

Stress, the Nervous System, and Your Recovery

How Chronic Stress Slows Healing — and What to Do About It

1 The Stress Response and Your Body

The stress response — commonly called fight-or-flight — is a survival mechanism designed for short-term threats. When activated, your body prioritises immediate survival over longer-term processes like tissue repair and immune function. Cortisol rises, inflammation increases, digestion slows, and the resources your body would otherwise spend on healing are redirected toward threat response.

Your nervous system does not distinguish between a physical threat and a looming deadline. Chronic stress keeps your body in a state that actively works against healing.

2 How Chronic Stress Affects Recovery

Effect of Chronic Stress	What It Means for Rehab
Elevated cortisol	Breaks down muscle tissue and suppresses collagen synthesis — the opposite of what rehab requires.
Increased inflammation	Keeps tissues in a low-grade inflammatory state, prolonging pain and slowing repair.
Disrupted sleep	Stress is one of the most common causes of poor sleep — and poor sleep slows every aspect of recovery.
Increased pain sensitivity	A stressed nervous system lowers the pain threshold — the same stimulus hurts more.
Reduced motivation	Chronic stress depletes dopamine and serotonin, making it harder to stay consistent with rehab.

3 The Autonomic Nervous System — Two Modes

Mode	State	What Your Body Does
Sympathetic ("fight or flight")	Activated	Heart rate up; muscles tense; digestion paused; inflammation raised; healing suppressed.
Parasympathetic ("rest and repair")	Calm	Heart rate down; digestion active; immune function restored; tissue repair prioritised.

Key message: Rehab and healing happen predominantly in parasympathetic mode. Anything that shifts you toward calm actively supports your recovery.

4 Practical Stress Management for Rehab

Strategy	How It Helps Recovery	How to Start
Diaphragmatic breathing	Directly activates the parasympathetic system within minutes.	5 slow breaths before and after exercise sessions.
Regular gentle movement	Lowers cortisol; releases endorphins; improves mood.	Daily walks count — they don't need to be intense.
Sleep routine	Consistent sleep/wake times reduce cortisol and restore nervous system balance.	Same bedtime and wake time, 7 days a week.
Limit news and screen time	Chronic low-level stress from news consumption keeps the sympathetic system active.	Set defined times for checking news and social media.
Social connection	Oxytocin from positive social contact directly reduces cortisol.	Prioritise time with supportive people.

5 Key Takeaways

KEY TAKEAWAY 1

Stress is not just in your head — it has real effects on healing. Elevated cortisol, increased inflammation, disrupted sleep, and heightened pain sensitivity are all measurable consequences of chronic stress. Managing your stress load is as important to recovery as managing your physical load.

KEY TAKEAWAY 2

Your nervous system has two modes — and healing happens in only one. The parasympathetic ('rest and repair') state is where tissue repair, immune function, and recovery occur. Any activity or habit that helps shift you from sympathetic to parasympathetic activation is a genuine part of your rehab.

KEY TAKEAWAY 3

Small, consistent actions shift your nervous system toward recovery. Diaphragmatic breathing, daily gentle movement, a consistent sleep routine, and reducing unnecessary stress inputs are not optional extras — they are evidence-based tools that directly support the biology of healing. Start with one and build from there.