Academy of PHYSICAL MEDICINE

Broadcast Summary

Caution: These notes should be used in conjunction with the recorded interview. While every effort is made to ensure accuracy, APM cannot guarantee freedom from any errors. Treatment should be based on the advice given by the expert speaker during the interview. Please let us know if you find any errors in this text, so that we can correct them.

Control Ain't the Goal

With Joanne Elphinston

About Joanne Elphinston

- Chartered physiotherapist and consultant to many elite sports and performing arts.
- Client list has included British Olympic Association, Royal Yachting Association, British Canoe Union, British Snowsport, England Badminton, Golfing Union of Wales, National Dance Company of Wales, various Premier League and First Division professional football clubs and a wide variety of national sporting governing bodies.
- Developer of JEMS Movement A.R.T. (Analysis, Rehabilitation and Training); international professional education in movement optimisation and rehabilitation.
- International lecturer: Rehabilitation, Coach Education, Performance Movement, Child and Adolescent Movement Development, Performing Arts, Integrated Athlete Preparation, Health, Fitness and Well Being Industry education. International Conferences including International Society for Science and Medicine in Tennis, British Olympic Medical Conferences, Swedish National Orthopaedic and Sports Medicine Conferences.
- Author:
  - Stability, Sport, and Performance Movement: Practical Biomechanics and Systematic Training for Movement Efficacy and Injury Prevention
  - The Core Workout: A Definitive Guide to Swiss Ball Training for Athletes, Coaches and Fitness Professionals; Stability, Sport and Performance Movement
  - Stability, Sport, and Performance Movement: Great Technique Without Injury
  - The Power and the Grace: Restoring Physical Equilibrium for Health Performance – A Guide for Pilates, Yoga, and Training Professionals
- http://www.jemsmovement.com

JEMS

- The Joanne Elphinston Movement System (JEMS) was developed to be integrative. Musculoskeletal physiotherapy and neurological physiotherapy must be regarded as complementary fields (i.e. integrated philosophies) because all patients are comprised of the same system kits such as nervous system, skeletal system, muscular system, etc.

- Movement testing need not be a complicated process. (Eg. patients can be asked to stand on one leg and if the opposite shoulder noticeably drops, there may be a shoulder problem).

- Unlike other movement testing systems, there are no absolutes. It is about how everything integrates with the individual.

- JEMS can be used on people across ages (from paediatrics to geriatrics) and with varied physical conditions (from amputees to normal people to athletes, etc.).

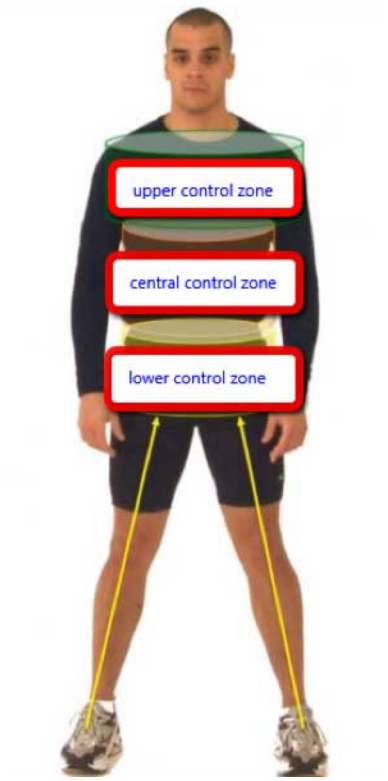
Control is not the goal

- Generally, practitioners seek to ***stop*** movement – to stabilise the body in order to protect it. They do not emphasise movement itself.

- Core stability itself is not a myth. The central body needs to have stability to be able to withstand and support the forces acting on it.

- Often in rehabilitation, the nervous system is excluded. The latter has to cope but unless some load and some of the skill demand are taken off it, it cannot make a change.

Force/Control/Power Zones of the body



- Three integrated zones: Zone stacking is where the upper zone sits on the central zone, the latter sits on the lower zone. They are connected but are able to move independently of each other.

- Zone stacking is not an elastic strategy because muscles are not changing lengths – no stretch applied to the system.

- In order to get the myoelastic strategies involved, zones have to start moving relative to each other.

- Understanding movement and accepting it as a multi-dimensional phenomenon is a concept many practitioners are not comfortable with, due to lack of training. They are pushed to try and find solutions, with the philosophy that it is alright if it does not work because nothing else works anyway.

- Practitioners are accustomed to doing clinical reasoning with their manual therapy, and arguably they have to clinically reason their movement therapy and rehabilitation to exactly the same standards – which is not what is being done.

Principles

- Even in the absence of pain, fear of pain will have the same effect on the motor output of an individual.

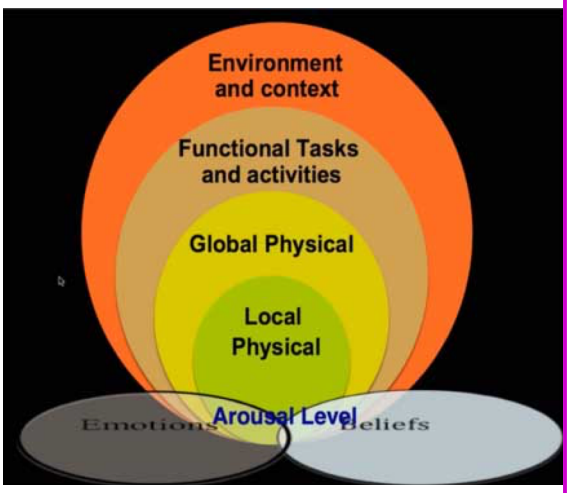
- Creating a force requires using the strongest part of the body. For the pelvic bone to be able to work, it needs support responses from the plantar surface.

- Manual technique requires teaching the brain what to do in order to create potential.

- People tend to use the big, global, mobiliser muscles, which cover more than one joint, as their primary stabilising strategy. This creates compression and mobility problems.

- The body is an efficient organism, designed to use the minimum nunber of muscles for movement. Practitioners have the primary responsibility to help them find other possibilities that may be more sustainable in terms of muscle usage.

HOLISTIC FUNCTIONAL MODEL



How to conduct functional testing -

- "Trunk Tilt" (38:35 – 50:43 in the broadcast)

- The process teaches the relationship between the hip, pelvis, and the trunk. It involves proprioception i.e. knowing where the body is under low threshold without the muscles making a lot of noise.

- To be able to rotate correctly, the body needs an axis.

- Efforts to return people into becoming fully functional will not work if the arousal levels (emotions and beliefs) are not balanced enough to drive performance.

- Arousal levels: the psychological stresses and strains that might be occurring as part of people's day to day activity, including their beliefs about their situation and understanding of their pain.

Exercises

- Whether the plank is a good or bad exercise depends on what the motivation is for prescribing it. If the situation requires all of the body components to maintain a fixed length, over time at a certain load, then plank is effectively good.

- Pilates tends to place more emphasis in in zone stacking.

- Achieving functional outcome should be the goal of every exercise prescription (i.e. perform activities of daily living).

- There are no bad exercises, only badly prescribed ones.

Functional assessment and movement therapy

- On people with low back pain

    - Observe how the patient walks. They often have dysfunctional gait. They tend to lurch from side to side on the frontal plane which gives them more load because there is no rotation happening through the body.

    - Know their history and pain pattern.

    - Introduce rotation and note if they feel pain. Address the current problem that the patient has.

Recommended movement therapies:
(38:35 – 50:43 in the broadcast)
Note: Try not to be prescriptive, let the patients find their own level

1. Thigh Slide
2. Bouncing and flapping while seated on a Swiss ball
3. Sternal search lights

"THIGH SLIDE"

Instructions: Keep your nose and eyes pointing forward. Place hands on thighs. Slide one hand forward and allow it to take that side of your shoulder while the other hand slides back and allow take the opposite shoulder so that it creates a turn in the body. Repeat the other way.

This exercise mobilises the glenohumeral joints and the scapula, in a way similar to walking. This exercise also disassociates the cervical spine from the thoracic spine. Recommended for whiplash patients without them realising that their neck is being mobilised.

"Sternal Search Lights"

Instructions: Let the patient imagine that there's a search light on their sternum, then "swish it about", maybe take it along the floor, wall, and up the ceiling. Get them to find the bits that felt stiff, etc. The objective is to make all the combination of movements happen not just in the joints but in the myofascial structures around them.

- The recommended exercises above, other than strengthen the postural/tonic muscles, actually activate them as they need to activate. Activation raises the level of strength to the required level.

- As clinicians progress exercise prescription for patients, they usually put them into angles that create more loading on the body. It is then expected that once proprioception is established, more loading is placed on those postural muscles as they go.

- Every fraction of a second that people hold a certain position too long increases their back pain risk.

- For many patients, the treatment is actually the breathing work.

- The diaphragm is a dual muscle with respiratory function and postural control function. It should work in a coordinated fashion with the rest of the inner unit- absolutely critical to what happens to postural control throughout the whole system.

- If the diaphragm is stuck in a postural role, people cannot breathe properly which will have a knock-on effect to the intra-abdominal pressure, which may turn into problems in the back or pelvic floor.

- Pressure management issues include various prolapses and hernias.

ELASTIC STRATEGIES

The diagonal elastic strategy is used for gait/walking and running – where the upper part of the body goes one way and the lower part of the body goes the other way. The elastic energy is then stored and released through the diagonals.

The spiral elastic strategy is best demonstrated by golf players (shown above) where they go around with their thorax -around with their pelvis, then just as they get to the terminal rotation, their pelvis starts to go the other way which sets up the necessary stretch.

The linear elastic strategy (shown above) works for individuals with a low back that can tolerate extensions (i.e. lumbar spine that extends).

Instructions: Put your fingertips just above your pubic bone. Take your other hand upward as the upper body bends backward (like ballet dancers do). Repeat, and try to feel where you bear the load when you lean backward (without loading excessively in the lumbar spine).

Level 1 greyhound exercise: Recommended for pelvic floor strengthening and a first go-to type of exercise for patients with shoulder trauma to re-establish the myofascial support. **(***1:26-34 – 1:32:35 in the broadcast recording*)

In this instance, it is assumed that any necessary work on the diaphragm has already been done.
The exercise gets its name from the pronounced ribcage visible in a greyhound.

	• Get the patients to lie on their back, knees bent. • Let them find their relaxed position – hips are naturally bent, pelvis in neutral. • If necessary, guide their hands to locate their sacrum, so that they can find neutral.
	• Ensure the neck is in neutal – no extension. • Raise their hand up to then overhead to horizontal, feeling a stretch on the ipsilateral abdomen.
	• The patient feels the stretch and locates an “anchor” at the point where the stretch extends to • The hand is then floated back up to vertical.
	• Facilitate the stretch as they float their hand back to horozontal. Instruct the patients to take their fingertips out as illustrated in the images to the left, and allow them to feel the lengthening at their side. Then instruct them to slide their fingertips to the floor downward to the direction of their head (the belly falls down toward the spine), then relax.

Other relevant notes …

- Most of the professional footballers with chronic groin problems could not drop their centre of gravity which is necessary in changing momentum because often they are asked to tolerate vastly, rapidly increasing loads. As their bodies learn to cope, they learn to compensate until they break down.

- A rising number of athletic women have hypertonic pelvic floors – i.e. urinary incontinence despite being continuously prescribed with pelvic floor strengthening exercises. Stress incontinence among athletic women is higher compared to sedentary women. In cases such as this, practitioners need to look whether these patients are managing their loads and the ways to change the pressure, which comes down to breathing strategies.

- The pelvic floor is akin to a trampoline i.e. stretchy. Start to learn how to breathe through that pelvic inlet, to actually feel stretch and release, then start to feel safe doing that.

- Post-partum mothers should start with wall press exercise rather than planking because it is a low-load exercise. It is highly proprioceptive (which is needed to start everything reconnected again). It allows the gravity to fall straight through their body, and as they come forward toward the wall, the gravity comes at angle to their body (i.e. need to grade up the amount of activity and grade it back down again as they come back to vertical position).

JEMS Courses

- Four-day course: 28-31 August in Sweden; and 7-10 November 2018 in London