



BPC – 157 (Body Protection Compound – 157)

Clinical Protocol Guide for AgeREcode® & Associated Aesthetic, Orthopedic & Regenerative Applications

Intended Audience: Licensed physicians and advanced practitioners implementing peptide-based regenerative, orthopedic, functional, and aesthetic protocols.

Scope

This guide provides a comprehensive clinical overview of **BPC-157** within the AgeREcode® ecosystem and includes evidence-informed, physician-oriented frameworks for:

- **Oral use via AgeREcode® RECOVER™ multi-phase enteric capsules**

Staged-release BPC-157 delivery for systemic regenerative, gastrointestinal, and musculoskeletal support.

- **Topical use as a stand-alone regenerative modality**

Applications for dermal repair, inflammation reduction, and adjunctive aesthetic outcomes.

- **Topical use in microneedling, RF microneedling, and laser-based procedures**

Guidance for pre-conditioning, peri-procedural, and post-procedure regenerative support.

- **Integration with PRiVIVE™ autologous platelet-derived serum**

Dual-pathway collagen, angiogenesis, and anti-inflammatory synergy for advanced aesthetic and regenerative care.

- **High-level considerations for reconstitution and injectable use of AgeREcode® BPC-157 10 mg lyophilized vials (research-use/off-label context only)**

Including reconstitution options, peri-tendinous/peri-ligamentous protocols, mesotherapy grids, and systemic microdosing frameworks.

- **Clinical decision trees, route-selection flowcharts, and protocol-building algorithms**

To guide clinicians in selecting oral, topical, procedural, or injectable approaches based on patient phenotype, anatomical region, and therapeutic goals.

Important Notice

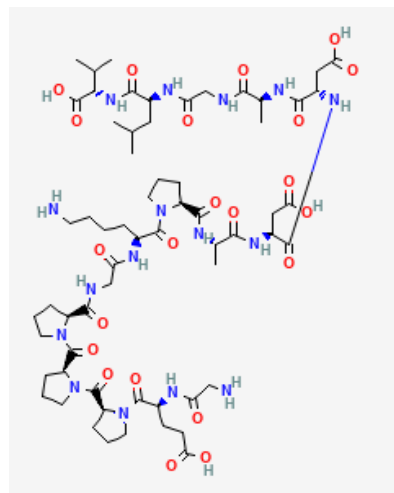
This document is intended solely for **educational and informational purposes** for licensed medical professionals. BPC-157 is **not FDA-approved**, and all uses; oral, topical, procedural, or injectable constitute **off-label or research-use** administration.

Clinicians must ensure that all peptide use complies with:

- Federal and state regulations
- Medical board and scope-of-practice rules
- Institutional and malpractice guidelines
- Local standards of care and informed consent requirements

This guide does **not** constitute prescribing instructions, medical advice, or claims regarding the diagnosis, treatment, or prevention of any disease.

1. Clinical Overview of BPC-157



Molecule:

Body Protection Compound-157 (Pentadecapeptide)

Sequence: **Gly-Glu-Pro-Pro-Pro-Gly-Lys-Pro-Ala-Asp-Asp-Ala-Gly-Leu-Val**

Class:

Cytoprotective gastric pentadecapeptide; angiogenic, anti-inflammatory, musculoskeletal-restorative peptide.

Endogenous Context:

Originally isolated from human gastric juice. In vivo, BPC-157 participates in:

- GI mucosal protection
- Endothelial and microvascular repair
- Regulation of nitric-oxide pathways

- Tendon/ligament fibroblast activation
- Systemic healing responses under physiologic stress

Physiological Observations in Literature:

BPC-157 demonstrates the following broad categories of effects:

- **Accelerated wound/tendon/ligament repair**
- **Rapid angiogenesis with organized vessel formation**
- **GI mucosal healing (upper & lower tract)**
- **Neuroprotection and microvascular stability**
- **Counteraction of NSAID-, steroid-, and alcohol-induced injury**
- **Stabilization of nitric-oxide (NO) and eNOS pathways**
- **Protection against endothelial dysfunction**
- **Organ-protective effects in models of ischemia/reperfusion**

Although BPC-157 is not FDA-approved, clinicians worldwide reference it as a **regenerative adjunct**, particularly in musculoskeletal medicine, functional medicine, and GI-supportive protocols.

2. Mechanisms of Action

BPC-157's activity is *multi-pathway*, involving cytoprotective, microvascular, and fibroblastic signaling systems.

Below is a consolidated mechanistic profile appropriate for clinical education.

2.1 Primary Mechanistic Domains

A. Angiogenesis & Microvascular Repair

- Rapid induction of stable, non-leaky vessel formation
- Stimulation of VEGF receptor signaling without excessive VEGF release
- Upregulates early-phase angiogenic markers
- Supports endothelial cell survival and migration

Clinical relevance: Superior musculoskeletal and dermal tissue healing; improved perfusion of injured structures.

B. Fibroblast Activation & Collagen Synthesis

- Increases fibroblast proliferation in tendon/ligament tissue
- Enhances collagen type I organization
- Accelerates the tendon-to-bone and ligament-to-bone healing interface
- Improves tensile strength in healing tissues

Clinical relevance: Useful in tendonitis, partial tears, sprains, and post-procedural orthopedic recovery.

C. GI Mucosal Healing

- Restores tight-junction integrity
- Protects against NSAID-induced gastric damage
- Normalizes motility disturbances
- Supports lower-GI mucosa (colitis models)

Clinical relevance: May support patients with gastritis, reflux, or inflammatory gut stress.

D. Neuroprotective & Neuromodulatory Actions

- Reduces oxidative stress in the CNS
- Stabilizes neuronal microcirculation
- Modulates dopaminergic systems
- Protective effects in models of traumatic brain injury

Clinical relevance: Adjunctive value in concussion recovery, neuroinflammation, or autonomic dysfunction.

E. Endothelial Protection

- Counteracts endothelial dysfunction triggered by endotoxin, alcohol, NSAIDs
- Improves NO (nitric oxide) microregulation
- Increases eNOS coupling

Clinical relevance: Improved vascular response + systemic anti-inflammatory profile.

F. Anti-Inflammatory Modulation

- Downregulates TNF- α , IL-6, and inflammatory cascades
- Reduces edema and inflammatory infiltration in injured tissues
- Decreases oxidative and nitrosative stress markers

Clinical relevance: Broad utility in chronic inflammation, joint pain, and recovery from high-output training.

3. Evidence Summary — Clinical Domains of Interest

Below is a concise, clinically relevant research map (preclinical + emerging human experience).

3.1 GI & Mucosal Integrity

Demonstrated actions:

- Accelerates ulcer healing (NSAID, stress, alcohol-induced models)
- Restores tight-junction function
- Reduces inflammatory infiltrates in colitis models
- Protects against esophageal, stomach, and intestinal mucosal damage

Clinical application: Adjunct for gastritis, reflux conditions, NSAID injury, and general mucosal support during stress.

3.2 Musculoskeletal & Orthopedic Healing

Convergent findings:

- Enhances fibroblast recruitment
- Faster tendon healing post-transection
- Increased tensile strength of repaired tissue
- Enhanced collagen organization
- Improved recovery after muscle crush injury
- Promotes healing of medial collateral ligament injuries

Clinical application: Soft-tissue injuries, partial tears, chronic tendinopathy, ligament sprains, post-surgical repair, Platelet-Rich Plasma (PRP) adjunct.

3.3 Endothelial & Microvascular Protection

Documented findings:

- Stabilizes vascular endothelium
- Accelerates angiogenesis without dysfunctional vessel formation
- Counteracts endothelial injury from endotoxin, NSAID, and alcohol models
- Improves peripheral circulation
- Reduces edema and tissue ischemia

Clinical application: Vascular-compromised tissue recovery, neurovascular injuries, chronic inflammation.

3.4 Neurological Protection

Evidence includes:

- Reduced brain swelling and edema in TBI models
- Support for dopaminergic balance
- Protection against neurotoxic insults
- Improved nerve regeneration in peripheral injury

Clinical application: Post-concussion recovery, neuropathic symptoms, neuroinflammation, autonomic dysregulation.

3.5 Systemic Anti-Inflammatory Effects

- Downregulates TNF- α , IL-1 β , IL-6
- Reduces oxidative burden
- Protects organs under systemic inflammatory stress
- Supports mitochondrial resilience in injury states

Clinical application: Chronic inflammatory states, auto-inflammatory processes, recovery from strenuous exercise, post-procedure inflammation.

4. Oral BPC-157 Protocol — AgeREcode® RECOVER™

4.1 Formulation Summary — RECOVER™ Capsule

Each AgeREcode® RECOVER™ capsule contains:

- **BPC-157 – 500 mcg**
- **GHK-Cu – 2 mg**
- **Carnosine – 500 mg**

Multi-Phase Enteric Delivery System

1. Enteric-coated capsule

- pH-triggered dissolution ≥ 5.5 (duodenum/jejunum)

2. Immediate-release micro-pellets:

- *Carnosine* → antioxidant, anti-glycation, supports mucosal health

3. Sustained-release pellet matrix:

- *GHK-Cu* → collagen signaling, matrix remodeling

4. Delayed-release micro-pellets:

- *BPC-157* → GI regenerative, endothelial protective, musculoskeletal restorative

Purpose: Staged, sequential activation of healing pathways → antioxidant → ECM remodeling → angiogenesis + tissue repair.

4.2 Oral Clinical Protocol

Standard Physician-Guided Schedule

- **Dose:** 1 capsule every morning on an empty stomach
- **Cycle:** 5 days on / 2 days off
- **Course length:**
 - 60-capsule bottle $\approx$ 3 months (at 5/2 cycling)

Administration Notes

- Take with 8–12 oz water
- Avoid coffee/acidic beverages for ~30 minutes
- Compatible with fasting protocols
- May be combined with PRP, Shockwave (ESWT), needling, or orthopedic therapies

4.3 Clinical Use Cases (Oral)

A. GI & Mucosal Support

Patients with gastritis, dyspepsia, NSAID history, or mucosal irritation.

B. Orthopedic Recovery

Adjunct for acute injuries, chronic tendinopathy, ligament sprains.

C. Athletic Recovery

Useful in high-output training cycles, inflammation bursts, or overuse patterns.

D. Post-Procedure Adjunct

Pairs with PRP, microneedling, joint injections, shockwave, RF/laser.

E. Systemic Regenerative Protocols

When combined with RECOVER™, REVIVE™, or REBALANCE™ depending on phenotype.

4.4 Decision Tree 1 — Should You Use Oral RECOVER™?

Is there a musculoskeletal or GI-related condition present?

→ **Yes:** Consider as first-line systemic support

→ **No:** Continue to next question

Is the patient undergoing procedures that stress tissue or require repair?

(Ortho injections, PRP, microneedling, RF/laser, surgery)

→ **Yes:** Oral RECOVER™ recommended

→ **No:** Proceed to next

Does the patient experience chronic inflammation, slow recovery, or endothelial dysfunction symptoms?

→ **Yes:** Oral RECOVER™ recommended

→ **No:** Optional adjunct based on goals

Any contraindications?

- Pregnancy/lactation (avoid)
- Active cancer (case-by-case)
- Severe hepatic disease
- Known hypersensitivity
 - **If any present:** Avoid or use with close monitoring

4.5 Monitoring During Oral Protocol

Subjective:

- Pain reduction
- Mobility gains
- GI comfort changes
- Reduced recovery time

Objective (as needed):

- Inflammatory markers
- Doppler/ultrasound in orthopedic cases
- GI symptom inventory
- Liver panel in high-risk patients

5. Injectable BPC-157 Protocols

(Off-label / research context — educational guidance only)

AgeREcode® provides a **10 mg lyophilized BPC-157 vial** for clinicians trained in peptide-based regenerative strategies. All injections must follow sterile technique, state scope-of-practice rules, and documented informed consent.

5.1 Product Summary

Product:

AgeREcode® BPC-157 Lyophilized Vial

Strength: 10 mg BPC-157

Diluent: Bacteriostatic saline (0.9%)

Storage:

- Store vials refrigerated (2–8°C)
 - After reconstitution: Shelf life varies by clinic policy; 7–14 days refrigerated is common
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5.2 Reconstitution Options (Clinician-Selectable)

Option A — 5 mg/mL (High Potency, Low Volume)

Reconstitute **10 mg** vial with **2 mL** bacteriostatic saline

- 1 mL = 5 mg
- 0.1 mL = 0.5 mg (500 mcg)

Use case: Localized tendon/ligament injections, peri-lesional microdosing

Option B — 2 mg/mL (Moderate Volume, Easy Microdosing)

Reconstitute **10 mg** vial with **5 mL** bacteriostatic saline

- 1 mL = 2 mg
- 0.1 mL = 0.2 mg (200 mcg)

Use case: Field injections, mesotherapy patterns, moderate lesion spread

Option C — 1 mg/mL (Low Potency, High Volume)

Reconstitute **10 mg** vial with **10 mL** bacteriostatic saline

- 1 mL = 1 mg
- 0.1 mL = 0.1 mg (100 mcg)

Use case: Large-area mesotherapy, peritendinous grids, dermal applications

5.3 General Injectable Protocol Guidance

Route Options (Educational Context)

- **Subcutaneous** (systemic or regional effects)
- **Peri-tendinous / periligamentous**
- **Intra-dermal** (mesotherapy style)
- **Peri-lesional microinjection**

AgeREcode® does not recommend or endorse intra-articular injection of BPC-157.

General Starting Dose (Research-Style)

- **250–500 mcg per injection site, 1–3× weekly**
- Larger lesions: up to **1 mg per site**, based on clinical judgment
- Duration: **2–6 weeks**, then reassess

Injection Technique Principles

- Always aspirate for negative blood return
 - Use fine-gauge needles (30–32g for mesotherapy; 27–30g for peritendinous)
 - Avoid injecting into tendons directly; stay **peri-tendinous**
 - Rotate injection sites
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5.4 Example Injection Strategy Templates

A. Peri-Tendinous Protocol (e.g., Achilles, patellar, elbow tendinopathy)

- **Volume per site:** 0.1–0.3 mL
- **Number of sites:** 3–6 around lesion
- **Total per session:** 0.5–2 mg
- **Frequency:** 1× weekly × 3–6 weeks

B. Peri-Ligamentous Protocol (e.g., MCL, LCL, ATFL)

- **Volume per site:** 0.1–0.2 mL
- **Pattern:** Fan or linear pattern along fibers
- **Frequency:** 1× every 5–7 days × 3–4 weeks

C. Mesotherapy Pattern (Dermal / scar / large-field tissue)

- **Concentration:** 1 mg/mL preferred
- **Injection depth:** 1–3 mm
- **Spacing:** 1 cm grid
- **Frequency:** weekly × 4–6 sessions

D. Subcutaneous Microdosing (Systemic Support)

- **Dose:** 250–500 mcg
- **Frequency:** daily–3× weekly
- **Used for:** systemic inflammation, gut recovery, broad tissue stress

5.5 Decision Tree 2 — Should Injectable BPC-157 Be Used?

Has the patient failed topical/oral/systemic protocols?

→ **No:** Try conservative approaches first

→ **Yes:** Continue

Is the pathology localized and structural?

(Tendon, ligament, scar, localized chronic inflammation)

→ **Yes:** Injectable route may be appropriate

→ **No:** Oral/systemic routes may be better

Does the clinician have training in peri-tendinous/peri-ligamentous injection?

→ **No:** Avoid or refer

→ **Yes:** Proceed

Any contraindications?

- Active infection
 - Coagulation disorders
 - Active cancer
 - Poor wound healing disorder
- **If yes:** Avoid or modify plan
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6. Topical & Procedural Use Protocols

Although BPC-157 is most validated orally and via injection, some clinics use topical or procedural methods.

6.1 Topical Use (Adjunct)

Indications:

- Soft-tissue injury
- Local dermal recovery
- Post-procedural inflammation reduction

Vehicle:

- Hydrogel, serum, hyaluronic acid base

Frequency:

- Once or twice daily to target area

Note: Topical BPC-157 is less studied than oral or injectable forms; use as supportive adjunct only.

6.2 Procedural Integration

A. Orthopedic Procedures

- Combine with PRP, shockwave, or laser therapies
- Oral RECOVER™ during PRP series to potentially enhance outcomes
- Injectable BPC-157 can be used at alternating intervals

B. Aesthetic Procedures

- Post-RF, post-laser, or post-needling to reduce inflammation
- Consider using after barrier integrity returns

C. GI/Functional Medicine Settings

- Oral RECOVER™ as part of SIBO, gastritis, or inflammatory gut repair protocols
 - Avoid topical/IV use in GI indications
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7. Clinical Decision Trees & Flowcharts

Decision Tree 3 — Route Selection (Oral vs. Injectable vs. Topical)

Step 1 — Is the issue systemic or localized?

- Systemic inflammation / gut issues → Oral RECOVER™
- Localized structural injury → Injectable
- Dermal/aesthetic recovery → Topical ± oral

Step 2 — Severity of pathology

- Mild → Oral ± topical
- Moderate → Oral + targeted injections
- Severe → Multi-route approach (oral + injections + procedural)

Step 3 — Timeline

- Immediate recovery needed → Injectable
- Long-term remodeling → Oral

Step 4 — Contraindications

- Pregnancy/lactation → Avoid

- Cancer → Case-by-case
 - Severe liver disease → Avoid or monitor
 - Bleeding disorder → Avoid injection route
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Flowchart — BPC-157 Musculoskeletal Protocol Builder

Injury Present?

|-- No → Oral RECOVER™ optional for systemic support

|-- Yes → Identify tissue type:

|-- Tendon → go to Tendon Protocol

|-- Ligament → go to Ligament Protocol

|-- Muscle → consider mesotherapy or SC microdosing

Tendon Protocol:

- Pain < 3 months? Acute → oral + 1–3 injections
- Pain > 3 months? Chronic → oral + 3–6 injections + therapy

Ligament Protocol:

- Grade 1 sprain → oral RECOVER™ + supportive bracing
- Grade 2 → oral + peri-ligamentous injections weekly × 4
- Grade 3 → refer for surgical evaluation but may use oral support

Muscle Protocol:

- Small tear → oral + topical
 - Large tear → oral + mesotherapy + PRP
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8. Safety, Contraindications & Monitoring

8.1 Safety Overview

BPC-157 demonstrates a broad safety margin in preclinical literature; however, clinical use is investigational, experimental, and off-label.

8.2 Contraindications

Absolute:

- Pregnancy
- Lactation
- Known hypersensitivity

Relative:

- Active malignancy
 - Severe hepatic disease
 - Coagulation disorders (injectables)
 - Active infection at injection site
 - Pediatric use (insufficient data)
-

8.3 Monitoring Parameters

Subjective:

- Pain scores
- Functional improvement
- GI symptom changes
- Recovery time after exercise or procedures

Objective:

- Ultrasound for tendon/ligament pathology
- Inflammation markers (CRP, ESR)
- Liver function (if high-dose use or comorbid conditions)

- Neurocognitive assessment post-concussion
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9. Integrated Treatment Archetypes

Archetype A — Orthopedic / Tendonopathy Protocol

Systemic Backbone:

- RECOVER™: 1 cap AM, 5-on/2-off × 12 weeks

Local Therapy:

- Peri-tendinous BPC-157 injections weekly × 4–6
- Optional: topical BPC-157 gel on off-days

Adjuncts:

- Physical therapy
 - PRP (optional)
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Archetype B — GI Support / Mucosal Recovery

Systemic:

- RECOVER™ daily as above
- REBALANCE™ PM for autonomic/nervous system support (optional)

Adjuncts:

- Low-acid diet
 - Discontinue NSAIDs if possible
 - Add probiotic or mucosal support agents as clinically indicated
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Archetype C — Athletic Recovery / High-Output Performance

Systemic:

- RECOVER™ AM
- REVIVE™ AM for mitochondrial support

Local:

- SC microdosing 250–500 mcg q48h
- Topical BPC-157 as needed

Adjunct:

- Compression therapy
 - Electrolyte optimization
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Archetype D — Neurovascular / Neuroinflammatory Support**Systemic:**

- RECOVER™ AM
- REBALANCE™ PM (neurological adjunct)

Adjunct:

- Omega-3 support
 - Sleep optimization
 - Avoid neurotoxicants
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