PART X

PROGRAMMING, COACHING AND REFERENCE APPARATUS

Assess, coach, cue and review.



Chapter 159

Principles of progression

COACH ATHLETE

Programming handstands is the art of selecting the right balance problem at the right dose. Progression is not simply harder drills; it is better matching between goal, capacity and recovery.

Every programme should define the target skill, current limiting factor, exposure volume, stop rules, retest date and criteria for progression.

The MMSx coaching cycle is assess, choose drill, dose, observe, retest, and progress or regress.

Table X.1. Progression variables

Variable	Example	Risk if rushed
Load angle	Pike to vertical	Wrist/shoulder overload
Duration	10 s to 30 s	Fatigue collapse
Complexity	Wall to free	Unsafe falls
Velocity	Hold to walk	Loss of control
Volume	Few attempts to many	Overuse symptoms

KEY IDEA

Progression is a loop, not a ladder drawn once.

EVIDENCE NOTE

Resistance-training and load-management literature support planned progression, monitoring and individual response.

CREDIBILITY & CAUTION

Do not progress multiple variables at once unless the athlete has robust capacity and the purpose is deliberate challenge.

Figure X-1. MMSx coaching cycle.

FIGURE 89 | Coaching View Positions



Different camera and coaching views reveal different mechanical information, so front, side and rear perspectives should all be checked.

Chapter 160

Beginner eight-week on-ramp

BEGINNER COACH

The beginner programme builds wrist base, pike support, wall confidence, line awareness and exit skill. It does not chase freestanding success before safety exists.

Sessions should be short and high quality. Two to four exposures per week are enough for many beginners, depending on wrist response, training age and other loading.

The goal at week eight is not guaranteed freestanding mastery. The goal is a safe, educated athlete with a repeatable wall line and beginning balance drills.

Table X.2. Eight-week on-ramp

Weeks	Primary focus	Main drills
1-2	Base and wrist tolerance	Quadruped rocks, incline leans
3-4	Pike support	Box holds, scap pushes
5-6	Wall line and exit	Wall walks, chest-to-wall, bail
7-8	Controlled separation	Heel pulls, toe pulls, short kick-ups

KEY IDEA

The beginner on-ramp teaches the body and nervous system to trust inversion.

EVIDENCE NOTE

Youth and adult resistance-training guidance supports supervised, progressive loading with technique emphasis.

CREDIBILITY & CAUTION

Adjust volume downward for wrist-sensitive, deconditioned or anxious athletes.

Chapter 161

Twelve-week freestanding plan

ATHLETE	COACH

The freestanding plan develops entry accuracy, pressure correction, clean exits and increasing duration. It should be built around clean attempts rather than fatigue punishment.

Each week should include wall line maintenance, correction drills, freestanding attempts and a small amount of capacity work.

The athlete should record clean attempts, best quiet hold, major saves, exit quality and symptom response.

Table X.3. Weekly freestanding template

Block	Content	Purpose
Warm-up	Wrist/shoulder/trunk prep	Prepare tissues
Line	Wall holds/heel pulls	Maintain shape
Skill	Freestanding attempts	Entry and correction
Capacity	Pike or wall endurance	Support reserve
Retest	Best quiet hold	Track progress

KEY IDEA

Freestanding progress comes from classified attempts and controlled correction.

EVIDENCE NOTE

Motor-learning research supports feedback, practice structure and variable exposure for skill acquisition.

CREDIBILITY & CAUTION

Do not use max attempts as the main volume metric; failed attempts can become the largest load in the session.

Figure X-2. Reference apparatus assessment dashboard.

FIGURE 90 | Video-Analysis Key Frames



Capture entry, catch, stack, correction, hold and exit so the mechanical decisions can be reviewed clearly.

Chapter 162

Handstand-walk specialisation block

ADVANCED COACH

The walking block should begin only when the athlete can tolerate wall loading, shift weight and exit safely. The first target is controlled steps, not distance records.

Use lanes, stop targets, short walks and rest. Walking volume rises only when shoulder and wrist response remains stable.

The coach should separate straight-line walking, stopping, turning and fatigue walking as different progressions.

Table X.4. Six-week walking block

Weeks	Focus	Dose idea
1	Shoulder taps and lean	Low volume
2	One to three steps	Frequent rest
3	Short lane walks	Stop target
4	Distance accumulation	Quality cap
5	Turns/restarts	Controlled variation
6	Fatigue-specific exposure	Strict stop rules

KEY IDEA

Walking volume must follow single-arm support readiness.

EVIDENCE NOTE

Dynamic task specificity and load-management evidence support gradual exposure to the exact walking demands.

CREDIBILITY & CAUTION

Stop walking practice when the athlete begins to chase the fall rather than recover the line.

Chapter 163

Press-to-handstand foundation block

ADVANCED **COACH**

Press-to-handstand programming should develop compression, shoulder lean tolerance, scapular support and controlled centre-of-mass travel.

It is a slow-strength and balance problem, not merely a flexibility trick. The athlete must learn to shift mass over the hands while keeping the elbows long and the shoulders active.

Use elevated press drills, straddle leans, toe lifts and eccentric control before high-volume floor attempts.

Table X.5. Press block components

Component	Drill	Purpose
Compression	Seated leg lifts	Hip/trunk capacity
Lean	Pike shoulder lean	COM shift
Support	Scapular pike shrug	Shoulder strength
Pattern	Elevated straddle press	Skill transfer
Control	Eccentric negative	Slow tolerance

KEY IDEA

The press is slow centre-of-mass management under straight-arm support.

EVIDENCE NOTE

Straight-arm press-to-handstand joint-moment research supports specific preparation for the joint demands of the skill.

CREDIBILITY & CAUTION

Do not chase press volume in athletes with unresolved wrist or shoulder symptoms.

Chapter 164

Cue translation library

COACH | BEGINNER

A professional cue should change the movement without creating unnecessary fear. Many common cues are useful only after translation into mechanical targets.

The coach should first decide the mechanical problem, then choose the simplest words that direct the athlete to solve it.

A cue that works once should still be tested against the next repetition, not treated as a permanent truth.

Table X.6. Cue translation library

Popular cue	Mechanical translation	Cleaner cue
Push tall	Scapular elevation under load	Push the floor away
Squeeze everything	Create organised trunk-leg tension	Make one long line
Use fingers	Shift pressure forward early	Press fingerprints into the floor
Open shoulders	Increase shoulder flexion without rib flare	Reach tall through the armpits
Stay tight	Reduce unwanted motion	Hold the line, breathe quietly

KEY IDEA

Good cueing is mechanical precision in simple language.

EVIDENCE NOTE

Attentional-focus literature supports careful cue design, with external focus often benefiting motor performance and learning.

CREDIBILITY & CAUTION

Do not give five cues to a beginner under load. Choose the first correction and retest.

Chapter 165

Video-analysis checklist

COACH RESEARCHER

Video should not be used only to make content. It is a diagnostic instrument when the coach knows what to look for.

Record side view for line and shoulder angle, front/back view for symmetry, and a close view of hand placement when pressure strategy is the question.

Each review should end with one correction, one drill and one retest.

Table X.7. Video checklist

View	Best for	Question
Side	Line, shoulder angle, entry	Where does drift begin?
Front/back	Symmetry, hand width	Is there rotation?
Close hand	Base and fingers	Is pressure active?
Walking lane	Step timing	Can the athlete stop?

KEY IDEA

Video becomes useful when it answers a defined mechanical question.

EVIDENCE NOTE

Biomechanical analysis of handstand studies relies on kinematic and kinetic variables; field video is a simplified but useful coaching translation.

CREDIBILITY & CAUTION

Do not diagnose medical conditions from video. Video identifies movement behaviour, not tissue pathology.

Chapter 166

Final assessment sheets and global standard

COACH | CLINICIAN | RESEARCHER

The final professional standard is not a single test. It is a complete profile of base, line, support, correction, exit, dose and transfer.

A beginner may pass the beginner standard without a freestanding handstand. An advanced athlete may fail the advanced standard if they walk far but cannot stop, turn or recover safely.

The MMSx global reference standard is built to protect the athlete and the science: define the task, measure the behaviour, monitor response and progress with evidence.

Table X.8. MMSx handstand standard

Domain	Beginner pass	Advanced pass
Base	Pain-free hand loading	Pressure correction under fatigue
Line	Chest-to-wall shape	Free line under perturbation
Support	Wall hold quality	Single-arm shifts
Correction	Heel/toe pulls	Quiet freestanding correction
Exit	Safe bail	Exit under walking fatigue
Transfer	Short free attempts	Walk/press/HSPU context-specific

KEY IDEA

The globally acceptable handstand standard must be task-specific, measurable and safe.

EVIDENCE NOTE

The combined literature supports a multidimensional approach: biomechanics, motor learning, load management and injury-specific return-to-sport logic.

CREDIBILITY & CAUTION

Do not let social-media distance, duration or aesthetics replace complete assessment.

PART X 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

The book now closes with the full MMSx Authority Movement Decision Science model: define the movement, map the force, identify the bottleneck, select the smallest useful drill, dose it, retest it and progress only when the athlete earns the next mechanical problem.

HS-FIG-089 | Coaching View Positions

FIGURE 89 | Coaching View Positions



Different camera and coaching views reveal different mechanical information, so front, side and rear perspectives should all be checked.

HS-FIG-090 | Video Analysis Key Frames

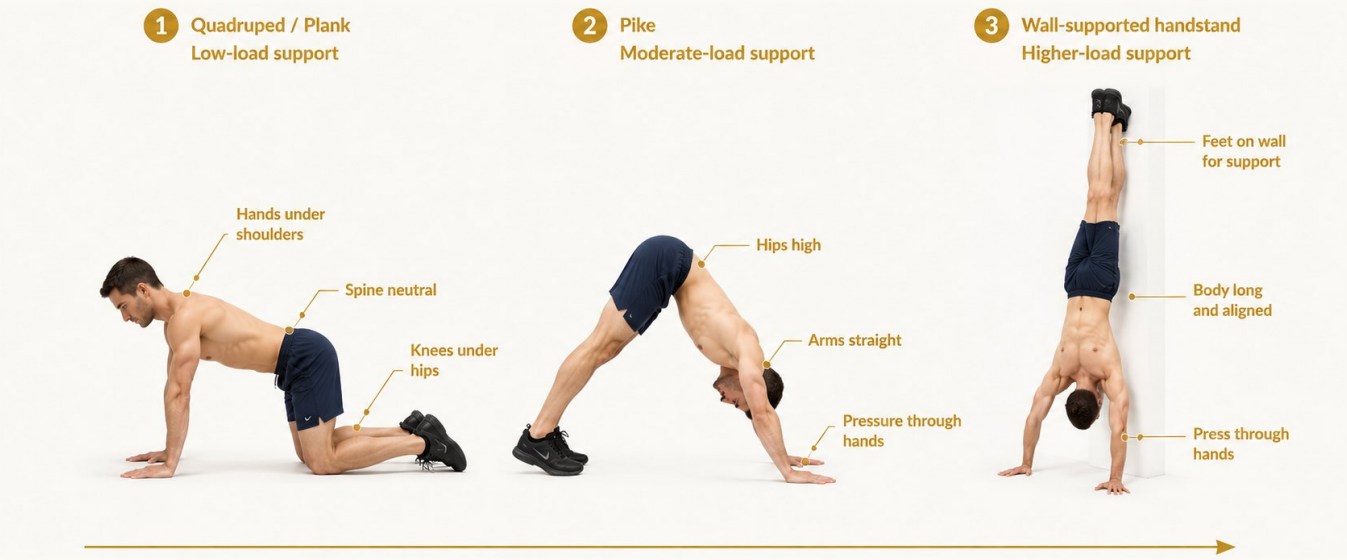
FIGURE 90 | Video-Analysis Key Frames



Capture entry, catch, stack, correction, hold and exit so the mechanical decisions can be reviewed clearly.

HS-FIG-091 | Wrist Capacity Test Positions

FIGURE 91 | Wrist Capacity Test Positions



Use progressive support positions to judge wrist tolerance before moving to longer inverted loading.

HS-FIG-092 | Shoulder Flexion And Overhead Line Assessment

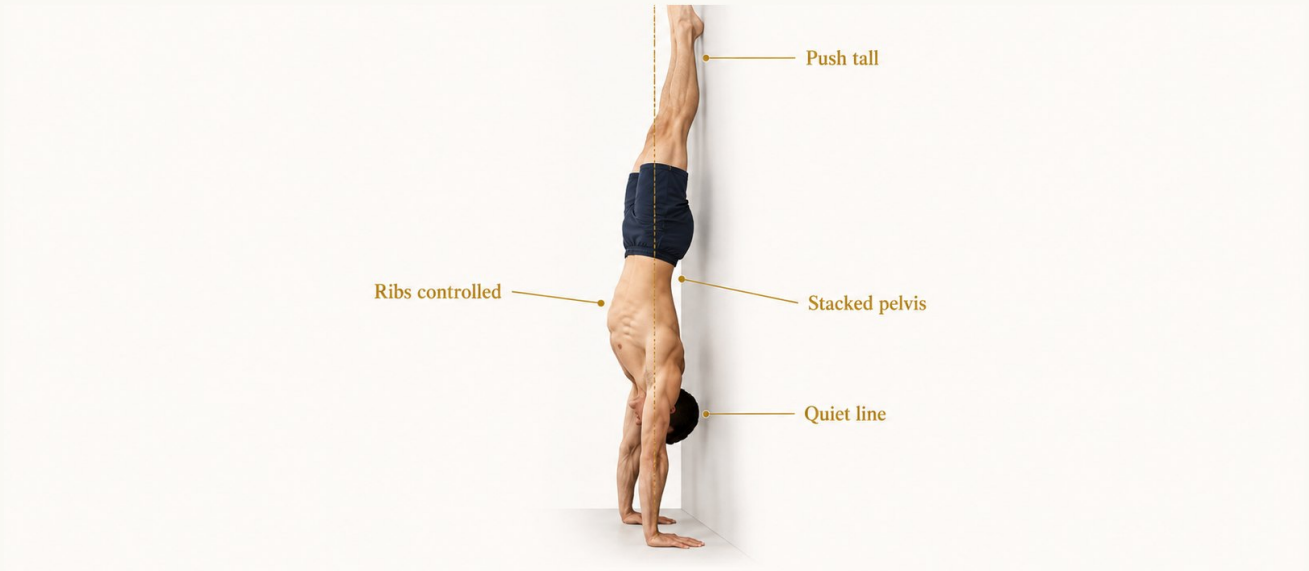
FIGURE 92 | Shoulder-Flexion and Overhead-Line Assessment



Assess whether the athlete can reach overhead without rib flare, lumbar extension or shoulder compensation.

HS-FIG-093 | Wall Line Assessment Figure

FIGURE 93 | Wall-Line Assessment Figure



The wall-line test checks hand placement, shoulder elevation, rib control, pelvis position and the vertical stack.

HS-FIG-094 | Cue Translation Figure

FIGURE 94 | Cue Translation Figure



1 PUSH TALL
Active shoulder elevation, not neck tension.

2 GRIP THE FLOOR
Fingers regulate small balance shifts.

3 RIBS CONTROLLED
Keep the trunk column organised.

4 SQUEEZE LINE
Legs together; long body without stiffness panic.

Translate general coaching phrases into visible mechanical targets so the athlete knows what to organise.

HS-FIG-095 | Common Beginner Faults And First Corrections

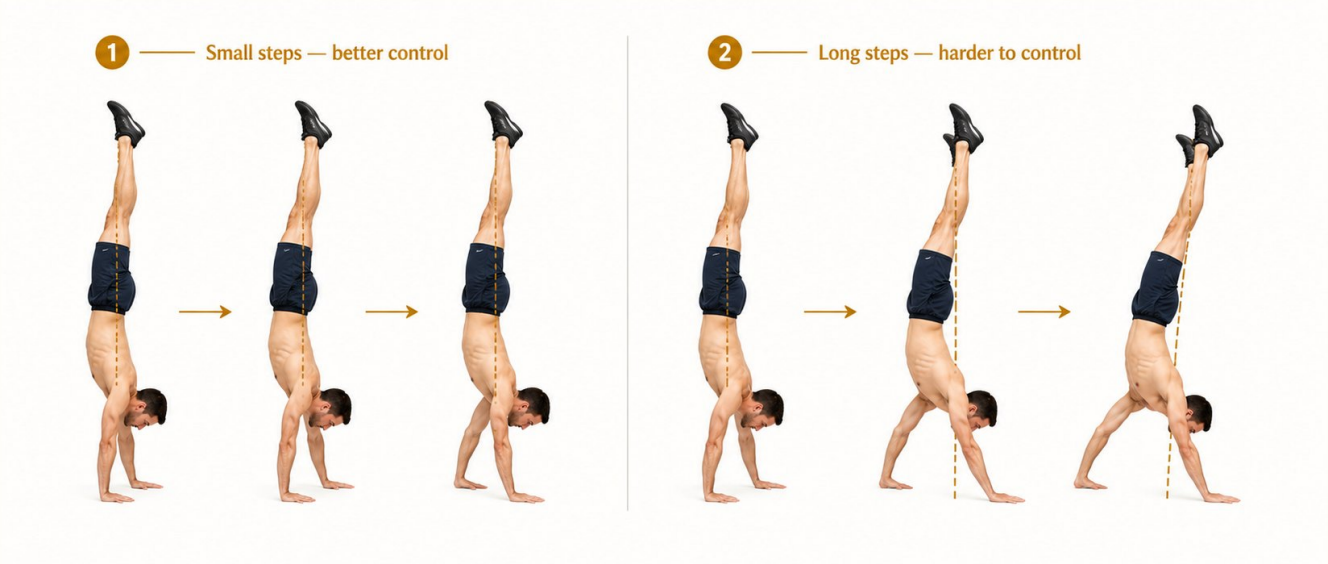
FIGURE 95 | Common Beginner Faults and First Corrections



Beginner errors should be corrected early with one clear mechanical change, then retested in the same task.

HS-FIG-096 | Common Advanced Faults And Refinements

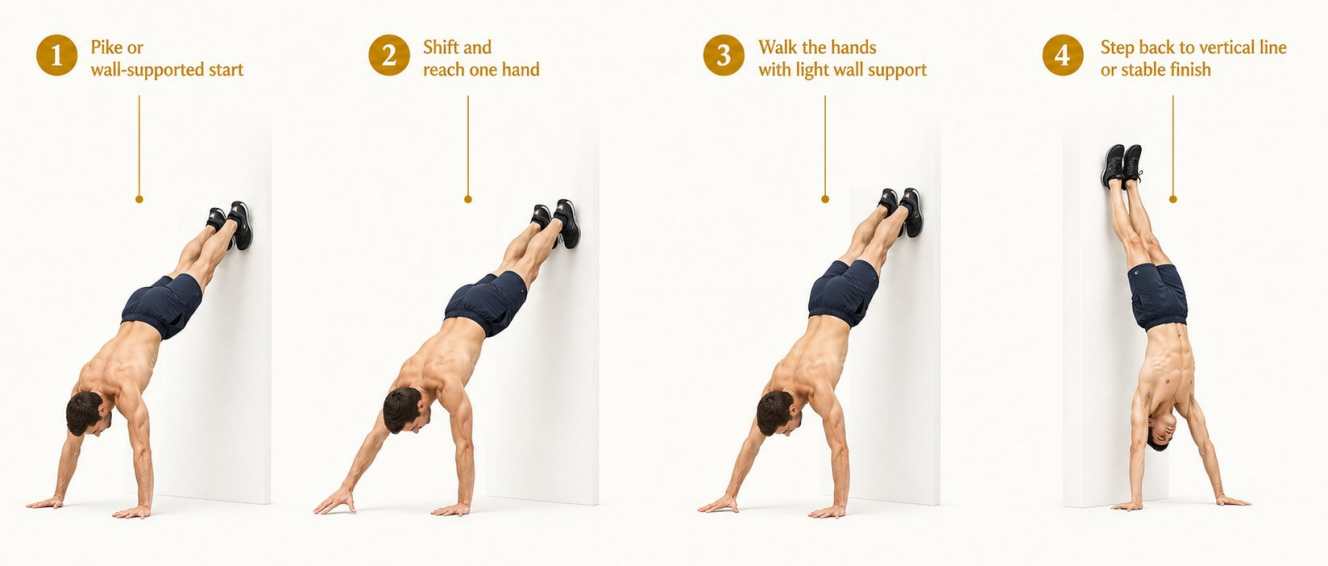
FIGURE 96 | Common Advanced Faults and Refinements



Advanced refinement focuses on rhythm, step size, line control and avoiding large corrections under fatigue.

HS-FIG-097 | Group Coaching Setup

FIGURE 97 | Group Coaching Setup



Group coaching works best when athletes rotate through clear stations for loading, line control, walking rhythm and safe exits.

HS-FIG-098 | Online Coaching Capture Setup

FIGURE 98 | Online Coaching Capture Setup



For online review, capture the entire athlete, hands, feet, entry, hold and exit without cutting off the line.