PART III

THE HUMAN MACHINE

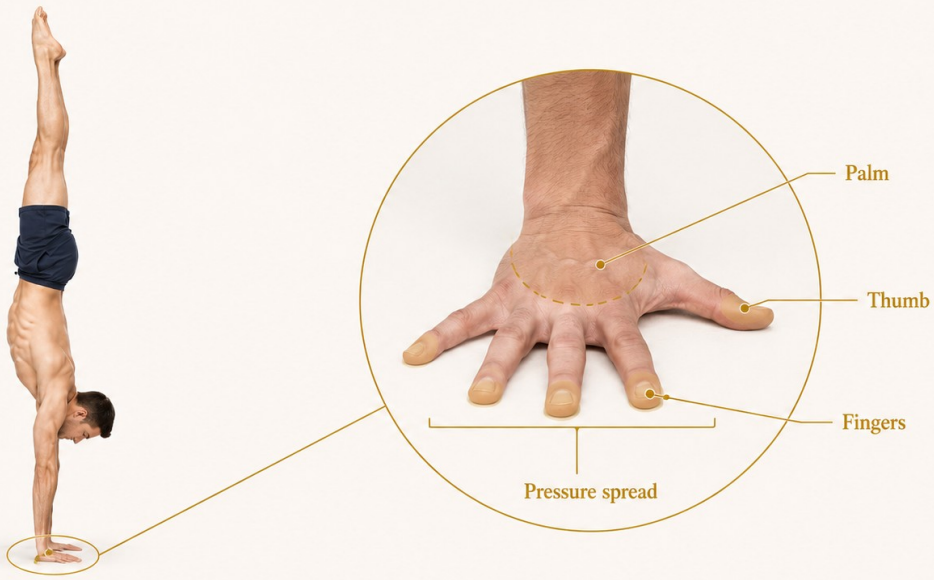
Wrist, shoulder, trunk and line-specific anatomy.



Chapter 25

The hand: contact, friction and finger pressure

FIGURE 19 | Hand Contact Platform



The hand contact platform distributes pressure through the palm, fingers and thumb and provides the sensory and mechanical base for balance.

COACH	CLINICIAN	ATHLETE	RESEARCHER

The hand is the only body part in contact with the floor during a standard handstand. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

The professional coaching task is to identify which body region is limiting the current skill. A beautiful line that creates wrist pain is not a success; a strong shoulder that cannot coordinate with the ribs is not a pillar; a flexible spine that leaks into extension is not control.

The practical standard is joint-by-joint reasoning: observe the visible fault, identify the mechanical role of the involved region, choose the smallest useful correction, then retest balance, symptoms and repeatability.

Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Fingers	Increase pressure to oppose overbalance.	Train gentle sustained pressure, not clawing.
Palm heel	Receives underbalance and baseline support.	Keep full-hand contact without dumping.
Thumb side	Helps resist rotation and hand collapse.	Cue spread and root through thumb mound.
Little-finger side	Completes the lateral base.	Check if athlete rolls out or twists.

KEY IDEA

The hand is a sensory-force platform, not a passive block.

EVIDENCE NOTE

Handstand balance research supports reading the hand as a CoP control surface, especially when wrist strategy is dominant.

CREDIBILITY & CAUTION

Sore skin and sore joints are different problems. Do not solve pressure-map errors with pain tolerance language.

FIELD CHECK

Dust hands lightly with chalk and inspect pressure marks after a hold. Uneven marks can guide hand-contact coaching.

Chapter 26

Wrist anatomy for handstand loading

FIGURE 20 | Wrist Extension Loading Positions



Wrist loading rises from pike-based preparation to wall-supported inversion and then to full freestanding handstand work.

COACH	CLINICIAN	ATHLETE	RESEARCHER

The wrist must tolerate loaded extension while allowing pressure shifts. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Extension range	Needed for palm contact and line.	Build loaded range gradually.
Compression tolerance	Carpal surfaces accept bodyweight forces.	Use progressive loading and rest.
Ulnar side	May become irritated with rotation/extension.	Monitor TFCC-type symptoms and refer when needed.
Wraps/parallettes	Change wrist angle and pressure demands.	Use as tools, not permanent avoidance unless clinically needed.

KEY IDEA

Wrist capacity is a gatekeeper for handstand volume.

EVIDENCE NOTE

Gymnastics injury literature frequently highlights upper-extremity loading concerns; handstand training should therefore use graded exposure rather than random volume.

CREDIBILITY & CAUTION

Persistent sharp pain, swelling, loss of grip, clicking with pain or ulnar-sided symptoms should not be trained through.

FIELD CHECK

Record pain before, during and 24 hours after loading. Progress only when symptoms stay stable or improve.

Chapter 27

Forearm flexors and extensors as pressure regulators

COACH	CLINICIAN	ATHLETE	RESEARCHER

Forearm muscles regulate finger pressure, wrist position and fine correction. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Finger flexors	Create steering pressure.	Train endurance and sensitivity.
Wrist extensors	Support wrist position and control return.	Avoid sudden volume spikes.
Pronation/supination control	Stabilises the hand base.	Check hand angle and rotation.
Fatigue sign	Late, jerky corrections.	Shorten sets before technique becomes violent.

KEY IDEA

Forearm strength must become pressure intelligence.

EVIDENCE NOTE

EMG and apparatus studies indicate that hand support conditions change the muscular solution of the handstand.

CREDIBILITY & CAUTION

Forearm pump is not proof of useful training if it removes balance sensitivity.

FIELD CHECK

Use 5 x 10-second pressure holds instead of one 50-second fatigue hold when teaching finger steering.

Chapter 28

Elbow lockout, hyperextension and stability

COACH	CLINICIAN	ATHLETE	RESEARCHER

The elbow transmits load between the wrist and shoulder. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Soft elbow	Energy leak and support loss.	Reduce load and teach active straight arm.
Comfortable lockout	Stable, repeatable load transfer.	Progress duration.
Hyperextension	May be normal anatomy but requires control.	Strengthen around end range; avoid passive hanging into joint.
Painful lockout	Possible overload or tissue issue.	Regress and assess/refer if persistent.

KEY IDEA

The best elbow position is not just straight; it is straight under active control.

EVIDENCE NOTE

Handstand and press-to-handstand mechanics rely on straight-arm support; joint moments and alignment must be interpreted with individual elbow anatomy.

CREDIBILITY & CAUTION

Do not force a naturally hyperextending elbow into an arbitrary visual line if it creates pain or instability.

FIELD CHECK

From a side video, identify whether elbow softness appears at entry, hold, fatigue or exit. The timing reveals the cause.

Chapter 29

Shoulder flexion, elevation and overhead tolerance

COACH	CLINICIAN	ATHLETE	RESEARCHER

The shoulder must combine range, strength and control in a high-elevation position. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Limited flexion	Athlete compensates with rib flare/banana shape.	Develop shoulder flexion and wall line.
Weak elevation	Athlete sinks toward floor.	Use scapular push and pike support work.
Painful overhead	Load intolerance or pathology may be present.	Regress and use clinical reasoning.
Strong overhead	Line remains tall under fatigue.	Progress to free balance and walking.

KEY IDEA

The shoulder is the main vertical pillar of the handstand.

EVIDENCE NOTE

Kochanowicz et al. reported apparatus-dependent muscle activity in handstands, supporting the specificity of shoulder and upper-extremity loading contexts.

CREDIBILITY & CAUTION

Overhead mobility without load tolerance is not enough; load tolerance without line control is not enough either.

FIELD CHECK

Compare shoulder flexion standing, wall-facing hold and freestanding attempt. The gap shows whether the issue is range, load or fear.

Chapter 30

Scapular upward rotation and protraction

COACH	CLINICIAN	ATHLETE	RESEARCHER

The scapula provides the moving platform for overhead support. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Upward rotation	Positions glenoid for elevation.	Cue push tall and train wall slides/pike work.
Protraction	Creates reach and support.	Avoid passive retraction under load.
Depression collapse	Shoulders sink.	Regress and build active elevation endurance.
Asymmetry	One shoulder lower or winging.	Assess serratus/trap control and fatigue.

KEY IDEA

Scapular control is the hidden architecture of the handstand line.

EVIDENCE NOTE

General shoulder biomechanics literature supports the role of scapular upward rotation and protraction in overhead function; handstand-specific EMG adds task specificity.

CREDIBILITY & CAUTION

Cueing “shoulders down” from upright lifting can be mechanically wrong in handstand support.

FIELD CHECK

Ask for a 2-cm extra push from the floor in a wall hold. If one scapula cannot follow, that side needs support-control work.

Chapter 31

Serratus anterior as the hidden engine

COACH	CLINICIAN	ATHLETE	RESEARCHER

Serratus anterior helps protract and upwardly rotate the scapula during overhead support. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Underactive serratus pattern	Winging, sinking or rib flare.	Use wall slides, scapular push-ups, pike plus drills.
Good serratus control	Shoulders stay tall and broad.	Progress balance challenge.
Fatigue	Loss of protraction under longer holds.	Use shorter quality sets.
Integration	Serratus must coordinate with traps and trunk.	Avoid isolated work only.

KEY IDEA

Serratus anterior turns shoulder strength into a usable handstand platform.

EVIDENCE NOTE

Handstand EMG findings and overhead biomechanics both support attention to scapular support muscles rather than only deltoids and triceps.

CREDIBILITY & CAUTION

Do not diagnose serratus weakness from appearance alone; retest after fatigue, cueing and trunk correction.

FIELD CHECK

Use a wall-facing hold and ask the athlete to spread the shoulder blades while keeping ribs quiet.

Chapter 32

Trapezius and the overhead support chain

COACH	CLINICIAN	ATHLETE	RESEARCHER

The trapezius coordinates scapular upward rotation, elevation and stability. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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The practical standard is joint-by-joint reasoning: observe the visible fault, identify the mechanical role of the involved region, choose the smallest useful correction, then retest balance, symptoms and repeatability.

Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Upper trapezius	Contributes to elevation/upward rotation.	Use without neck clenching.
Lower trapezius	Supports upward rotation and posterior tilt.	Train with controlled overhead patterns.
Middle trapezius	Helps control scapular position.	Avoid excessive retraction in handstand.
Coordination	Works with serratus.	Train integrated support.

KEY IDEA

Trapezius is not the enemy of the neck; uncoordinated tension is.

EVIDENCE NOTE

Overhead shoulder models and handstand apparatus EMG studies support treating the scapular muscles as a coordinated system.

CREDIBILITY & CAUTION

Neck tension during handstands may be fear, vision strategy, breathing or scapular fatigue, not simply tight upper traps.

FIELD CHECK

Watch the neck during a push-tall cue. If the athlete grimaces or shortens the neck, reduce intensity and retrain elevation calmly.

Chapter 33

Rotator cuff centration under vertical load

COACH	CLINICIAN	ATHLETE	RESEARCHER

The rotator cuff helps centre the humeral head while larger muscles create support. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Centration	Maintains joint relationship under load.	Use low-noise shoulder control drills.
Fatigue	May produce wobble or pain.	Manage volume.
Compensation	Deltoid/pec dominate while cuff cannot stabilise.	Regress overhead load.
Return after pain	Requires graded exposure.	Use symptom-led progressions.

KEY IDEA

Rotator cuff work in handstand training is about joint control under vertical load, not only band exercises.

EVIDENCE NOTE

Gymnastics return-to-play and shoulder literature support careful management of upper-extremity loading when symptoms exist.

CREDIBILITY & CAUTION

Band external rotations do not automatically prepare an athlete for bodyweight inversion; transfer must be tested.

FIELD CHECK

If shoulder pain appears only after multiple attempts, suspect fatigue/tolerance before changing technique radically.

Chapter 34

Rib cage mechanics and breathing upside down

COACH	CLINICIAN	ATHLETE	RESEARCHER

The rib cage connects breathing, trunk stiffness and shoulder access. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Breath holding	Creates excessive bracing and fear.	Teach quiet breathing in easy holds.
Rib flare	Steals shoulder line and shifts COM.	Use exhale-to-stack work.
Rib depression excess	Can restrict shoulder access.	Find balanced trunk tone.
Breathing under load	Shows ownership of the position.	Progress when breathing remains calm.

KEY IDEA

If the athlete cannot breathe in the line, the line is not yet owned.

EVIDENCE NOTE

Spine and sagittal-alignment studies during handstand support the importance of trunk and pelvic mechanics during inversion.

CREDIBILITY & CAUTION

Do not demand maximal hollow if it blocks breathing or shoulder elevation.

FIELD CHECK

In a wall hold, require three quiet nasal breaths before the set counts.

Chapter 35

Pelvic position and lumbar control

COACH	CLINICIAN	ATHLETE	RESEARCHER

The pelvis sets the lower half of the line and influences lumbar extension. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Anterior tilt/arch	Common banana pattern.	Use rib-pelvis stacking and glute tone.
Posterior tilt excess	May create a tucked line that limits extension aesthetics.	Match the goal.
Neutral-control range	Athlete can adjust pelvis without losing balance.	Progress shape drills.
Fatigue drift	Pelvis changes late in the set.	Stop before collapse becomes practice.

KEY IDEA

The pelvis is the steering wheel of the lower-body line.

EVIDENCE NOTE

Radiographic evidence and clinical biomechanics both support analysing spinopelvic position rather than treating the trunk as a rigid stick.

CREDIBILITY & CAUTION

Pelvic correction should not be forced through pain or breath holding.

FIELD CHECK

Use a wall-facing hold and alternate gentle glute squeeze/relax. The athlete should feel pelvic change without shoulder collapse.

Chapter 36

Hip line, leg tension and long-lever balance

COACH	CLINICIAN	ATHLETE	RESEARCHER

The legs are long levers; small leg errors can move the entire system. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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The practical standard is joint-by-joint reasoning: observe the visible fault, identify the mechanical role of the involved region, choose the smallest useful correction, then retest balance, symptoms and repeatability.

Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Soft knees	Creates variable lever length.	Cue controlled extension.
Split legs	May help early balance or perform a variation.	Use intentionally, not accidentally.
Toe point	Improves line and body awareness.	Do not prioritise over wrist/shoulder safety.
Leg separation during fatigue	Shows line-control loss.	Shorten sets or reduce complexity.

KEY IDEA

Leg tension is balance information, not decoration.

EVIDENCE NOTE

Handstand style and apparatus contexts vary, so leg-line decisions must match the task: gymnastics line, yoga control, circus balance, walking or transition.

CREDIBILITY & CAUTION

Do not over-cue legs in a beginner who has not yet learned hand pressure and exit safety.

FIELD CHECK

Compare balance with legs together, slight split and straddle. Choose the version that teaches the current target best.

Chapter 37

Neck position and visual strategy

COACH	CLINICIAN	ATHLETE	RESEARCHER

The head influences vision, vestibular input, cervical load and the whole line. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Neutral gaze	Often useful for line and calm.	Look between hands without craning.
Head lifted	May help some athletes orient but can extend spine.	Use temporarily if needed.
Tucked too much	Can disorient or round upper body.	Find visual target.
Neck pain	Warning signal.	Regress and assess.

KEY IDEA

The eyes help balance, but the neck should not pay the price for fear.

EVIDENCE NOTE

Handstand balance involves visual, vestibular and proprioceptive information; changing head position changes the sensory task.

CREDIBILITY & CAUTION

Never force neck positions in athletes with cervical symptoms, dizziness or neurological signs.

FIELD CHECK

Use a fixed gaze spot on the floor just between or slightly ahead of the hands and compare sway.

Chapter 38

Anthropometry: long arms, short arms, trunk length and hand size

COACH	CLINICIAN	ATHLETE	RESEARCHER

Body proportions change the mechanical problem. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Long arms	May ease floor clearance but change shoulder angles.	Individualise hand width and line cues.
Short arms	May require more shoulder access and compression for presses.	Progress mobility and strength together.
Long trunk	COM management may feel different.	Use line drills and pressure awareness.
Small hands	Smaller pressure platform.	Prioritise precision and surface safety.

KEY IDEA

Individualisation is not softness; it is applied mechanics.

EVIDENCE NOTE

The handstand literature includes skilled cohorts but cannot define one perfect technique for all body types; proportions and goals must guide decisions.

CREDIBILITY & CAUTION

Do not compare a tall adult beginner to a junior elite gymnast without context.

FIELD CHECK

Record height, body mass, arm span, shoulder flexion, wrist extension, hand size and training goal in the first assessment.

Chapter 39

A joint-by-joint atlas of the handstand

COACH	CLINICIAN	ATHLETE	RESEARCHER

The handstand can be read from the floor upward. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Hand	Creates base and pressure map.	Assess contact first.
Wrist	Accepts extension and moment.	Monitor symptoms and CoP shift.
Elbow	Transmits load.	Check active lockout.
Shoulder/scapula	Creates support pillar.	Check elevation/protraction.
Trunk/pelvis	Controls column.	Check breathing and line.
Legs	Complete lever.	Check fatigue drift.

KEY IDEA

From floor to feet, every joint either transmits, regulates or leaks force.

EVIDENCE NOTE

Combining direct handstand evidence with clinical kinesiology makes joint-by-joint analysis practical and credible.

CREDIBILITY & CAUTION

The atlas is not a checklist to over-cue. It is a way to find the first meaningful bottleneck.

FIELD CHECK

Use a slow-motion side view and pause at contact, stack, balance and fatigue. Score each joint region 0-2 for control.

Chapter 40

Why two athletes need different handstand styles

COACH	CLINICIAN	ATHLETE	RESEARCHER

Technique is a decision matched to a person and a goal. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Gymnastics line	Straight, controlled, aesthetic.	Prioritise shape and execution rules.
Calisthenics balance	Transfer to strength and control.	Prioritise robustness and progressions.
Yoga practice	Breath, control, position awareness.	Prioritise calm entry and sustainable holds.
CrossFit walking	Locomotor task under fatigue.	Prioritise volume management and safe exits.
Clinical return	Load tolerance first.	Prioritise exposure and symptoms.

KEY IDEA

There is no universal handstand; there are handstand solutions.

EVIDENCE NOTE

Evidence tells us mechanisms; coaching must apply those mechanisms to context.

CREDIBILITY & CAUTION

Calling every non-gymnastics line wrong is poor biomechanics. Calling every line acceptable without load reasoning is also poor biomechanics.

FIELD CHECK

Write the target in one sentence before coaching: “This athlete needs ___ for ___ by ___ date, with ___ tolerance limits.”

Chapter 41

The complete muscle atlas

COACH	CLINICIAN	ATHLETE	RESEARCHER

Muscles should be taught by mechanical role, not memorised as a list. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Primary support	Deltoids, triceps, scapular elevators/upward rotators.	Hold the body against gravity.
Steering	Finger flexors, wrist/forearm muscles.	Move pressure under the hand.
Centration	Rotator cuff and scapular stabilisers.	Keep shoulder organised.
Column control	Abdominals, spinal extensors, glutes.	Prevent line leakage.
Long lever	Hip and leg muscles.	Maintain shape and reduce noise.

KEY IDEA

The best muscle atlas answers: what is the muscle doing for the skill?

EVIDENCE NOTE

Kochanowicz et al. measured muscle activity during handstands on different apparatus, supporting a task-specific muscle interpretation.

CREDIBILITY & CAUTION

Do not reduce handstand training to shoulders and triceps; the balance system depends on the whole chain.

FIELD CHECK

For each fault, name the functional failure: support, steering, centration, column or long-lever control.

Chapter 42

Phase-by-phase muscle matrix

COACH	CLINICIAN	ATHLETE	RESEARCHER

Muscle roles change across contact, entry, stack, balance, walking and exit. Part III treats the athlete as a linked biological machine, not as an ideal stick figure. Every segment has a role: the hands sense and steer, the wrists regulate, the elbows transmit, the shoulders support, the trunk organises and the legs behave as long levers.

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Anatomy-to-decision table

Region / sign	Mechanical role	Coaching decision
Contact	Hands/forearms prepare pressure and load.	Use calm contact.
Entry	Shoulders and trunk accept momentum.	Control impulse.
Stack	Scapula, triceps and trunk organise the line.	Push tall and breathe.
Balance	Forearms and shoulders micro-correct.	Coach quiet pressure.
Walk	Alternating support and trunk stiffness dominate.	Cap fatigue.
Exit	Eccentric control and spatial	Practise safe bails.

	awareness.	

KEY IDEA

No muscle has one handstand job; the phase decides the job.

EVIDENCE NOTE

Phase-based analysis follows the same scientific logic used in gait, lifting and gymnastics biomechanics: define events, then interpret forces and muscle roles within those events.

CREDIBILITY & CAUTION

Programming assistance exercises without phase logic can build strength that fails to transfer.

FIELD CHECK

When selecting an accessory exercise, write which phase it supports and how you will retest transfer.

PART III INTEGRATED ASSESSMENT SHEET

Use this before prescribing progressions

Joint-by-joint screen

Region	Green flag	Yellow/red flag
Hand	Full contact, calm finger steering	Skin tearing, numbness, severe pressure avoidance
Wrist	Stable extension tolerance and no delayed symptom increase	Sharp pain, swelling, ulnar-sided pain, clicking with pain
Elbow	Active lockout without pain	Painful hyperextension, buckling, nerve symptoms
Shoulder	Tall support, no collapse, quiet neck	Painful overhead, asymmetry, uncontrolled sinking
Scapula	Upward rotation/protraction under load	Winging, rib flare compensation, rapid fatigue
Rib/pelvis	Breathable line control	Breath holding, back pain, uncontrolled arch
Leg line	Intentional lever position	Fatigue drift or uncontrolled split

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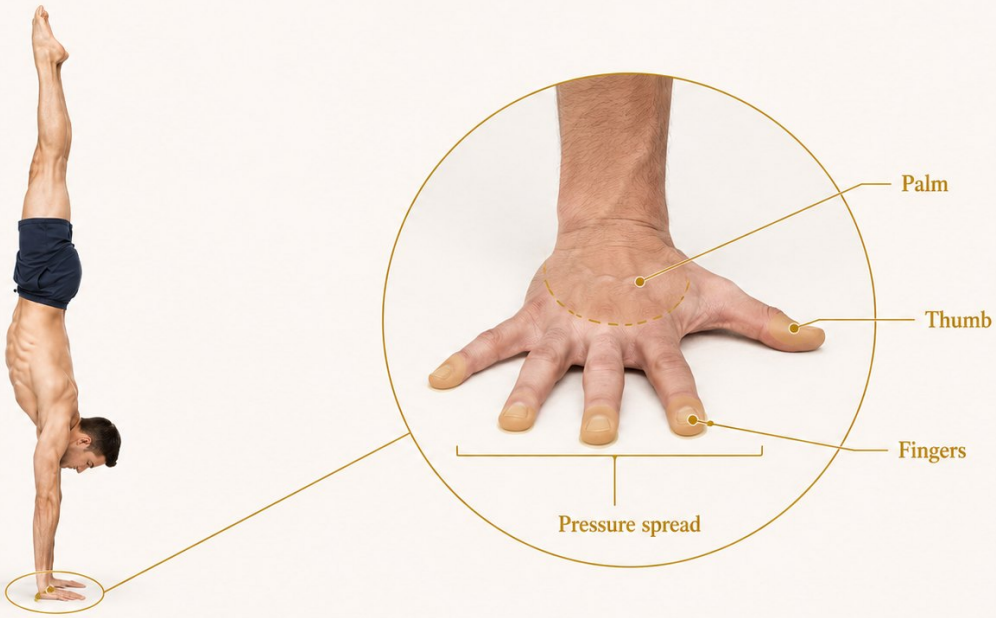
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HS-FIG-019 | Hand Contact Platform

FIGURE 19 | Hand Contact Platform



The hand contact platform distributes pressure through the palm, fingers and thumb and provides the sensory and mechanical base for balance.

HS-FIG-020 | Wrist Extension Loading Positions

FIGURE 20 | Wrist Extension Loading Positions



Wrist loading rises from pike-based preparation to wall-supported inversion and then to full freestanding handstand work.

HS-FIG-021 | Elbow Lockout And Hyperextension

FIGURE 21 | Elbow Lockout & Hyperextension



A stable elbow lockout supports force transfer; excessive hyperextension shifts support towards passive joint structures.

HS-FIG-022 | Scapular Upward Rotation And Elevation

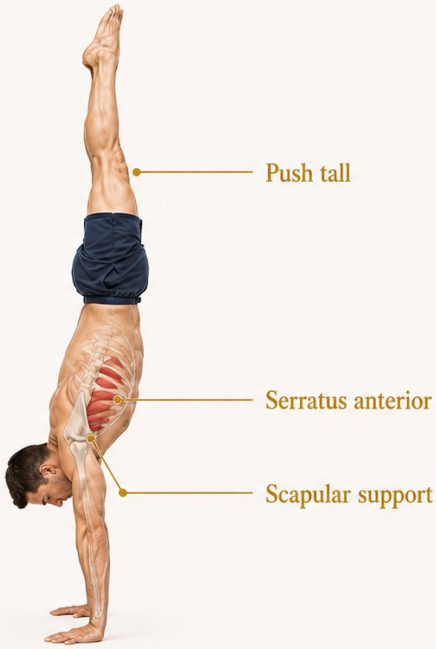
FIGURE 22 | Scapular Upward Rotation & Elevation



Successful overhead support depends on scapular upward rotation and elevation to create a strong vertical base.

HS-FIG-023 | Serratus Anterior As The Hidden Engine

FIGURE 23 | Serratus Anterior as the Hidden Engine



The serratus anterior helps drive scapular support and keeps the overhead line active rather than collapsed.

HS-FIG-024 | Rotator Cuff And Shoulder Centration

FIGURE 24 | Rotator Cuff & Shoulder Centration



The rotator cuff helps centre the shoulder joint so overhead loading can be supported with control.

HS-FIG-025 | Rib Cage And Pelvis Alignment

FIGURE 25 | Rib Cage & Pelvis Alignment



The trunk works best when the rib cage and pelvis stay organised; rib flare and pelvic tilt leak efficiency.

HS-FIG-026 | Hip Line And Leg Tension

FIGURE 26 | Hip Line & Leg Tension



Leg tension helps the hips stay organised; loose legs make the line less efficient and harder to control.

HS-FIG-027 | Head And Neck Position In Handstand

FIGURE 27 | Head & Neck Position in Handstand



A quiet head and neck position supports balance; excessive cervical extension adds unnecessary strain and can disturb the line.

HS-FIG-028 | Anthropometry Comparison

FIGURE 28 | Anthropometry Comparison



Anthropometry changes the shapes and angles used to reach the same balance task; different bodies need different solutions.