

INVENTION DESCRIPTION

SHOULDER YOKE RESISTANCE TRAINER

What it is, how it works, and its potential uses and benefits

SHOULDER YOKE RESISTANCE TRAINER

Wearable punch resistance for strength, control, and return training



**STABLE FIT**
Neoprene shoulder yoke stays secure during dynamic motion

**INDEPENDENT PULL**
Dual cords create balanced, progressive resistance

**LIGHTWEIGHT COMFORT**
Breathable stretch support built for training and rehab



RESIST THE PUNCH. CONTROL THE RETURN.

Concept prototype for boxing, conditioning, shoulder activation, and rehab progression.

“RESIST THE PUNCH. CONTROL THE RETURN.”

Concept originator: Cedric Chaffold | Concept-stage presentation document

01 EXECUTIVE OVERVIEW

A compact description of the invention and the problem it addresses

The Shoulder Yoke Resistance Trainer is a wearable upper-body training system designed to apply progressive resistance to punching, reaching, pulling, and controlled arm-return movements. The concept combines a lightweight shoulder-support yoke, independent left and right elastic resistance cords, and weighted or unweighted training gloves into one compact apparatus.

Unlike a loose resistance band placed across the back, the shoulder yoke is intended to distribute the band load across a secure, wearable structure. This helps stabilize cord placement, reduce rolling or migration, and maintain a more consistent resistance path as the user moves through multiple arm angles and ranges of motion.

THE CORE CONCEPT

A wearable shoulder platform that adds progressive resistance during arm extension and provides a controlled return phase—allowing one movement to train force production, stability, endurance, deceleration, and recovery.

The system originated through direct experimentation with available equipment: one-pound weighted MMA-style gloves and resistance bands already being used for shoulder-rehabilitation exercises. The band was positioned around the upper back and shoulder area, with each end secured at the hands by knots held inside the closed gloves or tucked around the wrist. By changing band length and tension, the inventor confirmed that the combined resistance felt practical, trainable, and capable of supporting a broader product design.

02 ORIGIN AND PROOF OF CONCEPT

From improvised rehabilitation equipment to a repeatable product idea

The invention began as a hands-on solution rather than a purely theoretical exercise. During shoulder-rehabilitation work, two familiar training tools were available: elastic resistance bands and one-pound weighted gloves. Each tool produced a different training effect. The weighted gloves increased hand mass and inertia, while the bands produced elastic resistance that increased as the hands moved farther from the body.

The two mechanisms were combined by placing the resistance band across the upper back and shoulders, holding one end in each gloved hand, and experimenting with connection position, length, and tension. The resulting movement immediately demonstrated a useful principle: every punch, reach, defensive motion, or arm extension could be made more demanding without attaching the user to a wall, door, machine, or fixed external anchor.

This improvised test validated several foundational ideas:

- The resistance could move with the user rather than restricting the user to one stationary anchor point.
- The left and right arms could be trained together or independently.
- The system could challenge both the outward movement and the controlled return to the starting position.
- Weighted gloves and elastic resistance could be used separately or combined for “stacked” training effects.
- A shoulder-support garment could organize the band path, improve comfort, and prevent the band from rolling toward the neck.

PROOF BEFORE POLISH

The original knots, wrist tucks, and improvised band routing were not the final product—they were a functional test rig. Their purpose was to prove that the movement principle worked before investing in a refined harness, connectors, and adjustable resistance system.

03 WHAT THE INVENTION IS

A modular wearable resistance platform for dynamic upper-body movement

In its refined form, the invention is envisioned as a small, stretchable neoprene or performance-fabric yoke that slips over the arms and rests across the shoulders and upper back. The yoke carries reinforced attachment points positioned away from the neck and near the rear-lateral shoulder line. Independent resistance cords connect these points to the user’s gloves or wrist attachments.

COMPONENT	PURPOSE
Shoulder yoke	A low-profile, breathable, padded support that stabilizes the resistance path and spreads load across the shoulders and upper back.
Independent resistance cords	Separate left and right elastic cords that allow balanced bilateral movement, single-arm drills, and interchangeable resistance levels.
Shoulder anchors	Reinforced loops, D-rings, or low-profile rotating anchors positioned to keep the pull away from the neck and aligned with natural arm motion.
Glove or wrist connection	A purpose-built attachment that replaces the proof-of-concept knot, keeps hardware out of the palm, and secures the cord without compromising wrist alignment.
Weighted or unweighted gloves	MMA-style or training gloves that can be used with removable hand mass, fixed light weights, or no added weight depending on the training goal.
Adjustment and safety hardware	Cord-length adjustment, swivel connectors, covered elastic sections, and optional quick-release or overload-release features.

The invention is best understood as a platform rather than a single fixed configuration. The same shoulder yoke can support light rehabilitation-oriented resistance, general fitness training, boxing-specific conditioning, or advanced performance versions with interchangeable cords, removable glove weights, and movement sensors.

04 HOW IT WORKS

The movement cycle and the stacked-resistance principle

The user places the yoke over the arms and settles it across the shoulders. Each resistance cord is attached to a corresponding shoulder anchor and then connected to the glove or wrist interface. Cord length and resistance are selected according to the user’s size, movement range, and intended exercise.

1. Set the fit — The yoke is adjusted to remain secure without restricting breathing, shoulder elevation, or torso rotation.

- 2. Select resistance** — The user chooses light, moderate, or advanced cords and determines whether weighted gloves will also be used.
- 3. Establish the start position** — The hands begin near the body, commonly in a boxing guard or neutral exercise position, with minimal but controlled cord tension.
- 4. Perform the movement** — As the hand travels forward or outward, the elastic cord lengthens and resistance progressively increases.
- 5. Control the endpoint** — The user decelerates before elbow lockout or an unsafe end range, maintaining joint alignment and shoulder control.
- 6. Return under control** — The cord assists the hand back toward the body, while the user actively controls the speed and path of the return.

GAINS STACKING

The gloves add mass and inertia. The cords add progressive elastic resistance. The return phase adds deceleration and positional control. One movement can therefore challenge several physical qualities at the same time.

The system can also be used without glove weight. In a light configuration, the cords provide resistance while preserving a more natural hand speed. In an advanced configuration, small removable weights can increase the demand placed on acceleration, shoulder stabilization, and work capacity. These variables should be changed independently so the user can identify which loading method best supports the intended goal.

OPERATING MODE	TYPICAL PURPOSE
Light / Activation Mode	Very light cords, no glove weights, slow controlled movement, warm-up, mobility, or professionally guided rehabilitation progression.
Technique / Endurance Mode	Light-to-moderate cords, unweighted or lightly weighted gloves, repeated straight punches, combinations, guard recovery, and timed rounds.
Strength-Endurance Mode	Moderate resistance with carefully selected glove mass for controlled, lower-speed drills emphasizing force production and shoulder endurance.
Single-Arm Mode	One cord used at a time to address side-to-side control, asymmetry, targeted activation, or unilateral sport movements.

05 POTENTIAL USES

Applications across combat sports, fitness, conditioning, and shoulder-focused movement

Boxing and combat-sport drills: Resisted jabs, crosses, combinations, guard recovery, controlled hooks, uppercuts, defensive hand movement, and timed shadowboxing rounds.

Punch endurance and work capacity: Repeated low-to-moderate resistance rounds may increase the muscular demand placed on the shoulders, upper back, chest, arms, and trunk.

Technique awareness: The progressive pull can make loss of alignment, excessive reach, uneven left-right output, or weak return-to-guard mechanics easier to notice.

Shoulder activation and warm-up: Light resistance can be used for gradual arm extensions, scapular movement, controlled punches, and sport-specific preparation.

General upper-body conditioning: The apparatus can support reaches, presses, pulls, arm drives, rotational patterns, and selected mobility exercises beyond boxing.

Rehabilitation progression: A low-resistance configuration could support professionally prescribed shoulder and upper-body exercise, provided the movement and loading are approved for the individual condition.

Return-to-sport preparation: Athletes may use progressive versions to bridge controlled exercise and faster sport-specific movement.

Portable training: Because the resistance is carried on the body, the user can train without a door anchor, cable stack, wall attachment, or large machine.

Interactive fitness and gaming: Future versions could add motion sensors or resistance tracking for connected workouts, VR boxing, gamified rehabilitation, or performance analytics.

06 POTENTIAL BENEFITS

Performance advantages the system is designed to support

PROGRESSIVE RESISTANCE Elastic loading increases through the movement instead of remaining constant, creating a scalable challenge across the usable range.	CONTROLLED RETURN AND DECELERATION The user must manage the assisted return rather than allowing the hand to snap back, reinforcing control and recovery to position.
SHOULDER AND UPPER-BACK ENGAGEMENT The movement may recruit stabilizing muscles that manage the shoulder blades, humeral position, arm path, and posture.	STRENGTH-ENDURANCE Timed drills can increase the cumulative muscular demand of repeated arm movements and combinations.
BILATERAL BALANCE Separate left and right cords allow resistance to be matched, intentionally varied, or used independently.	MOVEMENT-SPECIFIC CONDITIONING Resistance is applied directly to punching and reaching patterns rather than only through general gym exercises.
MODULAR LOADING Cord resistance and glove mass can be progressed separately, allowing more precise control than a fixed-weight device.	PORTABILITY AND ACCESSIBILITY A compact wearable system can provide a broad range of drills without specialized machines or a fixed training location.
MULTI-BENEFIT EFFICIENCY The same exercise can combine movement practice, resistance, shoulder activation, core stabilization, endurance, and return control.	USER FEEDBACK Because the pull is felt continuously, the system may help the user sense range, symmetry, pace, and loss of control in real time.

07 PRODUCT CONFIGURATIONS AND EXPANSION POTENTIAL

A platform that can serve different users without forcing one resistance level on everyone

RESTORE — Minimal-resistance cords, unweighted hand interfaces, soft breathable yoke, and slow controlled movement for activation or professionally guided rehabilitation.

TRAIN — Light and medium interchangeable cords with optional light glove weights for fitness, boxing technique, conditioning, and endurance rounds.

PERFORMANCE — Broader resistance selection, reinforced anchors, quick-change hardware, and advanced drills for trained combat-sport and performance users.

CONNECTED / SENSOR EDITION — Embedded motion sensing for punch count, speed, symmetry, range, return time, resistance level, and workout tracking.

The strongest long-term commercial opportunity may be the shoulder yoke itself as a reusable resistance platform. Different cords, hand attachments, glove systems, sensors, and training programs could connect to the same base garment. This creates the potential for a product family rather than a one-purpose accessory.

PLATFORM POTENTIAL

The invention can begin as a simple wearable punch trainer and expand into a modular ecosystem for boxing, fitness, shoulder conditioning, connected exercise, and specialized rehabilitation programs.

08 DISTINCTIVE DESIGN PRINCIPLES

The features that transform an improvised band exercise into a coherent product system

- A dedicated shoulder yoke replaces a loose band resting directly against the neck and upper back.
- Independent left and right resistance paths preserve natural bilateral and unilateral movement.
- The device is body-carried and does not require a fixed external anchor.
- Glove mass and elastic resistance can be used independently or together.
- The system treats the return-to-guard phase as a trainable movement rather than dead time between punches.
- A modular architecture allows the same platform to serve light activation, general training, and higher-performance configurations.
- The invention emerged from a real physical proof of concept, providing practical information about fit, tension, length, and usability before formal engineering.

09 DEVELOPMENT AND RESPONSIBLE-USE CONSIDERATIONS

What must be engineered and tested before commercialization

The proof of concept demonstrates feasibility, but a commercial product would require formal design, biomechanical review, materials selection, durability testing, and user trials. Important engineering priorities include:

- Anchor placement that keeps force away from the neck and does not create harmful shoulder torque.
- Cord resistance limits that prevent excessive end-range loading or violent recoil.
- A glove or wrist connection that keeps clips and knots out of the palm and preserves neutral wrist alignment.
- Swiveling or articulating connectors for hooks, uppercuts, rotation, and multi-angle movement.
- Cord sleeves, retention features, and overload-release mechanisms to reduce injury risk if a cord or connector fails.
- Clear resistance labeling based on measured force and extension—not color alone.
- Separate instructions and limits for rehabilitation, fitness, and advanced sport-training versions.
- Sizing, anti-roll construction, heat management, washability, and skin-comfort testing for the shoulder yoke.

USE-POSITIONING NOTE

This concept should be described as a training and conditioning apparatus—not as a medical treatment. Rehabilitation-oriented use should occur only when the movement and resistance are appropriate for the user and approved by a qualified clinician.

10 READY-TO-USE DESCRIPTIVE COPY

Marketing and presentation language for websites, pitch materials, and product discussions

FULL DESCRIPTION

The Shoulder Yoke Resistance Trainer is a compact wearable system that brings progressive resistance directly into punching, reaching, and upper-body movement. A lightweight neoprene yoke rests securely across the shoulders and upper back, supporting independent left and right resistance cords that connect to weighted or unweighted training gloves. As the user punches or extends the arms, the cords progressively resist the movement. As the hands return, the user controls the elastic recoil to reinforce deceleration, stability, and recovery to position. The result is one portable platform capable of combining strength, endurance, shoulder activation, movement control, and sport-specific conditioning in the same exercise.

SHORT PRODUCT DESCRIPTION

A wearable shoulder-yoke resistance system designed to add progressive load to punching and dynamic arm movements while training controlled return, shoulder stability, endurance, and movement mechanics.

ONE-SENTENCE CONCEPT

It resists the punch, challenges the shoulders, and trains the return—all without tying the athlete to a wall or machine.

CORE VALUE PROPOSITION

One wearable system. Multiple stacked gains: resistance, range, strength, control, endurance, activation, and recovery.

PRIMARY TAGLINE

RESIST THE PUNCH. CONTROL THE RETURN.

11 CONCEPT SUMMARY

The invention in plain language

The Shoulder Yoke Resistance Trainer converts an effective improvised exercise into a structured wearable product. It combines the constant loading of weighted gloves, the progressive loading of elastic cords, and the stabilizing function of a compact shoulder yoke. Its central advantage is not simply that it makes punching harder. It creates a controllable resistance environment around the entire movement—from guard, through extension, into deceleration, and back to a ready position.

That full-cycle approach gives the invention potential across boxing, combat sports, general fitness, shoulder conditioning, warm-up, return-to-sport work, and future connected-training applications. The proof of concept has already established that the basic mechanics are workable. The next phase is to translate that insight into exact dimensions, measured resistance ranges, secure connection hardware, and a repeatable prototype suitable for testing.

FROM IMPROVISED TEST → VALIDATED PRINCIPLE → ENGINEERED PRODUCT