The long list (referenced in our article) of necrotic conditions misdiagnosed as spider bites is far from exhaustive. You have ruled out only about a half dozen of the many listed conditions, and you still show no evidence to implicate a spider. Also, you would not be the first person to mistakenly rule out one of the many diagnoses more probable than spider bite. For example, we know of at least one person who unknowingly suffers repeated thermal burns and blames the subsequent lesions on spiders.

Your mosquito bite analogy is faulty. Mosquitoes (and other obligatorily hematophagous arthropods) actively seek out mammals and other vertebrates for the blood meals necessary for their survival. No spider does this. We are sure you have witnessed the actual bites of many individual mosquitoes representing a variety of genera and species. Therefore we are confident in your ability to diagnose certain types of lesions as *likely* resulting from the bite of a mosquito. No one has ever shown a causal relationship, however, between the bite of any Canadian spider and a necrotic lesion. You have no factual basis to blame a spider for your lesion.

In fact, apart from the rare cases of true loxoscelism, "necrotic arachnidism" is a myth. As Geoffrey Isbister states in his article[1]:

> This association [of necrotic ulcers and spiders] remains despite no significant evidence to support the involvement of spiders in necrotic ulcers. The medical community is by no means immune to the myth of necrotic arachnidism and is responsible for its persistence by not questioning the evidence or investigating necrotic ulcers in the same way as any other disorder.

Considering the current desire for evidence-based medicine as well as the medical community's conservative nature and consequent reticence to accept new concepts, techniques, or remedies without proof, it astonishes us that spiders are so commonly and erroneously implicated as causative agents of idiopathic lesions. Apparently we have succeeded in convincing you that "*Loxosceles reclusus might* [our emphasis on "might"] not have been the species that bit" you. We strongly urge you to accept that a *Loxosceles* spider *did not* bite you and that, furthermore, there is no evidence to suspect any spider in your case, or any of the other cases we report. To do otherwise contributes to the perpetuation of a lamentable decades-old medical myth.

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Reference

1. Isbister GK. Necrotic arachnidism: the mythology of a modern plague. *Lancet* 2004;364:549-53.

Good intentions, poor study design

Your article[1] "Caveat emptor. 'Probiotics' might not be what they seem" by Dr Brenda Huff caught our attention. As scientists working with the probiotic industry to improve standards and promote evidence-based efficacy substantiation, we can appreciate Dr Huff's motivation for doing this project, especially because third-party verification of probiotic compliance with label claims is not available to consumers or health care professionals. We fully support recommendations for probiotic products to live up to label claims as per the recent FAO/WHO guidelines (see **http://www.who.int/foodsafety/fs_management/en/probiotic_guidelines.pdf**). Indeed, there are likely commercial probiotic products that do not comply with their label claims.

A proper intention does not, however, justify poor study design and use of improper media and poorly described methods. The choice of media for detection and enumeration are inconsistent with those optimal for detecting probiotic lactobacilli. The lack of clarity in defining abbreviations left us to make some assumptions (did BAP stand for bacterial alkaline phosphatase as stated or more common

blood agar plates? Did CNA stand for calcium nutrient agar or the more common colistin nalidixic acid agar?). Assuming that blood agar was the medium used, it is not well suited to the growth of commercial lactobacilli or bifidobacteria. It is a better choice for enterococci and pathogenic microbes. The media used are more suited to fecal analysis and are not specific for lactobacilli nor bifidobacteria. The preferred media for evaluation and enumeration of probiotic lactobacilli are de Man, Rogosa, Sharpe (MRS) agar or tomato juice agar. Also, the use of a "1:1000 loop" is not adequate for enumeration. To achieve a quantitative result, a defined quantity of powder (1 to 10 g) should have been weighed, reconstituted, and serially diluted.

We suspect that examination of a Gram stain would have revealed a high number of Gram-positive rods (comprising lactobacilli and bifidobacteria) in most of these samples. Although a Gram stain will not differentiate between live and dead cells, a dominance of these microbes would have called into question growth methods that did not determine their presence even at the lowest level of recovery. Finally, the method used to determine the genera of the microbes isolated was not described. It is therefore impossible for readers to assess the likelihood that correct identifications were reported. Molecular techniques are preferred for identification of probiotic microbes.

The author concludes from this study that probiotics should not be recommended at this time. This is clearly an irresponsible and damaging conclusion, indicting an entire industry on the basis of 10 samples evaluated using poor and outdated methods. This paper will likely discourage health care professionals from using perfectly good products that could provide clinical benefit to their patients. Further, the author's statement that "No current government regulations apply to over-the-counter probiotic products" is simply untrue. In Canada, these products fall under the jurisdiction of Health Canada's Natural Health Products Directorate, and some previously registered drug identification number products fall under the Therapeutic Products Directorate.

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Probiotics

I was surprised at the results obtained in the article "Caveat emptor. 'Probiotics' might not be what they seem."[1] My understanding is that manufacturers must follow good manufacturing practice (GMP) as outlined in the Natural Health Products regulations defined by Health Canada.

According to Health Canada, as of January 1, 2004, probiotics (and all other natural health products) are subject to the requirements of the Natural Health Products Regulations, which include GMP, site licensing, and product licensing requirements. Quality control must be built into *each batch* of the product during all stages of the manufacturing process, and constant testing is required to monitor this quality. All raw materials are required to conform to a standard and are tested to their specifications to ensure compliance. Suppliers must provide a Certificate of Analysis for each batch of raw material. In addition, a qualified quality assurance person should be checking throughout the manufacturing, packaging, labeling, testing, and releasing steps (personal communication from Health Canada, Natural Health Products Division; June 2004).

It is not entirely clear from Dr Huff's article whether she followed GMP guidelines when conducting her study. My understanding is that the culture and counting of bacterial flora in this situation needs to be quite specific and standardized. If the author used a different culture media and counting techniques, then these results are clearly neither valid nor comparable with GMP guidelines.

Could Dr Huff please clarify her methods? If her methods are different from the standardized GMP guidelines, I must wonder why this variance was not dealt with in peer review. Arbitrary methods would cast doubt on the results and therefore the conclusions.

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