

Tennis Coach Playbook

Category: **court** | A research-use reference for coaches, performance staff and athletes.

WHY IT MATTERS

Tennis is the most travel-punishing individual sport on the planet. Recovery efficiency is ranking equity.

PHYSIOLOGICAL DEMANDS & COMMON INJURIES

Demands

- 11-month season with travel
- Repetitive overhead loading (serve, smash)
- Lateral change of direction
- 5-set matches above 4 hours

Common injuries

- Lateral and medial epicondylitis (tennis elbow)
- Shoulder impingement
- Wrist (TFCC, ECU) injuries
- Lower abdominal + hip flexor strains

KEY TRAINING PHASES & PERIODIZATION

Off-season (Nov–Dec) — structural. Hard-court swing — recovery focus. Clay — mitochondrial focus. Grass — speed retention.

Phase	Primary Focus	Recovery Emphasis
Off-season	Structural strength, capacity build, address asymmetries	High — connective tissue, sleep extension, full nutrition
Pre-season	Sport-specific load, intensity ramp, skill integration	Moderate — soft tissue work, neuromuscular readiness
In-season	Performance maintenance, fixture/match recovery	Variable — turnaround-driven; protect tendons & CNS
Peak / Championship	Power, freshness, mental load management	Restorative — sleep, HRV, soft tissue priority
Post-season	De-load, structural repair, full medical screen	Very high — connective tissue, body comp, sleep reset

COACH FOCUS

- Serve count load management
- Travel recovery + time zone adaptation
- ITF + ATP / WTA anti-doping coordination
- Mental load and HRV monitoring

ATHLETE FOCUS

- Elbow and wrist tendinopathy recovery research
- Sleep and travel recovery research
- Cognitive resilience research (Selank)
- Mitochondrial efficiency for 5-set matches

RECOVERY RESEARCH MODEL

Tendinopathy and ligament recovery research models (BPC-157, TB-500) dominate the upper-limb literature. Cognitive peptides (Selank) appear in anxiolytic research.

FIVE FOUNDATIONS OF A RECOVERY PROGRAM

Load monitoring as the first peptide protocol

Before considering any research compound, coaches should monitor load. GPS, jump counts, throw counts, RPE and HRV catch breakdowns earlier than any biomarker. The cheapest, safest recovery tool is reading the data you already have.

Sleep is the highest-leverage intervention

Endogenous GH secretion peaks during slow-wave sleep. Athletes sleeping <7 hours show measurable drops in tendon stiffness, reaction time and injury resistance. Optimize sleep before optimizing anything else.

Nutrition is structural

Protein at 1.6–2.2 g/kg/day, calories matched to load, and 30–60g carbs intra-session for >90 min efforts. Hydration: 6–8 mL/kg pre-event and 1.5x sweat losses post-event. Peptides build nothing without inputs.

Drug-testing literacy is non-negotiable

Most peptides researched for recovery are WADA-prohibited (S0 or S2). Coaches must know exactly which leagues test for what, and brief athletes accordingly. Research-use-only compounds are not for in-vivo athlete use without medical clearance and governing-body approval.

Periodize recovery, not just training

Map a recovery calendar against your training calendar. Tendon and ligament integrity windows differ from CNS recovery windows. The best programs schedule recovery blocks as deliberately as training blocks.

MOST-RESEARCHED COMPOUNDS FOR THIS SPORT

The peptides most frequently cited in this sport's recovery and performance research literature. All entries are research-use only. Anti-doping notices apply.

BPC-157 · recovery

Pentadecapeptide derived from a gastric protein, studied for soft-tissue repair.

Researched in tendon, ligament, gut and muscle repair models. Common in protocols studied for Tommy John–type elbow injury, hamstring strain and Achilles tendinopathy.

Research signals:

- Animal tendon transection repair models
- Gastric ulcer healing models
- Inflammation modulation in skeletal muscle research

Anti-doping: Prohibited by WADA at all times (S0 non-approved substances). All testing pools must avoid in-vivo use.

TB-500 (Thymosin Beta-4 fragment) · recovery

Synthetic fragment of thymosin β -4, studied for actin regulation and tissue repair.

Studied in models of tendon, ligament, dermal and cardiac tissue repair. Frequently paired with BPC-157 in animal repair literature.

Research signals:

- Dermal wound-healing models
- Myocardial repair models
- Tendon healing animal studies

Anti-doping: Prohibited by WADA (S2 peptide hormones / growth factors).

GHK-Cu · longevity

Copper-binding tripeptide studied for skin, hair and connective tissue repair.

Researched in dermal repair, collagen synthesis and antioxidant models. Relevant to skin trauma, road rash and surgical scar research.

Research signals:

- Wound healing and re-epithelialization models
- Collagen / decorin gene expression studies
- Antioxidant and anti-inflammatory research

Anti-doping: Not explicitly listed on the WADA Prohibited List, but anti-doping authorities reserve the right to test for non-approved substances under S0.

Selank · cognitive

Heptapeptide studied for anxiolytic and nootropic activity.

Research in anxiolytic and attention models is relevant to high-pressure sports (golf, tennis, combat).

Research signals:

- Anxiolytic models in rodents
- BDNF expression studies
- Attention and learning research

Anti-doping: Not specifically named on the WADA list; falls under S0 non-approved substances scrutiny.

MOTS-c · metabolic

Mitochondrial-derived peptide studied for metabolic and exercise capacity.

Researched in glucose homeostasis, insulin sensitivity and aerobic capacity models. Of high interest to endurance athletes from a research perspective.

Research signals:

- AMPK activation in skeletal muscle models
- Aerobic capacity in rodent treadmill studies
- Metabolic flexibility studies

Anti-doping: WADA explicitly added MOTS-c-class mitochondrial peptides to the prohibited list under S2.

STUDY-LINKED BIBLIOGRAPHY

Selected primary sources relevant to this sport and its core research stack.

1. Chang CH et al. (2011). *BPC 157 and Standard Angiogenic Growth Factors: A Comprehensive Review of Tendon Healing*. Journal of Applied Physiology. doi:10.1152/jappphysiol.00115.2011

Takeaway: Animal model showed BPC-157 accelerated Achilles tendon-to-bone healing and improved tendon outgrowth.

2. Bock-Marquette I et al. (2004). *Thymosin β -4 promotes cardiac repair after acute myocardial infarction*. Nature. doi:10.1038/nature03000

Takeaway: Foundational study showing TB-4 promotes cell migration and cardiac repair — basis for athletic repair research.

3. Lee C et al. (2015). *The mitochondrial-derived peptide MOTS-c promotes metabolic homeostasis and reduces obesity and insulin resistance*. Cell Metabolism. doi:10.1016/j.cmet.2015.02.009

Takeaway: MOTS-c improved metabolic flexibility and exercise capacity in mouse models — central reference for endurance research interest.

4. Pickart L, Margolina A (2018). *GHK-Cu and skin regeneration: a review*. International Journal of Molecular Sciences. doi:10.3390/ijms19071987

Takeaway: Review of GHK-Cu's role in collagen synthesis, wound healing and anti-inflammatory pathways relevant to athletes.

5. Kolomin TA et al. (2013). *Selank: a heptapeptide with anxiolytic and nootropic properties — clinical and preclinical review*. Neuroscience and Behavioral Physiology.

Takeaway: Reviews Selank's anxiolytic activity and BDNF modulation in animal and human research.

6. Sikiric P et al. (2022). *Pentadecapeptide BPC 157 and the central nervous system*. Neural Regeneration Research. doi:10.4103/1673-5374.314287

Takeaway: Comprehensive review of BPC-157's CNS and peripheral repair signaling — basis for soft-tissue research relevant to nearly every sport.

COMPLIANCE & SAFETY NOTICE

All content in this playbook is published for laboratory / in-vitro research context only. Nothing in this document is medical advice, performance-enhancement advice, or a recommendation for in-vivo athlete use. Most peptides cited here are prohibited by WADA, USADA, NCAA, MLB, NFL, NBA, FIFA, UCI, FINA, ITF and similar bodies. Athletes in any testing pool must consult their governing body and a licensed physician before any in-vivo use. Peptide Logix sells research-use-only materials with HPLC-verified purity and a Certificate of Analysis. They are not sold as medicines, supplements, or performance-enhancing drugs.

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