



# RESEARCH FACT OR FICTION?

Because *Fitpro* prides itself in giving you the information and knowledge to excel, we want you to be able to decipher the research yourself. Clinical exercise physiologist William Sukala tells you how you can establish who exactly is worth listening to.

**T**he sheer volume of available information can be overwhelming and it's no easy task sifting through the claims and determining which have merit and which are nothing more than hollow marketing promises. As health and fitness professionals, our clients look up to us as the real experts, so we need to base our recommendations on something more than conjecture and opinion. The following checklist is a valuable tool for fitness professionals when evaluating the science behind nutritional research claims. Keep a copy of this list to hand and refer to it when considering new research findings.

## Checklist for scrutinising scientific research

### Number of studies

Consider how many studies were performed. A single study might suggest efficacy, but numerous studies conducted by a variety of researchers from independent labs without vested interests would hold more weight.

### Number of subjects

The higher the number of subjects in the study, the better. More subjects give a greater degree of statistical power. That is, we can say with reasonable confidence that the results were due to the intervention and not to random chance.

## Dosage

Look for consistency in the dosages employed in the studies and what is found in commercially available diets/products. If large dosages were used in the studies, say 1,000mg, then how does this compare to the comparatively small dosages (e.g., 10mg) used in commercial products? We also need to compare "apples with apples".

## Purity

In the case of dietary supplements, many nutrition products are cocktails comprising a number of ingredients. If a study was conducted on just one ingredient, then it is difficult to confirm that a mixed commercial product would yield the same results. Cross-ingredient interactions might potentiate the effect and pose safety issues.

## Population group

One size does not fit all. For example, it is difficult to apply results from a study on young, university-level female athletes to bed-ridden, morbidly obese, middle aged diabetic women, since their metabolisms would be markedly different.

## Experimental conditions

Consider how "life-like" the experimental conditions were. For example, a diet study conducted on elderly cardiac patients living in a metabolic ward for a month would reflect very different conditions to a young, free-living adult who is subject to a variety of real-life factors.

## Protocol

Appropriate methodological controls help to ensure that the results are due to the intervention and not to random chance. Ideally, a study should be randomised, controlled and, when appropriate, double blind (neither the subjects nor investigators know who has received the experimental or control intervention).

## Peer-reviewed

Confirm that the studies were published in reputable peer-reviewed journals. While even this is not a 100% guarantee, it at least confers a higher level of academic scrutiny to minimise bias and ensures the integrity of the research.

While claims based on science are always preferred, many diet book authors and product manufacturers are determined not to let the truth get in the way of a good marketing campaign. As health and fitness professionals, we are the "gate keepers" between our clients and the multitude of new diets and nutrition products entering the market. Clearly not everyone's a research scientist, but we all have a built-in boloney detector that can help keep us from getting taken for a ride. We should never maintain a dismissive attitude either though, because science is always changing.

The age-old adage "if it sounds too good to be true, then it probably is" is true in most cases. Often the repetition of lofty, seemingly unrealistic claims will cause you to lower your guard just long enough to make you lift the phone and surrender your credit card details. Always do your homework and thoroughly investigate all health products.

Here's a guide for telling if it's just too good to be true.

## Guide to evaluating claims that are too good to be true

### Testimonials

While a heart-wrenching testimonial makes for great late-night infomercial viewing, this is not a guarantee of efficacy. If someone begins taking a "fat-burning" supplement while exercising every day for three hours per day, then it's difficult to conclusively ascribe those results to the pill or the radical change in exercise levels.

### Terminology

Marketing research focus groups are explicitly conducted to determine which terms resonate with consumers and will likely translate to greater sales. For example, the term "natural" has been associated with "safe" and "effective" in the eyes of most consumers, yet even natural remedies may carry potential health risks.

## No effort required

Humans are pleasure seekers and pain avoiders and will avoid logging the hard yards if at all possible. Beware of any diet, supplement or health product that claims quick, easy results. Diet books have claimed to have the "secret" to health for over 50 years – but if they worked in the first place, we'd all be slim and svelte by now.

## Strictly business

Advertising is meant to do one thing: sell products. Altered, airbrushed images, changes in lighting, body positioning and body angle all give the appearance of a miracle transformation. Again, marketing materials are meant to sell, not inform.

## Confusing jargon

Sometimes advertising is littered with scientific-sounding jargon. Glossy images of confusing biochemical pathways mean nothing to most people, yet it seemingly confers a level of scientific scrutiny. For example, just because a substance is part of a fat-burning metabolic pathway, it does not mean that taking it as a supplement will enhance the process.

## Out of context claims

Sometimes, it's not what you're told; rather, it's what you're not told. Be sure to evaluate the original research from which marketing claims are extracted before placing faith in any product. For example, "statistically significant" fat loss in the context of a research article may, in fact, be scientifically valid but, in the real world, might only translate to a half pound difference – not quite the stone you were expecting to lose. *fp*

First published in *Australian Fitness Network*.