (chess, engineering, mathematics, medicine, physics, statistics) has consistently shown that it is not the command of any generic problem solving strategies or how much knowledge is possessed which is critical, rather, it is how that knowledge is organised

Humans store knowledge in **chunks or patterns**. Therefore one can think of therapists’ organisation of knowledge as the breadth and depth of their understandings and beliefs, held together in patterns acquired through both formal academia and personal experience

(Jones & Rivett 2004, Jones 2014)
The continual comparison of personal knowledge to public knowledge results in a more integrated knowledge structure for that pattern. That is, by integrating experiential and propositional knowledge types via active reflection.
Forwards and backwards reasoning models integrated in diagnosis

Data collection

Forwards reasoning

Backwards reasoning

Single hypothesis

Multiple hypotheses

Generated, rejected, refined, modified

Working hypothesis

Confirmation testing

Final hypothesis
Relationship between pattern recognition and hypothetico-deductive reasoning

Patient presentation

Complex or unfamiliar

Hypothetico-deductive

Simple or familiar

Pattern recognition

Diagnosis & management

(Thomson et al 2014)
Pattern recognition in manual therapy?

- A real clinical case with a diagnosis of high grade lumbar spine spondylolisthesis was simulated using a trained actor (high fidelity).

- The expert group comprised 10 musculoskeletal physiotherapists with a minimum of 10 years overall clinical experience and greater than 2 years experience following the completion of post-professional study in manual therapy.

- The novice group included 9 physiotherapists in their first year of clinical practice following completion of an entry-level degree.

- Data collection methods included observation (videotape) of the participant taking a patient history of the simulated client and an immediate stimulated retrospective recall participant interview.

(Miller, Rivett & Isles 2009)
Pattern recognition use and accuracy

PR more likely to produce an accurate diagnosis than HDR (p=0.01)

(Miller, Rivett & Isles 2009)
(Miller, Rivett & Isles 2009)
## Clinical reasoning errors

<table>
<thead>
<tr>
<th>Component</th>
<th>Example</th>
</tr>
</thead>
</table>
| Information        | • Neglecting or misinterpreting relevant information  
                      • Insufficient data sampling / premature decision-making  
                      • Not recognising data inconsistencies                                                                         |
| collection         |                                                                                                                                          |
| Hypothesis         | • Confirmation bias: overemphasis on supporting features and neglecting negating features of a favored hypothesis  
                      • Limited hypothesis generation or category use  
                      • Not testing competing hypotheses                                                                          |
| formation          |                                                                                                                                          |
| Identifying flags  | • Missing data indicative of red (serious pathology) or yellow (psychosocial barriers) flags                                          |
| Diagnosis          | • Presumption that a relationship between symptoms confirms cause and effect and thus diagnosis                                   |
| Treatment          | • Use of recipe treatments and not clinically reasoned management strategies  
                      • Lack of involvement of patient in decision-making                                                            |

(Rivett & Jones 2004, Jones 2014)
Patient-centred collaborative reasoning

In this model, clinical reasoning is seen as a process of reflective inquiry comprising three core elements - cognition, metacognition, and knowledge - carried out in a collaborative framework with the relevant parties (e.g. the patient, carers, other health care providers)

(Jones & Rivett 2004, May et al 2008)
Patient-centred clinical reasoning

(Higgs & Jones 2000)
Patient-centred clinical reasoning

(Hendrick et al 2009, Higgs & Jones 2000)
Developing reasoning skills

- An increased **awareness** of reasoning processes and reasoning errors

- Using a **broadened perspective** beyond diagnostic reasoning

- Care in identifying **relevant cues** and their significance at beginning of patient encounter, thus facilitating accuracy in hypothesis generation and maximal benefit from related inquiry strategies

(Jones & Rivett 2004, Jones 2014)
Developing reasoning skills

• Improving the depth and **organization** of knowledge (e.g. hypothesis categories)

• Effective use of inquiry strategies to prove or disprove hypotheses (i.e. hypothesis **testing**)

• Regularly **reflecting** about clinical experiences, both ‘in action’ and ‘on action’ – with a mentor if possible

• **Reassessment** either provides support for the hypotheses reached and chosen course of action OR signals the need for hypothesis modification or further data collection

  (Jones & Rivett 2004, Jones 2014)
Lateral thinking: innovation lost?

- Have novel manual tests and treatments declined since EBP began?

- Does the mantra of EBP – “show me the evidence” – snuff out flocks of innovation or original thought?

- Would Maitland have developed the slump test? Would McConnell have taped the patella? Would Mulligan have sustained the IP glide?

- Will manual therapy stagnate because of EBP?

PERMISSION TO STEP OUTSIDE OF THE EBP BOX & THINK INNOVATIVELY
RULES

- No releasing of fish or terrapins
- No feeding
- No climbing of rails
- No climbing
- No Smoking
- No littering
- No plucking of flowers and plants
- No tripos
- Quiet, please
- No pets are allowed
- No hawkind and peddling

Be considerate, contribute to the contemplative mood of the Garden.
In a nutshell...
Clinical Prediction Rules
Clinical Prediction Rules
Clinical Prediction Rules
3 main types of CPRs

- **DIAGNOSTIC**
  A patient’s *current* status or classification

- **PROGNOSTIC**
  Predicting a *future* outcome event
  - Eg. Ottawa ankle rule

- **PRESCRIPTIVE**
  Predicting *treatment effect*
  - Eg. Return to work status at 2 years in LBP patients
  - Eg. Ottawa knee rule

***requires a RCT***
CPRs in the medical literature

If current trends continue, there will be \textbf{6000} CPR studies by the end of this decade

…and more than \textbf{1 million} by 2048

*synonyms of ‘clinical prediction rule’ in title/abstract in Medline, AMED, PsychINFO, EMBASE
CPRs: What’s in a name…?

Are they really ‘rules’?

• ‘assistive prediction rules’ – provide probabilities without recommending decisions
  (Reilly & Evans 2006)

• ‘directive decision rules’ – explicitly recommend decisions
  (Reilly & Evans 2006)

The term ‘rule’ may be a barrier to the adoption of these tools in physical therapy practice

‘Clinical Prediction Guides’ (McGinn et al 2008, PubMed Clinical Queries)

‘Clinical Prediction Tools’ (Haskins, Osmotherly, Southgate & Rivett 2014)

CPRs: potential benefits

- CPRs are thought to be of greatest potential when they are developed and utilised for **complex decision making** (McGinn et al. 2000)

- Low back pain has been specifically identified as an ideal target for CPRs due to its heterogeneous population (Fritz 2009)
The evolution of a CPR

- Derivation
- Validation

Investigation of CPR’s performance, generalizability, and use of protocols and resources.
Step 1 - Derivation

All CPRs should inform a clinically meaningful question

Identification of parsimonious set of baseline factors that are independently predictive of the target outcome or diagnosis

- study design depends on the type of CPR under development
- often requires very large sample sizes
- multivariable statistical models
- predictors, not determinants
### Step 1 - Derivation

#### Number of factors present vs Median days to recovery (95%CI)

<table>
<thead>
<tr>
<th>Factors Present</th>
<th>Median Days to Recovery (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>22 (11-33)</td>
</tr>
<tr>
<td>1</td>
<td>22 (19-24)</td>
</tr>
<tr>
<td>2</td>
<td>15 (12-18)</td>
</tr>
<tr>
<td>3</td>
<td>6 (4-8)</td>
</tr>
</tbody>
</table>

(Hancock et al 2009)
Step 2 - Validation

Investigation of a CPR’s performance and generalizability to other clinical populations and settings

Does status on a CPR accurately predict the probability of a target diagnosis or outcome?

Study design depends on the type of CPR under development

Not just 1 study, but a series of studies
  – narrow and broad validation
Step 2 - Validation

+ve on CPR if ≥4 variables present

Status on the CPR moderates the relative benefit of manipulation

≥1 hip with >35° IR
Step 3 – Impact Analysis

The Ottawa Knee Rule

Investigation of the ability of a CPR to positively impact clinical outcomes and resource consumption

It is not assumed that even a highly accurate CPR will outperform clinical judgement. This is a hypothesis that requires investigation.

When CPR is –ve, the probability of a fracture is 0.37% (95%CI 0.15-1.48%).

When this CPR is used in ED:

- ↓ use of knee XR by 26%
- ↓ cost US$103 per knee patient
- ↓ mean waiting time 33 mins
- **no missed fractures**

(Stiell et al 1995)
(Stiell et al 1997)
Step 3 – Impact Analysis

For a CPR to be recommended for widespread use, research must demonstrate that it positively influences clinical outcomes and/or resource consumption.

Very few CPRs have undergone this formal impact analysis.
Currently, there are NO impact analysis studies for CPRs developed for musculoskeletal conditions + 2 new studies from UoN
Step 3 – Impact Analysis

For a CPR to be recommended for widespread use, research must demonstrate that it positively influences clinical outcomes and/or resource consumption.

Very few CPRs have undergone this formal impact analysis.

CPRs that have only been derived or validated may still perhaps inform clinical decision making by identifying factors that may be related to the target outcome, although this could be due to chance or perhaps only specific to the studied population or clinical setting.
CPRs: barriers to implementation

- Even a ‘Level 1’ (impact assessed) CPR may not necessarily be applied successfully in practice (Toll et al 2008)

- Many parallels can be drawn between the hypothesised barriers to the adoption of CPRs and the well-established barriers to the implementation of Clinical Practice Guidelines
CPRs: barriers to implementation

(Cabana et al 1999, p. 1459)
CPRs: barriers to implementation

- 4 focus groups of 26 Australian physiotherapists who manage patients with low back pain
- Identified themes relating to inhibitive attitudes included:

  “You could start to get intellectually sloppy, you know, ‘clinical reasoning sloppiness’”

  “You’ve spent 23 years developing your own algorithm and you go, that would be a 1000 times more complicated than anything that gets put into (a CPR), ... I can sort of do this automatically... why do I want to change that?”
CPRs: the ongoing controversy

50 Years of Successful Predictive Modeling Should Be Enough: Lessons for Philosophy of Science

Michael A. Bishop and J. D. Trout
Iowa State University and Loyola University, Chicago

Our aim in this paper is to bring the woefully neglected literature on predictive modeling to bear on some central questions in the philosophy of science. The lesson of this literature is straightforward: For a very wide range of prediction problems, statistical prediction rules (SPRs), often rules that are very easy to implement, make predictions that are as reliable as, and typically more reliable than, human experts. We will argue that the success of SPRs forces us to reconsider our views about what is involved in understanding, explanation, good reasoning, and about how we ought to do philosophy of science.

CPRs: the ongoing controversy

The debate between **Statistical Prediction Models** v **Expert Judgement** is not unique to the clinical setting:

- Criminology
- Academic performance
- Credit risk
- Financial markets
- Meteorology
- Even the price and quality of wine…
The primacy of clinical reasoning and clinical practical skills

Intellectual enquiry and the desire for delivery of practice which is evidence based have seen a surge in research and an explosion of knowledge in the musculoskeletal field. There is a constantly increasing volume of research related to musculoskeletal practice. It ranges from studies designed to unravel the mechanisms underpinning pain dysfunction and functional loss, to studies evaluating clinical assessment methods, the physiological effects of interventions, the evidence for the efficacy and cost effectiveness of interventions as well as studies of prognostic indicators. In the clinical arena, clinicians in line with their responsibilities for continuing professional development are attending conferences and courses where they are exposed to information and instruction on a variety of management methods, all providing some evidence of, or claiming effectiveness. All activity aims to enhance clinical practice and the outcomes for patients. However the outcomes of this research activity to date and its synthesis for the clinical setting emphasise the critical element of practitioners’ clinical reasoning and practical skills to ensure good clinical outcomes for patients.

To encourage evidence based practice, clinical practice guidelines have been developed from the research evidence to guide patient management decisions. Guidelines provide direction at a ‘first base’ or ‘in principal’ level. For example, we know that of classification systems which have emanated from various perspectives, for example, from movement and motor control characteristics (Dankaerts et al., 2006; van Dillen et al., 2005), pain and movement response characteristics (Clare et al., 2005), or from pathophysiological framework (Stefanoff, 2004). An alternate approach to classification is the development of clinical prediction rules which define the primary clinical features of patients who are likely to respond to a certain intervention (Lloyd-Jones et al., 2007; Vicenzino et al., 2008). These classification systems and clinical prediction rules require further validation but have the potential to improve guidelines for the management of the subgroups identified. However on the downside, these classification systems will be relevant for a certain percentage of patients and they do not inform on management of patients who fall outside the classification or clinical rule. Successful outcomes for these patients rely even more heavily on the practitioner’s clinical reasoning and practical skills.

A plethora of treatment approaches for musculoskeletal disorders such as neck and back pain are still undergoing scientific scrutiny and this reflects the absence of conclusive evidence for one approach. It confirms the heterogeneity in patient presentation

We are strong advocates for research informed practice, but assert that the fundamental clinical skills of the practitioner should never be undervalued and must attract equal attention in education at professional and post professional levels.

References

(Gwen Jull & Ann Moore 2009)
CPRs: risks?

• Risks associated with **superficial** understanding and application – early evidence suggests not (Learman et al 2012)

• Implementation without the necessary **validation and impact** analysis

• **Expert vs novice** clinician application

• **Medico-legal** implications

• Funding: **3rd party payer** perspectives

• Regress to **technicians** – lose our autonomy?
CPRs: Where Science meets Art?

• Even an accurate, well-validated CPR that has been demonstrated to positively influence clinical outcomes and resource consumption is not enough upon which to solely base clinical decisions.

• “…evidence alone is never sufficient to make a clinical decision. Decision makers must always trade off the benefits and risks, inconvenience, and costs associated with alternative management strategies, and in doing so, consider their patient’s values and preferences.”

(Guyatt et al 2008, p.10)
CPR for LBP: response to manipulation
(Childs et al 2004)

**Criterion Definition**
1. Duration of current episode of LBP <16 days
2. Not having symptoms distal to the knee
3. FABQ work subscale score <19 points
4. ≥1 hypomobile lumbar segment
5. ≥1 hip with >35 degrees of internal rotation ROM

**Clinical Experience**
1. Sub/acute presentation
2. No radicular symptoms
3. Minimal psychosocial issues
4. Mechanical non-irritable joint problem
5. ??????? less general joint degeneration
CPRs: A passing fad?
Or part of patient-centred collaborative clinical reasoning?

(Jones & Rivett 2004)
QUESTIONS?

AAOMPT Conference
24 October 2014