

Broadcast Summary

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Functional Active Release With Robin Lansman

About Robin Lansman

- Practicing Osteopath since 1988 graduated from the British School of Osteopathy (now University College of Osteopathy) and is the Principal of Body Back-Up Osteopathy & Sports Injury Clinics in London and Maidenhead.
- Contributes regularly to National and Medical press, speaks on BBC Radio and lectures in the UK and Europe. Has been on hand to give practical help at several London Marathons.
- Led post-graduate workshops on Inter-professional communications on behalf of the General Osteopathic Council, as well as developed practice skills workshops on Biomechanical assessment for osteopaths and Functional Active Release technique.
- Appointed Senior Sports Clinic Tutor in 2003 at the University College of Osteopathy and remained in the role for nearly 10 years.
- Chaired the first iO Policy Committee in 2015 and led the Governance Review of 2016 as iO President.

Functional Active Release

• Functional active release aims to standardise some practices (for example, osteopaths may carry out patient examinations differently from each other so there may be differences in their inferences).

Sciatica

- The NICE guidelines for low back pain and sciatica are combined and are a starting point i.e. they give advice about what not to do. The challenge is finding protocols for what to do next as an osteopath.
- Tests for sciatica are often inconclusive. Osteopaths can spot multifactorial influences beyond those indicated in one test result.
- Not all low back pain patients have sciatica, and not all patients with sciatica have low back pain.
- There may be a component of piriformis in many patients with sciatica, but there may also be multiple components such as issues with the lumbar spine, hip girdle, and other muscle groups.
- Two main causes of sciatic pain: some form of prolapse or lesion within the spine (i.e. could be disc, bony pathology etc.); and, traction sciatica (i.e. where there is a tension point(s) somewhere between the low back and the foot that causes a pull on the sciatic nerve).
- Only 3 out of 300 (1%) of the people referred for sciatica or nerve problems have a prolapse that is attributable to a true sciatic nerve problem.

NICE recommendations	s for managing	low back pain with	or without sciatica
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Manual therapies	Do not offer traction				
	 Consider manual therapy only as part of a treatment package including exercise. 				
	Note:				
	 The NICE guidelines regarding lumbar pain/low back pain and sciatica only recommend manual therapy in conjunction with exercise but do not specify which particular exercise should be prescribed. 				
	 Treatment without remedial exercise to back it up, limits the scope of treatment. 				
	- The key is to prescribe exercises that are modified to suit the patients' needs (i.e. give 'modifiables' within the prescription).				
	- When exercises are prescribed by professionals who are not highly trained, patients may either overdo them or stop doing them because they generate pain (the way the exercises are explained is not thorough). The therapeutic value of the exercise is not maximised because patients fail to engage with the exercise optimally.				

Electrotherapies	 Do not offer transcutaneous electrical nerve stimulation (TENS).

Posture

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Sway Back	Lumbar Lordosis	Thoracic Kyphosis	Forward Head	Good Posture	Good posture is determined by various factors such as physical training (workout programme); footwear; type of muscular build; age; etc.
*Yoga teachers recommend that this should not be performed with any pain in the lumbars. The emphasis should be on a) extension through the thoracics; and b) upper paraspinal strengthening.			 This is the cobra pose. It compresses the lumbar spine heavily. Contraindicated for someone with any facet irritation. 		

DEMO

21:58 – 49:58 in the broadcast recording

Assessing patients with sciatica

• Look at the paravertebral and muscular components and how these overlay with the functional spinal component – try to neutralise some of these tensions and change the posturing in order to examine the spine more usefully.



Losing the lordosis

Patient: Feet slightly apart, bottom backward, lumbar spine lowered, arms extended forward at shoulder level, knees slightly and equally bent, lordosis flattened as much as possible – if there is a facet problem this will be highlighted.

Practitioner:

- Look at the lumbar curve whether or not there is a presentation that might include sciatica.
- The 'active release' is aimed to release sites of tethering throughout the lower extremity and improve general recruitment and function, with the aim that this will resolve sciatica as a byproduct.



Range of Motion (Side bending)

Patient: Maintain the position as above.

Practitioner:

- Look at the degree to which the patient can perform left/right side bending.
- Palpate and observe the curve. Look for a pure side bend with no rotation. Rotation is common in patients with stiffness, protraction issues, etc..
- Engage the patient's muscular component having the arms stretched forwards amplifies tension through the lats which interdigitate down towards the QL area.

The following were observed:

- All the tensions started to act as a unit, blocking the right side bending and causing some compression in the upper lumbar spine (i.e. the patient is right-handed).
- There was noticeable stress on the pelvis when the patient started to side bend right.



Range of Motion (pelvis rotation)

Patient: Maintain the position as above.

Practitioner:

- Observe how much hamstring tension there is relative to the quads as the patient performs forwards/backwards pelvic rotation.
- Observe the tightness of the quads and if there is a leading leg.

Note: Muscles fatigue faster when they are tight.

Patient's feedback on the instructions given:

• Initially, the instructions are quite hard – trying to work out what way to rotate and what to engage or relax.

Practitioner's feedback:

- When seeing people for a course of treatment, part of the intervention is to train them in body awareness. It is about turning verbal instructions into actions and allowing the body to feel it.
- Understanding instructions mentally does not automatically translate into function. People should get to know their body first.



Passive straight leg raise

This test goes back 150 years but its specificity is sometimes limited because of the number of structures involved from the foot up into the thoracic spine.

Practitioner:

- Gently lift the patient's leg while keeping it relaxed. Compare the two sides – notice sciatica or hamstring tightness. Feel the limit of tension.
- Try to increase the tension observe other pathologies i.e. dural tethering, etc.

Note:

• Eliminating the head cushion helps in assessing how kyphosed people are. A head cushion may be used if the patient is extremely kyphotic.

- In a severe case of a central prolapse of the disc or any other pathology, lifting the good leg can invoke sciatica on the opposite side.
- Sciatica is often going to be gluteal pain. It can also be other sensations down the back of the leg that move around including coldness, pins and needles etc. as far as the sole of the foot.
- A foot drop would mean extreme sciatic nerve damage.



Active straight leg raise

Practitioner:

- Instruct the patient to lift his leg the cord tightens then slowly bring it down. Note stronger abdominal engagement. Compare the two sides. Palpate and see the different levels between all joints and the sequential flow movement.
- When the leg that is being lifted is very tight, lifting in external rotation releases some of the tension in the hip girdle and so makes the movement easier.

Note:

- Tight hamstrings are very common they shorten from sitting and training. Because the quads are easier to train they can get over-tight from training i.e. running, cycling.
- One way to start getting more function into the leg (i.e. in case it could be sciatica overlaid or not in a milder case) is by doing the lift in activation (recruitment of quad muscles upwards) which gradually gives greater excursions to the hamstrings.
- The active straight leg raise becomes both an exercise and a diagnostic tool (focusing tool)

 if patients are unable to perform it as expected, clinicians can target areas for treatment, whether it is manipulation or functional active release.

On stretching:

- Sporty people tend to aggressively stretch which can cause sciatica or hamstring problems i.e. people who do martial arts can overstrain themselves in an attempt to get better.
- Stretching cold is detrimental stretching early into an exercise, or after a short amount of blood circulatory warm-up is better, and the most productive time is after exercise.
- Runners should integrate activation exercises or stretches into their training (e.g. break the run cycle by lying down and doing active straight leg raises)

• Overstretching can overstrain structures and ligaments that are supporting all parts of the pelvis and sacrum.





The elbows should be straight (not bent) to recruit more muscles in the crura of the diaphragm (i.e. L1-2 works differently and gets the whole lumbar spine working strongly).

Active leg raise - arms extended (palpating the lumbar spine)

- If the patient is kyphosed, lifting the arms higher while doing the active leg raise reduces the kyphosis in a recumbent position.
- Address stiffness of the upper body through expiration.

Patient: Use the diaphragm to push the upper lumbar spine down. Press down through the leg lift, exhale through the entire upward movement.



- Modify the test by putting the patient's arms closer together, note the breathing pattern as the leg is lifted.
- This renders a stronger muscle engagement.
- The information generated from this test does not rely on pain, but on function and palpation.



On Exercises:

- The concept is to make exercise at home to work better for patients by targeting the treatment appropriate for them make it more prescriptive by specifying the methodology and management approach rather than leaving it open for varied interpretation.
- People who are much stiffer or have pathologies in joints find it harder to recruit tight muscle groups so clinicians should think of alternative approaches.
- Exercises to recruit tight muscle groups are best performed on days when the patient is not training (e.g. while swimming or during other non-weight-bearing exercises).
- People should be doing functional exercises that replicate what they do in real life (e.g. a shoulder exercise that is connected with putting the kettle on). People tend to perform an exercise as they should if they can correlate their functional purpose with their daily activities.
- Weightbearing exercises are not prescribed for people with acute conditions. Non weightbearing prescription is about enabling people to feel positive that they can do something even though it may hurt, but does not make their condition worse.



The position above may be difficult for someone with pathology in the spine. This test can both become an examination and treatment at the same time.

As an exercise, this is helpful for those who have had hip replacement surgery and are left with a limited range of movement as it enables a useful hip excursion experience.

Side-lying knee raise

Patient: Lies on his side, head supported with cushion, elbows locked together (in prayer position); legs stacked on each other, bottom knee bent at 90 degrees.

Lift the top leg, ankle dorsiflexed. For someone with sciatica, bend the knee, lift and push the leg behind a little further. Bring it forwards while keeping the knee bent. Breathe out to bring the knee higher. Hold the position.

• Palpate the joints and musculature engagement in the back of the patient.



This is useful for hypermobile patients, sciatic patients, and patients with restricted movement.

Side-lying straight leg raise

- **Patient:** The same position as above but this time lift the top leg knee straight. Bring it forwards then push it backwards. Elbows should remain locked together to stop the upper body from rotating.
- Assess: a) if there is compression; and, b) how the quads and hamstrings are balanced/not balanced with the pelvis.
- **Note:** This straight leg movement is safe to do as long as it is not provoking sciatic symptoms.

DEMO (continuation)

1:05:03 – 1:14:57 in the broadcast recording



The more the thoracic spine is fixed, the more tension builds up in the lumbar spine.

Functional adductor release

Patient: Lies on his side, head supported with cushion, elbows locked together (in prayer position); legs stacked on each other, bottom knee bent at 90 degrees.

- Top leg extended and lifted as high as the patient can, ankle dorsiflexed. Instruct the patient to move the lifted leg forwards and backwards (breath out), while maintaining a straight knee.
- Palpate the tight lats, break down the muscle tension by fixing the rib heads – increase the rib function with breathing while holding onto the ribcage. It teaches different attributes to the upper lumbar spine and into the lats. Repeat on the other side and see the difference (i.e. how far the tension spreads and where to fix with the leg movement).

On adductors:

• Treating the adductors is painful (part of this can be hip dysfunction or groin issues).

• Improvements start to spread back up into the thoracic spine as the adductors are fixed.



A bit of instability in the foot gives a threedimensional aspect to the way the muscles are released. The best muscle activation is multiplanar. • The people who perform external rotation during squats can develop an imbalance between the external and internal hip rotators, the adductors, and gracilis.

To address the issue: Patient supine, the other knee bent (as shown in left photo); foot on the heel which destabilises the hip a bit; then apply cross-fibre soft tissue technique (key here is to locate the central trigger point) or fix onto the muscle belly (adductor magnus and gracilis) while the patient's foot is stirring in a circular motion (circumduction).

Note: The patient scored the level of discomfort at 6/10 while undergoing the treatment. If the score decreases (from 6 to 1), then a change is taking place as a result of the functional active release. The muscles are then easier to engage and the fatigue rate drops.

Other relevant notes:

- While GPs do well at excluding pathologies, this does not provide an outcome in terms of addressing musculoskeletal pain. Patients are left with nowhere to turn, which is not helpful for the population at large.
- With athletes, there are two measures to consider: performance and reduction in injury rate. The latter leads to better performance with appropriate advice and exercise. The correct combination of sports should be determined for athletes to get the best out of their bodies (e.g. A kyphosed cyclist who does bodybuilding/weight lifting will have tension buildup in his body over time).

Takeaways:

- Practitioners should broaden their examinations capitalise on respiration mechanics. Get patients to understand how their body is moving.
- Look at the patient medication i.e. duration and effectiveness. If a patient take a potent pill that gives 1 out of 10 in terms of benefits, there is potentially something else going on that needs investigation.
- Measure the quality of manipulation not by how much pressure is applied but how easily the joint mobilises. This is an easy way of finding out whether the problem is more myofascial than joint-related. If it is the latter, manipulate and then retest using myofascial techniques to see further benefits.

• Always see the scan and the report. There are a lot of findings that are erroneous and unrelated to the presentation.