Search Plan and Results

Question

What is the relationship between glycemic index or glycemic load and cancer? (DGAC 2010)

What is the relationship between glycemic index or glycemic load and cardiovascular disease? (DGAC 2010)

What is the relationship between glycemic index or glycemic load and type 2 diabetes? (DGAC 2010)

Date Searched

3/20/09; updated 9/19/09 and 9/22/09 for CVD and T2D

Inclusion Criteria

- June 2004 to March 2009 for cancer, and January 2000 to September 2009 for CVD and type 2 diabetes
- Human subjects
- English language
- International
- *Sample size:* Minimum of 10 subjects per study arm; preference for larger sizes, if available
- *Dropout rate:* Less than 20%; preference for smaller dropout rates
- *Ages:* Children, two to 18 years; adults, 19 years and older
- *Populations:* Healthy and those with elevated chronic disease risk.

Exclusion Criteria

- Reviews (narrative and systematic); meta-analyses
- Studies examining intermediate outcomes, not incidence of disease
- Medical treatment or therapy, including medical treatment of diabetes
- Diseased subjects (already diagnosed with disease related to study purpose)
- Hospitalized patients
- Animal studies
- In vitro studies
- Articles not peer reviewed (Websites, magazine articles, Federal reports, etc.).

Search Terms: Search Vocabulary

Cancer: "Neoplasms"[Mesh] AND ("Glycemic Index"[Mesh] OR "glycemic load"[All Fields])

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Cardiovascular disease (CVD): ("Glycemic Index"[Mesh] OR "glycemic load") AND (“Cardiovascular diseases”[Mesh])

Type 2 diabetes (T2D): ("Glycemic Index"[Mesh] OR "glycemic load") AND (“Diabetes Mellitus, Type 2”[Mesh])

Electronic Databases

- PubMed for cancer
- PubMed, Embase, BIOSIS for CVD and type 2 diabetes.

Total hits from all electronic database searches: 491

Total articles identified to review from electronic databases: 133

Articles Identified Via Handsearch or Other Means

Summary of Articles Identified to Review

Number of Primary Articles Identified: 46

Number of Review Articles Identified: 0

Total Number of Articles Identified: 46

Number of Articles Reviewed but Excluded: 87

List of Articles Included for Evidence Analysis

What is the relationship between glycemic index or glycemic load and cancer?

Augustin LS, Galeone C, Dal Maso L, Pelucchi C, Ramazzotti V, Jenkins DJ, Montella M, Talamini R, Negri E, Franceschi S, La Vecchia C. Glycemic index, glycemic load and risk of prostate cancer. *Int J Cancer.* 2004 Nov 10; 112(3): 446-450. PMID: 15382070.

Bertuccio P, Praud D, Chatenoud L, Lucenteforte E, Bosetti C, Pelucchi C, Rossi M, Negri E, La Vecchia C. Dietary glycemic load and gastric cancer risk in Italy. *Br J Cancer.* 2009 Feb 10; 100(3): 558-561. PMID: 19190635.

Cust AE, Slimani N, Kaaks R, van Bakel M, Biessy C, Ferrari P, Laville M, Tjønneland A, Olsen A, Overvad K, Lajous M, Clavel-Chapelon F, Boutron-Ruault MC, Linseisen J,

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Rohrmann S, Nöthlings U, Boeing H, Palli D, Sieri S, Panico S, Tumino R, Sacerdote C, Skeie G, Engeset D, Gram IT, Quirós JR, Jakszyn P, Sánchez MJ, Larrañaga N, Navarro C, Ardanaz E, Wirfält E, Berglund G, Lundin E, Hallmans G, Bueno-de-Mesquita HB, Du H, Peeters PH, Bingham S, Khaw KT, Allen NE, Key TJ, Jenab M, Riboli EDietary carbohydrates, glycemic index, glycemic load, and endometrial cancer risk within the European Prospective Investigation into Cancer and Nutrition cohort. *Am J Epidemiol.* 2007 Oct 15; 166(8): 912-923. Epub 2007 Aug 1. PMID: 17670911.

Flood A, Peters U, Jenkins DJ, Chatterjee N, Subar AF, Church TR, Bresalier R, Weissfeld JL, Hayes RB, Schatzkin A; Prostate, Lung, Colorectal, Ovarian (PLCO) Project Team. Carbohydrate, glycemic index, and glycemic load and colorectal adenomas in the Prostate, Lung, Colorectal, and Ovarian Screening Study. *Am J Clin Nutr.* 2006 Nov; 84(5): 1, 184-1, 192. PMID: 17093173.

George SM, Mayne ST, Leitzmann MF, Park Y, Schatzkin A, Flood A, Hollenbeck A, Subar AF. Dietary glycemic index, glycemic load, and risk of cancer: A prospective cohort study. *Am J Epidemiol.* 2009 Feb 15; 169(4): 462-472. Epub 2008 Dec 18. PMID: 19095757.

Giles GG, Simpson JA, English DR, Hodge AM, Gertig DM, Macinnis RJ, Hopper JL. Dietary carbohydrate, fibre, glycaemic index, glycaemic load and the risk of postmenopausal breast cancer. *Int J Cancer.* 2006 Apr 1; 118(7): 1, 843-1, 847. PMID: 16217755.

Heinen MM, Verhage BA, Lumey L, Brants HA, Goldbohm RA, van den Brandt PA. Glycemic load, glycemic index, and pancreatic cancer risk in the Netherlands Cohort Study. *Am J Clin Nutr.* 2008 Apr; 87(4): 970-977. PMID: 18400721.

Howarth NC, Murphy SP, Wilkens LR, Henderson BE, Kolonel LN. The association of glycemic load and carbohydrate intake with colorectal cancer risk in the Multiethnic Cohort Study. *Am J Clin Nutr.* 2008 Oct; 88(4): 1, 074-1, 082. PMID: 18842796.

Johnson KJ, Anderson KE, Harnack L, Hong CP, Folsom AR. No association between dietary glycemic index or load and pancreatic cancer incidence in postmenopausal women. *Cancer Epidemiol Biomarkers Prev.* 2005 Jun; 14(6): 1, 574-1, 575. PMID: 15941976.

Kabat GC, Shikany JM, Beresford SA, Caan B, Neuhouser ML, Tinker LF, Rohan TE. Dietary carbohydrate, glycemic index, and glycemic load in relation to colorectal cancer risk in the Women's Health Initiative. *Cancer Causes Control.* 2008 Dec; 19(10): 1, 291-1, 298. Epub 2008 Jul 10. PMID: 18618276.

Lajous M, Boutron-Ruault MC, Fabre A, Clavel-Chapelon F, Romieu I. Carbohydrate intake, glycemic index, glycemic load, and risk of postmenopausal breast cancer in a prospective study of French women. *Am J Clin Nutr.* 2008 May; 87(5): 1, 384-1, 391. PMID: 18469262.

Lajous M, Willett W, Lazcano-Ponce E, Sanchez-Zamorano LM, Hernandez-Avila M, Romieu I. Glycemic load, glycemic index, and the risk of breast cancer among Mexican women. *Cancer Causes Control.* 2005 Dec; 16(10): 1, 165-1, 169. PMID: 16215866.

Larsson SC, Friberg E, Wolk A. Carbohydrate intake, glycemic index and glycemic load in relation to risk of endometrial cancer: A prospective study of Swedish women. *Int J Cancer.* 2007 Mar 1; 120(5): 1, 103-1, 137. PMID: 17131331.

Larsson SC, Giovannucci E, Wolk A. Dietary carbohydrate, glycemic index, and glycemic load in relation to risk of colorectal cancer in women. *Am J Epidemiol.* 2007 Feb 1; 165(3): 256-261. Epub 2006 Nov 21. PMID: 17118965.

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Larsson SC, Bergkvist L, Wolk A. Glycemic load, glycemic index and carbohydrate intake in relation to risk of stomach cancer: a prospective study. *Int J Cancer.* 2006 Jun 15; 118(12): 3, 167-3, 169. PMID: 16395707.

McCann SE, McCann WE, Hong CC, Marshall JR, Edge SB, Trevisan M, Muti P, Freudenheim JL. Dietary patterns related to glycemic index and load and risk of premenopausal and postmenopausal breast cancer in the Western New York Exposure and Breast Cancer Study. *Am J Clin Nutr.* 2007 Aug; 86(2): 465-471. PMID: 17684220.

McCarl M, Harnack L, Limburg PJ, Anderson KE, Folsom AR. Incidence of colorectal cancer in relation to glycemic index and load in a cohort of women. *Cancer Epidemiol Biomarkers Prev.* 2006 May; 15(5): 892-896. PMID: 16702366.

Michaud DS, Fuchs CS, Liu S, Willett WC, Colditz GA, Giovannucci E. Dietary glycemic load, carbohydrate, sugar, and colorectal cancer risk in men and women. *Cancer Epidemiol Biomarkers Prev.* 2005 Jan; 14(1): 138-147. PMID: 15668487.

Nöthlings U, Murphy SP, Wilkens LR, Henderson BE, Kolonel LN. Dietary glycemic load, added sugars, and carbohydrates as risk factors for pancreatic cancer: The Multiethnic Cohort Study. *Am J Clin Nutr.* 2007 Nov; 86(5): 1, 495-1, 501. PMID: 17991664.

Patel AV, McCullough ML, Pavluck AL, Jacobs EJ, Thun MJ, Calle EE. Glycemic load, glycemic index, and carbohydrate intake in relation to pancreatic cancer risk in a large US cohort. *Cancer Causes Control.* 2007 Apr; 18(3): 287-294. Epub 2007 Jan 11. PMID: 17219014.

Randi G, Ferraroni M, Talamini R, Garavello W, Deandrea S, Decarli A, Franceschi S, La Vecchia C. Glycemic index, glycemic load and thyroid cancer risk. *Ann Oncol.* 2008 Feb; 19(2): 380-383. Epub 2007 Oct 19. PMID: 17951595.

Sieri S, Pala V, Brighenti F, Pellegrini N, Muti P, Micheli A, Evangelista A, Grioni S, Contiero P, Berrino F, Krogh V. Dietary glycemic index, glycemic load, and the risk of breast cancer in an Italian prospective cohort study. *Am J Clin Nutr.* 2007 Oct; 86(4): 1, 160-1, 166. PMID: 17921397.

Silvera SA, Jain M, Howe GR, Miller AB, Rohan TE. Glycaemic index, glycaemic load and ovarian cancer risk: a prospective cohort study. *Public Health Nutr.* 2007 Oct; 10(10): 1, 076-1, 081. Epub 2007 Mar 2. PMID: 17381931.

Silvera SA, Rohan TE, Jain M, Terry PD, Howe GR, Miller AB. Glycaemic index, glycaemic load and risk of endometrial cancer: A prospective cohort study. *Public Health Nutr.* 2005 Oct; 8(7): 912-919. PMID: 16277808.

Silvera SA, Rohan TE, Jain M, Terry PD, Howe GR, Miller AB. Glycemic index, glycemic load, and pancreatic cancer risk (Canada). *Cancer Causes Control.* 2005 May; 16(4): 431-436. PMID: 15953985.

Silvera SA, Jain M, Howe GR, Miller AB, Rohan TE. Dietary carbohydrates and breast cancer risk: A prospective study of the roles of overall glycemic index and glycemic load. *Int J Cancer.* 2005 Apr 20; 114(4): 653-658. Erratum in: *Int J Cancer.* 2006 May 1; 118(9): 2, 372. PMID: 15609324.

Strayer L, Jacobs DR Jr, Schairer C, Schatzkin A, Flood A. Dietary carbohydrate, glycemic

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index, and glycemic load and the risk of colorectal cancer in the BCDDP cohort. *Cancer Causes Control.* 2007 Oct; 18(8): 853-863. Epub 2007 Jun 29. PMID: 17605083.

Weijenberg MP, Mullie PF, Brants HA, Heinen MM, Goldbohm RA, van den Brandt PA. Dietary glycemic load, glycemic index and colorectal cancer risk: Results from the Netherlands Cohort Study. *Int J Cancer.* 2008 Feb 1; 122(3): 620-629. PMID: 17935129.

What is the relationship between glycemic index or glycemic load and cardiovascular disease?

Beulens JW, de Bruijne LM, Stolk RP, Peeters PH, Bots ML, Grobbee DE, van der Schouw YT. High dietary glycemic load and glycemic index increase risk of cardiovascular disease among middle-aged women: A population-based follow-up study. *J Am Coll Cardiol.* 2007 Jul 3; 50(1): 14-21. Epub 2007 Jun 18. PMID: 17601539.

Halton TL, Willett WC, Liu S, Manson JE, Albert CM, Rexrode K, Hu FB. Low-carbohydrate-diet score and the risk of coronary heart disease in women. *N Engl J Med.* 2006 Nov 9; 355(19): 1, 991-2, 002. PMID: 17093250.

Kaushik S, Wang JJ, Wong TY, Flood V, Barclay A, Brand-Miller J, Mitchell P. Glycemic index, retinal vascular caliber, and stroke mortality. *Stroke.* 2009 Jan; 40(1): 206-212. Epub 2008 Oct 23. PMID: 18948616.

Levitan EB, Mittleman MA, Håkansson N, Wolk A. Dietary glycemic index, dietary glycemic load, and cardiovascular disease in middle-aged and older Swedish men. *Am J Clin Nutr.* 2007 Jun; 85(6): 1, 521-1, 526. PMID: 17556687.

Liu S, Willett WC, Stampfer MJ, Hu FB, Franz M, Sampson L, Hennekens CH, Manson JE. A prospective study of dietary glycemic load, carbohydrate intake, and risk of coronary heart disease in US women. *Am J Clin Nutr.* 2000 Jun; 71(6): 1, 455-1, 461. PMID: 10837285.

Oh K, Hu FB, Cho E, Rexrode KM, Stampfer MJ, Manson JE, Liu S, Willett WC. Carbohydrate intake, glycemic index, glycemic load, and dietary fiber in relation to risk of stroke in women. *Am J Epidemiol.* 2005 Jan 15; 161(2): 161-169. PMID: 15632266.

Tavani A, Bosetti C, Negri E, Augustin LS, Jenkins DJ, La Vecchia C. Carbohydrates, dietary glycaemic load and glycaemic index, and risk of acute myocardial infarction. *Heart.* 2003 Jul; 89(7): 722-726. PMID: 12807839; PMCID: PMC1767713.

van Dam RM, Visscher AW, Feskens EJ, Verhoef P, Kromhout D. Dietary glycemic index in relation to metabolic risk factors and incidence of coronary heart disease: The Zutphen Elderly Study. *Eur J Clin Nutr.* 2000 Sep; 54(9): 726-731. PMID: 11002385.

What is the relationship between glycemic index or glycemic load and type 2 diabetes?

Barclay AW, Flood VM, Rochtchina E, Mitchell P, Brand-Miller JC. Glycemic index, dietary fiber, and risk of type 2 diabetes in a cohort of older Australians. *Diabetes Care.* 2007 Nov; 30(11): 2, 811-2, 813. Epub 2007 Aug 21. No abstract available. PMID: 17712022.

Halton TL, Liu S, Manson JE, Hu FB. Low-carbohydrate-diet score and risk of type 2 diabetes in women. *Am J Clin Nutr.* 2008 Feb; 87(2): 339-346. PMID: 18258623.

Hodge AM, English DR, O'Dea K, Giles GG. Glycemic index and dietary fiber and the risk of type 2 diabetes. *Diabetes Care.* 2004 Nov; 27(11): 2, 701-2, 706. PMID: 15505008.

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Krishnan S, Rosenberg L, Singer M, Hu FB, Djoussé L, Cupples LA, Palmer JR. Glycemic index, glycemic load, and cereal fiber intake and risk of type 2 diabetes in US black women. *Arch Intern Med.* 2007 Nov 26; 167(21): 2, 304-2, 309. PMID: 18039988.

Mosdøl A, Witte DR, Frost G, Marmot MG, Brunner EJ. Dietary glycemic index and glycemic load are associated with high-density-lipoprotein cholesterol at baseline but not with increased risk of diabetes in the Whitehall II study. *Am J Clin Nutr.* 2007 Oct; 86(4): 988-994. PMID: 17921375.

Sahyoun NR, Anderson AL, Tylavsky FA, Lee JS, Sellmeyer DE, Harris TB; Health, Aging, and Body Composition Study. Dietary glycemic index and glycemic load and the risk of type 2 diabetes in older adults. *Am J Clin Nutr.* 2008 Jan; 87(1): 126-131. PMID: 18175745.

Schulz M, Liese AD, Fang F, Gilliard TS, Karter AJ. Is the association between dietary glycemic index and type 2 diabetes modified by waist circumference? *Diabetes Care.* 2006 May; 29(5): 1, 102-1, 104. PMID: 16644644.

Schulze MB, Liu S, Rimm EB, Manson JE, Willett WC, Hu FB. Glycemic index, glycemic load, and dietary fiber intake and incidence of type 2 diabetes in younger and middle-aged women. *Am J Clin Nutr.* 2004 Aug; 80(2): 348-356. PMID: 15277155.

Stevens J, Ahn K, Juhaeri, Houston D, Steffan L, Couper D. Dietary fiber intake and glycemic index and incidence of diabetes in African-American and white adults: The ARIC study. *Diabetes Care.* 2002 Oct; 25(10): 1, 715-1, 721. PMID: 12351467.

Villegas R, Liu S, Gao YT, Yang G, Li H, Zheng W, Shu XO. Prospective study of dietary carbohydrates, glycemic index, glycemic load, and incidence of type 2 diabetes mellitus in middle-aged Chinese women. *Arch Intern Med.* 2007 Nov 26; 167(21): 2, 310-2, 316. PMID: 18039989.

List of Excluded Articles with Reason

Article (A–G)	**Reason for Exclusion**
Amano Y, Kawakubo K, Lee JS, Tang AC, Sugiyama M, Mori K. Correlation between dietary glycemic index and cardiovascular disease risk factors among Japanese women. *Eur J Clin Nutr.* 2004 Nov; 58(11): 1, 472-1, 478. PMID: 15127092.	Does not include incidence of disease in analyses.
Barclay AW, Brand-Miller JC, Mitchell P. Macronutrient intake, glycaemic index and glycaemic load of older Australian subjects with and without diabetes: Baseline data from the Blue Mountains Eye study. *Br J Nutr.* 2006 Jul; 96(1): 117-123. PMID: 16869999.	Does not answer question; compares dietary intake of older adults with and without diabetes.

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Barclay AW, Petocz P, McMillan-Price J, Flood VM, Prvan T, Mitchell P, Brand-Miller JC. Glycemic index, glycemic load, and chronic disease risk: A meta-analysis of observational studies. *Am J Clin Nutr.* 2008 Mar; 87(3): 627-637. Review. PMID: 18326601.	Study design is meta-analysis.
Barkoukis H, Marchetti CM, Nolan B, Sistrun SN, Krishnan RK, Kirwan JP. A high glycemic meal suppresses the postprandial leptin response in normal healthy adults. *Ann Nutr Metab.* 2007; 51(6): 512-518. Epub 2007 Dec 10. PMID: 18073462.	Does not include incidence of disease in analyses.
Benoit SR, Fleming R, Philis-Tsimikas A, Ji M. Predictors of glycemic control among patients with Type 2 diabetes: A longitudinal study. *BMC Public Health.* 2005 Apr 17; 5: 36. PMID: 15833140.	Participants diagnosed with type 2 diabetes.
Beulens JWJ, Van Der Schouw YT. Increased risk of cardiovascular disease among middle-aged women due to glycemic load. *Cardiol Rev.* 2008 Feb; 25(2): 19-22.	Results reported based on the same dataset as Beulens (2007).
Biddinger SB, Ludwig DS. The insulin-like growth factor axis: A potential link between glycemic index and cancer. *Am J Clin Nutr.* 2005 Aug; 82(2): 277-278. PMID: 16087968.	Publication is editorial.
Brand-Miller J, Dickinson S, Barclay A, Celermajer D. The glycemic index and cardiovascular disease risk. *Curr Atheroscler Rep.* 2007 Dec; 9(6): 479-485. Review. PMID: 18377788.	Study design is narrative review.
Brand-Miller J, Hayne S, Petocz P, Colagiuri S. Low-glycemic index diets in the management of diabetes: A meta-analysis of randomized controlled trials. *Diabetes Care.* 2003 Aug; 26(8): 2, 261-2, 267. PMID: 12882846.	Study design is meta-analysis.
Brand-Miller JC, Stockmann K, Atkinson F, Petocz P, Denyer G. Glycemic index, postprandial glycemia, and the shape of the curve in healthy subjects: Analysis of a database of more than 1, 000 foods. *Am J Clin Nutr.* 2009 Jan; 89(1): 97-105. Epub 2008 Dec 3. PMID: 19056599.	Does not answer question; examined relationship between glycemic index and postprandial glycemia.
Brillon DJ, Sison CP, Salbe AD, Poretsky L. Reproducibility of a glycemic response to mixed meals in type 2 diabetes mellitus. *Horm Metab Res.* 2006 Aug; 38(8): 536-542. PMID: 16941281.	Does not include incidence of disease in analyses.
Burani J, Longo PJ. Low-glycemic index carbohydrates: an effective behavioral change for glycemic control and weight management in patients with type 1 and 2 diabetes. *Diabetes Educ.* 2006 Jan-Feb; 32(1): 78-88. PMID: 16439496.	Participants diagnosed with type 2 diabetes.

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Buscemi S, Verga S, Cottone S, Azzolina V, Buscemi B, Gioia D, Cerasola G. Glycaemic variability and inflammation in subjects with metabolic syndrome. *Acta Diabetol.* 2009 Mar; 46(1): 55-61. Epub 2008 Sep 26. PMID: 18818862.	Participants diagnosed with metabolic syndrome.
Colombani PC. Glycemic index and load-dynamic dietary guidelines in the context of diseases. *Physiol Behav.* 2004 Dec 30; 83(4): 603-610. Review. PMID: 15621065.	Study design is narrative review.
Darbinian JA, Ferrara AM, Van Den Eeden SK, Quesenberry CP Jr, Fireman B, Habel LA. Glycemic status and risk of prostate cancer. *Cancer Epidemiol Biomarkers Prev.* 2008 Mar; 17(3): 628-635. PMID: 18349280.	Does not include glycemic index or load in analyses.
de Rekeneire N, Rooks RN, Simonsick EM, Shorr RI, Kuller LH, Schwartz AV, Harris TB; Health, Aging and Body Composition Study. Racial differences in glycemic control in a well-functioning older diabetic population: Findings from the Health, Aging and Body Composition Study. *Diabetes Care.* 2003 Jul; 26(7): 1, 986-1, 992. Erratum in: *Diabetes Care.* 2003 Dec; 26(12): 3, 368. PMID: 12832300.	Participants diagnosed with type 2 diabetes.
Dickinson S, Brand-Miller J. Glycemic index, postprandial glycemia and cardiovascular disease. *Curr Opin Lipidol.* 2005 Feb; 16(1): 69-75. Review. PMID: 15650566.	Study design is narrative review.
Dickinson S, Hancock DP, Petocz P, Ceriello A, Brand-Miller J. High-glycemic index carbohydrate increases nuclear factor-kappaB activation in mononuclear cells of young, lean healthy subjects. *Am J Clin Nutr.* 2008 May; 87(5): 1, 188-1, 193. PMID: 18469238.	Does not include incidence of disease in analyses.
Du H, van der A DL, van Bakel MM, van der Kallen CJ, Blaak EE, van Greevenbroek MM, Jansen EH, Nijpels G, Stehouwer CD, Dekker JM, Feskens EJ.Glycemic index and glycemic load in relation to food and nutrient intake and metabolic risk factors in a Dutch population. *Am J Clin Nutr.* 2008 Mar; 87(3): 655-661. PMID: 18326604.	Does not include incidence of disease in analyses.
Ebbeling CB, Leidig MM, Sinclair KB, Seger-Shippee LG, Feldman HA, Ludwig DS. Effects of an ad libitum low-glycemic load diet on cardiovascular disease risk factors in obese young adults.*Am J Clin Nutr.* 2005 May; 81(5): 976-982. PMID: 15883418.	Does not include incidence of disease in analyses.
Franz MJ. Is there a role for the glycemic index in coronary heart disease prevention or treatment? *Curr Atheroscler Rep.* 2008 Dec; 10(6): 497-502. Review. PMID: 18937897.	Study design is narrative review.

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Gastrich MD, Lasser N L, Wien M, Bachmann G. Dietary complex carbohydrates and low glycemic index/load decrease levels of specific metabolic syndrome/cardiovascular disease risk factors. *Topics in Clinical Nutrition.* 2008; 23(1): 76-96.	Study design is systematic review.
Gellar L, Nansel TR. High and low glycemic index mixed meals and blood glucose in youth with type 2 diabetes or impaired glucose tolerance. *J Pediatr.* 2009 Mar; 154(3): 455-458.	Participants diagnosed with type 2 diabetes or impaired glucose tolerance.
Gnagnarella P, Gandini S, La Vecchia C, Maisonneuve P. Glycemic index, glycemic load, and cancer risk: a meta-analysis. *Am J Clin Nutr.* 2008 Jun; 87(6): 1, 793-1, 801. PMID: 18541570.	Study design is meta-analysis.
Graber AL, Shintani AK, Wolff K, Brown A, Elasy TA. Glycemic relapse in type 2 diabetes. *Endocr Pract.* 2006 Mar-Apr; 12(2): 145-151. PMID: 16690461.	Participants diagnosed with type 2 diabetes.

Article (H–M)	**Reason for Exclusion**
Hare-Bruun H, Nielsen BM, Grau K, Oxlund AL, Heitmann BL. Should glycemic index and glycemic load be considered in dietary recommendations? *Nutr Rev.* 2008 Oct; 66(10): 569-590. Review. PMID: 18826453.	Study design is narrative review.
Henry CJ, Lightowler HJ, Tydeman EA, Skeath R. Use of low-glycaemic index bread to reduce 24-hour blood glucose: Implications for dietary advice to non-diabetic and diabetic subjects. *Int J Food Sci Nutr.* 2006 May-Jun; 57(3-4): 273-278. PMID: 17127477.	Does not include incidence of disease in analyses.
Jenkins DJ, Kendall CW, Augustin LS, Martini MC, Axelsen M, Faulkner D, Vidgen E, Parker T, Lau H, Connelly PW, Teitel J, Singer W, Vandenbroucke AC, Leiter LA, Josse RG. Effect of wheat bran on glycemic control and risk factors for cardiovascular disease in type 2 diabetes. *Diabetes Care.* 2002 Sep; 25(9): 1, 522-1, 528. PMID: 12196421.	Participants diagnosed with type 2 diabetes.
Jenkins DJ, Kendall CW, McKeown-Eyssen G, Josse RG, Silverberg J, Booth GL, Vidgen E, Josse AR, Nguyen TH, Corrigan S, Banach MS, Ares S, Mitchell S, Emam A, Augustin LS, Parker TL, Leiter LA. Effect of a low-glycemic index or a high-cereal fiber diet on type 2 diabetes: a randomized trial. *JAMA.* 2008 Dec 17; 300(23): 2, 742-2, 753. PMID: 19088352.	Participants diagnosed with type 2 diabetes.

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Jimenez-Cruz A, Bacardi-Gascon M, Turnbull WH, Rosales-Garay P, Severino-Lugo I. A flexible, low-glycemic index mexican-style diet in overweight and obese subjects with type 2 diabetes improves metabolic parameters during a 6-week treatment period. *Diabetes Care.* 2003 Jul; 26(7): 1, 967-1, 970. PMID: 12832297.	Participants diagnosed with type 2 diabetes.
Jiménez-Cruz A, Gutiérrez-González AN, Bacardi-Gascon M. Low glycemic index lunch on satiety in overweight and obese people with type 2 diabetes. *Nutr Hosp.* 2005 Sep-Oct; 20(5): 348-350. PMID: 16229403.	Participants diagnosed with type 2 diabetes.
Kelly S, Frost G, Whittaker V, Summerbell C. Low glycaemic index diets for coronary heart disease. *Cochrane Database Syst Rev.* 2004 Oct 18; (4): CD004467. Review. PMID: 15495112.	Study design is systematic review.
Levitan EB, Cook NR, Stampfer MJ, Ridker PM, Rexrode KM, Buring JE, Manson JE, Liu S. Dietary glycemic index, dietary glycemic load, blood lipids, and C-reactive protein. *Metabolism.* 2008 Mar; 57(3): 437-443. PMID: 18249220; PMCID: PMC2262400.	Does not include incidence of disease in analyses.
Levitan EB, Mittleman MA, Wolk A. Dietary glycemic index, dietary glycemic load and mortality among men with established cardiovascular disease. *Eur J Clin Nutr.* 2009 Apr; 63(4): 552-557. Epub 2007 Dec 19. PMID: 18091767.	Participants diagnosed with cardiovascular disease.
Liese AD, Schulz M, Fang F, Wolever TM, D'Agostino RB Jr, Sparks KC, Mayer-Davis EJ. Dietary glycemic load assessed by food-frequency questionnaire in relation to plasma high-density-lipoprotein cholesterol and fasting plasma triacylglycerols in postmenopausal women. *Diabetes Care.* 2005 Dec; 28(12): 2, 832-2, 838. PMID: 16306541.	Does not include incidence of disease in analyses.
Liu S, Manson JE, Buring JE, Stampfer MJ, Willett WC, Ridker PM. Relation between a diet with a high glycemic load and plasma concentrations of high-sensitivity C-reactive protein in middle-aged women. *Am J Clin Nutr.* 2002 Mar; 75(3): 492-498. PMID: 11864854.	Does not include incidence of disease in analyses.
Liu S, Manson JE, Stampfer MJ, Holmes MD, Hu FB, Hankinson SE, Willett WC. Dietary glycemic load assessed by food-frequency questionnaire in relation to plasma high-density-lipoprotein cholesterol and fasting plasma triacylglycerols in postmenopausal women. *Am J Clin Nutr.* 2001 Mar; 73(3): 560-566. PMID: 11237932.	Does not include incidence of disease in analyses.
Liu S. Lowering dietary glycemic load for weight control and cardiovascular health: a matter of quality. *Arch Intern Med.* 2006 Jul 24; 166(14): 1, 438-1, 439. PMID: 16864751.	Publication is editorial.

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Livesey G, Taylor R, Hulshof T, Howlett J. Glycemic response and health: A systematic review and meta-analysis: Relations between dietary glycemic properties and health outcomes. *Am J Clin Nutr.* 2008 Jan; 87(1): 258S-268S. Review. PMID: 18175766.	Study design is systematic review.
Lukaczer D, Liska DJ, Lerman RH, Darland G, Schiltz B, Tripp M, Bland JS. Effect of a low glycemic index diet with soy protein and phytosterols on CVD risk factors in postmenopausal women. *Nutrition.* 2006 Feb; 22(2): 104-113. PMID: 16459222.	Does not include incidence of disease in analyses.
Ma Y, Olendzki BC, Merriam PA, Chiriboga DE, Culver AL, Li W, Hébert JR, Ockene IS, Griffith JA, Pagoto SL. A randomized clinical trial comparing low-glycemic index vs. ADA dietary education among individuals with type 2 diabetes. *Nutrition.* 2008 Jan; 24(1): 45-56. PMID: 18070658.	Participants diagnosed with type 2 diabetes.
Maki KC, Rains TM, Kaden VN, Raneri KR, Davidson MH. Effects of a reduced-glycemic-load diet on body weight, body composition, and cardiovascular disease risk markers in overweight and obese adults. *Am J Clin Nutr.* 2007 Mar; 85(3): 724-734. PMID: 17344493.	Does not include incidence of disease in analyses.
Mann JI. Evidence-based nutrition recommendations for the treatment and prevention of type 2 diabetes and the metabolic syndrome. *Food Nutr Bull.* 2006 Jun; 27(2): 161-166. Review. PMID: 16786982.	Publication provides recommendations.
Martínez-Ortiz JA, Fung TT, Baylin A, Hu FB, Campos H. Dietary patterns and risk of nonfatal acute myocardial infarction in Costa Rican adults. *Eur J Clin Nutr.* 2006 Jun; 60(6): 770-777. Epub 2006 Feb 8. PMID: 16465200.	Does not include glycemic index or load in analyses.
McMillan-Price J, Petocz P, Atkinson F, O'neill K, Samman S, Steinbeck K, Caterson I, Brand-Miller J. Comparison of four diets of varying glycemic load on weight loss and cardiovascular risk reduction in overweight and obese young adults: A randomized controlled trial. *Arch Intern Med.* 2006 Jul 24; 166(14): 1, 466-1, 475. PMID: 16864756.	Does not include incidence of disease in analyses.
Mead A, Atkinson G, Albin D, Alphey D, Baic S, Boyd O, Cadigan L, Clutton L, Craig L, Flanagan C, Greene P, Griffiths E, Lee NJ, Li M, McKechnie L, Ottaway J, Paterson K, Perrin L, Rigby P, Stone D, Vine R, Whitehead J, Wray L, Hooper L; UK Heart Health Group; Thoracic Dietitians Interest Group (Specialist group of the British Dietetic Association). Dietetic guidelines on food and nutrition in the secondary prevention of cardiovascular disease: Evidence from systematic reviews of randomized controlled trials (second update, January 2006). *J Hum Nutr Diet.* 2006 Dec;	Study design is review.

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19(6): 401-419. Review. PMID: 17105538.	
Mente A, de Koning L, Shannon HS, Anand SS. A systematic review of the evidence supporting a causal link between dietary factors and coronary heart disease. *Arch Intern Med.* 2009 Apr 13; 169(7): 659-669. Review. PMID: 19364995.	Study design is systematic review.
Miles JM. A role for the glycemic index in preventing or treating diabetes? *Am J Clin Nutr.* 2008 Jan; 87(1): 1-2. PMID: 18175728.	Publication is perspective.
Miller CK, Gutschall M. A randomized trial about glycemic index and glycemic load improves outcomes among adults with type 2 diabetes. *Health Educ Behav.* 2009 Jun; 36(3): 615-626. Epub 2008 May 9. PMID: 18469161.	Participants diagnosed with type 2 diabetes.
Miller CK, Gutshcall MD, Mitchell DC. Change in food choices following a glycemic load intervention in adults with type 2 diabetes. *J Am Diet Assoc.* 2009 Feb; 109(2): 319-324. PMID: 19167961.	Participants diagnosed with type 2 diabetes.
Milton JE, Briche B, Brown IJ, Hickson M, Robertson CE, Frost GS. Relationship of glycaemic index with cardiovascular risk factors: Analysis of the National Diet and Nutrition Survey for people aged 65 and older. *Public Health Nutr.* 2007 Nov; 10(11): 1, 321-1, 335. Epub 2007 Apr 24. PMID: 17456246.	Does not include incidence of disease in analyses.
Mogos T, Dondoi C. Evaluation of glycemic control of type II diabetes mellitus treated only with diet. *Rom J Intern Med.* 2007; 45(2): 205-208. PMID: 18333376.	Participants diagnosed with type 2 diabetes.
Montori VM. Should patients with type 2 diabetes focus on glycemic control to reduce their cardiovascular risk? *Pol Arch Med Wewn.* 2008 Sep; 118(9): 502-507. Review. PMID: 18846985.	Study design is narrative review.
Mulholland HG, Murray LJ, Cardwell CR, Cantwell MM. Dietary glycaemic index, glycaemic load and breast cancer risk: a systematic review and meta-analysis. *Br J Cancer.* 2008 Oct 7; 99(7): 1, 170-1, 175. Epub 2008 Aug 26. Review. PMID: 18728653.	Study design is systematic review/meta-analysis.
Mulholland HG, Murray LJ, Cardwell CR, Cantwell MM. Glycemic index, glycemic load, and risk of digestive tract neoplasms: A systematic review and meta-analysis. *Am J Clin Nutr.* 2009 Feb; 89(2): 568-576. Epub 2008 Dec 16. Review. PMID: 19088152.	Study design is systematic review/meta-analysis.

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Murakami K, Okubo H, Sasaki S. Effect of dietary factors on incidence of type 2 diabetes: A systematic review of cohort studies. *J Nutr Sci Vitaminol (Tokyo)*. 2005 Aug; 51(4): 292-310. Review. PMID: 16262005.	Study design is systematic review.
Murakami K, Sasaki S, Takahashi Y, Okubo H, Hosoi Y, Horiguchi H, Oguma E, Kayama F. Dietary glycemic index and load in relation to metabolic risk factors in Japanese female farmers with traditional dietary habits. *Am J Clin Nutr*. 2006 May; 83(5): 1, 161-1, 169. PMID: 16685061.	Does not include incidence of disease in analyses.

Article (N–Z)	**Reason for Exclusion**
Nansel TR, Gellar L, Zeitzoff L. Acceptability of lower glycemic index foods in the diabetes camp setting. *J Nutr Educ Behav*. 2006 May-Jun; 38(3): 143-150. PMID: 16731448.	Participants diagnosed with type 2 diabetes.
Oh K, Willett WC, Fuchs CS, Giovannucci EL. Glycemic index, glycemic load, and carbohydrate intake in relation to risk of distal colorectal adenoma in women. *Cancer Epidemiol Biomarkers Prev*. 2004 Jul; 13(7): 1, 192-1, 198. PMID: 15247130.	Results reported based on the same dataset as Michaud (2005).
Ostman EM, Frid AH, Groop LC, Björck IM. A dietary exchange of common bread for tailored bread of low glycaemic index and rich in dietary fibre improved insulin economy in young women with impaired glucose tolerance. *Eur J Clin Nutr*. 2006 Mar; 60(3): 334-341. PMID: 16234828.	Does not include incidence of disease in analyses.
Panlasigui LN, Thompson LU. Blood glucose lowering effects of brown rice in normal and diabetic subjects. *Int J Food Sci Nutr*. 2006 May-Jun; 57(3-4): 151-158. PMID: 17127465.	Does not meet inclusion criteria for sample size.
Papanikolaou Y, Palmer H, Binns MA, Jenkins DJ, Greenwood CE. Better cognitive performance following a low-glycaemic-index compared with a high-glycaemic-index carbohydrate meal in adults with type 2 diabetes. *Diabetologia*. 2006 May; 49(5): 855-862. Epub 2006 Mar 1. PMID: 16508776.	Participants diagnosed with type 2 diabetes.
Pereira MA, Swain J, Goldfine AB, Rifai N, Ludwig DS. Effects of a low-glycemic load diet on resting energy expenditure and heart disease risk factors during weight loss. *JAMA*. 2004 Nov 24; 292(20): 2, 482-2, 490. PMID: 15562127.	Does not include incidence of disease in analyses.
Philippou E, McGowan BM, Brynes AE, Dornhorst A, Leeds AR, Frost GS. The effect of a 12-week low glycaemic index diet on heart disease risk factors and 24-hour glycaemic response in healthy middle-aged volunteers at risk of heart disease: A pilot study. *Eur J Clin Nutr*. 2008 Jan; 62(1): 145-149. Epub 2007 Feb 21. PMID: 17311054.	Does not meet inclusion criteria for sample size.

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Pi-Sunyer X. Glycemic index in early type 2 diabetes. *Am J Clin Nutr.* 2008 Jan; 87(1): 3-4. PMID: 18175729.	Publication is perspective.
Pittas AG, Roberts SB, Das SK, Gilhooly CH, Saltzman E, Golden J, Stark PC, Greenberg AS. The effects of the dietary glycemic load on type 2 diabetes risk factors during weight loss. *Obesity (Silver Spring).* 2006 Dec; 14(12): 2, 200-2, 209. PMID: 17189547.	Does not include incidence of disease in analyses.
Qi L, Meigs JB, Liu S, Manson JE, Mantzoros C, Hu FB. Dietary fibers and glycemic load, obesity, and plasma adiponectin levels in women with type 2 diabetes. *Diabetes Care.* 2006 Jul; 29(7): 1, 501-1, 505. PMID: 16801569.	Participants diagnosed with type 2 diabetes.
Qi L, Rimm E, Liu S, Rifai N, Hu FB. Dietary glycemic index, glycemic load, cereal fiber, and plasma adiponectin concentration in diabetic men. *Diabetes Care.* 2005 May; 28(5): 1, 022-1, 028. PMID: 15855561.	Participants diagnosed with type 2 diabetes.
Rendell M, Vanderhoof J, Venn M, Shehan MA, Arndt E, Rao CS, Gill G, Newman RK, Newman CW. Effect of a barley breakfast cereal on blood glucose and insulin response in normal and diabetic patients. *Plant Foods Hum Nutr.* 2005 Jun; 60(2): 63-67. PMID: 16021833.	Does not include incidence of disease in analyses.
Riccardi G, Rivellese AA, Giacco R. Role of glycemic index and glycemic load in the healthy state, in prediabetes, and in diabetes. *Am J Clin Nutr.* 2008 Jan; 87(1): 269S-274S. Review. PMID: 18175767.	Study design is narrative review.
Roberts SB, Pittas AG. The role of glycemic index in type 2 diabetes. *Nutr Clin Care.* 2003 May-Sep; 6(2): 73-78. Review. PMID: 14692295.	Study design is narrative review.
Sahyoun NR, Anderson AL, Kanaya AM, Koh-Banerjee P, Kritchevsky SB, de Rekeneire N, Tylavsky FA, Schwartz AV, Lee JS, Harris TB. Dietary glycemic index and load, measures of glucose metabolism, and body fat distribution in older adults. *Am J Clin Nutr.* 2005 Sep; 82(3): 547-552. PMID: 16155266.	Does not include incidence of disease in analyses.
Shani M, Taylor TR, Vinker S, Lustman A, Erez R, Elhayany A, Lahad A. Characteristics of diabetics with poor glycemic control who achieve good control. *J Am Board Fam Med.* 2008 Nov-Dec; 21(6): 490-496. PMID: 18988715.	Participants diagnosed with type 2 diabetes.
Skyler JS, Bergenstal R, Bonow RO, Buse J, Deedwania P, Gale EA, Howard BV, Kirkman MS, Kosiborod M, Reaven P, Sherwin RS; American Diabetes Association; American College of Cardiology Foundation; American Heart Association. Intensive glycemic control and the prevention of cardiovascular events: Implications of the ACCORD, ADVANCE, and VA Diabetes Trials: A position statement of the American Diabetes Association and a Scientific Statement of the American College of Cardiology Foundation and the American Heart Association. *J Am Coll*	Publication is position statement.

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Cardiol. 2009 Jan 20; 53(3): 298-304. Review. PMID: 19147051.	
Slama G, Elgrably F, Kabir M, Rizkalla S. Low glycemic index foods should play a role in improving overall glycemic control in type-1 and type-2 diabetic patients and, more specifically, in correcting excessive postprandial hyperglycemia. *Nestle Nutr Workshop Ser Clin Perform Programme.* 2006; 11: 73-79; discussion, 79-81. Review. PMID: 16820732.	Study design is narrative review.
Stampfer MJ, Hu FB, Manson JE, Rimm EB, Willett WC. Primary prevention of coronary heart disease in women through diet and lifestyle. *N Engl J Med.* 2000 Jul 6; 343(1): 16-22. PMID: 10882764.	Does not include glycemic index or load in analyses (part of composite dietary score).
Tapola N, Karvonen H, Niskanen L, Mikola M, Sarkkinen E. Glycemic responses of oat bran products in type 2 diabetic patients. *Nutr Metab Cardiovasc Dis.* 2005 Aug; 15(4): 255-261. PMID: 16054549.	Participants diagnosed with type 2 diabetes.
Terry J, Terry P. [Glycemic index--relevant in the treatment of overweight and diabetes] *Lakartidningen.* 2006 Feb 15-21; 103(7): 466-470; discussion 471-473. Swedish. PMID: 16535876.	Study not published in English.
Thomas D, Elliott EJ. Low glycaemic index, or low glycaemic load, diets for diabetes mellitus. *Cochrane Database Syst Rev.* 2009 Jan 21; (1): CD006296. Review. PMID: 19160276.	Participants diagnosed with diabetes.
Thomas DE, Elliott EJ, Baur L. Low glycaemic index or low glycaemic load diets for overweight and obesity. *Cochrane Database Syst Rev.* 2007 Jul 18; (3): CD005105. Review. PMID: 17636786.	Study design is systematic review.
Tokuyama Y, Ishizuka T, Matsui K, Egashira T, Kanatsuka A. Predictors of glycemic control in Japanese subjects with type 2 diabetes mellitus. *Metabolism.* 2008 Apr; 57(4): 453-457. PMID: 18328344.	Participants diagnosed with type 2 diabetes.
Ukleja A, Kunachowicz H, Pachocka L. The use of glycaemic index in the prevention of cardiovascular diseases. *Rocz Panstw Zakl Hig.* 2007; 58(1): 145-151. Review. PMID: 17711103.	Study design is narrative review.
Whiting PH, Kalansooriya A, Holbrook I, Haddad F, Jennings PE. The relationship between chronic glycaemic control and oxidative stress in type 2 diabetes mellitus. *Br J Biomed Sci.* 2008; 65(2): 71-74. PMID: 19055108.	Participants diagnosed with type 2 diabetes.
Willett W, Manson J, Liu S. Glycemic index, glycemic load, and risk of type 2 diabetes. *Am J Clin Nutr.* 2002 Jul; 76(1): 274S-280S. Review. PMID: 12081851.	Study design is review.

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Wilson T, Meyers SL, Singh AP, Limburg PJ, Vorsa N. Favorable glycemic response of type 2 diabetics to low-calorie cranberry juice. *J Food Sci.* 2008 Nov; 73(9): H241-H245. PMID: 19021808.	Participants diagnosed with type 2 diabetes.
Wolever TM, Gibbs AL, Mehling C, Chiasson JL, Connelly PW, Josse RG, Leiter LA, Maheux P, Rabasa-Lhoret R, Rodger NW, Ryan EA. The Canadian Trial of Carbohydrates in Diabetes (CCD), a 1-year controlled trial of low-glycemic-index dietary carbohydrate in type 2 diabetes: No effect on glycated hemoglobin but reduction in C-reactive protein. *Am J Clin Nutr.* 2008 Jan; 87(1): 114-125. PMID: 18175744.	Participants diagnosed with type 2 diabetes.
Wolever TM, Mehling C, Chiasson JL, Josse RG, Leiter LA, Maheux P, Rabasa-Lhoret R, Rodger NW, Ryan EA. Low glycaemic index diet and disposition index in type 2 diabetes (the Canadian trial of carbohydrates in diabetes): a randomised controlled trial. *Diabetologia.* 2008 Sep; 51(9): 1, 607-1, 615. Epub 2008 Jul 22. PMID: 18648764.	Participants diagnosed with type 2 diabetes.

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