

## Treating the Elite

With David Vaux

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### David Vaux

- Background (before osteopathy) in the emergency services.
- Has an MSc in paediatric osteopathy.
- Has a particular interest in the nervous system and its development.
- Has worked at national level with rugby players, rowers and with the English Youth Orchestra.
- Author of a recent article in *Osteopathy Today* on Focal Dystonia.

### Musician's Dystonia

- Dystonia is described generally as:
  - Uncontrollable and sometimes painful muscle spasms caused by incorrect signals from the brain.
  - A neurological movement disorder. Faulty signals from the brain cause muscles to spasm and pull on the body incorrectly.
  - This forces the body into twisting, repetitive movements or abnormal postures.
  - Sometimes the symptoms are accompanied by dystonic tremor.
- Affects around 2% of all musicians.
- Manifests as:
  - Lack of fine control (e.g. string musician cannot exercise precise finger control).
  - Wind musician might suffer a reflex movement of cervical spine, making it impossible to bring the mouthpiece to the lips.
  - The combination of movements becomes dis-coordinated.
- Possibly due to:
  - An (unhelpful) adaptation in the sensory cortex, causing the “map” of the affected area (hand/lips...) to become blurred
  - Stress/sympathetic arousal (good evidence suggests that the descending pathways, which modulate pain, are adversely affected by stress). Stress is particularly acute in elite musicians.

- Can cause secondary problems, such as muscle shortening, but the main problem is in the brain. Often gives rise to depression
- Possibly affected by excessive practice, or concurrent stress or illness- hence the need for a holistic approach.
- Focal dystonia was a career-ending condition
- Current options include:
  - Botox, to paralyse the dysfunctional muscles.
  - Medication, but there are inevitably side effects.
  - Physical therapies.
  - Psychotherapy/talking therapies.
- Often our response will include a talking therapy aspect, albeit unwittingly.
- In terms of pre-emption, the ENYO now incorporate stretching, warming up/down, and staff are being trained to recognise signs of emotional fatigue/anxiety.

### Case History: “Mike” - Approach Taken

- Need to determine requirement for education and/or sensory approach
- Conventional osteopathic approach concurrent with these
- An evident psychological component – possibly arising subsequent to dystonia. Nature of problem had never been explained. Mike had given up hope of playing again.
- Also important for practitioner to learn the language of the patient’s professional world
- Began with a simple sensory diet – simple movements to increase the neural “chatter”.
- Tried to identify why the abnormal neural circuit was firing
  - Check myotomes/dermatomes
  - Track it back to somato-sensory origins
- Increase the neural chatter, without triggering the abnormal response (including pain)- may then be able to de-facilitate the neural pathway.
- Needed to turn the dystonic from colour to B&W, then to off – calm everything down
- Need to work with patient on a level he understands.
- Build up levels of complexity – using movements, which represent final movement.
  - Brushing teeth, while focusing on time of life when he could play (visualisation).
  - Combined motor pathways.
  - Needs thorough understanding of mechanics and neurology.
  - Can then be applied to complex cases.

### Case History: “Sue” – Approach Taken

- Elite golfer suffering from dystonia.
- Use of water-based movements: straightforward with simple flexion. Experimental to get movement without triggering the response that was found on-land. This included a mimic of a golf swing.
- Transition between non-weight-bearing back to dry land was steady. Continued experiment to test Sue, without reaching the trigger point for pain that had previously been seen before treatment.
- Pain was still present but was much more manageable.
- Placebo effect is open to discussion. However, approach still brings effect.
- Dual-approach to treatment: complimentary services such as counselling and psychotherapy useful.
  - Structural therapy improves the function but these treatments can help ‘fix’.
- Sue is now back playing. It remains to be seen whether she will return to the top level.

Future treatment may be needed to combat regression.

Work both mimics and varies from that of Eyal Lederman.

Core stability (whilst 'dismissed' by Eyal): Not to be ignored but broken-down functional movements focused on goal can be more useful (e.g. to aid standing-up, it is less useful to practise sit-ups on a swiss-ball)

- Training over the years has come full circle. Originally, functional training was important -> later, replaced by hi-tech equipment -> and now, returned to functional training.
- Passive treatment can be one-dimensional, but engagement to movement leads to further gains.
- When returning to movements, which cause pain, the steady transition back means that the confidence of the patient (the biggest risk is losing this) is not affected.

Approach is less applicable to a case like frozen shoulder as we know there is a neurological component. Visualisation of the arm's movement from an early stage could reduce length of time until full function is recovered.

Background of strengthening and conditioning from emergency services allows David to enter the grey area between those working in clinic and those who work in sport.

Balance exercises are an example of 'pre-hab': even the elderly have the plasticity to make use of these exercises to reduce risk of falling.

Take time to review case history (e.g. blood-pressure issues)

Breaking down of movement and perfecting the different levels.

The approach can be applied to all age groups. However, plasticity is still present in all ages.

- Certain patients expect the practitioner or society to completely aid them. Patients should be more pro-active and take 'advice' on outside clinic.

With immobilised athletes,

Has had success with children with dyslexia and dyspraxia

- Use of sensory tricking, such as K-tape, can be used.
  - Easy to use. Functional, waterproof. Raises dermatomal awareness.
  - Can act as an 'emotional crutch' to establish confidence.
- Fine control of movement can lead to control when the movement is speeded up- an idea witnessed in a range of martial arts.

### Barriers into Elite Sport for Osteopaths

- Jobs often advertised to Physiotherapists and Sports Therapists.
- The language between osteopaths and physiotherapists can be a stopping point in sport as the industries tends to understand physiotherapeutic terms. When this barrier is broken, there are a number of crossovers.
- An osteopath should have a place in a multi-disciplinary team pitch side. Learned a lot from physiotherapists in such a team during England Touch Rugby.
- The important thing is to gain a mutual trust in each other's treatments.
- A 'Level System' like the one used by physiotherapists may help gain the understanding from those in sport to aid osteopaths in gaining a foothold in the industry.
- The iO are ultimately aiming for a Royal Chartership which would entail a recognition of certain expertise within the industry: specialist cranial osteopaths etc.?

To develop David's approach

- Reading and returning to undergraduate notes. Medical journals and recommended books: 'The Talent Code', Daniel Coyle and 'The Brain that Changes Itself', Norman Doidge (works in neuro-plasticity). These are all good starting points.