



The Medical **Bulletin**

Diet Corner

Second meal effect

The second meal effect (SME) is a phenomenon where the glycemic index (GI) of one meal has an influence on the glycemic response to a subsequent meal. For instance, a low GI-high protein breakfast has been shown to lower the post-Prandial glucose response (PPGR) to lunch. Fibre and resistant starch in food helps reduce the PPGR to a meal through delayed gastric emptying caused by short chain fatty acids or by reducing the amount of glucose that is absorbed in the intestine. The SME is also associated with priming of muscle glycogen synthesis, secretion of hormones involved in maintaining euglycemia and increasing satiety.

References:

1. Fletcher, J. (2012). The Second Meal Effect and Its Influence on Glycemia. *Journal of Nutritional Disorders & Therapy*.
2. Park, Y. M., Heden, T. D., Liu, Y., Nyhoff, L. M., Thyfault, J. P., Leidy, H. J., & Kanaley, J. A. (2015). A high-protein breakfast induces greater insulin and glucose-dependent insulinotropic peptide responses to a subsequent lunch meal in individuals with type 2 diabetes. *The Journal of nutrition*.

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