Trainer, coach or gym owner

Understand the recovery and stack conversations that reach gyms without confusing popularity with evidence. Learn to read supplier claims and testing reports, recognize missing information and prepare useful questions for companies and healthcare professionals.



Tess / fictional visitor

YOUR LEARNING JOURNEY

Prepare a member conversation that acknowledges what people discuss while keeping anecdotes, research and individual care separate.

Assess the claim, learn how to read its laboratory report, then practice with the fictional gym example.

Gym experiences can suggest questions, but they do not establish safety, efficacy or causation. This guide is not a coaching protocol for peptide use or a source of dosing instructions.

Open the current online guide

Sources and related guides remain accessible on the website. All role paths are open to every reader.

Portrait: fictional illustration, not a real patient, professional reviewer or endorsement. This handbook provides education, not individual medical or legal advice.

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Read a claim without losing its limits

Begin with one answerable question. “Does it improve wellbeing?” covers many different things. Pain, sleep, muscle strength, a blood measurement and hospital admission are separate outcomes. Write the exact substance, the people studied, the comparison and the outcome before deciding whether a finding answers your question.

An online experience is a report of what someone noticed. It can identify questions worth investigating, including possible harms. It usually cannot separate the substance from changes in training, food, other treatments, expectations or the natural course of a problem. Many similar posts still do not create a controlled comparison. Popularity and scientific certainty are different measurements.

Laboratory and animal experiments can investigate mechanisms and generate hypotheses. Human observational studies examine associations in real settings, with potential differences between groups. Randomized comparisons are designed to reduce those differences, but their usefulness still depends on execution, size, follow-up and the outcomes measured. The study design must fit the question; a small trial is not automatically a complete safety record.

Keep benefit and harm in the same notes. Record how many people were observed, how long they were followed, what events occurred and whether investigators considered them related to treatment. An event after treatment does not by itself establish causation. Conversely, an uncertain causal connection is not a reason to erase a serious event.

When reading numbers, retain the denominator. A hypothetical change from 2 in 100 to 1 in 100 is a one-percentage-point absolute reduction and a 50% relative reduction. Both descriptions concern the same comparison. Ask for uncertainty around estimates and whether the result was planned or selected from many analyses. A headline alone rarely supplies all of this.

Worked learning example

A post says a two-compound “stack” improved recovery. Studies of each ingredient separately cannot establish the effects or risks of that combination. Record the stack claim as a question, then look for research on that exact combination, outcome and population. An absent study means the question remains unanswered.

READ THE SOURCE

Testing Treatments - free evidence-literacy book

Know which product the evidence describes

A molecule name is a starting point, not a complete product description. Record the active ingredient, chemical form, formulation, route, manufacturer or compounder and the document date. Products using similar names may differ in ways that matter. A result for one preparation does not automatically establish the performance of another.

FDA approval concerns a particular drug product and its authorized labeling. A facility registration, product listing or National Drug Code does not mean FDA has approved the product. A company can have legitimate paperwork for one activity without every product or claim being authorized.

Compounded drugs are prepared under a different framework and are not FDA-approved. They can serve particular patient needs, but FDA does not review each compounded product for safety, effectiveness and quality before marketing in the way it reviews approved medicines.

Investigational means a product or use is being studied; it does not mean success is established. Research-use labeling concerns a claimed purpose and cannot establish suitability for human use. Keep regulatory status, analytical quality and clinical evidence as three separate entries. None can substitute for the other two.

Build a simple comparison: what the paper studied, what the official label describes, and what the current document or service names. Mark missing information rather than filling it with a brand assumption. This comparison is useful for a patient preparing questions and for a professional reviewing a brochure.

Worked learning example

Two documents use the same ingredient name. One describes an approved finished medicine; the other describes bulk powder with a laboratory report. The shared name does not make the powder an approved medicine. Ask what each document actually establishes before carrying claims between them.

READ THE SOURCE

FDA - Is It Really FDA Approved?

FDA - Compounding and FDA: Questions and Answers

Pharmacy types

Section 503A covers compounding for an identified individual patient, including by a pharmacist in a state-licensed pharmacy, subject to its conditions. Section 503B covers registered outsourcing facilities that remain subject to current good manufacturing practice (CGMP), a system of manufacturing quality requirements. These facilities can supply office stock for healthcare providers without an individual prescription, subject to applicable conditions. Neither pathway makes a compounded product FDA-approved. Registration is not approval of the facility’s products. The linked Pharmacist guide explains the differences in more depth.

Sources for this addition checked October 31, 2026.

READ THE SOURCE

FDA - 503A and 503B provisions

FDA - Compounding questions and answers

Continue: Pharmacist guide

Testing the material: seven different questions

An analytical laboratory studies the material submitted to it. Start with the question you want answered, then ask which method can answer it. A report about identity cannot silently stand in for a report about amount, contamination or clinical effectiveness. The sample, formulation, analytical method and acceptance criteria all shape what the result means.

Identity asks whether the material matches its stated identity. Laboratories may compare molecular mass, amino acid sequence, structural features or chromatographic behavior with a suitable reference. A matching mass alone does not establish every structural detail. Ask which features the method can distinguish, and whether additional methods are needed for the particular material.

Purity asks what else a method detected. A chromatographic purity percentage describes separated signals under specified conditions. It is not automatically the proportion of all powder that is peptide. Water, counterions, residual solvents and impurities outside the method’s detection capability can require separate measurements. Two methods may produce different descriptions because they observe different properties.

Content, sometimes called assay or strength, asks how much target substance was measured. Read the units and calculation basis: mass per container, concentration or percentage of a stated claim. Biological potency asks a different question: whether the material produces specified biological activity in an appropriate assay. Chemical content alone does not establish biological activity, and an activity assay does not establish effectiveness in patients.

Sterility testing looks for viable microorganisms using a defined method and sample plan. A reported result concerns the material and conditions tested; it is not a universal guarantee covering every container or every contamination risk. Bacterial endotoxin testing is separate. Read its method, units, limit and sample-suitability information. Endotoxin testing does not cover every pyrogen. USP includes both Chapter 85 and Chapter 86 approaches; the latter uses recombinant reagents.

Stability asks whether specified qualities are maintained over time under defined conditions. A fresh COA is a snapshot, not a shelf-life study. Expiry support depends on the formulation, packaging and storage conditions studied. A reference standard is characterized material used for comparison. Traceability is a documented measurement chain to a reference, not a blanket endorsement of a laboratory or supplier. Measurement uncertainty describes uncertainty associated with a result; it should not be confused with permission to ignore a failed criterion.

One result cannot answer every question

A fictional sample has high chromatographic purity but no content, sterility or endotoxin results. The supported statement is that the submitted sample met the stated chromatographic criterion. Its amount and those microbiological properties remain unassessed. Nothing in that limited result establishes clinical benefit or suitability for human use.

READ THE SOURCE

USP authors: Reference Standards to Support Quality of Synthetic Peptide Therapeutics

FDA: Pyrogen and Endotoxins Testing-Questions and Answers, March 2026

USP Chapter 1085: Guidelines for Bacterial Endotoxins Testing

FDA: Expiration Dates-Questions and Answers

NIST: Metrological Traceability

Read a certificate of analysis without filling in the blanks

A certificate of analysis, or COA, records analytical findings for an identified material or sample. It is useful evidence only when its scope is understood. It is not interchangeable with a manufacturing history, clinical study, regulatory approval or guarantee about every item bearing a similar label. Begin with the identifiers rather than the biggest percentage on the page.

Match the laboratory name, report number, sample identifier and stated lot or batch. Check receipt, testing and issue dates, and whether the report was revised. Establish who selected and submitted the sample and what material the laboratory actually received. A report cannot establish the history of material it never handled. A seller’s screenshot may omit pages, qualifications or revisions; report authenticity can be checked through independently located contact details for the issuing laboratory.

For each result, read four things together: the property measured, the method, the units and the acceptance criterion. A specification describes tests and criteria used to judge the material. A pass means the reported finding met that stated criterion; it does not make unmeasured properties pass too. The appropriateness of the criterion is a separate question. If the report does not explain its basis, ask what standard or specification was used.

Read purity and content separately. Chromatographic peak-area purity describes signals separated by a particular analytical method. A content assay measures an amount using its own method and calculation basis. A product can have a high chromatographic percentage while containing less target substance than its stated claim. Water, counterions and other components are reasons that the mass of powder and the mass of target peptide are not necessarily identical.

Not tested means no result for that question; it is neither a pass nor a demonstrated failure. Not detected means the method did not detect the substance under its conditions and detection capability; it does not necessarily mean zero. A result below a quantification limit cannot automatically be treated as a precise amount. When relevant, ask about method suitability, the reference standard and measurement uncertainty rather than comparing bare numbers across unlike methods.

Keep the conclusion as narrow as the evidence. A chemical report without microbiological testing cannot establish sterility or endotoxin status. A single test date does not establish shelf life. A certificate for one submitted sample also does not show that a treatment works in humans. The practical reading question is: which test, on which sample, against which criterion, and what remains unknown?

Invented COA exercise: high purity, failed amount

This is an invented learning example, not a real product or report. Teaching Material A, lot EDU-001: identity is consistent with the stated sequence under the named method. HPLC purity is 99.2% area against an invented criterion of at least 98.0%, so that criterion passes. Content is 8.1 mg per container against a nominal 10.0 mg claim and an invented acceptance range of 9.0-11.0 mg, so content fails: 8.1 divided by 10.0 equals 81% of the claim. Biological potency, sterility and endotoxin were not tested; no stability study was supplied. Those questions remain unanswered. All limits here are fictional educational values, not product standards or use instructions.

READ THE SOURCE

USP authors: Peptide reference standards, purity and content

NIST: Reference materials and certified values

NIST: Traceability and uncertainty

FDA: Expiration Dates-Questions and Answers

What “gray market” leaves unexplained

“Gray market” is a loose conversational label, not a quality grade or a legal conclusion. It can blur several different issues: an unapproved product promoted for human use, an authentic product outside a documented supply chain, a counterfeit identity, misleading research labeling, or a preparation that does not meet a compounding pathway’s conditions. Name the actual question before deciding what a document or testimonial proves.

A research-use statement describes a claimed purpose; it does not automatically settle intended use. In a March 31, 2026 warning letter to Gram Peptides, FDA explained that website evidence established intended human use despite research-only and not-for-human-consumption disclaimers. This is an example of FDA’s stated enforcement findings, not a final court judgment or a claim about the company’s later status. The broader lesson is to read the surrounding claims and presentation, not a disclaimer in isolation.

Counterfeit and unapproved are also different concepts. Counterfeit identity concerns a product falsely represented as authentic. Unapproved status concerns the absence of applicable approval. Lawfully compounded medicines are themselves not FDA-approved, so “unapproved” alone does not describe every applicable legal condition. Conversely, calling something compounded does not establish that it meets those conditions. Classification requires the exact product, source, claims and regulatory context.

Chemical names require precision. On its current GLP-1 concerns page, FDA states that retatrutide and cagrilintide cannot be used in compounding under federal law. The same page distinguishes semaglutide sodium and acetate from the active ingredient in approved medicines and says the agency is unaware of a lawful basis for their compounding use. These are product-specific statements, reviewed October 31, 2026; do not generalize them to every peptide, salt or jurisdiction.

A separate FDA clarification dated April 1, 2026 discusses restrictions on preparations that are essentially copies of commercially available drugs. It explains that adding another active ingredient does not automatically avoid those restrictions. That dated statement should remain dated: it is not an independently checked live shortage-database result. An April 30, 2026 announcement proposing exclusion of three GLP-1 substances from the 503B bulks list was a proposal, not a final decision.

For an educational review, record exactly what is known: the named item, original source, date, claimed use and unresolved identity or quality questions. Distinguish a reported adverse event from proven causation and a compelling anecdote from a controlled study. Neither a disclaimer nor a dramatic personal story turns an uncertain product into a verified clinical option.

Illustrative case: “research only” beside human promises

A page says research only while its surrounding language promises personal recovery or weight loss. A reader should record the tension between those messages and examine the applicable rules. The footer alone cannot answer whether the product is being marketed for human use.

READ THE SOURCE

FDA - Gram Peptides Warning Letter, March 31, 2026

FDA - Concerns with Unapproved GLP-1 Drugs

FDA - Compounding Questions and Answers

FDA - Compounding Clarification, April 1, 2026

FDA - Proposed 503B Exclusions, April 30, 2026

Explain a claim with its evidence attached

A reader receives a message from the complete presentation: headline, image, testimonial, spoken words and qualifications. Write down the actual impression before judging the evidence. A document titled “education” can still communicate a product benefit or sales claim.

Keep a claim ledger with the exact wording, intended audience, primary source and relevant limits. Record the population, product, outcome and date. Attach a decision: supported as written, needs narrowing, or unanswered. This makes review repeatable when a sentence moves from a website to a printed handout.

Use plain language without removing uncertainty. Explain an unfamiliar term when it first appears. Put a consequential limitation beside the claim it qualifies. A small disclaimer elsewhere cannot repair an unsupported headline. Separate community reports from controlled evidence and company statements from independently established findings.

Give each document a content owner, version and review date. Preserve sources and consequential limitations when adapting it for another audience. Keep a change record so later readers can identify which claim changed and why.

Worked learning example

An illustrated handout combines a vial photograph with “clinically proven recovery” while its citation is an animal experiment. The evidence does not support that human claim. A useful revision describes the animal study and its limits directly, and removes the unsupported promise.

Changed claims about presentation checked against FTC guidance October 31, 2026.

READ THE SOURCE

FTC - Health Products Compliance Guidance

Worked review: a stack claim and a vendor COA

For a gym or community setting, acknowledging what people discuss can open a useful educational conversation. The next step is to identify the question and evidence, not to turn a recovery story into a recommendation. Ask whether a claimed combination was actually studied and whether product paperwork addresses the specific claim.

Fictional claim: a member says two products together “double recovery” and shows a vendor COA. First identify the report’s laboratory, sample, lot and date, then compare that lot with the member’s document. Next list the tests actually reported, their methods, results and criteria. In this example the report contains an identity match and chromatographic purity, but no combination study or clinical recovery outcome.

Write the conclusion in two parts: the laboratory reported specified analytical results for its sample; the stack’s recovery claim remains unsupported by that report. A missing lot connection is a separate uncertainty, not proof that the laboratory result is false. This gives the member a clearer evidence question without approving a product or directing its use.

Sources for this addition checked October 31, 2026.

READ THE SOURCE

Peer-reviewed methods - Peptide reference standards

Reading path and books

1. Read the stack conversation

Understand the claim being circulated without assuming combinations inherit the evidence for individual ingredients.

2. Check the evidence level

Identify whether the story comes from a post, animal experiment or controlled human study.

3. Check investigational status

Keep uncertainty visible when a compound is discussed as though it were routine care.

Continue in the Church Library

Choose the level that fits your background. Book links lead to the Library, where reading options and any affiliate disclosures are shown.

Testing Treatments - Evans, Thornton, Chalmers and Glasziou

Start with fair comparisons and uncertainty. The library entry includes an official free reading option. Published in 2011; use current official sources for regulatory questions.

The Body - Bill Bryson

An accessible introduction to human biology for readers who want context before technical papers. General science background, not a peptide treatment manual.

Browse all Library rooms

Examples in practice

These examples identify published resources and their uses; they are not evaluated services.

Intertek - peptide characterization

Analytical example: provider-published descriptions of identity, impurity analysis, stability and biological activity assays. Read to compare the questions different methods answer; this is not an endorsement or independent accreditation verification.

Eurofins - peptide characterization and development

Analytical example: describes complementary separation, structural, impurity and stability methods. Published capabilities do not guarantee acceptance of a particular sample or suitability for a particular project.

Questions and explanations

Was the combination actually studied, or are separate findings being joined together?

Look for research on the actual combination, relevant outcome and population. Separate studies on individual ingredients cannot establish how the combination performs or whether its risks differ. For example, one study about a marker for compound A and another about symptoms for compound B do not prove that an A-plus-B stack speeds recovery. Treat the stack claim as an unanswered question unless direct evidence addresses it.

What can the source establish about cause and effect?

A member’s story can describe what happened and suggest a question, but usually cannot isolate why it happened. Training changes, rest, nutrition, other products and natural recovery can all differ at the same time. For example, less soreness after a deload week and a newly introduced product does not identify the product as the cause. Acknowledge the experience without turning it into a recommendation for other members.

What is known about its status and what remains untested?

Check the exact product’s status separately from the strength of the research supporting a claimed benefit. Approval of a named medicine is different from a research finding about a similarly named compound or another preparation. For example, an animal recovery experiment cannot establish that an online vial is approved, clinically effective or suitable for a gym member. Record those separate unknowns and direct individual treatment questions to a qualified clinician.

Read the source: it really fda approved

Who originally manufactured this material, and how does this report connect to this batch?

A gym conversation rarely contains enough documentation to verify manufacture or batch identity. A certificate screenshot may identify a sample while saying little about the product a member actually has. For example, a shared report for a differently numbered lot is not proof about a member’s vial. The useful coaching response is to explain that limitation, not to approve a supplier or interpret paperwork as permission to use the product.

Which attributes were not tested?

Ask what the report actually measured, and avoid treating a high purity number as a complete safety report. Amount, biological activity, contamination and stability are separate questions. For example, “99% purity” does not tell a member that the container contains the stated amount or was tested for sterility. A trainer can explain why the inference is unsupported without making a treatment or product-quality decision.

Glossary

Comparator
The reference group or intervention against which an outcome is compared, such as placebo or another treatment.

Endpoint
An outcome defined for a study. A biological measurement and a patient-important outcome are not necessarily the same thing.

Formulation
The composition and presentation of a product, including ingredients beyond the active substance.

Adverse event
An unwanted medical occurrence during observation; occurrence does not itself establish a causal connection to treatment.

Investigational
Under investigation. This describes research status, not proof of safety or benefit.

COA
Certificate of analysis: a report of specified tests and results for an identified material or sample. Its meaning depends on scope and provenance.

Identity
Whether a material matches the named substance within the methods and comparisons used.

Purity
A method-dependent assessment of detected components; chromatographic peak-area purity is not automatically total mass purity.

Assay / content
A measurement of the amount of a specified substance, stated with units and a defined basis.

Potency
Biological activity assessed by a specified assay; the term is sometimes used differently, so inspect the report’s definition.

Sterility
The absence of viable microorganisms; interpreting a sterility-test result requires its sampling and method context.

Endotoxin
A component of certain bacteria that can provoke inflammatory reactions. Endotoxin testing is distinct from sterility testing.

Traceability
A documented connection to an origin or reference. Measurement traceability and supply-chain provenance are related but different questions.

Gray market
An informal description of uncertain or unauthorized distribution channels, not a regulatory approval category.

Learning worksheet

Member conversation worksheet

Use these prompts to record what you understand, what remains uncertain and which source could answer the question.

Learning prompt	Filled-in fictional example
Member conversation worksheet	Fictional example: Member claim: “the stack doubles recovery.” Evidence supplied: one vendor COA. Finding: the report contains no combination study or recovery outcome. Next question: was the combination actually studied?

Write the exact claim and where the member encountered it.

Identify the desired outcome without diagnosing a condition.

Record evidence type, key uncertainty and whether a combination was directly studied.

Prepare neutral questions the member can take to a qualified clinician.

Educational information, not individualized medical or legal advice.

Explore another perspective in the Community Center