Backschool
or
Brainschool

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June 9th, 2018
Conflict of interest

- No conflict

- Lorimer Moseley made a very inspiring presentation at the 2016 IASP congress
The problem posed by low back pain

- Global Burden of Disease 1990
- Low back pain is still the most burdensome health problem on earth.

- 1990: 1100 YLD (Année de vie avec handicap)
- Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Vos T and all
Treatment put in place

- Pain Management Programme is privileged. Back school includes a CBT, physical work and education.
- Interventional medicine: anesthesia and surgical help with restoration.

Multidisciplinary biopsychosocial rehabilitation for chronic low back pain: Cochrane systematic review and meta-analysis
S J Kamper BMJ 2015; 350: h 444

Back schools for the treatment of chronic low back pain: possibility of benefit but no convincing evidence after 47 years of research—systematic review and meta-analysis
Straube S pain 2016 oct. 157 (10): 2160-72
The problem posed by low back pain

- Global Burden of Disease 1990-2010
- The most burdensome Health problem is.....Low back pain.
  - 1990: 1100 YLD (Année de vie avec handicap)– 2010: 1250 / 100000 personnes
  - Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Vos T and all

- In 2015, low back pain and neck pain were classified together but this hasn’t not changed the burden
The problem posed by low back pain

- 2/3 keeps pain at one year.
- 10% have persistent pain
- 6X> angina pectoris 2X> Depression


Low back pain is 3rd in cost

Effectiveness of treatments

- Literature reviews show little benefit to either treatment. (1)
- Cochrane review of psychological therapies for chronic pain did not provide evidence of efficiency (2).
- Cochrane systematic review of PMP did not provide better than rehabilitation (3).

(2) Psychological therapies for the management of chronic pain (excluding headache) in adults.
Williams AC, Eccleston C, Morley S.
Biomedical approach

- Focused on the source of nociceptive pain
- Anesthetist: infiltration or radiofrequency
- Physiotherapist: Strengthening trunk muscles, motor control
- Psychologist: biofeedback, relaxation to reduce muscle tension.
- Surgeon: discectomy, fusion, neuromodulation
- Disc-based novelties: antibiotics (1), Disk regeneration, methylene blue (2)

1. Lack of effectiveness of antibiotics in chronic low back pain with Modic 1 changes.  
Limitation of this approach

- The lack of correlation between structural abnormality and low back pain.
- Asymptomatic patients with discopathy go from 37% to 20 years and 96% to 80 years. Modic does not seem to influence low back pain.

(Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. 
Brinjikji W and all 
Clinic-based approach

- Patient who will recover alone
  - Don’t treat

- Patient who requires a little treatment to recover
  - Little treatment

- Patient who requires a lot of treatment to recover
  - Treatment multidisciplinary
Clinic-based approach

The diagnosis should be based on the clinic and the risk of chronicization. It is rated by scales: the Startback Tol, the Orebro, the Back Disability Risk Questionnaire, the Chronic Pain Risk Score, and the Hancock Clinical Prediction Rule.
Clinic-based approach

- The validity of these scales has been questioned. (1)
- There are few scales that can predict the chronicization. (2) Maybe find more operational subgroups? (3) A scale is developed the RSI and the RPI-S (yellows flags) (4)

1. Can screening instruments accurately determine poor outcome risk in adults with recent onset low back pain? A systematic review and meta-analysis


3. How can latent trajectories of back pain be translated into defined subgroups? A. Kongsted BMC Musculoskeletal Disorders. 3 July 2017 18:285

Clinic-based approach

- Patient who will recover alone: Don’t treat
- Patient who requires a little treatment to recover: Little treatment
- Patient who requires a lot of treatment to recover: Treatment multidisciplinary
- Patient who don’t recover: Because We treat them
And the brain?

There is a relationship between lower back pain and the cerebral representation of the back (1) whether motor (2), sensory (3.5) or spatial (4).

1. Chronic pain: The role of learning and brain plasticity
2. Motor imagery in people with a history of back pain, current back pain, both, or neither.
3. I can’t find it! Distorted body image and tactile dysfunction in patients with chronic back pain.
5. Tactile acuity (dys)function in acute nociceptive low back pain: a double-blind experiment
   Adameczyk, Waclaw M.; Saulicz, Oskar; Saulicz, Edward; More
And the brain?

Sensory discrimination training was first tried in amputees (1) and then in CRPS (2). It has been tried in low back pain patients with promising success (3). The effect is very modest and cannot be used alone (4).

Optimise Training

Left/Right Recognition
And the brain?

- Stability-oriented (multifidus, transverse) or postural (stability) tests have a modest effect\(^\text{(1)}\). This evidence that this stability plays a modest role in lower back pain.

- The imprecision of non-nociceptive representations could lead to widespread pain\(^\text{(2)}\).

- **Common sense Model** (Leventhal 1980)
  
  1. Driving plasticity in the motor cortex in recurrent low back pain.  
  
  2. Beyond nociception: the imprecision hypothesis of chronic pain.  
And the brain?

- Hypersensitivity
- During the past few decades, research has demonstrated that several musculoskeletal chronic pain conditions, including LBP, are associated with generalised pain hypersensitivity.
- Chronic LBP patients characterized by a disrupted amygdala-PAG-Functional connectivity that is modulated by the degree of pain-related fear
  - Meier, Michael Lukas The impact of pain-related fear on neural pathways of pain modulation in chronic low back pain
  - PAIN Reports: May/June 2017 - Volume 2 - Issue 3 - p e601
And the brain?

- Sensory-motor approaches have mixed but encouraging results.
- The approaches integrating a multisensory and especially visual approach\(^1\) have shown a modest effect\(^2\). They are effective with CBT and educational treatment.\(^3\)

1. Visually Induced Analgesia: Seeing the Body Reduces Pain
   - Matthew R. Longo et al. Journal of Neuroscience 30 September 2009, 29 (39) 12125-12130

2. Seeing it helps: movement-related back pain is reduced by visualization of the back during movement.


3. The RESOLVE Trial for people with chronic low back pain: protocol for a randomised clinical trial.
And the brain?
And the brain?

- Modulations of vision can influence the involvement of pain.
  - Visual distortion of body size modulates pain perception.
And the brain?

- What we perceive is the reality.
- The important thing is what we think.
It is clear that we must differentiate nociception from pain.

Patients have difficulties and hang on to the bio-medical model. It is therefore necessary to change the patients’ point of view.

Education about the variability of pain
What else?

- In Australia, management education “En masse” between 97 and 99 "low back pain, do not lie down"
  - With the support of television.
  - Over 12 months. Price $10 million over 3 years
- In Scotland, a campaign between 2000 and 2003 for 4 weeks
  - With the support of the radio. Price?
- In Norway, a TV, Cinema, Radio campaign between 2002 and 2005 for 4 weeks. Price $531000
- Alberta, Canada, a radio campaign between 2005 and 2008 for 4 weeks.
  - Price $930,000 over 3 years
- Change the patient's conceptualization of the biological cause

- Moseley and Butler 2016 explain pain supercharged
What Else

- It is necessary to modify this interpretation of perception as hypnosis, education, but with humor, it is better.

- In the country of comics, our team created cartoons to change the concept of practitioners and patients.
Do you think it will break?

Rest assured! The back is supple and solid.

You can believe it!

Docteur Bruno Leroy
You think it should not happen?
The slightest movement, I'm hurt.

Play sports: it is not disabling.
The bike is ideal. Walking is already very well too.

Docteur Bruno Leroy
Do you think, you are a little like this?

The back is supple. Don’t worry. Relax.

Docteur Bruno Leroy

© Kroll
Are you worried that this will be more serious?

I’ll be in it for the rest of my life?

Have you ever thought you’d hear yourself say: I was worried for nothing.

Docteur Bruno Leroy
Do you think you should stay like this?

All the time
It takes!

No
Come out is good.
The back doesn’t wear only if you don’t use it.

I haven’t thought about my back for at least one hour.

Docteur Bruno Leroy
Do you think, you shouldn’t work anymore?

I have a medical certificate for 3 months.

Working is not bad for your back.

I don’t felle lonely anymore.

Docteur Bruno Leroy
You feel useless because you have backache?

You can adapt.

Docteur Bruno Leroy
Conclusion

- Low back pain, despite efforts, has become a bigger problem than 20 years ago.
- The difficulties are mainly the weak relationship between a structural anomaly and pain and between nociception and pain.
- We must continue to work on the source on nociceptive, on Clinic-based approach, on cerebral representation, on PMP and on individual and mass beliefs. In this context, cartons can help.

LA LOMBALGIE SE SOIGNE
ROYALEMENT