Cannabidiol is Not an Ergogenic Aid

A Systematic Review of Human Performance Studies

Whitley Stone, Abby Brewer, Jaelynn Etienne
School of Kinesiology, Recreation, and Sport
Western Kentucky University
Bowling Green, KY USA
whitley.stone@wku.edu

Abstract **- Cannabidiol (CBD) has gained widespread popularity among athletes and physically active individuals due to purported anti-inflammatory and recovery-enhancing effects. However, its influence on human movement, exercise performance, and recovery outcomes remains unclear. This systematic review examined the effects of CBD on human movement across clinical mobility, resistance exercise recovery, aerobic performance, and cardiovascular stress responses. Electronic databases were searched, yielding 955 records. After duplicate removal and screening, 23 studies met inclusion criteria. A total of approximately 526 experimental participants were represented across studies, including individuals with multiple sclerosis (MS), chronic obstructive pulmonary disease (COPD), and healthy recreationally active or trained individuals. CBD doses ranged from 35–600 mg (oral) and 100–1000 mg (topical). In neurological populations, CBD-containing formulations were associated with improvements in gait parameters, including increases in walking speed (~10–15%), cadence (~6%), and stride length (~10%). In contrast, resistance exercise studies in healthy individuals showed no meaningful improvements in strength recovery, torque restoration, jump performance, or delayed onset muscle soreness, despite modest reductions in select biomarkers (e.g., creatine kinase). Similarly, aerobic and endurance studies demonstrated no improvements in VO_2max, time-to-exhaustion, or mean power output. High-dose CBD reduced resting and stress-induced blood pressure but did not enhance exercise performance. Across domains, CBD was well tolerated and did not impair physical performance. Current evidence suggests that CBD may provide functional benefits in populations characterized by neurological impairment and spasticity but does not act as an ergogenic aid in healthy individuals. While physiologically active and generally safe, CBD's effects on exercise performance and recovery appear limited. Future research should employ standardized dosing protocols and incorporate mechanistic endpoints to clarify potential population-specific benefits.**

Keywords—endocannabinoid system, exercise performance, resistance training, aerobic capacity, gait, recovery, inflammation

I. INTRODUCTION

Cannabidiol (CBD) is a major, non-psychoactive compound found in *Cannabis sativa* that interacts with the endocannabinoid system (ECS), a regulatory network involved in pain modulation, inflammation, and neuromuscular signaling. Early research indicates that CBD may reduce inflammation and pain across a variety of chronic conditions, and it is increasingly studied as an alternative or adjunct to traditional therapies [1]. Although much of the clinical evidence for CBD's therapeutic potential has centered on neurological disorders such as multiple sclerosis (MS), where cannabinoids including CBD and tetrahydrocannabinol (THC) have been shown to reduce subjective spasticity and pain in patients unresponsive to standard treatments [2], the underlying mechanisms, particularly for CBD alone, remain incompletely understood.

MS is an immune-mediated neurodegenerative disease characterized by demyelination and chronic inflammation within the central nervous system, often resulting in muscle stiffness, involuntary spasms, pain, and impaired mobility [3]. Cannabinoids have been investigated for these symptoms because they may modulate inflammation and excitatory neural signaling through CB1 and CB2 receptor pathways, potentially providing symptomatic relief [4]. Though many clinical trials focus on combined THC:CBD formulations, preliminary evidence suggests that CBD's anti-inflammatory and analgesic properties contribute to its potential utility for symptom management [3].

More recently, interest has emerged regarding the role of CBD in exercise recovery among healthy and athletic populations. A growing body of research suggests that post-exercise inflammation, oxidative stress, and delayed onset muscle soreness (DOMS) may be targets for CBD's anti-inflammatory effects, which could support recovery [5] and improve subsequent performance. One systematic review reported modest benefits of CBD on markers of muscle damage and subjective soreness, though performance outcomes remained inconsistent and protocols varied widely among studies [1]. Additionally, surveys of active populations frequently identify perceived improvements in recovery, pain reduction, and sleep with CBD use, which may further influence training adaptation and consistency [6].

Taken together, these findings motivate a critical examination of the evidence supporting CBD's physiological effects in both clinical and exercise contexts. By synthesizing research on CBD in neurological disorders such as MS with emerging data on exercise interventions, we can better understand whether mechanisms associated with inflammation modulation and neuromuscular regulation observed in clinical populations might translate into recovery benefits for the general population.

II. Methods

A comprehensive, systematic literature search was conducted in PubMed, Academic Search Complete (EBSCOhost), and SPORTDiscus to identify studies examining the effects of CBD, CBD-based pharmaceuticals (e.g., Epidiolex) on exercise and physical activity outcomes. The search was limited to peer-reviewed, original research articles published in English. Search strategies were tailored to each database but followed the same general structure.

For PubMed, the search string was:

((CBD OR cannabidiol OR Epidiolex)) AND ("exercise" OR "physical activity" OR "training" OR "sports") NOT Sativex

For Academic Search Complete, the following Boolean query was used:

(cannabidiol OR CBD OR Epidiolex) AND ("physical activity" OR exercise OR training OR sport*) NOT Sativex

For SPORTDiscus, the query was:

(cannabidiol OR CBD OR Epidiolex) AND ("physical activity" OR exercise OR training OR sport*) NOT Sativex

Searches were conducted in September 2025. Reference lists of eligible studies and relevant review articles were also screened to identify additional articles.

A. Inclusion and Exclusion Criteria

Studies were included if they:

1. Investigated CBD, Epidiolex, or other pure cannabidiol formulations as the intervention or exposure.
2. Reported outcomes related to exercise, training, sports performance, or physical activity.
3. Were original research articles published in peer-reviewed journals.

Studies were excluded if they:

1. Focused on Sativex or other combined THC+CBD preparations.
2. Examined only animal models without human relevance, unless they provided mechanistic insight directly applicable to exercise physiology.
3. Were conference abstracts, editorials, commentaries, or review papers.

B. Study Selection and Data Extraction

Two reviewers independently screened titles and abstracts for relevance. Full texts of potentially eligible articles were retrieved and assessed against the inclusion/exclusion criteria. Disagreements were resolved through discussion and consensus. Data were extracted on study design, sample characteristics, intervention/exposure details, exercise or physical activity outcomes, and key findings.

III. Results

The initial database search yielded 955 records across three electronic databases. After removal of 361 duplicate records, 594 unique articles remained for title and abstract screening. Of these, 543 records were excluded based on title and abstract review due to lack of relevance to CBD and exercise or physical activity outcomes.

Fifty-one full-text articles were retrieved and assessed for eligibility. All 51 articles were successfully obtained for full review. Following full-text evaluation, 29 studies were excluded for the following reasons: no physical activity intervention (n = 10), non-human subjects (n = 7), use of THC-only formulations without CBD (n = 2), and not original research (n = 10).

A total of 22 studies met the inclusion criteria and were included in the final systematic review.

Table 1. Cannabidiol (CBD) on Exercise and Movement Outcomes in Humans

Study	Sample	CBD Dose	Physical Activity	Outcomes	Findings
Alpy 2023 [7]	N=21 college-aged adults	Topical CBD ointment (applied 30min, 24h, 48h, & 72h post-DOMS)	Eccentric biceps protocol	MVIC, arm circumference, VAS soreness	No significant differences; soreness increased similarly between conditions

Calabrò 2020 [8]	Two groups (n=20) totaling N=40; humans with Multiple Sclerosis	Nabiximols in Group A, no Nabiximols in Group B	6wks of neurorobotic treatment on LokomatPro	Functional Independence (FIM), 10 Meter Walk Test (10MWT)	Group with Nabiximols improved more on FIM and 10MWT compared to
Cheung 2024 [9]	n = 14 (9 males, 5 females); healthy trained recreational athletes; habitual cannabis users	100 mg dried cannabis vaporized (14.5% CBD, <1% THC); aerosol inhalation via dry flower vaporizer	Submaximal cycling at 100 W (10 min) + 20-min all-out cycling time trial; whole-body lower extremity	HR, $\dot{V}O_2$, $\dot{V}E$, tidal volume, RPE, mean power output	CBD condition showed no significant differences vs. control in HR, $\dot{V}O_2$, RPE, or 20-min time trial power output
Cochrane-Synman 2021 [10]	N=13 untrained humans, placebo-control crossover design	150mg CBD (avg 2.0 mg/kg) vs organic vegetable oil, taken in 75-mg doses separated by 8 hours	6 sets of 10 maximal isokinetic repetitions of the forearm flexors (30 degrees/sec)	Soreness, arm circumference, range of motion, peak torque potential	No significant differences between conditions; Torque decreased ~5-8% in both groups
Coghe 2015 [11]	Humans with Multiple Sclerosis (N=20)	Nabiximols; average of 5.6 sprays per day	Gait kinematics during 10MWT	Speed, cadence, stride length, step width, stance, swing, and double support phase	Speed = +15%; cadence = +6%; stride length = +10%; no differences for step width and stance, swing, or double support phases.
Crossland 2022 [12]	N=24 well trained female humans, crossover design	5mg/kg CBD 2hr pre-, immediately after, and 10hr post muscle damage	10 sets of 10 unilateral eccentric leg extensions on isokinetic dynamometer set to 30 deg/s	Vertical jump, muscle strength of knee extensors (isokinetic and isometric), and visual analog fatigue scale (VAFS). Blood markers myoglobin (MB), IL-6, IL-10, and IL-1*B*.	No differences observed for inflammation (IL-6, IL-10, IL1*B*) or damage (Mb) measures, strength (dynamic or isometric), or vertical jump between groups. No differences between groups were noted for VAFS.
De Blasiis 2021 [13]	Humans with Multiple Sclerosis were randomized into Naboximols (n=22) or control (n=10) groups	Nabiximols, three puffs per day.	Walking trials for outcome variables	10MWT, 2-minute walk test (2MWT), Berg Balance Scale (BBS), and Timed Up and Go (TUG), gait kinematics	Greater increase in BBS, cadence and swing phase in CBD group compared to control immediately after Nabiximols.
Flores 2023 [14]	N=48 healthy adults	50mg/day oral CBD for 8 weeks	Health-related fitness battery (aerobic + anaerobic tests)	Body comp, aerobic fitness, peak power	No significant differences; placebo group showed reduced peak power vs CBD
Gibson 2024 [15]	N=42 regular cannabis users	CBD-dominant (20% CBD + 1% THC) vs THC-dominant product (24% THC + 1% CBD)	Aerobic exercise session (30min)	Enjoyment, affect, exertion	CBD increased enjoyment, minimal exertion change
Gillham 2024 [16]	N=22 healthy adults	150mg/day for 3 weeks	10-min cycling time trial	RPE, heart rate, lactate, mean power	No change in performance

Isenmann 2021 [17]	N=16 well trained individuals, placebo-controlled, double-blind, six-arm crossover study	60 mg CBD in coconut oil, taken 1.5h post-exercise	3 sets of 12 back squats at 70% of their one-repetition maximum (1RM), Drop Jumps: 3 sets of 15 drop jumps from 45cm box landing in deep squat	Creatine Kinase (CK) Levels, Myoglobin (Myo) Levels, Visual Analog Scale (VAS) for Muscle Soreness, Countermovement Jump (CMJ) Height	CBD group showed lower levels of CK (~15-20%) and Myo at 72 hours compared to the placebo group, indicating potential recovery benefits of CBD, No significant differences between CBD and placebo in performance recovery or muscle damage markers
Isenmann 2024 [18]	N=17 well-trained individuals	60mg CBD (6-day protocol)	High-intensity RT protocol	Myoglobin, IL-6, CMJ, 1 repetition maximum	CBD decreased myoglobin (~12-18%); minimal performance changes.
Isenmann 2025 [19]	N=17 well-trained individuals	60-mg CBD for 7 days	Intense training micro cycle	Oxaloacetate transaminase; glutamate pyruvate transaminase, gamma-glutamyl transferase, creatinine.	Reduced exercise-induced liver enzyme elevations (~10-15% lower than placebo).
Jadoon 2017 [20]	N=9, healthy male volunteers	600 mg CBD (single dose)	Mental stress test, isometric exercise, cold pressor test	Blood pressure (SBP, DBP, MAP), Heart rate (HR), Stroke volume (SV), Cardiac output (CO), Total peripheral resistance (TPR), Forearm blood flow	CBD reduced resting and stress-induced blood pressure, increased HR, and decreased SV and TPR; effects were most pronounced during cold stress
Johnson 2025 [21]	Recreational males (n=13)	Oral CBD (298mg) vs control	1hr treadmill exercise in heat	Core temperature, skin temperature, heart rate, subjective outcomes, and sweat loss	No major thermoregulatory or inflammatory benefit
McCartney 2024 [22]	N=51 recreational runners	150mg oral CBD	10km self-paced run	Affect, RPE, run time	No effect on affect, enjoyment or performance
Pastina 2025 [23]	N=28 untrained individuals	100mg topical CBD	Isokinetic quad/ham protocol	Pain pressure threshold (PPT), peak torque test (PTT), CMJ	No effect on soreness or performance
Peters 2023 [24]	N=40 trained individuals	CBD (35mg) + CBD (50mg) beverage, 2x per day for 3.5 days	DOMS protocol, Eccentric actions of elbow flexors	Soreness (PPT; elbow ROM), safety markers (adverse events)	Safe, but no strong recovery benefit
Pinzone 2023 [5]	N=111 survey	Self-report CBD/THC use	Aerobic + Resistance exercise	Perceived recovery	93% perceived CBD improved recovery
Sahinovic 2022 [25]	N=9, endurance-trained males	300 mg CBD (oral, single dose)	60-min submaximal treadmill run (70% VO_2max) + incremental run to exhaustion	VO_2, VO_2max, RER, HR, blood glucose, blood lactate, RPE, pleasure ratings, inflammatory markers (IL-6, IL-1β, TNF-α, myoglobin, lipopolysaccharide), plasma anandamide (AEA)	CBD increased VO_2 and VO_2max, enhanced pleasure ratings during exercise, and altered inflammation and endocannabinoid responses but did not impair performance
Sahinovic 2025 [26]	N=25 trained runners	Oral CBD isolate (MediCabilis); 50mg and 300mg single doses 1.5hr pre-exercise	60min treadmill run (70%max) + incremental run to exhaustion	HR, VO2, RER, Time to exhaustion, blood glucose, lactate, myoglobin, creatine kinase, lipopolysaccharide, affect, RPE, pain, enjoyment	No change in VO_2peak, TTE, HR, RPE, enjoyment. 300 mg ↓ RER during submax run (~small but significant). 50 mg ↑ blood glucose post-exhaustion. No effect on CK or myoglobin. No ergogenic or ergolytic effect.

Stone 2023 [27]	N=4, untrained adults (2 men, 2 women)	2 mg/kg (low) or 10 mg/kg (high) CBD, taken immediately post-exercise and every 12h for 48h	6 sets of 10 eccentric-only bicep curls	IL-6 (inflammation), pain (VAS), range of motion (ROM), handgrip strength, bicep curl strength	No significant differences between CBD and placebo in inflammation, pain, strength, or ROM, but IL-6 appeared visually lower in CBD conditions

Across the 22 experimental studies included in this review, approximately 528 participants were examined. Ninety-two participants were individuals with MS, 16 had chronic obstructive pulmonary disease, and the remaining 418 were healthy recreationally active or trained individuals. CBD doses ranged from 35 mg to 600 mg for oral administration and 100 mg to 1000 mg for topical formulations. Resistance exercise protocols were employed in 11 studies, aerobic or endurance-based exercise in 8 studies, and clinical gait rehabilitation in 3 studies. Most exercise investigations utilized acute, single-dose oral CBD supplementation between 150–300 mg.

Three studies (n = 92 participants) evaluated the effects of CBD-containing formulations in individuals with MS. Across these investigations, CBD (primarily as nabiximols) was associated with consistent improvements in functional mobility. Reported improvements included increases in walking speed (~10–15%), cadence (~6%), and stride length (~10%). Studies incorporating robotic gait training demonstrated greater functional independence measure (FIM) improvements and faster 10-meter walk test performance compared to control conditions. Improvements were observed both acutely and following multi-week intervention periods. No study in this domain reported performance decrements. Collectively, findings suggest moderate and consistent benefits of CBD-containing interventions in pathological gait dysfunction.

Eleven studies (n ≈ 270 healthy participants) examined CBD in the context of resistance exercise or DOMS. Protocols predominantly involved eccentric loading of the elbow flexors, quadriceps, or whole-body resistance exercise. Across studies, CBD did not meaningfully attenuate decrements in maximal voluntary contraction strength (typically ~5–10% reductions post-exercise in both CBD and placebo conditions). Topical CBD formulations failed to reduce soreness, swelling, or torque loss compared to placebo. While three investigations reported modest reductions in circulating muscle damage markers (e.g., creatine kinase or myoglobin reductions of approximately 10–20% at 48–72 hours), these biochemical changes did not translate into functional performance improvements [12,17-18]. Overall, evidence indicates that CBD does not enhance strength recovery, attenuate soreness, or meaningfully alter performance outcomes following resistance exercise in healthy individuals.

Eight studies (n ≈ 180 participants) evaluated CBD in aerobic or endurance-based exercise contexts. Interventions included 10-km running time trials, 60-minute treadmill running at ~70% VO_2max, incremental time-to-exhaustion tests, cycling time trials, and heat-stress treadmill protocols. CBD supplementation (35–300 mg, most commonly 150–300 mg oral doses) did not improve time-to-exhaustion, mean power output, or VO_2peak. Minor metabolic alterations were reported in isolated studies, including small reductions in respiratory exchange ratio (~2–4%) or transient increases in blood glucose (~5–8%); however, these changes did not correspond to improved performance. Perceptual responses (affect, enjoyment, RPE) were largely unchanged. Across aerobic studies, CBD demonstrated neither ergogenic nor ergolytic effects.

IV. Discussion

The purpose of this review was to synthesize the current evidence examining CBD in the context of human movement, including clinical mobility, resistance exercise recovery, aerobic performance, and cardiovascular stress responses. Across 22 experimental studies encompassing approximately 528 participants, findings suggest that CBD's most consistent movement-related benefits occur in clinical populations with neurological impairment, whereas evidence in healthy individuals indicates largely neutral effects on exercise performance and recovery.

A. CBD and Neurological Conditions

The strongest and most consistent movement-related benefits of CBD-containing interventions were observed in individuals with MS. Studies utilizing Nabiximols demonstrated meaningful improvements in gait parameters, including increases in walking speed (~10–15%), cadence (~6%), and stride length (~10%) [11,13]. When combined with robotic-assisted gait training, CBD-containing formulations were associated with greater improvements in functional independence and walking performance compared to rehabilitation alone [8].

These findings may be explained by CBD's modulation of the ECS, which plays a role in neuroinflammation, synaptic signaling, and motor control. CBD influences CB1 and CB2 receptor signaling indirectly and has been shown to reduce pro-inflammatory cytokine production and glial activation in preclinical models [28]. In MS, where spasticity and neuroinflammatory processes impair motor output, modulation of neural excitability and inflammation may plausibly improve gait mechanics and coordination. Importantly, these clinical benefits were observed in populations with baseline motor dysfunction, suggesting that CBD's effects may be more pronounced when physiological systems are

dysregulated. However, several of these studies used THC:CBD formulations, making it difficult to isolate the independent contribution of CBD.

B. Resistance Exercise and Muscle Damage

In contrast to the clinical mobility findings, the resistance exercise literature in healthy individuals demonstrated minimal or no meaningful ergogenic or recovery-enhancing effects of CBD. Across eccentric and whole-body resistance protocols, CBD supplementation did not attenuate post-exercise reductions in strength, torque, or jump performance [10,12,23].

Although some investigations reported modest reductions in circulating markers of muscle damage (e.g., creatine kinase and myoglobin reductions of approximately 10–20% at 48–72 hours) [15,17-18], these biochemical shifts were not accompanied by improvements in functional performance. Similarly, topical CBD failed to reduce soreness, swelling, or strength loss following eccentric exercise [7,23].

From a physiological standpoint, CBD's anti-inflammatory and immunomodulatory properties might be expected to attenuate exercise-induced muscle damage. However, exercise-induced inflammation is a tightly regulated and adaptive process. Suppressing inflammatory signaling does not necessarily translate into improved contractile recovery, particularly in healthy, trained individuals where inflammatory responses are already proportionate and transient. Thus, while CBD may alter certain biochemical markers, the magnitude of effect appears insufficient to meaningfully influence neuromuscular performance.

C. Aerobic and Endurance Performance

Across aerobic and endurance-based studies, CBD supplementation (typically 150–300 mg oral doses) did not improve time-to-exhaustion, mean power output, or VO_2peak [22,25-26]. Minor metabolic alterations were reported in isolated cases, including small reductions in respiratory exchange ratio (~2–4%) or modest increases in post-exercise glucose, but these changes were not accompanied by improved performance outcomes [26].

Exercise itself activates the ECS, increasing circulating endocannabinoids such as anandamide, which are associated with mood and reward signaling [29]. It is plausible that exogenous CBD interacts with this endogenous system; however, current human data do not indicate that such interactions enhance aerobic capacity or delay fatigue. Importantly, CBD also did not impair performance, suggesting it is physiologically active but not ergogenic under typical dosing conditions.

D. Cardiovascular and Stress Responses

High-dose oral CBD (600 mg) has been shown to reduce resting and stress-induced systolic blood pressure in healthy males [20]. These findings align with evidence that the ECS modulates vascular tone and autonomic nervous system activity. CBD may exert vasodilatory effects or influence sympathetic outflow, resulting in modest reductions in blood pressure. However, such hemodynamic modulation did not translate into measurable improvements in exercise performance in normotensive individuals.

E. Safety and Tolerability

Across studies, CBD was generally well tolerated. Reported adverse events were rare and mild, including occasional gastrointestinal discomfort [24]. No serious adverse events or exercise-related safety concerns were identified across doses ranging from 35 mg to 600 mg. Importantly, no study demonstrated performance impairment attributable to CBD.

F. Overall Interpretation

When synthesized across domains, the evidence suggests that CBD may confer functional movement benefits in populations characterized by neurological impairment and spasticity. In contrast, among healthy recreational and trained individuals, CBD does not consistently enhance strength recovery, reduce soreness, or improve aerobic performance. Reductions in inflammatory or muscle damage biomarkers appear modest and insufficient to translate into meaningful changes in physical performance.

These findings contrast with widespread marketing claims that position CBD as a recovery-enhancing or performance-enhancing supplement. Current evidence instead supports the interpretation that CBD is safe, physiologically active, and potentially clinically useful in specific pathological conditions, but unlikely to function as an ergogenic aid in healthy populations.

G. Limitations

Several limitations should be considered when interpreting the findings of this review. First, substantial heterogeneity existed across studies in CBD dosing, formulation, route of administration, and duration of supplementation. Oral doses ranged widely, topical preparations varied in concentration, and some clinical trials utilized THC:CBD combinations, complicating attribution of observed effects specifically to CBD. Second, many studies were characterized by small sample sizes and limited statistical power, increasing the risk of Type II error and reducing confidence in null findings. Third, most exercise-based investigations employed acute or short-term supplementation protocols, limiting insight into the potential effects of chronic CBD use in athletic or clinical populations. Fourth, relatively few studies incorporated comprehensive mechanistic measures, such as circulating endocannabinoids, detailed inflammatory cytokine panels, or neuromuscular activation assessments, restricting physiological interpretation of observed outcomes. Finally, the predominance of recreationally active or moderately trained participants limits generalizability to elite athletic populations or individuals with diverse health profiles.

H. Future Directions

Future research should prioritize larger, adequately powered randomized controlled trials using standardized dosing protocols to allow for meaningful cross-study comparisons. Investigations incorporating mechanistic endpoints—including inflammatory biomarkers, endocannabinoid concentrations, autonomic measures, and neuromuscular activation patterns—would clarify whether CBD meaningfully alters physiological pathways relevant to performance and recovery. Chronic supplementation studies are particularly needed, as repeated dosing may produce cumulative or adaptive effects not captured in acute trials. Additionally, research examining sex-specific responses, age-related differences, and varying training statuses would improve external validity. Comparative effectiveness studies evaluating CBD alongside established recovery modalities (e.g., sleep optimization, cold-water immersion, NSAIDs) would also help contextualize its practical utility. Finally, studies isolating pure CBD from THC-containing formulations in clinical populations would improve clarity regarding compound-specific effects.

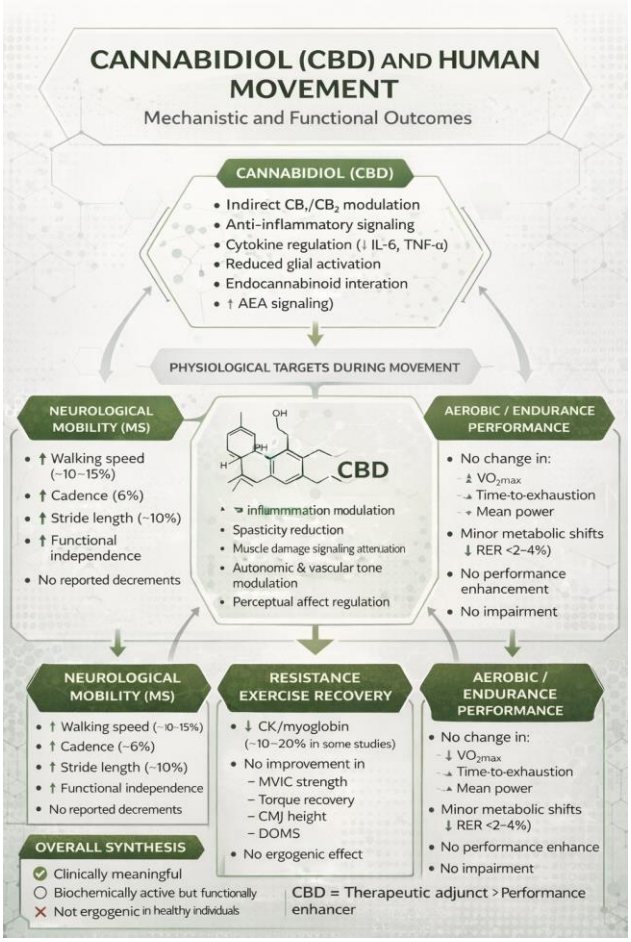

Fig. 1. *Proposed physiological mechanisms at play with CBD and physical activity.*

I. Practical Applications

From a practical standpoint, current evidence suggests that CBD supplementation is generally safe and does not impair exercise performance in healthy individuals; however, it should not be relied upon as a primary strategy for enhancing recovery or improving athletic performance. While modest reductions in select muscle damage biomarkers have been observed, these changes do not consistently translate into improvements in strength, power, or endurance outcomes. In contrast, CBD-containing therapies may offer clinically meaningful benefits in populations characterized by neurological impairment and spasticity, such as individuals with multiple sclerosis. For athletes and physically active individuals, established recovery practices—including appropriate training progression, adequate sleep, optimal nutrition, and structured periodization—remain the most evidence-supported approaches. Individuals considering CBD for cardiovascular stress modulation or symptom management should consult healthcare professionals, particularly at higher doses.

V. Conclusion

Overall, the research suggests that CBD provides therapeutic benefits for individuals with neurological conditions, some of which may translate to recovery following exercise in the general population. While current findings indicate potential for CBD to aid in post-exercise recovery, especially in reducing inflammation and improving mobility, further research is needed to fully understand its effects and determine optimal usage. Future studies should prioritize larger sample sizes, longer intervention periods, and consistent dosing methods to better understand its effects. While limitations remain, the current evidence lays a promising foundation for CBD as a new and upcoming aid in recovery. Continued investigation of the benefits and biological effects could help clarify its role and optimize its use across both clinical and exercise contexts.

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