



BOOTY CENTER

THE ART & SCIENCE OF GLUTE TRAINING

A Continuing Education Course for Fitness Professionals

ADVANCED GLUTE TRAINING SPECIALIST

3.4 THE OVERHEAD SQUAT ASSESSMENT (OHSA)

The **overhead squat assessment (OHSA)** is the single most informative dynamic screen for the glute trainer. It loads the whole kinetic chain in one movement and shows you, in a few reps, where the system compensates.

A **compensation** is a substitute movement the body uses when a muscle isn't doing its job: the system finds another way to complete the task.

3.4.1 SETUP AND CUEING THE OHSA

Stand the client with feet shoulder-width and pointed straight ahead, arms raised overhead, elbows extended. Cue a squat to about parallel, performed at a controlled tempo, for about five repetitions. View from the front and the side. Keep the cueing minimal. You want their natural pattern, not a coached one. The point is to see what the body does when you ask it to organize a squat without help.

3.4.2 COMPENSATION INTERPRETATION – HIP, KNEE, AND FOOT

Each compensation traces back to probable contributors. Following the NASM corrective-exercise convention, you read each as a pairing of likely over-active (shortened) and under-active (lengthened) structures, then translate it into a programming priority.

Table 3.2 works that reading through every OHSA compensation, pairing each with its probable over-active and under-active structures and the programming priority that follows.

Table 3.2 – OHSA compensation interpretation

Visible compensation	Probable over-active	Probable under-active	Glute-system implication	Initial priority
Knees move inward (valgus)	Adductors, TFL	Gluteus medius, maximus	Weak frontal-plane hip control	Activate GMed; cue knees out
Excessive forward lean	Hip flexors, soleus	Glutes, erectors	Hip-extensor under-recruitment	Glute activation; ankle mobility
Low back arches	Hip flexors, erectors	Glutes, deep core	Anterior tilt under load	Strengthen glutes and deep core
Feet turn out / flatten	Calves	Glute medius/min stabilizers	Reduced foot-hip stability	Foot + GMed stability
Asymmetric depth	Side-specific	Side-specific	Unilateral restriction or weakness	Investigate with single-leg screen

Overhead squat assessment (OHSA)

A dynamic movement screen in which the client squats with the arms held overhead while you observe hip, knee, and foot positions for compensations that point to over- or under-active muscle groups.

Compensation

A substitute movement pattern the body adopts when a prime mover is under-active or restricted; in screening, a visible compensation points back to a probable muscular contributor.

No single screen captures everything, and the honest framing matters here. A study comparing the Functional Movement Screen with the Y Balance Test in youth athletes found the two tools correlate only weakly to moderately.⁴ They don't measure the same construct, even though both are used to flag movement risk. The lesson for you is practical: pair screens. Where the OHSA reads the bilateral pattern, the single-leg squat in §3.5 recovers the asymmetry information the bilateral squat can hide.



NEW SCIENCE

Movement screens are useful, but they are screens, not crystal balls. A meta-analysis pooling 10 studies in tactical-occupation populations found that Functional Movement Screen cut-scores do not support use as a sole predictor of injury. Very low scores (≤ 14) did carry higher odds — roughly twice those of higher scorers — but the overall effect was small.⁵ A systematic review of 19 studies of functional-movement assessment in children and adolescents reached a similar place. The screen can signal potential deficits, but it is one input among several.⁶ Read the OHSA the same way: it points you somewhere worth looking, not to a diagnosis.

Figure 3.5 shows the correct overhead squat setup beside the three compensations you score against it: knees moving inward, excessive forward lean, and a low-back arch.

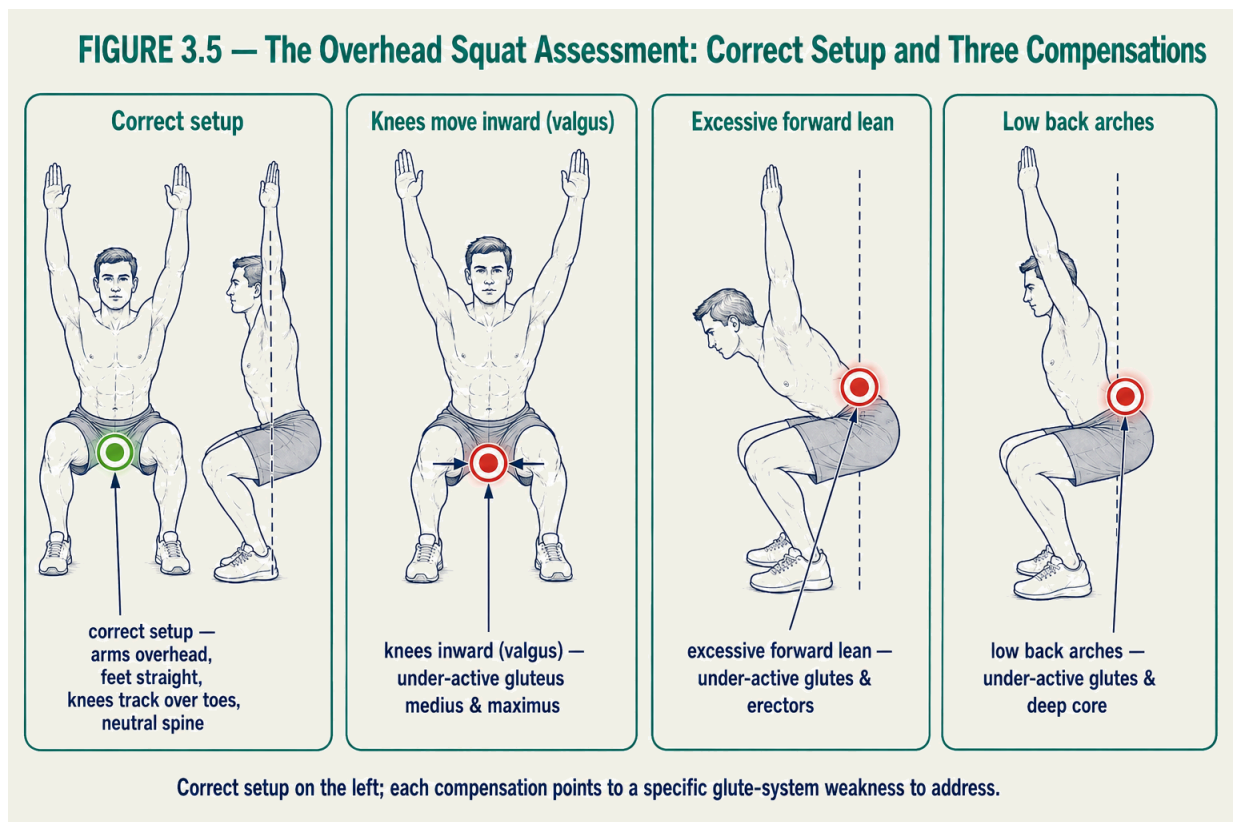


Figure 3.5 — The overhead squat assessment: correct setup beside three common compensations.

SUMMARY

The OHSA is the trainer's most informative dynamic screen. Each compensation (knee valgus, forward lean, low-back arch, foot turnout, asymmetric depth) points to probable over- and under-active contributors and an initial priority. But screens overlap only partly and do not predict injury alone, so pair the OHSA with the single-leg squat and treat both as direction-finders.

8.9 THE ACTIVATION-HYPERTROPHY BOUNDARY – A HEURISTIC DECISION RULE

The same hip thrust can be an activation drill or a growth exercise. What changes isn't the movement: it's the dose and the intent. So how do you tell which one you're doing?

Use a decision rule, but hold it loosely. As a practical convenience, activation work tends to live at light load (roughly $\leq 30\%$ of one-rep max), low reps (≤ 10), few sets (≤ 3), and well short of failure (three or more reps in reserve). Cross those lines, heavier, longer, closer to failure, and the same exercise becomes a hypertrophy or strength stimulus. That's the kind Schoenfeld and colleagues' volume work describes.³



NEW SCIENCE

These numbers are a heuristic, not a literature-derived threshold. No study has shown that 30% 1RM is a hard line where “activation” stops and “growth” begins; the truth is a continuum. What matters more than any single number is the *combination* — load and reps and proximity to failure and intent, read together. Present the rule to clients as a useful convenience, never as a research-validated cutoff. (This is also why we resist marketing claims that a light banded warm-up “builds” the glutes: at that dose, it is patterning, not growth.)

Table 8.4 sets the variables side by side as a heuristic, not a threshold: the combination decides, not any single number.

Table 8.4 – Activation vs Hypertrophy: a Heuristic Decision Matrix (NOT a literature-derived threshold). Variables in combination matter more than any single number; the decision rule is a trainer convenience, not a research-validated cutoff.

Variable	Leans “activation”	Leans “hypertrophy / strength”
Load	$\leq \sim 30\%$ 1RM	Progressive, moderate-to-heavy
Reps	$\leq \sim 10$, often with holds	6–20+ to accumulate volume
Sets	$\leq \sim 3$	Higher weekly set volume
Proximity to failure	RIR 3+ (well short)	Closer to failure
Intent	Recruit / pattern	Overload / grow

Walk one exercise across the line. A single-leg glute bridge for two sets of eight, with a top hold and three reps in reserve, is activation. It primes recruitment at almost no fatigue cost. Add load, push to four hard sets of twelve with the last near failure, and the same bridge is now hypertrophy work. It will leave the glutes too fatigued to prime anything. The movement never changed; load, volume, and proximity to failure moved it across the continuum. That is why intent sits in the table too. The same dose done to “feel it and move on” signals a different program than “add a rep every week,” even when the numbers match. Use the rule to keep the activation block honest. If the drills leave the glutes sore the next day, they have crossed into training you didn't plan for.

Figure 8.16 walks that one exercise across the continuum, changing load, reps, proximity to failure, and intent.

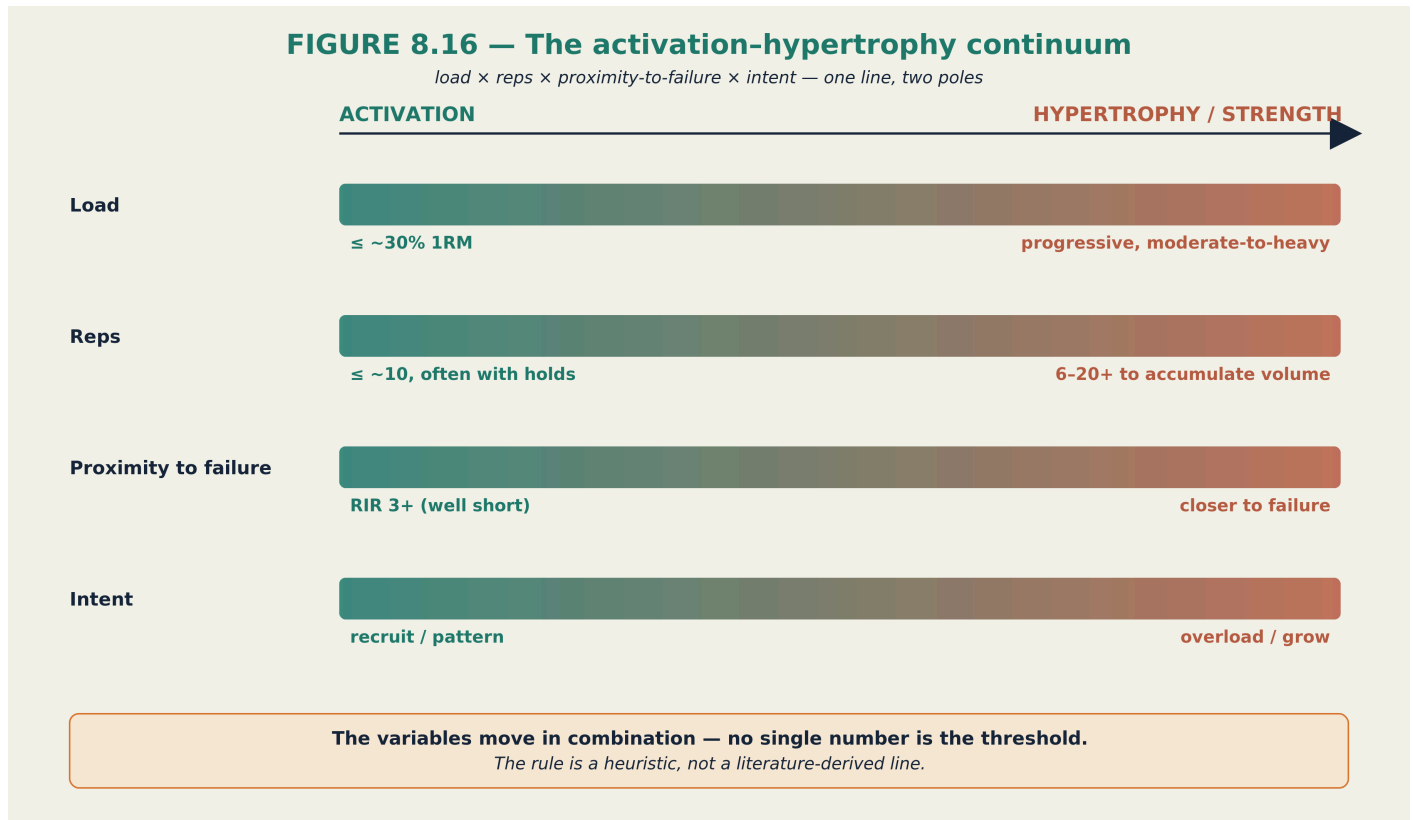


Figure 8.16 — The activation-hypertrophy continuum: load × reps × proximity-to-failure × intent, with one exercise walked across the line.

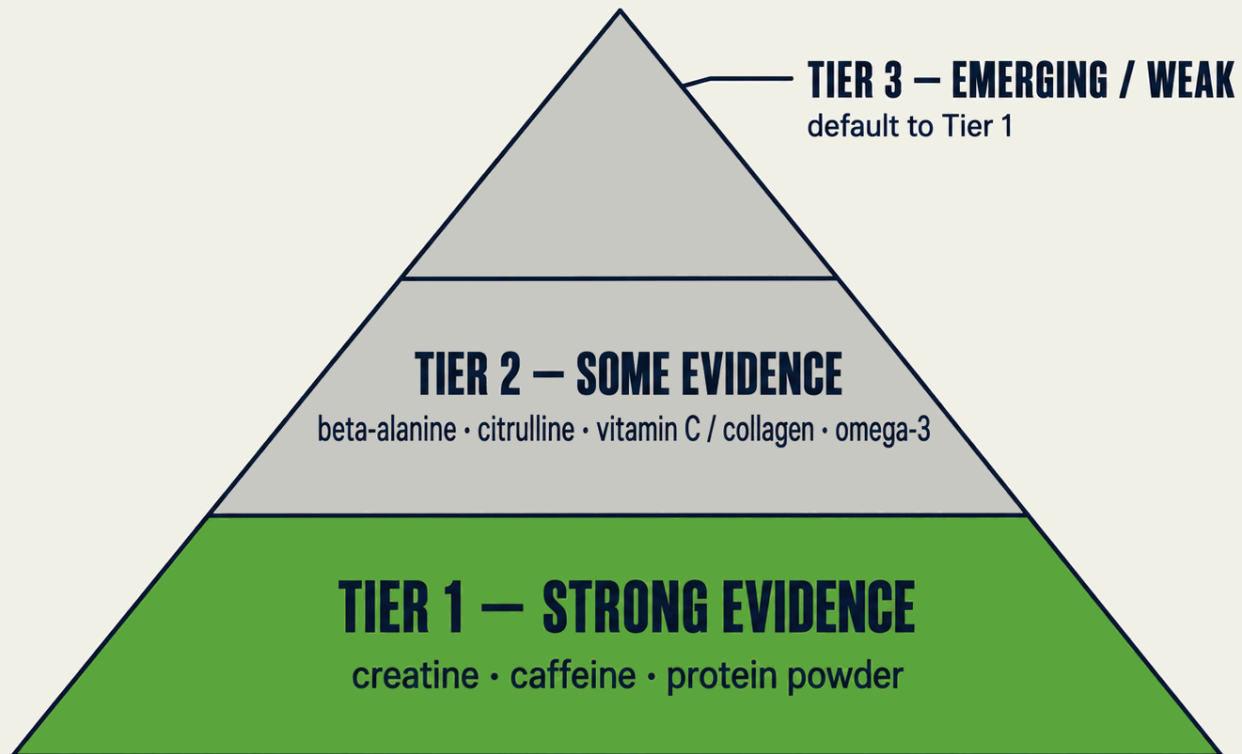
SUMMARY

Load, reps, sets, proximity to failure, and intent together place an exercise on the activation-hypertrophy continuum. The $\leq 30\%$ 1RM / ≤ 10 reps / RIR 3+ rule is a heuristic for convenience, not a validated threshold — and the combination matters more than any single number.

16.8 SUPPLEMENTS – EVIDENCE TIERS AND WHAT YOU CAN SAY

Supplements are where clients most want a shortcut and where evidence is most uneven. Sort them by evidence tier, be willing to say the evidence is strong only for the top tier, and stay honest about the rest. Figure 16.3 shows the tiers as a pyramid.

FIGURE 16.3 – THE SUPPLEMENT EVIDENCE PYRAMID



Recommendation strength tracks tier. Trainer recommendations stay at Tier 1.

Figure 16.3 — The supplement evidence pyramid.

Table 16.2 lays the tiers out with the evidence and the scope note for each.

Table 16.2 – Supplement tiers, evidence, and trainer scope.

Tier	Examples	Evidence	Trainer scope
1 — Strong	Creatine, caffeine, protein powder	Consistent benefit across reviews	Educate on the strong evidence
2 — Some	Beta-alanine, citrulline, vitamin C / collagen, omega-3	Mixed or context-specific	Educate on the evidence; no strong claim
3 — Emerging / weak	Most everything else	Thin or absent	Default clients back to Tier 1

16.8.1 TIER 1: CREATINE, CAFFEINE, PROTEIN POWDER

Three supplements have the strongest evidence behind them. Creatine monohydrate is the most studied ergogenic aid. The International Society of Sports Nutrition position stand affirms its safety and efficacy for strength and lean-mass gains.¹⁴ A meta-analysis found creatine improved upper-limb strength performance, which fits the broader recognized strength benefit.¹⁵ Read the upper-limb result as upper-limb evidence; the broader case for creatine rests on the position stand. Caffeine reliably improves muscle strength and power, confirmed in a systematic review.¹⁶ Protein powder is simply a convenient way to hit the daily protein target. These three are the supplements worth a client's money.



SAFETY NOTE 2 – SUPPLEMENT CONTAMINATION AND TIER-1 DISCIPLINE

Risk: Supplements are loosely regulated, and some are contaminated with banned or undeclared substances.

Trigger: A client adding multiple unproven products, or one in a tested population (athlete, tactical, collegiate) using uncertified supplements.

Action: Keep the conversation anchored to Tier 1 evidence, steer clients to third-party-certified products (NSF Certified for Sport, Informed Sport), and refer drug or medical-interaction questions to a physician.

Citation: Kreider et al. 2017.¹⁴

16.8.2 TIER 2: SOME EVIDENCE

Tier 2 supplements have real but limited or context-specific evidence. Beta-alanine can buffer fatigue in sustained high-effort work. Citrulline malate enhanced anaerobic performance and reduced muscle soreness in one study, which is promising but not decisive.¹⁷ Vitamin C and collagen sit together for connective-tissue support: vitamin-C-enriched gelatin taken before intermittent activity augmented collagen synthesis in a controlled trial.¹⁸ Vitamin C's role here is mechanistic: it's a required cofactor for collagen synthesis and cross-linking, shown in human fibroblasts.¹⁹ That mechanism explains why the cofactor matters; it doesn't by itself show that a collagen supplement builds glutes. The efficacy signal for the connective-tissue approach rests on the gelatin trial, not the mechanism paper.¹⁸ Omega-3, covered in §16.5, also sits here.

16.8.3 TIER 3: DEFAULT TO TIER 1

Most supplements fall into Tier 3: emerging, weak, or unsupported. A meta-analysis of dietary supplements found that few delivered meaningful lean-mass or strength gains beyond the well-supported ones, though that review now dates to 2003, a limit worth naming.²⁰ The disciplined response is a framework, not a brand list: when a client asks about a Tier 3 product, explain that the evidence is thin and default them back to the Tier 1 options that work. “Unproven” isn’t the same as “unsafe,” but it does mean “not worth recommending.” Keep the conversation on categories and evidence, never on specific branded products.

SUMMARY

Sort supplements by evidence tier. Tier 1 (creatine, caffeine, protein powder) has the strongest evidence behind it, and third-party-certified products are the safer choice within it. Tier 2 (beta-alanine, citrulline, vitamin-C-plus-collagen, omega-3) gets honest education without strong claims, and vitamin C’s role is a mechanistic cofactor while efficacy rests on the gelatin trial. Most products are Tier 3, with thin evidence and a broad cautionary review that now dates to 2003, so default clients back to Tier 1, framing by category, never by brand.

19.1 WHAT A SPECIALIST NEEDS TO KNOW ABOUT BUTTOCK AUGMENTATION

Most chapters in this course teach you how to change a client's body with training. This one is different. It's the only chapter built entirely around a body change you don't deliver and don't control. The surgery is your client's choice, the surgeon's work, and a physician's recovery timeline. Your job is to stay useful, stay respectful, and stay firmly inside your lane while it happens.

That's a narrower job than it first appears, and a more important one. Buttock augmentation is one of the fastest-growing aesthetic procedures in the world. The clients most likely to pursue it are exactly the clients a glute-training specialist already serves. They're people who have spent months or years training the gluteal complex, and who want a result they feel training alone hasn't delivered. When that client raises surgery, the conversation lands in your gym, not a clinic. How you handle it is a scope-of-practice skill, not a surgical one.

This chapter teaches that skill. You'll learn enough about the procedures to talk about them accurately and calmly. You will learn where your scope ends and a surgeon's or a physician's begins. You will learn to prepare a client for surgery within your scope and to wait for clearance. You'll learn to reintroduce training safely once clearance arrives. You'll also learn to recognize the body-image warning signs that sometimes travel with surgical pursuit. Throughout, one discipline holds: you provide neutral information and scope-respecting conduct, never surgical endorsement and never surgical dissuasion.

A note on voice before we begin. It's easy to slip into a tribal frame here. One version treats surgery as a shortcut that "real" training makes unnecessary. The other treats it as a quick fix superior to the slow work of the gym. Both framings are out of scope and both mislead the client. Surgery and training answer different questions. Your client gets to decide which question is theirs to ask.

SUMMARY

This chapter is unique in the course: it is the only one organized around a body change you neither deliver nor control. Your contribution is scope-respecting conduct — accurate information, clear boundaries, and steady support — while the client and surgeon make and execute the surgical decision.

19.2 OPERATING INSIDE THE SIX-EDGE SCOPE-OF-PRACTICE FRAMEWORK

Chapter 23 §23.2 codifies six scope-of-practice edges that a specialist works across: nutrition, eating disorders, physical therapy, surgical, pharmaceutical, and clinical mental health. Buttock augmentation puts the surgical edge front and center, and it activates the eating-disorder edge through the body-image content you'll meet in §19.7. Knowing which edge you're standing on, at every moment of a surgical-context conversation, is most of the work.

The surgical edge has a clean boundary. You may provide general, factual information about procedures so a client can hold an informed conversation. You may prepare a client physically before surgery within ordinary training scope. You may resume training after surgery once a surgeon clears it in writing. You may not advise for or against the surgery, recommend a procedure or surgeon, interpret surgical risk for a specific client, or override a recovery timeline. Those belong to the surgeon and the client.

Three professional codes anchor this conduct. The **NASM Code of Professional Conduct** requires you to practice within the boundaries of your training and to refer beyond it.^{1,2} The ACSM Code of Ethics³ and the NSCA Code of Ethics⁴ add the same discipline from the wider fitness profession, along with explicit duties around honesty and disclosure. Treat these codes as the profession's operating rules, not as evidence to weigh.

One more boundary sits adjacent to surgery: marketing. A trainer must never market surgical-result implications: never imply that your program produces, replaces, or guarantees a surgical outcome. That discipline is codified at Chapter 22 §22.2, and it matters here because surgical-pursuit clients are precisely the audience such claims would reach. The **SURGICAL-RESULT MARKETING DISCIPLINE** sidebar captures the rule: describe what training does, never what surgery does.

Surgical-Result Marketing Discipline

The practice of describing training outcomes honestly and never implying that a training program delivers, replaces, or guarantees a surgical aesthetic result. Codified at Chapter 22 §22.2.

SUMMARY

Work the surgical edge by its boundary: factual information and scope-bound preparation and resumption are yours; advising, recommending, and timeline-setting are the surgeon's. Three professional codes anchor the conduct, and Chapter 22 §22.2 forbids marketing a training program as a surgical result.

22.2 MARKETING SCOPE OF PRACTICE – WHAT YOU CAN AND CAN'T SELL

Marketing has a scope of practice, exactly as training does. **MARKETING SCOPE OF PRACTICE** means the claims you make in advertising must match what you can actually deliver inside your certification. You can market specialty training, assessment, and coaching. You can't market a service you aren't licensed to provide, even if a client wants it.

The boundary follows the same scope lines this course has drawn all along, carried into how you advertise.¹ Chapter 1 §1.1 sets the scope-of-practice frame and the duty to refer, and Chapter 23 §23.2 codifies the six edges as a single framework. Marketing is where that frame meets the public. A claim that crosses one of the six edges is a problem before a single client arrives.

Marketing Scope of Practice

The principle that advertising claims must match the services a trainer is certified to deliver; marketing a deliverable outside certification scope is both a professional-conduct breach and a client-harm risk, not merely a positioning error.



SAFETY NOTE 1 – MARKETING A DELIVERABLE OUTSIDE SCOPE

Risk: Advertising a result you are not licensed to deliver, whether “fix your back pain,” “cure your knee,” or a nutrition prescription, can harm a client who acts on it instead of seeking proper care, and it exposes you to professional-liability and disciplinary action.

Trigger: Any marketing claim that promises a clinical outcome (treating pain, disease, a mental-health condition), a nutrition prescription, or a surgical or pharmaceutical result.

Action: Rewrite the claim to the training outcome you can deliver (strength, movement quality, hypertrophy), and route the clinical promise to the right professional. When unsure, describe the process, not a cure.

Citation: NASM Essentials of Personal Fitness Training (7th ed.)¹ for the scope-of-practice boundaries carried into marketing.

Table 22.1 sets each scope edge beside what you can market, what you cannot, and where the referral goes.

Table 22.1 – Marketing scope-of-practice edges.

Scope edge	You CAN market	You CANNOT market	Refer to (chapter)
Nutrition	General nutrition education, habit coaching	Individual meal plans, medical-diet prescriptions	Registered dietitian (16 \$16.1)
Eating disorders	Recognition and a supportive referral	Treatment or management	Licensed MH professional (16 \$16.10)
Pain / injury	Movement quality, corrective exercise in scope	Diagnosis, treatment, “fixing” pain	PT or physician (5 \$5.1)
Surgical	General literacy, accurate referral	Surgical advice or outcome promises	Board-certified surgeon (19 \$19.2)
Pharmaceutical	Nothing beyond “ask your physician”	Drug advice, dosing, endorsement	Physician (18 \$18.7)
Clinical mental health	Coaching within scope, referral	Therapy or clinical treatment	Licensed clinician (21 \$21.1)

Figure 22.1 maps the six edges as a routing hub.

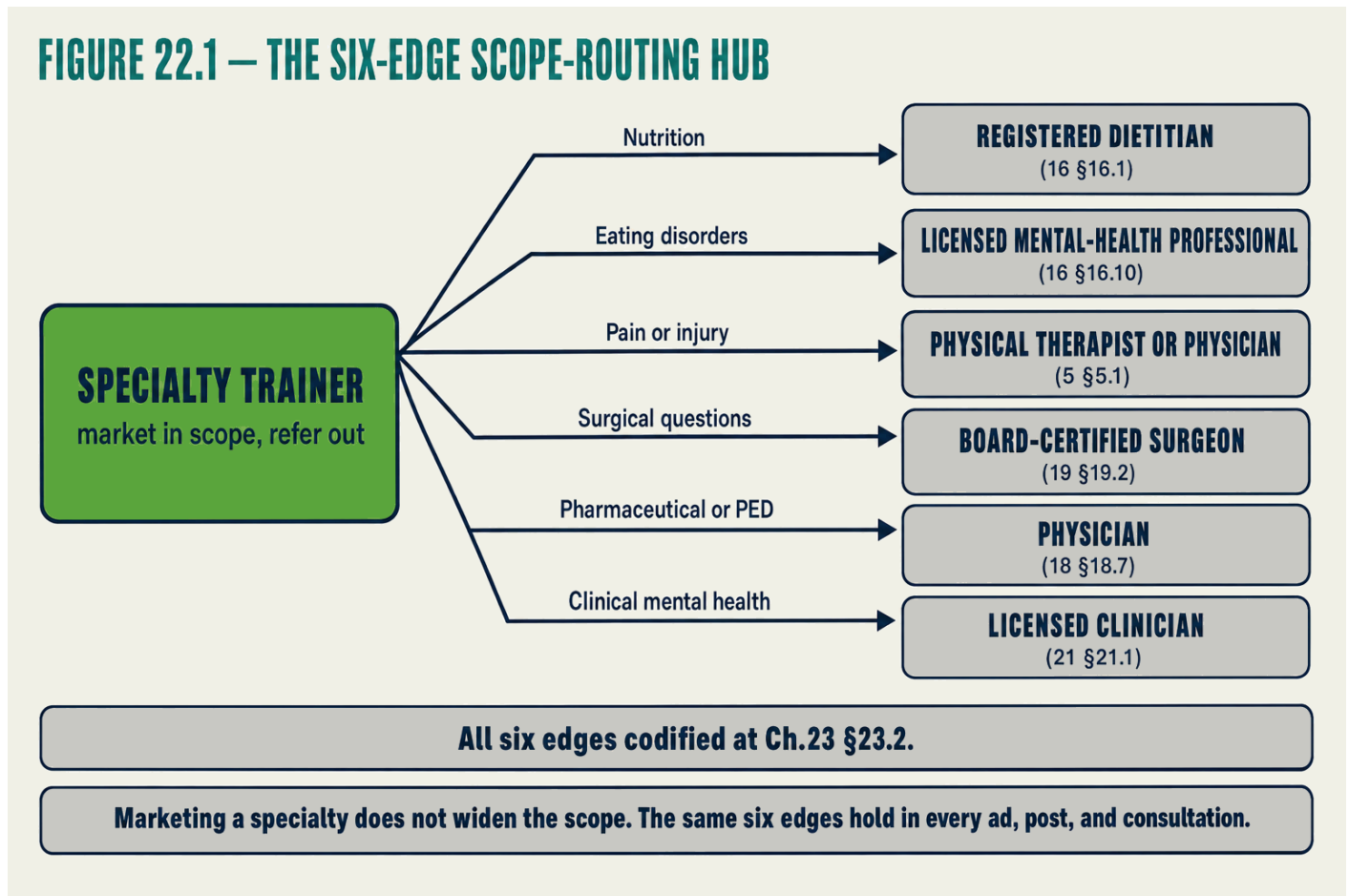


Figure 22.1 — The six-edge scope-routing hub.

The CAN column matters as much as the Can't. Scope discipline is not timidity; it is the credibility a specialty rests on. Chapter 23 §23.2 codifies these six edges as the professional-conduct framework, and Chapters 18 and 19 apply the pharmaceutical and surgical edges in depth.

SUMMARY

Your marketing can only promise what your certification can deliver. Six edges (nutrition, eating disorders, pain and injury, surgical, pharmaceutical, and clinical mental health) route outward to the right professional. Marketing past an edge is a client-harm and liability risk, not a positioning choice. Lead with the substantial work you can deliver, and refer the rest.