PART VI

THE COMPLETE PHASE ATLAS

From entry to exit.



Approach · Kick-up · Catch · Line · Exit

LINE CONTROL
Balance & Alignment

SHOULDER ENGINE
Protraction & Stability

CORE INTEGRITY
Stiffness & Transfer

POWER IN MOTION
Step, Shift, Sustain

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Chapter 79

Phase model and event definitions

COACH RESEARCHER

A handstand cannot be coached accurately if every problem is labelled “bad form.” The phase model separates the skill into events: hand placement, entry, stack, line, balance, hold, transfer and exit.

Each event has a different mechanical question. Hand placement asks whether the base is organised. Entry asks whether momentum is controlled. Balance asks whether pressure correction is early enough. Exit asks whether failure is safe.

The phase model is the basis for professional diagnosis. It prevents a coach from correcting the shoulder when the real error occurred during kick-up speed.

Table VI.1. Eight-phase model

Phase	Main question	Primary metric
1 Hand placement	Is the base repeatable?	Hand width and pressure
2 Entry	Is momentum controlled?	Kick speed and line arrival
3 Stack	Are joints organised?	Wrist-elbow-shoulder relation
4 Line	Is the trunk column controlled?	Rib-pelvis-leg alignment
5 Balance	Is drift corrected early?	Save count
6 Hold	Can quality persist?	Clean seconds
7 Transfer	Can task change?	Tap/walk/press control
8 Exit	Can failure be safe?	Bail quality

KEY IDEA

Faults must be traced to the phase where they begin, not where they become obvious.

EVIDENCE NOTE

Handstand and press-to-handstand studies use identifiable movement events and mechanical variables, supporting event-based analysis.

CREDIBILITY & CAUTION

Do not overload beginners with phase language during practice. Use it for coaching decisions, then translate into simple cues.

Figure VI-1. Eight-phase handstand model.

FIGURE 49 | Freestanding Handstand Phase Model



A freestanding handstand unfolds as a sequence of entry, capture, organisation, correction, stable hold and safe exit.

Chapter 80

Phase 1: floor approach and hand placement

BEGINNER COACH

The handstand begins before the feet leave the floor. Hand width, finger spread, palm pressure and shoulder distance from the hands determine the first balance problem.

A repeatable hand placement reduces noise. Beginners benefit from floor marks, hand-width references and a simple tripod-hand cue: heel of palm, knuckle base and fingers active.

Too narrow a base may increase side-to-side instability. Too wide a base may limit shoulder elevation and make walking inefficient.

Table VI.2. Hand placement decisions

Observation	Likely effect	Decision
Hands too wide	Shoulder support reduced	Bring toward shoulder-width
Hands too narrow	Side wobble	Mark slightly wider base
Fingers passive	Late balance correction	Finger-pressure drill
Uneven pressure	Twist or side fall	Reset hand angle

KEY IDEA

A predictable base creates a predictable balance problem.

EVIDENCE NOTE

Centre-of-pressure research makes the hand contact area central to inverted balance control.

CREDIBILITY & CAUTION

Do not force one hand width for all athletes. Shoulder structure, hand size, task and comfort matter.

Chapter 81

Phase 2: entry and momentum control

BEGINNER **COACH**

The kick-up creates the initial energy of the handstand. Too little energy never reaches the line; too much energy forces a save or a bail.

The entry should be trained as a repeatable dose of momentum. The athlete learns to kick to the line, not through the line.

Wall-stop drills and controlled kick-up to split position are useful because they teach the athlete where the line is before demanding long freestanding control.

Table VI.3. Entry faults

Fault	Mechanical problem	Correction
Under-kick	CoM remains behind hands	Kick-up to wall marker
Over-kick	CoM passes fingers too fast	Wall stop and toe-pull
Twisted entry	Asymmetric leg swing	Line on floor + slow split kick
Head throw	Neck breaks stack	Quiet gaze cue

KEY IDEA

The best balance correction is the error the entry never creates.

EVIDENCE NOTE

Event-based skill research and motor-learning principles support repeated, constrained entry practice before open freestanding attempts.

CREDIBILITY & CAUTION

Do not let a learner repeat violent kick-ups. Repetition of poor entry is not practice; it is error rehearsal.

Figure VI-2. Common phase-linked fault burden.

HS-FIG-058 | Common Phase Faults Montage



Recognise the fault early, choose one correction and retest the same phase.

Chapter 82

Phase 3: first stack and shoulder organisation

COACH **ATHLETE**

When the feet rise, the athlete must quickly organise wrist, elbow and shoulder. A late shoulder push creates a sagging line and makes balance correction expensive.

The first stack is not a fixed geometric perfection. It is the first usable arrangement that allows the athlete to carry load and correct pressure.

Coaches should watch for the shoulder collapsing toward the ears passively, elbows softening or ribs opening as the athlete searches for the line.

Table VI.4. First-stack audit

Region	Green sign	Red sign
Wrist	Loaded evenly	Pain/guarding
Elbow	Long active support	Bending under fear
Shoulder	Tall and stable	Sagging or pinching
Ribs	Controlled	Immediate flare

KEY IDEA

First stack determines whether the athlete balances from organisation or from rescue.

EVIDENCE NOTE

Handstand EMG and kinematic studies show substantial shoulder-girdle involvement during inverted support.

CREDIBILITY & CAUTION

Do not cue stronger push if the athlete lacks wrist tolerance or is using pain avoidance to change the stack.

Chapter 83

Phase 4: line organisation

COACH ATHLETE

Line organisation is the moment when the athlete becomes one controllable column. The legs, pelvis, ribs, shoulders and hands must stop behaving as separate pieces.

A banana shape may reflect shoulder limitation, trunk weakness, fear, poor cueing or an intentional style. The coach should decide by context rather than appearance alone.

The operational question is: can this line be held, corrected, breathed in and progressed without symptoms?

Table VI.5. Line decisions

Line issue	Possible cause	Test
Banana shape	Shoulder flexion or rib control	Wall line plus shoulder flexion screen
Piked hips	Fear or hamstring/compression issue	Wall hold and hollow body
Split legs	Entry strategy or asymmetry	Freestanding split-to-together drill
Neck extension	Visual strategy	Gaze retest

KEY IDEA

A useful line is a controllable line.

EVIDENCE NOTE

The systematic review highlights joint angles and body configuration as recurring handstand analysis variables.

CREDIBILITY & CAUTION

Do not sacrifice shoulder comfort or breathing for an aesthetic line that the athlete cannot own.

Chapter 84

Phase 5: balance correction

COACH RESEARCHER

Balance correction begins when the athlete senses drift. The first response should usually come from the hand and wrist, with the shoulder and trunk joining when the drift is larger.

The correction phase is the key bridge between wall work and freestanding handstand. Wall drills must expose controlled drift rather than hiding it completely.

Heel pulls, toe pulls and fingertip pressure pulses teach the athlete to create and resolve small balance errors safely.

Table VI.6. Correction drills

Drill	Error exposed	Coaching target
Heel pull	Falling away from wall	Find centre without panic
Toe pull	Overbalance toward fingers	Use pressure early
Shoulder tap	Weight-shift error	Keep trunk quiet
Line walk	Dynamic drift	Step before collapse

KEY IDEA

Correction skill is trained by controlled error exposure.

EVIDENCE NOTE

Blenkinsop et al. and Wyatt et al. provide direct evidence that handstand balance depends on CoP/CoM interaction and wrist-dominant control strategies.

CREDIBILITY & CAUTION

Do not treat every fall as lack of strength. Many falls are timing and pressure errors.

Chapter 85

Phase 6: hold endurance and fatigue drift

ATHLETE | **COACH**

Once the athlete can balance, the next problem is maintaining quality under time. Fatigue first appears as drift, shoulder sag, finger overwork or breathing change.

Endurance should be trained as high-quality accumulated seconds. The coach should count clean seconds rather than total inverted seconds.

A useful endurance session might use many short holds with strict stop rules rather than one maximal hold that ends in collapse.

Table VI.7. Hold quality score

Score	Description	Decision
3	Quiet line, small corrections, safe exit	Progress
2	Minor drift, controlled save	Repeat
1	Large saves, breath held, shaky exit	Regress or stop
0	Pain or unsafe fall	Stop and reassess

KEY IDEA

Endurance is the ability to keep the same decision quality under rising fatigue.

EVIDENCE NOTE

Load-management and motor-control principles support monitoring quality and response under fatigue.

CREDIBILITY & CAUTION

Maximal handstand endurance attempts are not appropriate for every session and should not be used during pain return.

Chapter 86

Phase 7: transfer and task change

COACH	ATHLETE

Transfer is the phase where a handstand stops being only a hold and becomes another task: a step, a tap, a turn, a press, a push-up descent, a return to the wall, or a safe transition into walking. It is the missing bridge between static balance and usable inverted skill.

Many athletes can hold a clean line but fail when the task changes. The reason is mechanical: transfer briefly narrows support, shifts centre of pressure, changes shoulder demand and asks the trunk to preserve line while one part of the system moves.

The professional coaching standard is to separate hold quality from transfer quality. A ten-second handstand does not automatically authorise shoulder taps, walking, press work or handstand push-up volume. Each transfer must be tested as its own decision.

Table VI.8. Phase 7 transfer audit

Transfer demand	Pass standard	If not passed
Weight shift	Body moves over one hand without shoulder collapse.	Return to wall shifts or reduce the range.
Shoulder tap	Tap is quiet; pelvis and ribs do not swing.	Use toe support, wall taps or smaller lifts.
Walk initiation	Forward lean is deliberate; first step is small.	Rebuild lean, tap and single-step drills.
Task change under fatigue	Line remains recognisable after repeated attempts.	End the set before collapse becomes the teacher.

KEY IDEA

Transfer is not a bonus after balance; it is the phase where balance proves it can survive task change.

EVIDENCE NOTE

Handstand balance research supports event-based analysis: pressure control, shoulder strategy and centre-of-mass behaviour change when the task becomes dynamic.

CREDIBILITY & CAUTION

Do not progress from stillness to walking or tapping until the athlete can shift load without shoulder sag, rib flare, panic or unsafe exit behaviour.

Figure VI-8. Phase 7 transfer turns a handstand hold into a usable movement skill.

Chapter 87

Phase 8: exit and fall management

BEGINNER | CLINICIAN | COACH

The exit is part of the skill, not an emergency after the skill fails. A safe bail gives the nervous system permission to practise balance. Exit quality is therefore a technical standard, not an afterthought.

Most learners should master a cartwheel-style bail or controlled step-down before repeated freestanding attempts. The exact exit depends on the context, surface, body type and coaching environment.

An athlete who cannot fail safely cannot yet train freely. For rehabilitation, youth athletes, group classes and online coaching, exit competence should be verified before speed, walking or fatigue-based challenges.

Table VI.9. Exit progression

Exit layer	Pass standard	Programming decision
Wall step-down	Learner can return feet without panic.	Use before repeated wall exposure.
Cartwheel bail	Hands stay planted; body turns safely to feet.	Required before frequent free attempts.
Soft failed kick-up	Athlete under-kicks or redirects without collapse.	Builds confidence and repetition volume.
Fatigue exit	Athlete exits before shoulder or wrist collapse.	Defines end-of-set quality standard.

KEY IDEA

A handstand is not complete until the athlete can leave it safely and repeatedly.

EVIDENCE NOTE

Motor-learning and gymnastics safety logic support early exit practice because fear and unsafe failure reduce repetition quality.

CREDIBILITY & CAUTION

Do not use repeated free attempts when every failed attempt ends in collapse, wrist dumping or uncontrolled spinal extension.

Figure VI-9. Exit skill converts failure into safe, repeatable learning.

PART VI reference apparatus

EVIDENCE HIERARCHY

Direct handstand studies are prioritised first; gymnastics, motor-control, strength-training, and clinical load-management literature are used only when they explain mechanisms not yet isolated in handstand-specific trials.

Table R.1. Evidence-to-practice translation audit

Source type	Use in this part	Limit
Direct handstand biomechanics	Balance, CoP/CoM, wrist strategy, press-to-handstand, EMG	Often small samples and expert-biased cohorts
Gymnastics injury / RTP	Wrist, elbow, shoulder, spine loading and return-to-sport logic	Sport-specific, not always transferable to recreational adults
Motor learning	Cueing, feedback, variable practice, skill retention	Requires contextual coaching judgement
Strength and load-management consensus	Progression, tissue adaptation and monitoring	Does not replace individual assessment

Core references used in this part

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Transition to the next part

Part VII now turns this phase atlas into a complete beginner-to-advanced progression ladder.

HS-FIG-049 | Freestanding Handstand Phase Model

FIGURE 49 | Freestanding Handstand Phase Model



A freestanding handstand unfolds as a sequence of entry, capture, organisation, correction, stable hold and safe exit.

HS-FIG-050 | Chest To Wall Handstand Phase Model

FIGURE 50 | Chest-to-Wall Handstand Phase Model



The chest-to-wall handstand can be organised as a clear sequence of entry, line establishment, supported hold and controlled exit.

HS-FIG-051 | Back To Wall Handstand Phase Model



HS-FIG-052 | Tuck Handstand

HS-FIG-052 | Tuck Handstand



The tuck shape shortens the lever and helps the athlete organise balance.

HS-FIG-053 | Straddle Handstand



HS-FIG-054 | Split Handstand



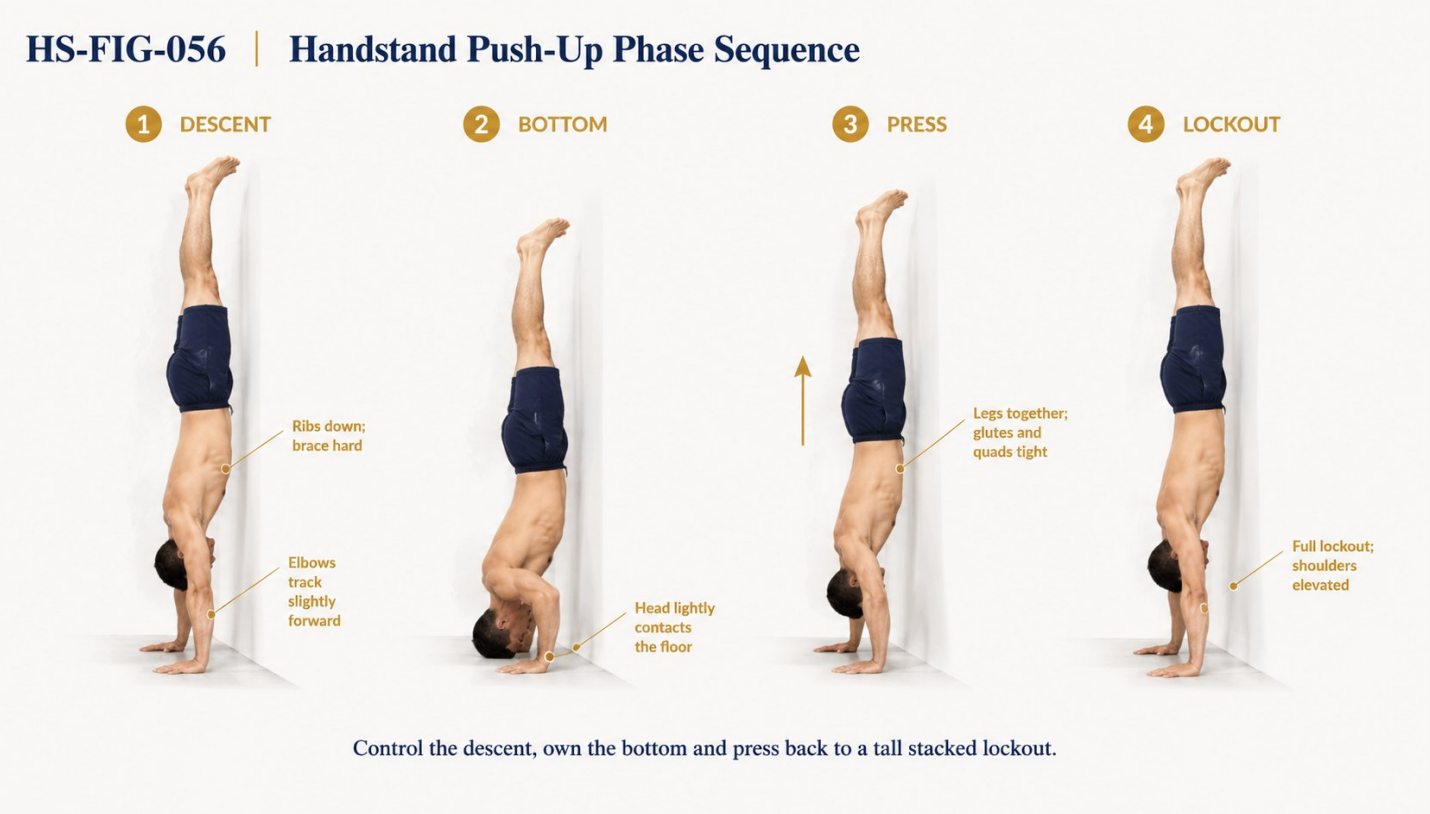
The split handstand changes lever length and demands precise line control.

HS-FIG-055 | Press To Handstand Phase Sequence



Shift the shoulders, raise the hips and press the legs with control into line.

HS-FIG-056 | Handstand Push Up Phase Sequence



Control the descent, own the bottom and press back to a tall stacked lockout.

HS-FIG-057 | Handstand Walk Phase Model



Walking is repeated controlled forward balance with clean weight transfer and recovery.

HS-FIG-058 | Common Phase Faults Montage



Recognise the fault early, choose one correction and retest the same phase.