



RESPONSE TO COMMENT ON MURAKI ET AL.

Potato Consumption and Risk of Type 2 Diabetes: Results From Three Prospective Cohort Studies. *Diabetes Care* 2016;39:376–384

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Dr. Bossi (1) raised an interesting point that the acrylamide content of french fries and potato chips may contribute to the positive associations between the intake of these foods and an elevated risk of developing type 2 diabetes (T2D) or gestational diabetes mellitus. Highly processed foods such as french fries and potato chips contain both nutrients intrinsic to the raw foods and ingredients added or generated during processing/cooking. In this regard, *trans* fat is an excellent example, particularly for french fries and potato chips. The food industry used to fry potato foods using mostly partially hydrogenated oils, which are high in *trans* fatty acids. Given the adverse effects of *trans* fat intake on impairing insulin sensitivity and raising the risk of developing diabetes (2,3), we suspect that the stronger association observed for french fries in our analysis can be at least partially ascribed to *trans* fat. The possibility that other compounds such as acrylamide may also explain

some of the associations cannot be excluded, although the current evidence regarding the association of total exposure of acrylamide with T2D is quite limited (4). Apparently, more studies are warranted to elucidate these potentially important links.

On the other hand, we found that both french fries and baked, boiled, or mashed potatoes were positively associated with incident T2D risk (5). The consistently positive findings for these potato foods cooked differently suggest that certain shared factors of french fries and baked, boiled, or mashed potatoes, including starch and associated high glycemic index (GI), may serve as a common underlying mechanism linking higher potato food intake with the development of T2D. On the basis of these considerations, reducing the intake of high GI foods and foods rich in refined carbohydrates such as potato foods should be recommended to facilitate diabetes prevention in the general population. Such a

recommendation will also likely lead to a reduced intake of acrylamide from french fries and potato chips.

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

References

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