

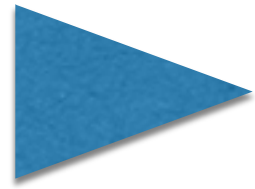
Presentazione effettuata
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congresso della Società
Italiana di Fisioterapia

Criteria for selection of therapeutic exercise in subjects with low back pain

Alessandro Aina (IT)
Pt, Dip M.D.T.

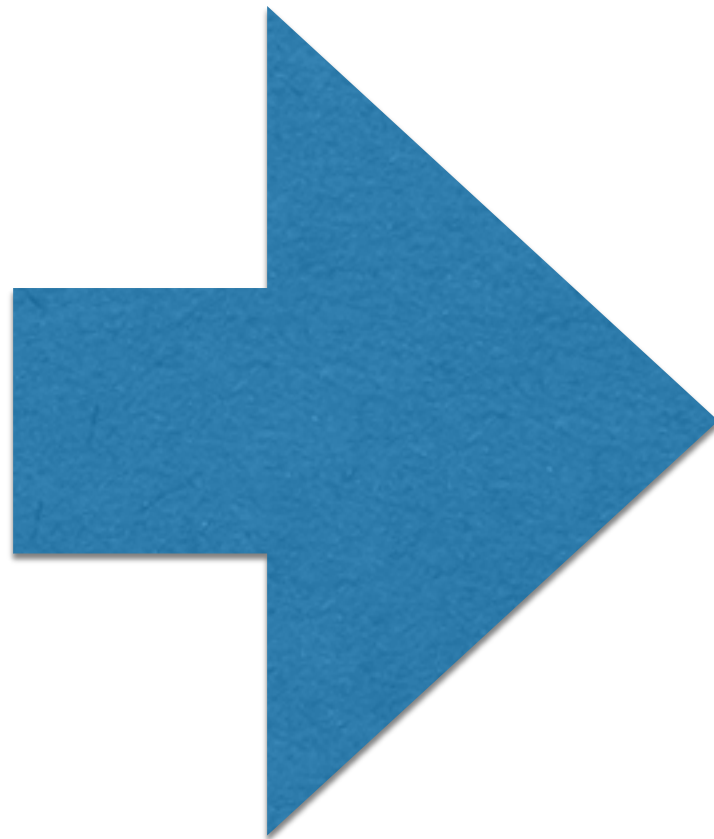
5th S.I.F. congress
Milano 3-4.10.15

At a start...
up to yesterday...



Specific LBP (10%)

Low Back Pain



Non specific LBP (90%)

Non specific LBP (90%!!!?)

One size fits all



Same exercises (Williams?)

And what about research?

Van Tulder et al.

Exercise therapy for low back pain: a systematic review within the framework of the cochrane collaboration back review group.

Conclusions: The evidence summarized in this systematic review **does not indicate** that **specific exercises** are effective for the treatment of acute low back pain. *Exercises* may be helpful for patients with chronic low back pain to increase return to normal daily activities and work.

Spine. 2000 Nov 1;25(21):2784-96.

So, in this paradigm: what do

'specific exercises'

mean?

Are they
'specific'

because they try to move
'only' the low back,
compared to 'general activities'?

Or are they
'specific'

because they are somehow linked to
what is ~~supposedly wrong~~ in the low
back?

And, if these were the cases,
what should be the criteria?

I DON'T KNOW

(Availability of the clinic, personal feelings of the pt,
prescription of the physician, creativity of the pt,
effects of the last meal on brain function?)

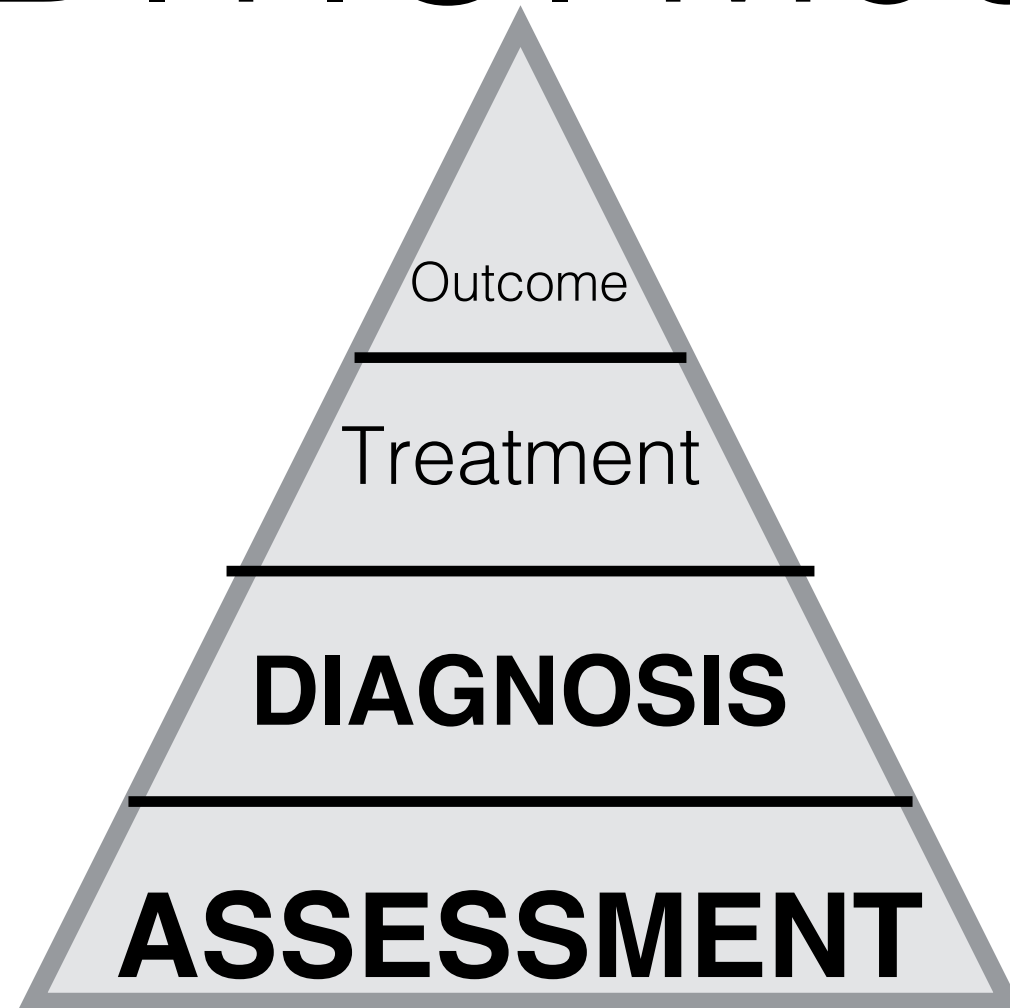
Criteria:

Move your back!!

Not bad, after all, I'd say

And now?

A.D.T.O. Model



Spratt, 2002

The A.D.T.O. Model

"The single most important thing is that establishing the validity of any one link, requires that all previous links have already been established"

Spratt, 2002

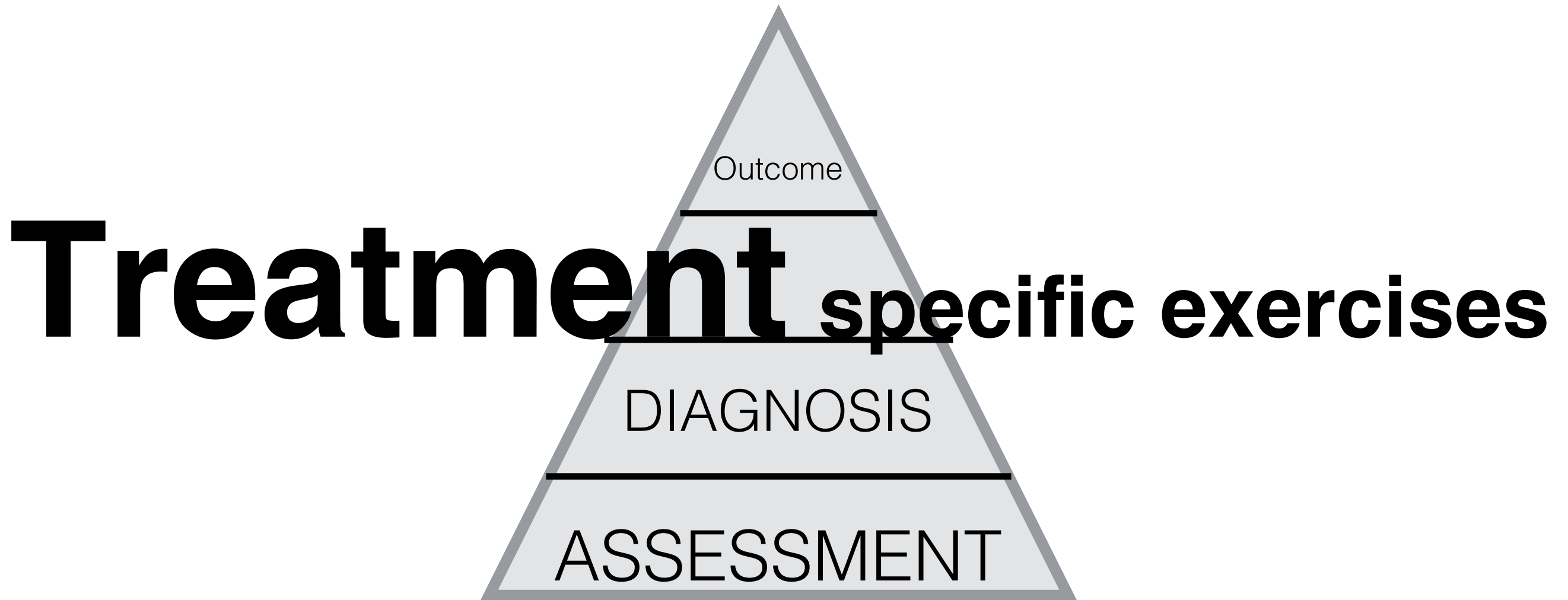
In this paradigm

'specific'

means linked to low back assessment and diagnosis



THEN



Spratt, 2002

In this paradigm

**Specific exercise means
related to:
assessment
diagnosis.**

Voilà the criteria

After a battle conducted on the field of:

- (i) was applicable to a 'non-specific' LBP group,
- (ii) identified multiple sub- groups within the 'non-specific' LBP population,
- (iii) included consideration of examination of movement using specific trunk movement tests to discriminate groups,
- (iv) defined a decision-making algorithm and proposed treatment,
- (v) was viable within a typical out- patient orthopaedic setting (i.e. did not require electro- myography, three-dimensional movement analysis equipment, or statistical software) and
- (vi) included data on validity and intertester reliability of proposed sub- groups.

Five classifications survived:

Treatment Based Classification (TBC) - Delitto, 1995

Mechanical Diagnosis and Therapy (MDT) - McKenzie, 2003

Pathoanatomic Based Classification (PBC) - Petersen, 2003

Movement System Impairment (MSI) - Sahrman, 2002

O'Sullivan Classification Scheme (OSC) - O'Sullivan, 2005

Karayannis, BMC Musculoskeletal Disorders, 2012

All schemes share the objective to identify directions, movement or control patterns that decrease or increase pain, in order to direct treatment

Karayannis, BMC Musculoskeletal Disorders 2012

Priority to repeated spinal movements to identify responders / non responders

A

Treatment Based Classification (TBC) - Delitto, 1995

Mechanical Diagnosis and Therapy (MDT) - McKenzie,
2003

Pathoanatomic Based Classification (PBC) - Petersen
2003

Karayannis et al, Physiotherapy, 2015 (in press)

Can I say work on
passive structures?

And assess the response (symptomatically and
mechanically)

Identification of spinal alignments or movement directions that elicits symptoms, then modify the motion in order to reduce symptoms

B

Movement System Impairment (MSI) - Sahrman, 2002

O'Sullivan Classification Scheme (OSC) - O'Sullivan, 2005

Karayannis et al, Physiotherapy, 2015 (in press)

Can I say work on
active structure and
central nervous system?

And modify the movements pattern to
change symptoms.

To be less rough

Some schemes also consider psycho social factors
(i.e. OSC, TBC)

Another approach uses key features that predict
responsiveness to certain treatment strategies
to guide decision-making (i.e. TBC)

*Clinical Prediction Rules,
listen to P. Pillastrini (N.D.A.)*

Karayannis et al, Physiotherapy, 2015 (in press)

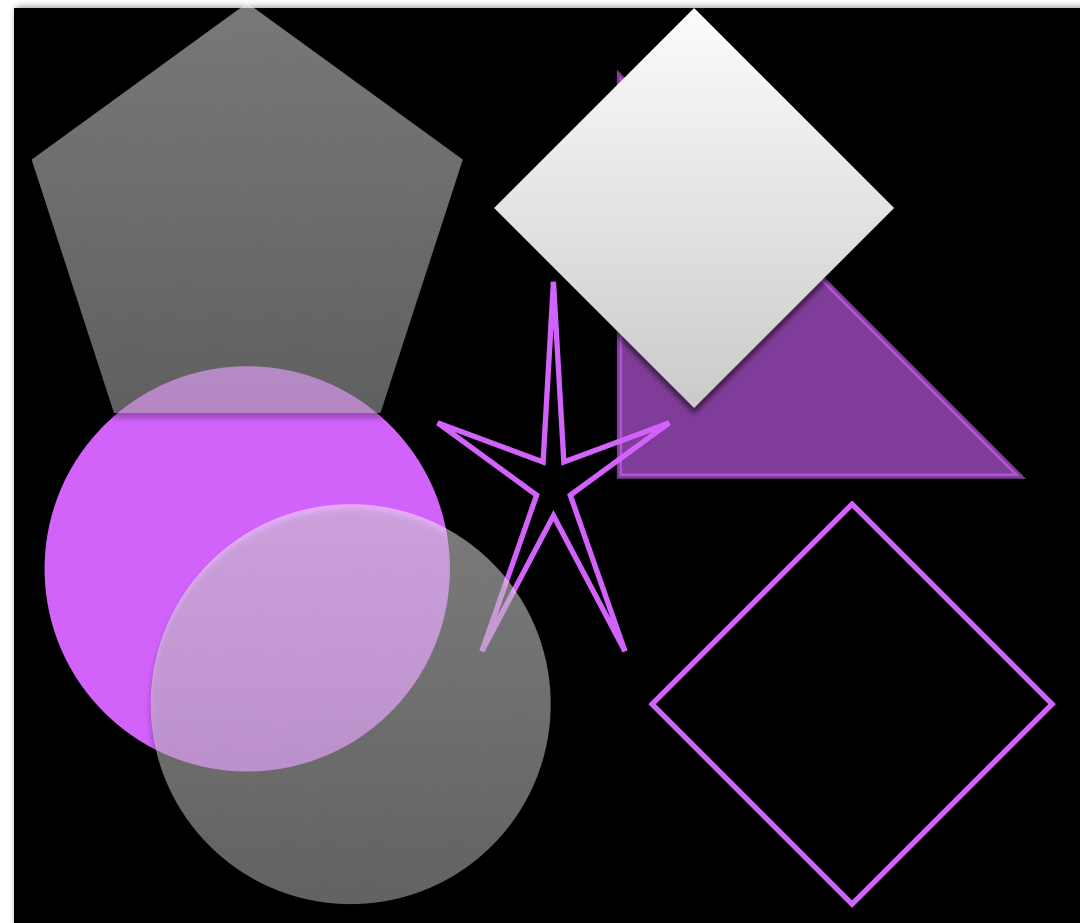
Getting back to the criteria, it seems that these are:

A (**MDT, TBC, PBC**): *evaluation of the response to loading the spine in different directions*

B (**MSI, OSC**): *identification of strategies of modified movements*

Synergy and alternative treatment

Response to Loading



Modified movement

Synergy

MDT scheme

Participants with flexion-biased movement symptoms who responded favourably to the application of repeated lumbar extension also responded favourably to the application of MSI and OSC modified-flexion movement strategies.

Karayannis et al, Physiotherapy, 2015 (in press)

Alternatives

MDT scheme

Also of interest was the mapping of people who unfavourably to repeated-movement assessment (MDT irreducible derangement), as the MDT approach offers limited treatment alternatives for such individuals. Notably, individuals allocated to this subgroup were also classified into TBC stabilisation and manipulation; MSI extension, flexion, and rotation with flexion; and OSC control multidirectional and control flexion, which highlights other movement-based treatment options for such patients.

Karayannis et al, Physiotherapy, 2015 (in press)

Take away message(s):

1. Criteria for specific exercises are connected to subgrouping
2. Subgrouping is connected to classification
3. *Don't be monogamous, poligamy gives more chances to your patients (and to us)*
4. **Increase the level of our knowledge**

But,

there is always a but,

please remember:

Outcomes are not different for patient-matched versus nonmatched treatment in subjects with chronic recurrent low back pain: a randomized clinical trial

Sharon M. Henry, PT, PhD, ATCa,* , Linda R. Van Dillen, PT, PhDb, Rebecca H. Ouellette-Morton, MS, MPTa, Juvena R. Hitt, BSa, Karen V. Lomond, PhDa, Michael J. DeSarno, MSc, Janice Y. Bunn, PhDc

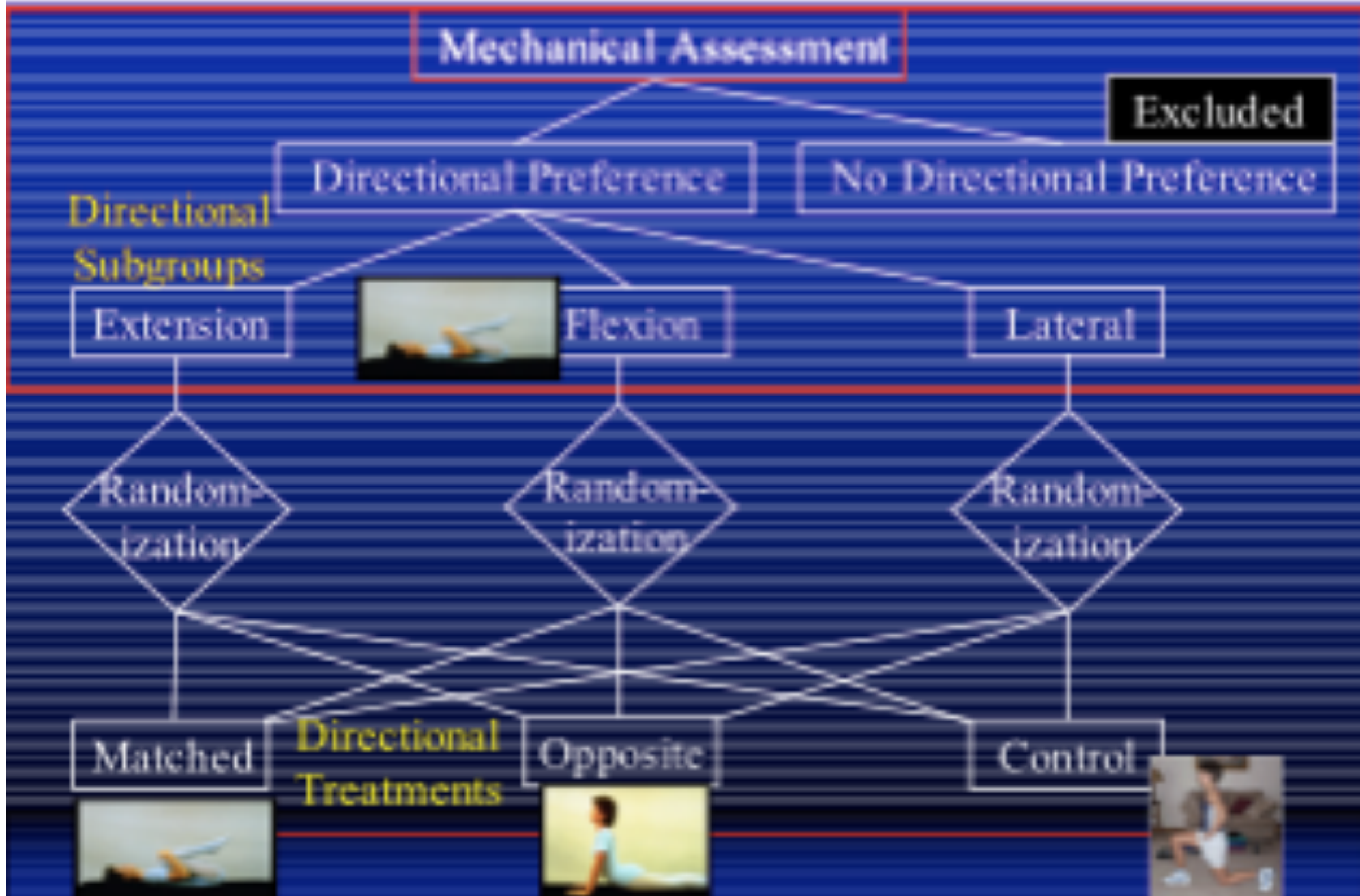
The Spine Journal 14 (2014) 2799-2810

CONCLUSIONS:

Providing a matched treatment based on either the Treatment-Based Classification or the Movement System Impairment classification schema did not improve treatment outcomes compared with an unmatched treatment for patients with chronic LBP, except on one secondary disability measure

Henry et al, The Spine Journal 2014

Our Study Design



McKenzie Lumbar Classification Inter-rater Agreement by Physical Therapists With Different Levels of Formal McKenzie Postgraduate Training

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Dennis L. Hart, PT, PhD,†‡

Paul Stratford, PT, MSc,§ Joel Ladin, PT,¶ Jon Weinberg, PT, Dip.
MDT,  Scott Herbowy, PT, Dip. MDT,** and Linda Resnik, PT, PhD‡‡

SPINE Volume 39, Number 3, pp E182-E190 ©2014, Lippincott
Williams & Wilkins

Conclusion:

Results indicate that level of inter-rater chance- corrected agreement of McKenzie classification system was not acceptable for therapists at any level of formal McKenzie postgraduate training (level A, B, C, D, N.d.R.).

This finding raises concerns about the clinical utility of the McKenzie classification system at these training levels.

Additional studies are needed to assess agreement levels for therapists who receive additional training or experience at the McKenzie credentialed or diploma levels.

Thanks to dr. Gatti
and to you all