

**Table. Reviews of Randomized Controlled Trials on Replacing Saturated Fats With Polyunsaturated Fats**

	<b>Publication</b>	<b>RCTs of PUFAs for SFA</b>	<b>Agree With AHA</b>	<b>Conclusions</b>	<b>Food/Nutrition-Related Conflicts of Interest</b>
AHA Presidential Advisory	Sacks FM, Lichtenstein AH, Wu JHY, et al. <i>Circulation</i> . 2017 Jun 15. <sup>[1]</sup>	4 RCTs N = 2873		"We conclude strongly that lowering intake of saturated fat and replacing it with unsaturated fats, especially polyunsaturated fats, will lower the incidence of CVD."	Dr Kris-Etherton: Seafood Nutrition Partnership; California Walnut Commission; TerraVia; Avocado Nutrition Science Advisors; Jason H Y Wu: Unilever†
1	Skeaff CM, Miller J. <i>Ann Nutr Metab</i> . 2009;55:173-201. <sup>[25]</sup>	8 RCTs N = 23,408*	Yes/No	Replacing saturated fats with polyunsaturated vegetable oils has no effect on CHD mortality but does reduce total CHD events (RR 0.83; 95% CI, 0.69-1.00; <i>P</i> = .05).	Dr Skeaff has conducted clinical research trials which have been funded through the university by Unilever and Fonterra.

2	Mozaffarian D, Micha R, Wallace S. PLoS Medicine. 2010;7:e1000252. [26]	8 RCTs N = 13,614	Yes	A "post-hoc, secondary analysis" of the CHD mortality data, which included FMHS, found that replacing saturated fats with polyunsaturated vegetable oils reduced CHD mortality. The modification of fats was also found to reduce CHD events by 19%.	Dr Mozaffarian has received: research grants from Pronova for an investigatorinitiated trial of fish oil; honoraria and travel expenses for speaking at scientific conferences and reviewing topics related to diet and CVD from Aramark, Unilever, SPRIM, Nutrition Impact. Dr. Mozaffarian has separately reported being on the Scientific Advisory Council of Unilever. <sup>[27]</sup>
3	Hooper L, Summerbell CD, Thompson R, et al.	9 RCTs N = 11,660	Yes/No	Reducing saturated fats has no effect on total mortality, CV mortality,	None declared

	Cochrane Database Syst Rev. 2012:Cd002137. <sup>[9]</sup>			stroke, total MI, or nonfatal MI. Replacing SFA with polyunsaturated vegetable oils reduces CHD events by 14%, although this finding lost statistical significance when studies with systematic differences in care between intervention and control groups, or dietary differences other than fat change, were removed.	
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4	Chowdhury R, Warnakula S, Kunutsor S, et al. Ann Intern Med. 2014;160:398-406. <sup>[10]</sup>	10 RCTs N = 28,505*	No	"Current evidence does not clearly support cardiovascular guidelines that encourage high consumption of polyunsaturated fatty acids and low consumption of total saturated fats."	Dr Franco: Grants: Nestle' Dr Mozaffarian: Personal fees: Bunge, Pollock Institute, Quaker Oats, Foodminds, Nutrition Impact, Amarin, Unilever
5	Schwingshackl L, Hoffmann G. BMJ Open. 2014;4:e004487. <sup>[11]</sup>	12 RCTs N = 7150	No	No significant risk reduction could be observed for reduced/modified fat diets on all-cause mortality, CV mortality, combined CV events, or MI. "The present systematic review provides no evidence for the beneficial effects of reduced/modified fat diets in the secondary prevention of coronary heart disease." Recommending higher intakes of PUFA in replacement of SFA was not associated with risk reduction.	None declared
6	Hooper L, Martin N, Abdelhamid A, Davey Smith G.	13 RCTs on ↓ SFA N = 53,300	Yes/No	Reducing saturated fats has no effect on allcause mortality, CV	None declared
	Cochrane Database Syst Rev. 2015:Cd011737. <sup>[12]</sup>	PUFA replacement N > 3000		mortality, fatal or nonfatal MI, stroke, CHD mortality, or CHD events. An effect was seen on total CV events but lost statistical significance when limited to trials where participants actually reduced SFA intake.	

7	Ramsden CE, Zamora D, Majchrzak-Hong S, et al. <i>BMJ</i> 2016;353:i1246. <sup>[6]</sup>	5 RCTs N = 10,808	No	This analysis found "no evidence of benefit on CHD mortality or all-cause mortality from replacing SFA with linoleic acid rich vegetable oils."	None declared
8	Harcombe Z, Baker JS, Davies B. <i>Br J Sports Med.</i> 2016;3:e000409. <sup>[13]</sup>	10 RCTs N = 62,421 (includes ↓ total fat or PUFA for sat fat replacement)	No	The current available evidence found no significant difference in all-cause mortality or CHD mortality, resulting from the dietary fat interventions.	Dr Harcombe receives income from The Harcombe Diet Co.
9	Hamley S. <i>Nutr J.</i> 2017;16:30. <sup>[14]</sup>	11 RCTs N = 26,054	No	For the replacement of saturated fats with mostly n-6 polyunsaturated oils, this analysis found no effect on CHD mortality, total mortality, major CHD events, or total CHD events. Reduction in total CHD events hinged on inclusion (RR = 0.80; 95% CI, 0.65-0.98), or exclusion (RR = 1.02; 95% CI, 0.84-1.23) of inadequately controlled trials.	None declared

95% CI = 95% confidence interval; CHD = coronary heart disease; CV = cardiovascular; FMHS = Finnish Mental Health Study; MI = myocardial infarction; PUFA = polyunsaturated fatty acids; RCT = randomized controlled trial; RR = relative risk; SFA = saturated fatty acids

\*This number was calculated by Teicholz and Thorn; the paper itself did not report the total number of participants in fat-modified trials.

† This was updated to reflect a correction to the Writing Group Disclosures table in the original article.

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