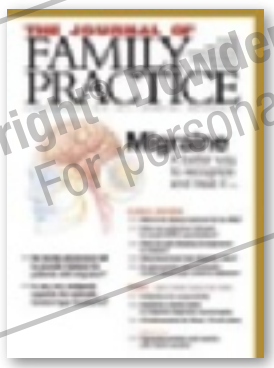
Is further research needed on glucosamine?

The review "Do glucosamine and chondroitin worsen blood sugar control in diabetes?" (*J Fam Pract* 2006; 55:1091–1093) is timely and important, given that glucosamine is a popular supplement with potential to adversely affect glucose homeostasis. The authors state that short-term glucosamine administration does not affect glycemic control and speculate that long-term effects are unlikely to be different. However, they advocate for additional investigations (including long-term studies) in patients with poorly controlled diabetes or glucose intolerance.



A recent paper of ours sheds some light on the health concerns of glucosamine supplements at standard doses (500 mg orally, 3 times daily).[1] This paper and others[2] have shown that peak plasma concentrations of glucosamine achieved after a 500 mg oral dose are 1000- to 10,000-fold less than the mM concentrations of glucosamine used in cell-based, animal, or human studies demonstrating effects of glucosamine to cause insulin resistance.[2,3] Moreover, giving glucosamine to humans at standard oral does of 500 mg 3 times daily does not cause any changes in steady-state levels of plasma glucosamine. It's unlikely that exogenously administered glucosamine will be transported into cells where it may impact on glucose homeostasis. Indeed, endogenous glucosamine production (~12 g/day) is considerably higher[3] than standard oral doses of glucosamine supplements.

In our study, using state-of-the-art methods to measure insulin sensitivity and endothelial function, we did not observe any evidence that glucosamine supplements at standard doses for 6 weeks cause or worsen insulin resistance or endothelial dysfunction in healthy or obese subjects. We do not believe that more studies evaluating the safety or efficacy of oral glucosamine for longer durations in patients with poorly controlled diabetes are warranted.

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The upside of monitoring microalbuminuria

We have a different perspective about the utility of monitoring microalbuminuria than Dr Vincent ("Angiotensin blockade for diabetes: Monitor microalbuminuria?" *J Fam Pract* 2007; 56: 145–146). We practice at a community health center with a diabetes program that is ADA-recognized

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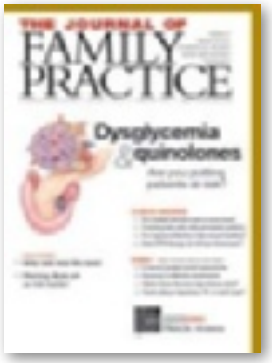
for excellence in diabetes education and self-management. We have about 1200 diabetic patients in our practice, primarily Hispanic and indigent. With tight control, we have seen patients' microalbuminuria decrease, sometimes to normal.

We find that an annual microalbumin result is an educational and motivational tool. Most patients know another diabetic who needs dialysis. When they see that maintaining blood glucose has improved this marker for kidney damage, they are overjoyed and thus motivated to continue to improve their self-management. Many of our patients participate in a quarterly group class, and the group actually cheers when a participant reaches a goal of a microalbumin less than 30.



Dr Vincent says his academic medical center charges $90 for a microalbumin test. We are able to purchase tests that give patients a result before they leave for $15.

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FAST TRACK

"The class actually cheers when a participant reaches a goal of a microalbuminuria of less than 30."

Advertising, sponsorship, and conflict of interest

To the editor:

I read with interest the supplement on chronic obstructive pulmonary disease (COPD) by Doherty et al (*J Fam Pract* 2006; 55[11]:S1–S8). In particular I appreciated the authors' discussion of smoking cessation as the cornerstone of COPD prevention and treatment, pulmonary function testing as a more sensitive tool in the diagnosis of suspected COPD than chest radiographs, and the role of pulmonary rehabilitation as a valuable referral resource for patient education and conditioning. The authors note that other than smoking cessation and oxygen therapy (for severe COPD), none of the presented treatments have been shown to "modify" COPD. I look forward to the publication and discussion of related clinical studies that the authors report are in progress.

I would, however, call upon *JFP* to be more transparent in making disclosures of potential conflicts of interest between a manuscript's authors and the medications they discuss, as well as avoiding related advertisements elsewhere in the journal. For example, the supplement is made possible by an educational grant from Boehringer Ingelheim Pharmaceuticals, the US affiliate of a multinational firm that produces one of the medications prominently (and favorably) featured in the supplement and later advertised in the journal—the long-acting inhaled anticholinergic tiotropium (Spiriva). Of note, and not disclosed in the supplement but featured in the related ads, is that Spiriva is co-marketed in the US by another prominent pharmaceutical company—Pfizer.

This disclosure in the supplement is relevant in that all of the supplement's authors have financial ties to Boehringer Ingelheim or Pfizer. The marketing of Spiriva by these companies should be explicitly acknowledged. With such information, family physicians can then more critically examine the authors' claims pertaining to tiotropium in the treatment of COPD and seek out separate and independent analysis. A simple way for the editorial board to enforce this precept would be to refuse advertisements from the sponsor(s) of the supplement in the issue in which the supplement is published.

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