

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Athlete Recovery Sleep Calculator MCP

Get exact sleep requirements based on training load.

Athlete Recovery Sleep Calculator MCP uses physiological data to determine how much rest you actually need. It analyzes training load, competition stress, and specific muscle group usage to provide actionable sleep schedules and recovery timelines. Your AI client uses these metrics to predict readiness and suggest schedule adjustments for better physiological repair.

A+ Quality Score 100/100

athlete

sleep

recovery

physiology

training



The connectivity layer between AI and the world's software.



Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Athlete Recovery Sleep Calculator MCP

4 tools available

Cloud-hosted on Vinkius

You can stop guessing how much sleep you need after a heavy training block. This MCP connects your AI client to physiological calculation tools that translate training stress into specific rest requirements. Instead of following generic advice, you get data based on your actual training load and the specific muscle groups you taxed.

When you've just finished a high-intensity session, your agent can determine exactly how many extra hours of sleep are required to offset the stress. It looks at the impact of muscle fatigue on your systemic recovery and provides a timeline for when you will actually be ready to compete again. You can also ask your agent to adjust your daily schedule, such as moving your bedtime earlier, to ensure you hit these physiological targets. It turns raw training data into a clear roadmap for rest and readiness.

Core Capabilities

01 — Sleep Requirement Calculation

Your agent calculates the extra sleep hours needed to offset training stress.

02 — Readiness Prediction

The MCP estimates the number of days required to reach full recovery.

03 — Muscle Fatigue Analysis

Your agent identifies how specific muscle group usage increases sleep demand.

04 — Schedule Optimization

The tool suggests specific bedtime changes to improve physiological repair.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/athlete-recovery-sleep-calculator — connect your AI agent in three steps.

- 01 Connect your MCP-compatible client to Vinkius.
- 02 Provide your training load or muscle usage data to your AI agent.
- 03 The agent calls the specific calculation tool needed.
- 04 Receive precise sleep requirements or recovery timelines.

Connect your AI client to the Vinkius-hosted MCP to start running physiological calculations.

Built For

This MCP is built for anyone managing high-performance physical workloads who needs data-driven rest protocols.

Professional Athletes

Use it to manage personal recovery timelines and sleep schedules.

Strength Coaches

Hand off training load data to the AI to determine athlete readiness.

Sports Scientists

Use the physiological calculations to validate recovery models.

What Changes When You Connect

- 01 Calculates sleep needs based on actual muscle group usage.
- 02 Provides specific day counts for recovery timelines.
- 03 Suggests actionable bedtime adjustments.

04 Connects training load directly to sleep requirements.

Real-World Applications

Post-Training Recovery

Determine exactly how much extra sleep is needed after a high-intensity session.

Competition Readiness

Predict how many days of rest are required before a major event.

Fatigue Management

Understand how specific muscle fatigue impacts your total sleep demand.

Sleep Schedule Planning

Get specific recommendations for moving bedtimes to maximize repair.

Patterns to Avoid

Using generic sleep advice

❌ AVOID

You ask your agent how much sleep a normal person needs to feel rested.

✓ INSTEAD

Ask for specific requirements based on your recent training load using `calculate_sleep_requirements`.

Ignoring muscle fatigue

❌ AVOID

You assume a light cardio day and a heavy lifting day require the same rest.

✓ INSTEAD

Use `get_fatigue_impact_profile` to see how specific muscle group usage drives your sleep demand.

Vague recovery planning

❌ AVOID

You tell your agent to help you get ready for a race next week.

✓ INSTEAD

Get a concrete day count for your readiness by running `estimate_recovery_timeline`.

The Right Fit

Connect this MCP if you manage high-performance workloads and need data-driven rest protocols. Do not use it if you are looking for general wellness tips or basic sleep tracking. The decision depends on whether you need to link specific training stress to physiological sleep needs.



Athlete Recovery Sleep Calculator: 4 Specialized Tools

These tools translate training stress and muscle fatigue into precise sleep requirements and recovery timelines.

#	TOOL	DESCRIPTION
01	calculate_sleep_requirements	This tool finds the specific amount of extra sleep you need to offset recent physical and mental stress.
02	estimate_recovery_timeline	Use this to predict exactly how many days it will take to reach optimal readiness.
03	get_fatigue_impact_profile	This tool analyzes how the specific muscle groups you used in training drive your total sleep demand.
04	recommend_sleep_extension	This tool suggests specific adjustments to your sleep schedule to maximize physiological repair.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U I just finished a heavy leg day with high intensity. How much extra sleep do I need?



Based on your high training load and leg muscle usage, you need an additional 90 minutes of sleep tonight to ensure optimal recovery.

U How many days until I am fully recovered if I follow my sleep plan strictly?



With high sleep adherence, you are projected to reach baseline readiness in 3 days.

U Suggest a sleep schedule adjustment for my recovery.



To accommodate your recovery needs, you should move your bedtime 45 minutes earlier tonight.

Frequently Asked Questions

01 How does this MCP calculate sleep needs?

It analyzes your training load, competition stress, and the specific muscle groups you used to determine the extra sleep required.

02 Which AI clients can I use with this MCP?

You can use any MCP-compatible client, including Claude, Cursor, Windsurf, and VS Code.

03 Can I use this to plan my weekly schedule?

Yes, the tool can recommend sleep schedule adjustments to help you maximize physiological repair.

04 Does it predict when I will be ready to compete?

Yes, the `estimate_recovery_timeline` tool predicts how many days it will take to reach optimal readiness.

05 Do I need to host the MCP myself?

No, Vinkius hosts and manages the MCP for you, so it is ready to use immediately after connection.

06 How does this tool determine my sleep needs?

The tool uses `calculate_sleep_requirements` to aggregate the impact of your training load, competition stress, and current fatigue levels to calculate the necessary sleep extension.

07 Can I predict when I will be ready for my next competition?

Yes, by using `estimate_recovery_timeline`, you can predict the number of days required to reach baseline readiness based on your training intensity and sleep adherence.

08 Does muscle group usage affect the results?

Yes, the `get_fatigue_impact_profile` tool analyzes how specific muscle groups influence systemic fatigue and sleep demand.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"athlete-recovery-sleep-calculator": { "url": "..."} </code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Athlete Recovery Sleep Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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