Fascia in *Focus*

The Role of Fascia in Chronic Pain & Strategies for Use in Manual Therapy

A deep dive into fascial anatomy, chronic pain science, and the practical tools that transform patient outcomes.

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Workshop Agenda

5 hours | Theory + Practical | Evidence-based throughout

10:30-10:45	INTRO	Welcome, Housekeeping and Introductions	
10:45–12:30	THEORY	Fascial Anatomy & Physiology — The Essentials	
12:30-1:15	BREAK	Lunch	
1:15-2:30	THEORY	Fascia & Chronic Pain — The Clinical Connection	
2:30-3:15	PRACTICAL	Palpation & Assessment – Finding the Fascia	
3:15–4:15	PRACTICAL	Intervention Toolkit — Hands, IASTM, Rollers &Taping	
4:15–4:30	APPLIED	Home Care & Client Empowerment	
4:30-4:45	WRAP-UP	Integration, Q&A & Closing	

Massage & Myotherapy Australia Conference Geelong, 2026

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LEARNING OBJECTIVES

By the end of today, you will:

1. Understand the fundamentals of fascial anatomy and physiology
2. Identify how fascial dysfunction underlies chronic pain patterns
3. Recognise common patterns of fascial restriction in movement
4. Refine palpation to differentiate fascial strata effectively
5. Apply rollers, IASTM, taping, and manual techniques with confidence
6. Equip clients with evidence-informed, practical home care strategies

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SESSION 1

What IS Fascia?

"The organ of form and posture"

— Schleip, 2012

Evolving Definition

Current Understanding

All collagenous connective tissues — from superficial skin to organ capsules — that form a body-wide tensional network.

The recommendation of the Fascia Nomenclature Committee (FNS) of the Fascia Research Society:

- ***A fascia** is a sheath, or sheet, or any other dissectible aggregations of connective tissue that forms beneath the skin to attach, enclose and separate muscles and other internal organs.*
- ***The fascial system** consists of the three-dimensional continuum of soft, collagen containing, loose and dense fibrous connective tissues that permeate the body. It incorporates elements such as adipose tissue, adventitiae and neurovascular sheaths, **aponeuroses, deep and superficial fasciae, epineurium, joint capsules, ligaments, membranes, meninges, myofascial expansions, periostea, retinacula, septa, tendons, visceral fasciae, and all the intramuscular and intermuscular connective tissues including endo-/peri-/epimysium**. The fascial system surrounds, interweaves between, and interpenetrates all organs, muscles, bones, and nerve fibres, endowing the body with a functional structure, and providing an environment that enables all body systems to operate in an integrated manner.*

https://fasciaresearchsociety.org/

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SESSION 1

What IS Fascia?

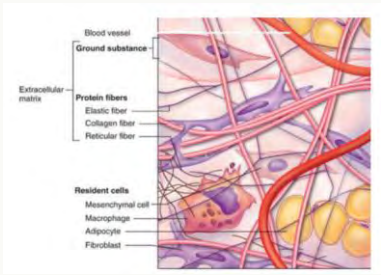
"The fascia gives one of, if not the, greatest problems to solve as to the part it takes in life and death. It belts each muscle, vein, nerve, and all the organs of the body. It is almost a network of nerves, cells and tubes running to and from it ... By its action we live and by its failure we shrink or swell and die".

- Andrew Taylor Still
Father of Osteopathy (1874)

Evolving Definition

The extracellular matrix (ECM)

A gel-like medium of collagen, elastin, hyaluronan, proteoglycans — the "ground substance" that surrounds every cell in the body.



Source: Kusindarta DL and Wihadmadyatami H (2018)

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The Fascial Layers

From skin to organ — a continuous, integrated system - *Restrictions at ANY layer can create dysfunction across all layers*

1	2	3	4
Superficial Fascia	Deep Fascia	Epimysium	Visceral Fascia
Immediately below dermis	Envelops muscles & compartments	Wraps individual muscles	Organ membranes & meninges
Contains adipose tissue, neurovascular bundles. Acts as a gliding layer and thermal insulator. Rich in mechanoreceptors.	Dense fibrous tissue investing muscles, forming compartments and sheaths. Transmits forces between structures.	Continuous with tendons and periosteum. Force transmission and proprioceptive signalling at this level.	Peritoneum, pleura, pericardium, dura mater. Often overlooked but implicated in chronic abdominal and pelvic pain.

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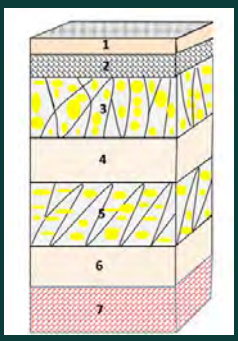
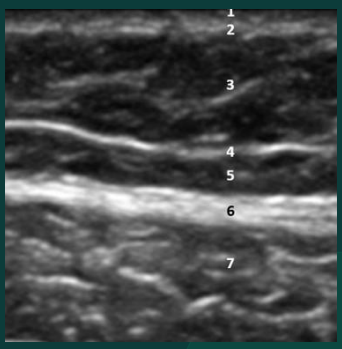
Visualising Fascia



1. epidermis
2. dermis
3. superficial adipose tissue and retinacula cutis superficialis
4. superficial fascia
5. deep adipose tissue and retinacula cutis profunda
6. deep fascia*
7. Muscle



Source: Pirri C, et al. 2020

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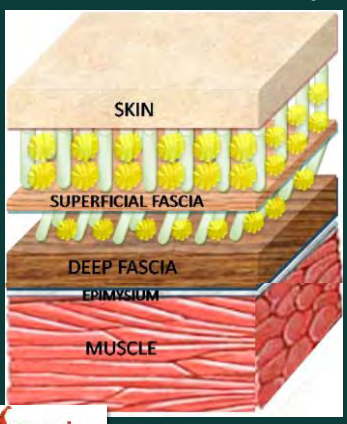
The Superficial Fascia



- arrangement and thickness vary according to body region, body surface, and gender
- membranous tissue, dividing it into superficial (SAT) and deep adipose tissue (DAT)
- retinacula connect the membranous layer (superficial fascia) to the skin and to the deep fascia, forming a three-dimensional network between the fat lobules.

Source: Stecco et al, 2011

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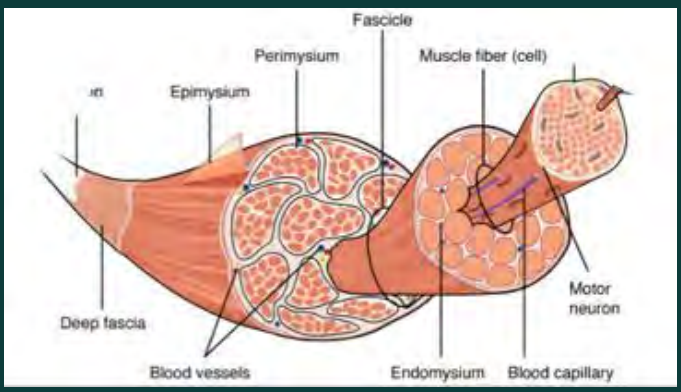
The Intramuscular (Deep) Connective Tissue



Source: Tami Apland, LMT

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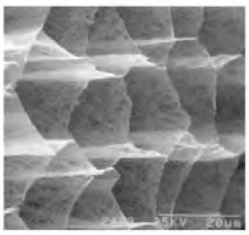
The Intramuscular Connective Tissue

Epimysium

Perimysium



Endomysium

Source: Anatomy Trains ®

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Myofascial Organisation

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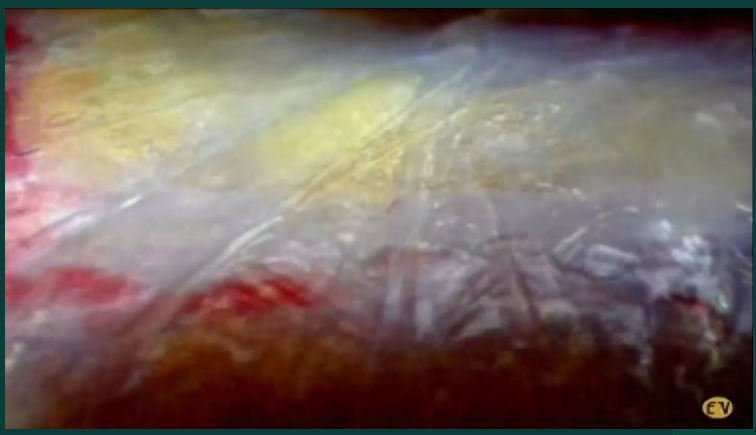

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What IS Fascia?

" The whole is pre-stressed into a state of balanced tension."

- Stephen Levin

Evolving Definition

Biotensegrity

Fascia transmits force across the entire body through continuous tensional networks, not isolated muscle-bone units.

Biotensegrity Rewrites the Rules

Pre-stress & Resting Tone

The fascial web is always under tension — even at rest. This baseline pre-stress provides immediate stiffness without muscular activation, enabling rapid force response.

Omnidirectional Load Sharing

No single tissue bears isolated load. Tensional forces distribute simultaneously across the entire network, dramatically reducing peak stress on any one structure.

Non-linear Stiffness

Fascia stiffens progressively under load (strain-stiffening), offering compliance at low loads and protective rigidity at high loads — a biomechanically ideal behaviour.

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SESSION 1

What IS Fascia?

"Fascia is a proper organ system with unique macroscopic and microscopic properties, functions, and pathologies".

- Carla Stecco
Functional Atlas of the Human Fascial System (2015)

Clinical Implications

- **Pain Referral:**
  Injury at one node alters tension everywhere — explaining referred pain patterns that defy dermatomal maps.
- **Scar Tissue:**
  Fascial adhesions distort global tension, causing remote dysfunction far from the lesion site.
- **Manual Therapy:**
  Techniques like myofascial release exploit the continuous web — local touch creates systemic tensional change.
- **Movement Efficiency:**
  Optimal biotensegrity posture minimises muscular energy cost by harnessing elastic pre-stress storage.

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Why is fascia important?

- Force transmission
- Elastic recoil
- Proprioception
- Sliding and gliding
- Wound-healing
- Inflammation
- Pain
- Inflammation
- Autonomic conditions
- Wound healing
- Immune function
- Lymphatic function
- Thermoregulation
- Protection of nerve, vascular structures and joints
- Interoception
- Exteroception

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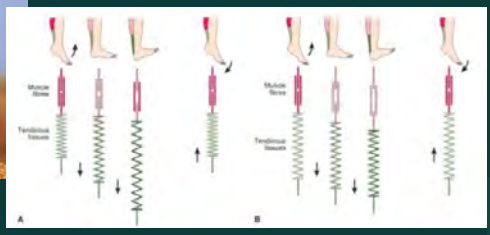
Force Transmission & Elastic Recoil



Source: Kawakami et al, 2002

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Fascial Continuity

Source: Antonio Stecco

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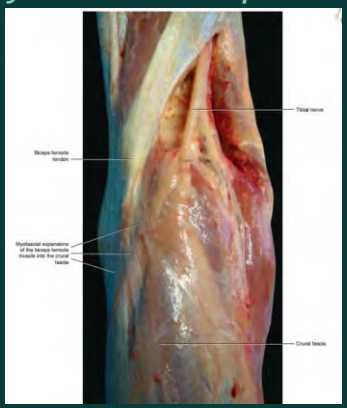
Myofascial Expansions



Source: Reproduced with the kind Permission of Carla Stecco

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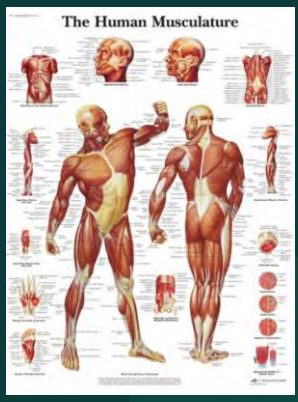
SPOILER ALERT
Paradigm-Shift Incoming!

Challenge yourself.....

Is the the entire muscular system just one large structure, like a "body stocking", with 600+ compartments?

Fascia is the connective tissue that folds and wraps around structures, creating these distinct, yet interconnected, areas.

Movement and issues in one part of the body affect others because of this continuous fascial net



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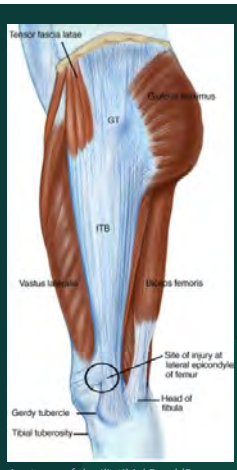
Fascial Continuity

Myofascial expansions contradict classical anatomy

Traditional: force transmission considered only as longitudinal vectors
from tendon to tendon, from origin to insertion of the muscle.
Stecco, 2015

Fascial Lens: 70% of force transmission is directed in series through tendons

30% of force is transmitted through the CT in parallel, as non-spanning fibres
that NEVER REACH THE TENDON (Stecco, 2015)



Source: Anatomy of the Iliotibial Band (Represented with the permission, adopted http://www.tihcij.com/Articles/Etiology-of-ITB-Syndrome)

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Fascial Continuity

"Muscle chains" – Truths and Myths *(Wilke, 2016)*

Reframing anatomical paradigms:

OUT: "quadriceps" and "hamstrings"

IN: components in a continuous functional chain

DEMONSTRATION

Source: Anatomy Trains ®

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Fascia as the Medium of Force Transmission

Continuity of collagen fibers forms a myofascial network

Epimysium → Perimysium → Deep fascia → Aponeuroses → Tendons/Myofascial expansions

Muscle contraction → force transmitted laterally and longitudinally to adjacent muscles and tissues because muscles are enveloped and interconnected by fascia

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Fascia : Our Richest Sensory Organ

The Facts

- houses over 250 million nerve endings *(Schleip et al. 2014)*
- sensory neurons outnumbering motor neurons 9:1 in some regions *(Gesslbauer et al. 2017)*
- 25% more nerve endings than skin *(Schleip & Stecco, 2015)*
- 1,000% more than the collective innervation of muscle, so fascia could very well be considered our richest sensory organ *(Schleip et al. 2014)*

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The Properties of Fascia

Viscoelasticity (Oobleck)

Plasticity

Thixotropy (Temperature changes)

Stress Relaxation (Jelly snakes)

Auxetic Behaviour

Stress-strain (implications: rep. load)

Fibroblasts → Myofibroblasts

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What Influences Our Fascia?

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What Influences Our Fascia?

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What Influences Our Fascia

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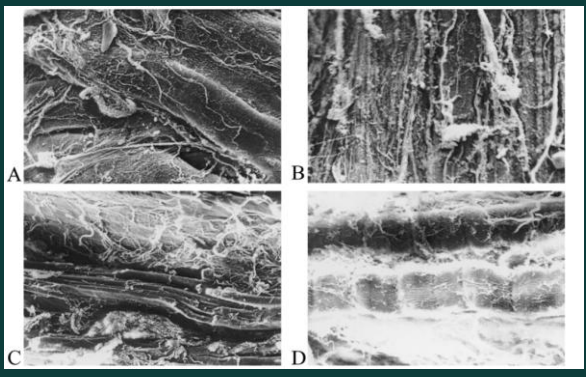
Fascia and Immobility



Source: Järvinen et al, 2002

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Fascia and Stress

- Mood and sympathetic upregulation
- Effects on movement capability
- Mental state affects our physical state
- Sleep disturbances
- Implications for assessment & treatment
- Inflammation

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Clinical Implications of Fascial Continuity

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Fascia & Chronic Pain

The clinical connection

Peripheral Sensitisation

Injured/densified fascia releases inflammatory mediators (bradykinin, substance P), lowering nociceptor thresholds and generating ongoing pain signals.

Hyaluronan Densification

When fascia loses hydration and gliding capacity, hyaluronan polymerises — creating stiffness, restriction, and pain with movement. Reversible with appropriate treatment.

Myofascial Force Transmission

Pain remote from the lesion site. Myofascial chains explain why a hip restriction can manifest as shoulder or neck pain. Scar tissue deserves special mention here.....

Central Sensitisation

Chronic fascial nociception upregulates dorsal horn neurons — widening the pain field and lowering the threshold. Treating fascia locally can reduce central load.

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Hyaluronan...
Beauty is the least of the story!

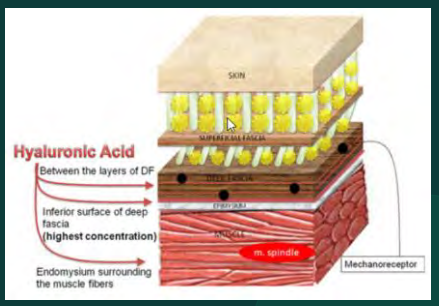
The most abundant ECM glycosaminoglycan (GAG)

While claims it can hold over 1000x its weight in water have been questioned (Borchers, 2023), it is still a powerful humectant

Major role in tissue lubrication, hydration, and viscoelasticity, inflammation

Influenced by diet, exercise, over/under-use

Capacity to super-aggregate = role in Chronic Pain



Source: Stecco C, 2011

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Densification versus Fibrosis

Densification:

- the alteration of the loose connective tissue between the fibrous layers of fascia
- a reversible condition caused by factors like diet, exercise, or overuse syndromes
- viscosity of the loose connective tissue increases, often due to hyaluronic acid aggregation, impeding sliding between layers
- doesn't permanently alter the fibrous structure
- reversible with manual therapies and other treatments, especially before fibrosis sets in

Fibrosis:

- pathological process where the fibrous layers of the fascia are altered
- Trauma, surgery, diabetes, aging, or chronic inflammation
- excessive and disorganized deposition of collagen, creating thick, stiff, and less adaptable tissue that replaces normal structures
- difficult to modify manually

Pavan et al, 2014; Stecco et al, 2022

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Palpation & Assessment

Finding the fascia — practical session

01 Skin Drag Test

Assess superficial fascial glide by dragging fingertips across the skin surface. Restriction = reduced elasticity and early resistance.

02 Fascial Recoil

Apply gentle sustained compression then release. Healthy fascia recoils evenly. Densified areas show sluggish, uneven response.

03 Layer Differentiation

Progressive sinking through skin → adipose → superficial fascia → deep fascia → muscle. Notice where resistance changes.

04 Listening & Unwinding

Hands-off — allow the tissue to guide movement. Indirect fascial technique to locate densification without imposing direction.

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The Intervention Toolkit

Foam Rolling

Self-myofascial release

Compressive load + glide stimulates mechanoreceptors, reduces hyaluronan polymerisation, increases tissue hydration.

Key practice:

- 60–90 sec per region
- Slow, deliberate strokes
- Pause at restriction points

Not a replacement for manual therapy — best as prep or HEP.

IASTM

Instrument-assisted soft tissue mobilisation

Tools amplify therapist's sense of tissue. Proposed mechanisms: micro-trauma → fibroblast recruitment, fascial remodelling.

Key practice:

- 45–75° tool angle
- Lubrication essential
- Work with lymphatic drainage direction

Evidence is promising but limited. Technique and clinical reasoning matter more than the tool brand.

Kinesiology Taping

Decompression & sensory input

Lifting effect on superficial fascia creates decompression, alters nociceptive input, improves lymphatic flow.

Key practice:

- Decompression lift technique
- Fascial correction technique
- Neurological facilitation

Effect may be primarily neurological. Tape doesn't 'fix' fascia — it changes sensory input.

Manual Therapy

Hands-on fascial release

Sustained load → thixotropic response (gel → sol phase shift). Neurological input via Ruffini, Golgi, and interstitial receptors.

Key practice:

- Indirect (tissue ease)
- Direct (tissue barrier)
- Fascial unwinding

Intensity matters less than specificity. Slow, listening hands often outperform vigorous technique.

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The Benefits of Soft Tissue Therapies

- Improves warming-up
- Increases local blood flow
- Facilitates lymphatic drainage
- Accelerates tissue healing
- Improves flexibility/range of motion
- Effects DOMS
- Reduces pain
- Promoting parasympathetic upregulation

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Contraindications

- Open wounds
- Unhealed fractures
- Thrombophlebitis
- Osteomyelitis
- Uncontrolled hypertension
- Haematomas
- Areas of active cancer
- Anticoagulant medication
- Varicose veins
- Kidney dysfunction
- Inflammatory/arthritic conditions

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Myth-Busting: What the Research Says

Evidence-based practice means being honest about what we don't know

MYTH	*"Fascia can be permanently stretched or broken down"* Fascia responds to load but its plastic deformation is minimal. Neurological changes likely explain much of the immediate treatment response.
MYTH	*"Foam rolling releases fascial adhesions"* The pressure required to deform deep fascia far exceeds what a roller can achieve. Neurological and hydrodynamic mechanisms are more plausible.
PARTIAL	*"Fascia has contractile capacity"* Myofibroblasts can generate slow contractile forces (Schleip 2005). This is real but much slower than muscle — minutes to hours, not seconds.
SUPPORTED	*"Fascia is important in chronic pain"* Strong evidence supports fascia's role in peripheral sensitisation, particularly thoracolumbar fascia in CLBP (Langevin 2011, 2022).

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Client Empowerment & Home Care

The missing link in fascial treatment — compliance.

Sample HEP Card

- Morning: 2 min thoracic roller (foam)
- Work break: Calf rolling 60 sec each
- Evening: Hip flexor sustained release
- Throughout day: 8 glasses water
- 3× per week: 10 min movement flow

1. **Teach the 'why'**
   A client who understands their tissue will do their exercises. Use simple analogies — 'like a sponge that needs squeezing and re-hydrating'.
2. **Start with 5 minutes**
   Compliance plummets above 10 minutes. Design protocols that are achievable — clients will expand them once they feel results.
3. **Movement variability**
   Fascia needs multi-directional load. Encourage varied movement, not just stretching. Walking, swimming, yoga all contribute.
4. **Hydration matters**
   Ground substance viscosity responds to hydration. 2–3 litres daily directly affects fascial gliding capacity.

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Key Takeaways

- ✓ Fascia is a continuous, body-wide tensional network — not isolated wrapping
- ✓ Peripheral sensitisation of fascia is a legitimate mechanism in chronic pain
- ✓ Hyaluronan densification is reversible — movement and treatment restore glide
- ✓ No single tool is superior — the combination and clinical reasoning matter
- ✓ Home care compliance is the amplifier of all in-clinic work
- ✓ Stay sceptical, stay curious — the research is still evolving

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Please Keep in Touch!

Australian Fascianista Collective

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With Undying Grati6ude to:

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Thank You For Your Kind Attention!

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