

*ROUNDNET COACHING DEVELOPMENT
FOR EDUCATION AND INCLUSION*



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Prepare the tendon. Train the brake. Protect the player.

An evidence-informed, competition-ready framework

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Who We Are — Kineto Medical

Medical rehabilitation, sports performance, and objective functional assessment

OBJECTIVE ASSESSMENT

Functional testing to establish an individual performance profile and monitor meaningful changes over time.

ACTIVE REHABILITATION

Progressive, task-oriented rehabilitation focused on restoring and developing the capacities required for daily life and sport.

INDIVIDUALISED PERFORMANCE

Programmes tailored to the athlete's clinical presentation, physical demands, training history, and performance goals.

Our aim: safer return to activity, stronger capacity, and sustainable performance.

Roundnet is small-court chaos with full-body consequences

360°

movement

ASYMMETRIC

reaching • rotation • diving

BRAKE

decelerate, land, re-accelerate

The prevention target is not “perfect posture.”

It is enough capacity, coordination and recovery for the next unpredictable ball.



Roundnet: Sport-Specific Demands

Acyclic • asymmetric exposure • reactive • multidirectional • highly coordinative



Roundnet requires repeated transitions between force production, force absorption, and rapid motor adaptation.

What Do We Know About Roundnet Injuries?

The first sport-specific epidemiological data provide a useful starting point

86.1%

reported ≥1 roundnet-related injury

47%

of reported injuries were overuse-related

20.4%

occurred during landing after diving

166 players

cross-sectional sample in Paul et al. (2024)

MOST FREQUENTLY AFFECTED REGIONS

Shoulder



20%

Ankle



18%

Knee



14%

Elbow



14%

Important

20.4% refers to the proportion of injuries linked to landing after diving — not “1 in 5 players injured by one wrong movement.”

Upper body

rotator cuff • long-head biceps • common wrist extensors

Lower body

Achilles • patellar • peroneal tendons

Paul et al. (2024), BMJ Open Sport & Exercise Medicine, 10(1), e001761.

Tendons and Tendinopathy

Adaptation is driven by appropriate mechanical loading — not by one “magic” contraction mode

WHAT TENDONS NEED

Progressive mechanical loading

Adequate loading magnitude

Sufficient recovery

Progression toward fast stretch–shortening cycle demands

WHAT EVIDENCE DOES NOT SUPPORT

“Eccentric is always best”

“One protocol fits every tendon”

“Cold tendons are brittle”

“Pain always equals tissue damage”

ROUNDNET AREAS OF INTEREST

Achilles tendon

Patellar tendon

Shoulder musculotendinous structures

Elbow musculotendinous structures

Load progressively → build capacity → expose to sport-specific speed and energy-storage demands.

Lazarczuk et al. (2022); Challoumas et al. (2023).

Warm tendons in layers—not by stretching harder

0–3 min

HEAT

jog • skip • lateral shuffle

3–6 min

MOBILIZE

ankle rocks • thoracic rotation

6–9 min

PRIME

calf / split-squat isometrics
scapular + wrist activation

9–12 min

ELASTIC

pogos • deceleration • submax
serves

Finish fast enough to be ready—never tired enough to need recovery from the warm-up.

Use symptoms as data—not as a verdict

GREEN

Pain 0–2/10
normal mechanics
back to baseline next day

Proceed / progress

AMBER

Pain 3–5/10
quality changes
next-day response
uncertain

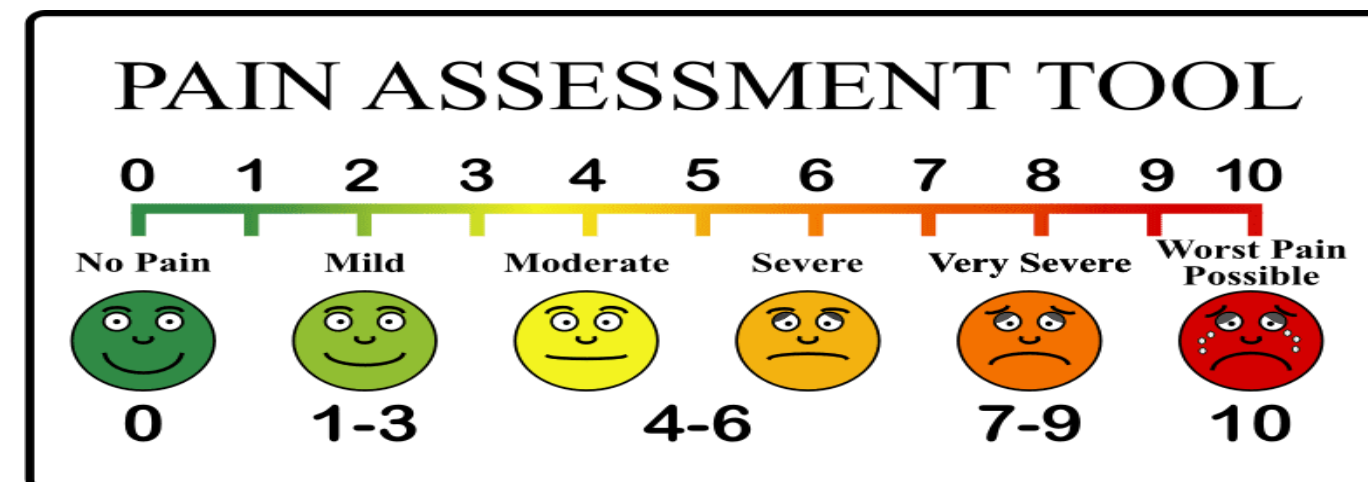
Hold / modify / reassess

RED

Sharp or escalating pain
swelling / instability
loss of function

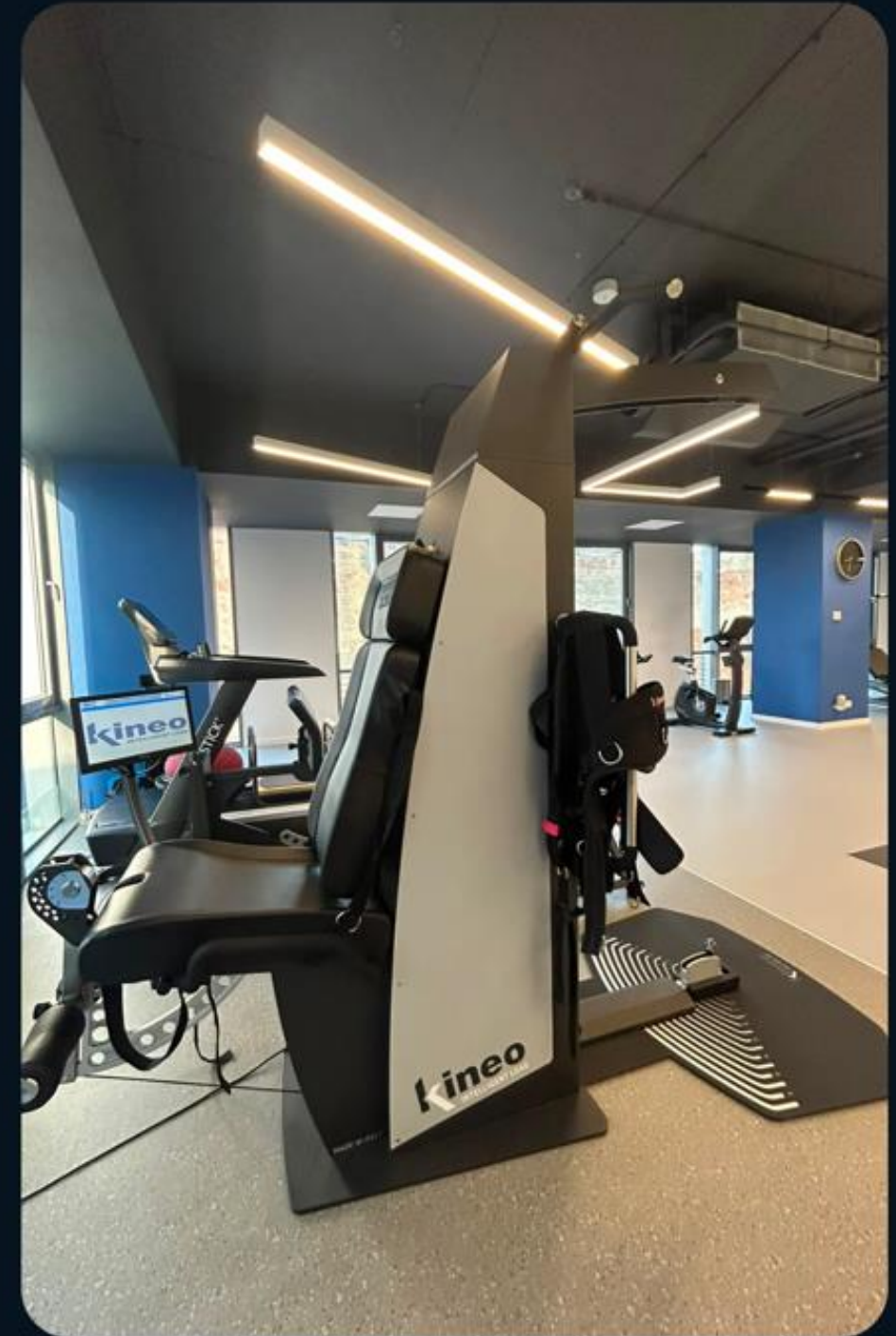
Stop and assess

The next morning is part of today's dose.



Pain is an alarm. Capacity is the conversation.

- A tendon responds to load—not to fear, rest alone or magic gadgets.
- Symptoms, structure and function do not always move together.
- The goal is progressive tolerance to force, speed and energy storage.



Injury Prevention in Modern Sport

From isolated “corrections” to a multifactorial capacity-building process

INJURY PREVENTION IS A CONTINUOUS PROCESS

1 Reduce the likelihood and severity of injury

through appropriate preparation and exposure.

2 Increase the athlete’s capacity

to tolerate sport-specific demands.

3 Manage training and competition load

in relation to recovery and individual history.

4 Monitor, adapt, reassess

rather than rely on one-off screening findings.

MODERN MODEL

PROGRESSIVE
LOADING

PHYSICAL
CAPACITIES

RECOVERY

INDIVIDUAL
HISTORY

Not: “find one fault → correct it → prevent injury”



Injury Prevention Is a Shared Process

Each professional contributes a different layer of expertise

PHYSIOTHERAPIST

Develops, restores, and monitors functional capacity.

Manages symptoms, rehabilitation progression, graded exposure, and return-to-sport criteria.

STRENGTH & CONDITIONING COACH

Develops strength, power, speed, endurance, deceleration, and other physical qualities required for performance.

SPORT COACH

Integrates physical capacities into the technical, tactical, perceptual, and contextual demands of the game.

COMMUNICATION + SHARED DECISION-MAKING + ATHLETE ADHERENCE

Screen what changes decisions—then monitor the trend

- History + current load + next-day response
- Single-leg calf and knee-extensor capacity
- Deceleration quality and repeatability
- Shoulder rotation / cuff and scapular capacity
- Left-right data interpreted in context—not worshipped



Symmetry is a clue, not a clearance certificate.

Technology as a Measurement Tool

Technology supports decision-making — it does not replace clinical reasoning

DESMOTEC / ISOINERTIAL

Quantify selected force-, power-, and velocity-related parameters during standardised tasks.

Useful for concentric/eccentric profiling and longitudinal monitoring.

KINEO / DYNAMOMETRY

Standardise strength assessment across selected contraction modes and tasks.

Useful for between-limb comparison and repeated testing over time.

VISUAL BIOFEEDBACK

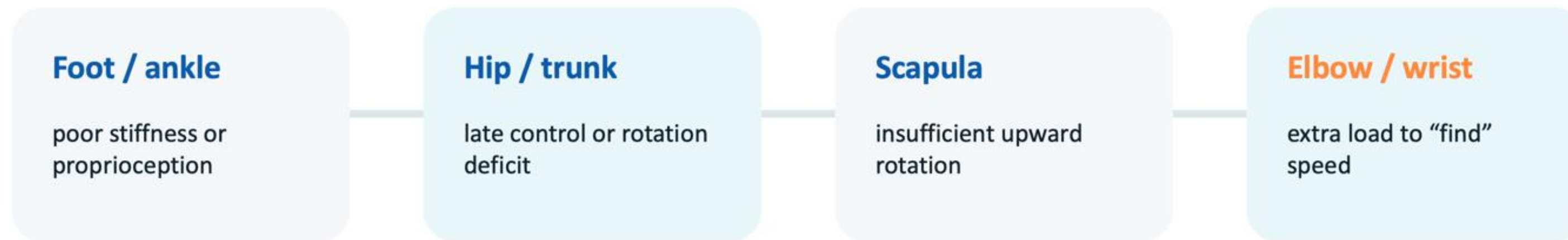
Provide real-time information about movement execution or performance.

Can facilitate motor learning and help athletes modify task-specific movement strategies.

Measure what matters → standardise the task → interpret in context → retest.

Biofeedback evidence: Hribnik et al. (2022). Isoinertial training example: Patra et al. (2025).

Compensation travels through the kinetic chain



Compensation is not failure—it is the nervous system buying time.

The bill arrives when repeated load exceeds the capacity of the substitute.

Neuroplastic periodization retrains tissue and system

1

Settle & engage

symptom-guided load
long isometrics when
useful

2

Build strength

heavy slow resistance
progressive range

3

Store & release

faster loading
plyometrics

4

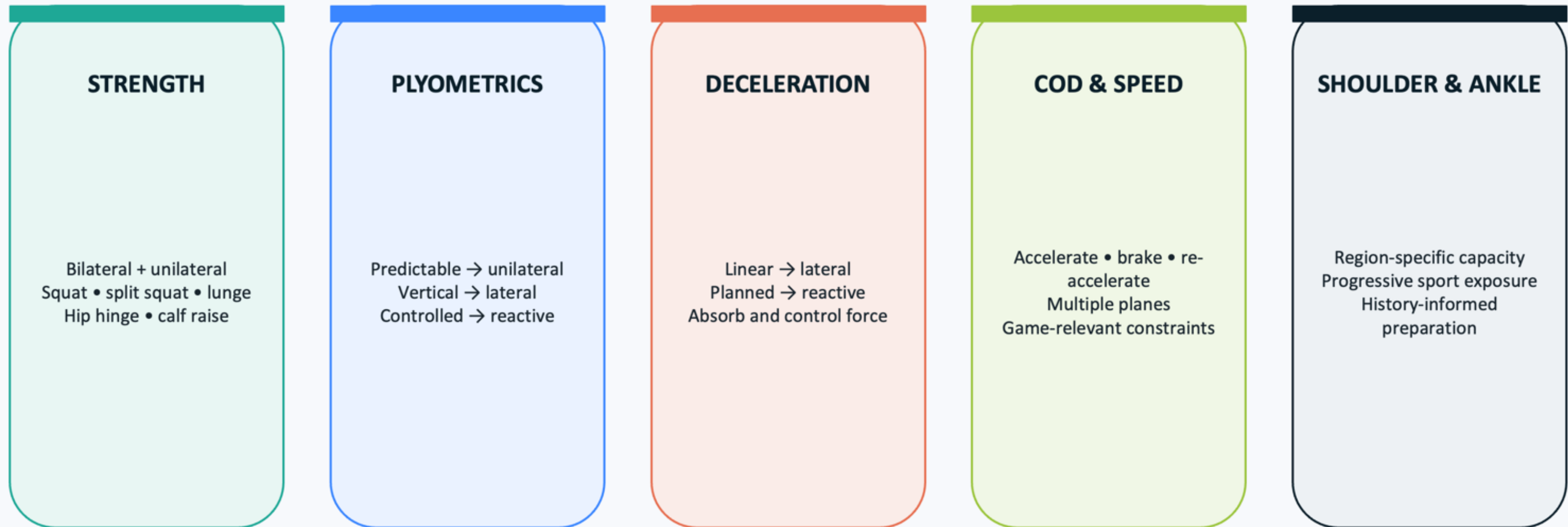
Make it roundnet

external pacing
reactive 360° decisions

Important: this is a promising framework—not a fully tested protocol.

Preventive Training: Integrate It Into Performance

The best prevention programme looks like good physical preparation



Core principle: expose athletes progressively to the same forces, speeds, and decisions they must manage in competition.

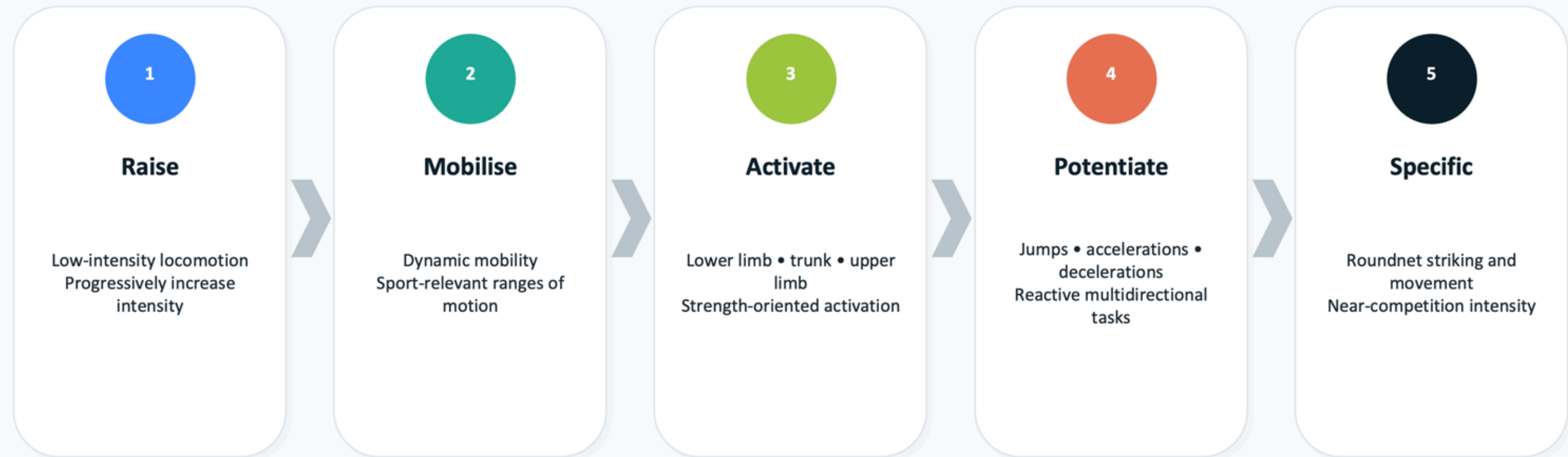
Bathe et al. (2023); Liddle et al. (2024).



Warm-Up: Prepare the System for Competition

Progress from general preparation to near-competition intensity

10–15 MINUTES



Dynamic exercise, including running and plyometrics, can acutely alter tendon blood flow and mechanical properties.

Pieters et al. (2022), Journal of Strength and Conditioning Research.

Lower body: build the brake before the bounce

- | | | | |
|----------|-----------------------------|-----------------------|---------------------------------|
| 1 | Calf isometric | 2 × 30–45 s | mid-range; straight + bent knee |
| 2 | Split-squat hold | 2 × 20–30 s | knee tracks over foot |
| 3 | Snap-down to stick | 2 × 4 reps | quiet landing; own the brake |
| 4 | Pogos → lateral hops | 2 × 10 → 2 × 5 | progress speed, not chaos |

Upper body: earn speed through the scapula, cuff and forearm

Scapular push-up +	2 × 8	serratus / trunk integration
Band external rotation	2 × 10	controlled, not maximal
90/90 rhythmic stability	2 × 15–20 s	perturbation + breathing
Wrist extensor isometric	2 × 30 s	neutral wrist
Serve ramp	6–10 contacts	50% → 70% → 90%

If the first maximal serve is your warm-up, your tendon is filing a complaint.

Two strength exposures. Repeated landing skill. Smart serving volume.

2× / week

HEAVY

calf + knee extensor
row / cuff + wrist
3–4 sets

1–2× / week

FAST

hop / land / cut
medicine-ball or band strike
low volume, high quality

EVERY SESSION

READY

10–12 min progressive warm-up
serve ramp
next-day check

Progress one variable at a time: load, speed, volume—or complexity.

Before match one: prepare the system, not a sweat test

-30 to -18	Raise	easy run, skips, lateral movement
-18 to -10	Activate	calf, split squat, cuff, wrist
-10 to -4	Potentiate	accelerate, brake, hop, rotate
-4 to 0	Rehearse	progressive serves + 2–3 reactive rallies

Hydrate. Know the schedule. Keep your warm layer on.

Between matches: recovery depends on the clock

<15 min

STAY READY

walk 2–3 min
small sips
keep warm
2–3 fast rehearsals

15–45 min

RESET + RE-PRIME

fluids + familiar carbs
light mobility
5–8 min progressive re-warm

>45 min

RECOVER, THEN REBUILD

eat and drink
dry clothing
brief rest
repeat full ramp-up

Avoid the tournament classic: sit for 40 minutes, then serve at 100%.



Stretching: Match the Method to the Goal

Use stretching strategically rather than as a universal “injury-prevention” intervention

BEFORE TRAINING / COMPETITION

Prioritise dynamic and active mobility.

Controlled ballistic stretching may be used in technically familiar athletes when it matches the sport demands.

Brief static stretching can be integrated when needed, provided it is followed by dynamic activity.

AFTER TRAINING

Static stretching may be used when the goal is flexibility or subjective relaxation.

It should not be presented as essential for tissue repair or as a proven strategy to prevent post-exercise injury.

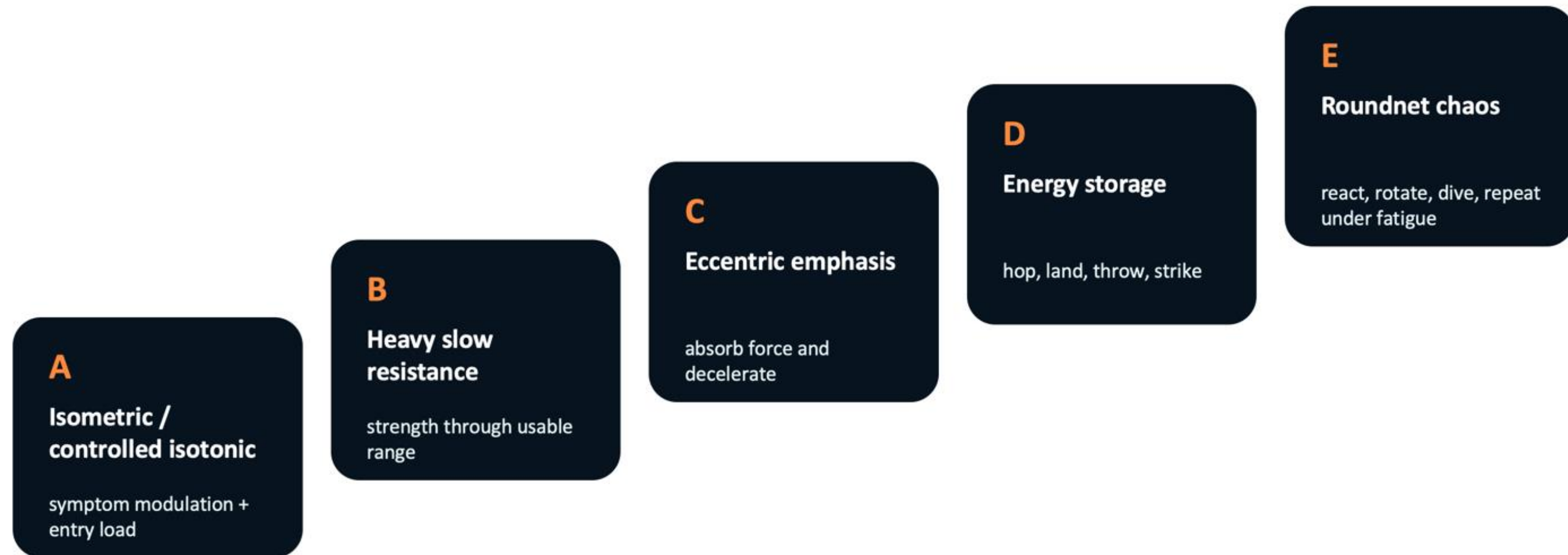
DEDICATED FLEXIBILITY

Use separate flexibility work when a genuine range-of-motion goal exists.

Dose stretching according to the individual athlete and the specific joint or task requirements.

The warm-up should finish with actions that look and feel increasingly like the sport itself.

Rehabilitation is a staircase: force → speed → chaos





Seven Priorities for Roundnet Injury Prevention

A practical summary for training and competition

1

Strength & musculotendinous capacity

Use progressive resistance training; eccentric and isometric loading are tools, not universal rules.

2

Acceleration, deceleration & landing

Train force production and force absorption in multiple planes.

3

Joint-specific preparation

Develop shoulder, ankle, knee and other capacities according to individual demands.

4

Progressive warm-up

Move from low-intensity preparation toward near-competition actions.

5

Load & recovery monitoring

Track exposure, symptoms, recovery and individual response.

6

Objective assessment

Use testing to guide training and rehabilitation — not deterministic injury prediction.

7

Adherence

A prevention programme only works when athletes actually perform it consistently.

Adherence evidence: Viiala et al. (2026), Injury Prevention.

Five rules players can remember under pressure

- 1** Warm up from general → specific → fast.
- 2** Strengthen the brake, not only the accelerator.
- 3** Load tendons consistently; spikes are the enemy.
- 4** Re-prime after long breaks.
- 5** Track the next-day response and adjust early.

THE TAKE-HOME

**Do not make the athlete less explosive.
Make the tendon ready for the explosion.**

Capacity + coordination + recovery

That is prevention you can train, measure and repeat.

CONCLUSION

Build the athlete — not a “perfect” movement.

For Kineto Medical, assessment and intervention are not about finding a single optimal position or accurately predicting the next injury.

The goal is to develop an athlete who is:

STRONGER

MORE RESILIENT

MORE ADAPTABLE

BETTER PREPARED

KINETO MEDICAL

PREVENTION

+

PERFORMANCE

Increasing physical capacity can
simultaneously support injury-risk reduction
and performance optimisation.

LOAD ↔ CAPACITY



**DO YOU HAVE
ANY
QUESTIONS?**

contact@kinetomedical.ro