Novel Physiotherapy Conference
Chicago
17 – 19th August 2015
Adapted Reflextherapy in
Spinal Pain including
Whiplash

Gunnel Berry MSc MCSP Post Grad Cert Leg.Sjukgym(Sweden)
Association of Chartered Physiotherapists in Reflex Therapy ACPIRT
Objective:

1. Explain Adapted Reflextherapy (AdRx)
2. Rationale
3. Application
4. Evidence
AdRx is:

“A task-specific, manual, topical stimulation of short duration to the feet according to the principles of reflexology”
AdRx:

Physiotherapy Tool to assess and treat MSK patients for <20 years

Post-injury:

- Hypersensitivity
- Unresolved Pain
- Bizarre pain patterns
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Fitzgerald</td>
<td>1905</td>
<td>USA</td>
</tr>
<tr>
<td>Eunice Ingham</td>
<td>1938</td>
<td>USA</td>
</tr>
<tr>
<td>Doreen Bayly</td>
<td>1960’s</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Hanne Marquart</td>
<td>1970’s</td>
<td>Germany</td>
</tr>
<tr>
<td>Christine Jones</td>
<td>1976</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Robert St John</td>
<td>1976</td>
<td></td>
</tr>
<tr>
<td><strong>Gunnel Berry</strong></td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Ann Lett</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Nico Pauli</td>
<td>2000</td>
<td>Belgium</td>
</tr>
</tbody>
</table>
Robert St John. Metamorphosis, 1976
Robert St John. Metamorphosis, 1976
AdRx Techniques

- Walking
- 3-point Adapted Reflextherapy
- Twisting of the ‘spine’
- Linking
- Thro’/thro’
AdRx **Inclusion Criteria**

- Spinal pain
- Peripheral pain
- Whiplash injury symptoms
- Any age/any longevity
- (Spinal surgery)
AdRx Exclusion Criteria

- Red flags
- Discogenic origin
- Transplants
- Fever
2. Rationale of AdRx

‘Pedal’ homonculus

Sensory input acts as a counter- irritability to innate neural structures and activity

Changes occur in ‘quality ‘ and ‘quantity’ of axonal content
Rational Cont:

Remodelling of plasticity of nervous system

(to manufacturing levels)
Skin

Mechano-receptors
- Meissner corpuscles
- Merkel discs
- Pacinian corpuscles
- Ruffini endings
- Free Nerve endings

Noci-ceptors

Thermo-receptors
Muscle spindle

Motor (Efferent) Fibres

Intrafusal Fibres

Alpha Fibre

Tendon Organ

Type 1b Sensory Fibre

Sensory (Afferent) Fibres

Type 1a

Type 2

Extrafusal Fibres
Neural Plasticity

A Beta fibres

A Delta fibres C Fibres

Low threshold fibres

T = Transmitter cell

I = Inhibitory

E = Excitatory

T = Transmitter cell

I = Inhibitory

E = Excitatory

Gunnel Berry© 2015
Peptides

**Excitatory**
- Prostaglandins
- Serotonin
- HP5+
- NGF (new growth factor)
- Cortisol
- Bradykinin
- subP
- NMDA

**Inhibitory**
- Endorphins
- Enkaphalines
- Opioids
- Oxytocin
Peptides

**Excitatory**
- Prostaglandins
- Serotonin
- HP5+
- NGF (new growth factor)
- Cortisol
- Bradykinin
- subP
- NMDA

**Inhibitory**
- Endorphins
- Enkaphalines
- Opioids
- Oxytocin
Injury

Acute

Sub-acute

Chronic
Tissue damage

- Irritation
- Inflammation
- Muscle Tension
- Edema

- Emotional Tension
- Infection
- Internal Tissue Ischemia

- Physical Trauma
- Immobilization
- Retained Metabolites

- Pain
- Functional Disability
Pain Production

- Pain is normal and saves lives
- Persistent pain is a curse and destroys quality of life
- Pain is consequence of peptidal onslaught
- Effect of Neural Plasticity produces Global Pain
Persistent Pain

- $635 million lost productivity and medical treatment (2011)
- 20% of all whiplash injuries end in chronic pain
- No known therapy to relieve persistent pain
- Medical training and pain
Central sensitization
Cortical re-organization

- Frontal lobe
- Sensory cortex
- Amygdala
- Hypothalamus
- Cerebellum
- Brainstem
3. AdRx

- Application
## Duration & Pressure

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>HIGH IRRITABILITY</th>
<th>LOW IRRITABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short duration (30 - 60 secs)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Long duration (1 - 3 mins)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Slight pressure (1 - 2 mm)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Deep pressure (2 - 10 mm)</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Outcomes

![Graph showing outcomes for Mobility, Pain, Anxiety, and Irritability before and after RX.

Legend:
- Pre RX
- Post RX

Y-axis: %
X-axis: MOBILITY, PAIN, ANXIETY, IRRITABILITY]
Cervical Range of Movement
CROM
Pain pattern after 4 treatments

Treatments

Pain Level
Pain graph

- 6 weeks Total Pain Score

Pain score total each week

<table>
<thead>
<tr>
<th>Week</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blue</td>
</tr>
<tr>
<td>2</td>
<td>Pink</td>
</tr>
<tr>
<td>3</td>
<td>Yellow</td>
</tr>
<tr>
<td>4</td>
<td>Turquoise</td>
</tr>
<tr>
<td>5</td>
<td>Purple</td>
</tr>
<tr>
<td>6</td>
<td>Brown</td>
</tr>
</tbody>
</table>

Total: 7. Green
4. Evidence for AdRx

- Meta-analysis
- Randomised Controlled Trials
- Anecdotal evidence
% Improvement Chronic Whiplash

![Graph showing % improvement for Chronic Whiplash patients with predicted and actual outcomes.](image-url)
CASE 1

72 yr old F

2 year (L) hip pain

Interventions:
- MUA
- HC injection
- Physiotherapy x 6

Interest:
- Golf ++
- AdRx: x1
- cause: Symphysis Pubis joint stiffness
CASE 2

16yr old M
1 year middle back pain

Affected:
- Sleep
- Movement
- Work activity
- ‘clicking’
- AdRx: x1
- Outcome: sleep immediately improved
Recommendation

- fMRI scanning research
- AdRx may offer an opportunity for change in acute and chronic pain states.

[Workshop 19th August - 11 a.m.]

Thank You.
References relating to Adapted Reflex Therapy

Other References of interest


