

Please reply to: Channing Laboratory 180 Longwood Avenue Boston, MA 02115 (617) 432-2279

Dear Colleague:

Thank you for your continued collaboration in the Nurses' Health Study. It is now 14 years since you completed the first Nurses' Health Study questionnaire in 1976. On behalf of our research group I am most grateful for the detailed information you have provided over these years. Your participation and that of over 120,000 other R.N.s has made this study the largest prospective investigation specifically directed to the health of women. Whether or not you are still active in nursing, your continued participation is extremely valuable to our further understanding of factors influencing the health of women.

Over the past year we have had some exciting developments that indicate the increasing value of the study as time goes on. During this year we have, thus far, received blood samples from over 20,000 NHS participants. These samples have all been separated and frozen and stored and will provide valuable information on the relations between hormone levels and subsequent development of disease.

In the past year we have reported that past use of oral contraceptives is not related to risk of breast cancer, although we did observe a small increase in risk among current users(1). This has led to our developing a new cohort of women mostly under age 40 to determine how important this risk is. We have also reported that obesity is associated with increased risk of coronary heart disease⁽²⁾, and gallstones⁽³⁾ and that risk of noninsulin-dependent diabetes rises with weight such that even women of average weight are at increased risk compared to leaner women⁽⁴⁾. In contrast, with regard to breast cancer, we detected no important association between body weight and risk of breast cancer⁽⁵⁾. We are also expanding our efforts in other chronic conditions such as risk factors for osteoporosis and eye disease as well as diabetes, cancer, and cardiovascular disease.

Please complete and return the enclosed questionnaire at your earliest convenience. As always, information will be kept strictly confidential and used for medical statistical purposes only. Again, I would like to express my deepest gratitude for the contribution you have made to this study. Already this has yielded much useful information, and we are confident that findings during the next several years will provide further important guidance for maintaining optimal health.

Sincerely,

Frank E. penja, M.D.

Frank E. Speizer, M.D. Principal Investigator

1. JNCI 1989; 81: 1313-21

2. N.Engl.J.Med. 1990; 322: 882-9. 3. N.Engl.J.Med. 1989; 321:563-9

4. Am.J.Epidemiol. 1990; (in press)

5. JAMA 1989; 262: 2853-8

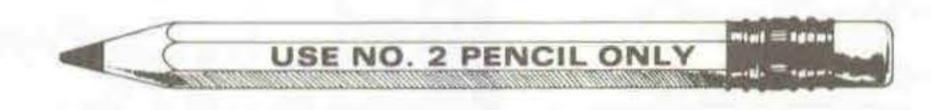
RESEARCH GROUP

Clorinda Cali, B.S. Gary Chase, B.S. Sue-Wei Chiang, M.S. Graham Colditz, M.D. Karen Corsano, M.A. Dirk Dolbeare, B.S. Elizabeth Dunn, B.S. Barbara Egan Lori Egan Sherry R. Hahn Sue Hankinson, R.N., M.S. Charles Hennekens, M.D. Steven Hoffman, M.P.A. David Hunter, M.D. Maureen Ireland, B.A. Christie Kennedy, B.S. Zhao Liu, M.S. JoAnn Manson, M.D. Wei Mo, M.S. Susan Newman Jacqueline Olin, B.S. Christine O'Malley, B.S. Debbie O'Sullivan Padma Patel, B.S. Helaine Rockett, R.D. Lisa Rodgers, B.S. Bernard Rosner, PhD. Simonetta Salvini, B.S. Laura Sampson, R.D. Svetha Seshadri, B.S. Elizabeth Simpson, B.S. Mark Shneyder, B.S. Meir Stampfer, M.D. Steven Stuart, B.S. Harry Taplin, M.A. Donna Vincent, R.R.A. Walter Willett, M.D.

Siulan Wu, M.S.

INSTRUCTIONS

Please use an ordinary No. 2 pencil to answer all questions. Fill in the appropriate response circles completely, or write the requested information in the boxes provided. Note that some questions ask for information **since June 1988**, some ask for **current status**, and some ask about events over **longer periods**. The form is designed to be read by optical-scanning equipment, so it is important that you make **NO STRAY MARKS** and keep any write-in responses **within** the spaces provided. Should you need to change a response, erase the incorrect mark completely. If you have comments, please write them on a separate piece of paper.



EXAMPLE 1: Write your weight in the boxes and fill in the circle corresponding to the figure at the head of each column.

Please fill in the circle completely, do not mark this way:

EXAMPLE 2: Keep handwriting within borders of the response box.

What specific brand do you smoke? [Specify exact brand and type: MARLBORO LIGHTS 100's"] [MARLBORO LIGHTS 100'S]

EXAMPLE 3: Mark "Yes" bubble and Year of Diagnosis bubble for each illness you have had diagnosed.

10. Since June 1988 have you had any of these physician-diagnosed illnesses?

LEAVE BLANK FOR "NO", MARK HERE FOR "YES"

Diabetes mellitus

Elevated cholesterol

High blood pressure

Thank you for completing the 1990 Nurses' Health Study Questionnaire.

Please tear off the cover letter (to preserve confidentiality) and return the questionnaire in the enclosed postage paid envelope.

	(a)	(b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c) No: Prem		sal		9 (1) (1)	9 6 6 6 8	(3) (a) (b) (g)			men surg	ery to	, have remove	you ha	d subses or u	equent	
										9	(N)				210140				SHI KOLSE TISOKI	150 7 50 50
3.	Since J	_		, have y	ou used	female	e horn	ones (ot	her th	an ora	l conti	racept	ives)?			ri jour	- 4			3
	O No	O Ye		ACIT CLIERCE	athe unine	thous?	OVoc	nurantly		ONA	not ou	roptly								(0)
		a) Are you currently using them? O Yes, currently b) How many months have you used them during the 24-month period																		
		between June 1988 and June 1990?																		
		11	O 1-	4 mø. C	5-9	0 10	-14	0 15-19	0	20-24	months		L.V	Eight	1				بإبعسة	(b)
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						gen and	progest	terone (e.g.	Prove		Vagi			ad carmen	at manual	· Annual				000
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- 1			010	tori estrog	jen and pr	ogester	Orio												10000	4
		d)	If this	s was ora	l conjuga	ted est	trogen	e.g. Prema	arin)				Deb.				V26			(S) (S)
		-,	what	dose did	you usu	ally tak	te?	o.g. From												6
			0.30	mg/day	or less (G	ireen)	O.9 n	ng/day (W	hite)) More	than	1,25 m	g/day			take o		Ø	000
		O.625 mg/day (Brown) O 1.25 mg/day (Yellow) O Dose unknown conjugated estrogen										(8)	88							
-1		e) Dose of progesterone (if taken)?											99							
- 1		O<5 mg O 5-9 mg O 10 mg O More than 10 mg O Dose unknown O Not used											0	000						
		f) What was your pattern of hormone use?												0						
		Oral Estrogen Pattern: ONot used OContinuous Omit approximately 1 week/month Patch Estrogen Pattern: ONot used OContinuous Omit approximately 1 week/month																		
				ogesterone		attern:		Not used		Continu										3
4	Do you	currer						WOL GOOG		CONTUNIC	ous () 040	dispress	irritation				3)(4)(1	607	(8)(9)
				many per	THE R. LEWIS CO., LANSING, MICH. LANSING, MICH.		05-1	4 () 15-2	24	25-3	34 () 3	5-44 () 45 0	r more					9 9 9	
1	ONo	b)	What	t specific 'Marlboro	brand do	you sr	moke?	Specify exact	t brand	and type	4								000	
5.	On avera	age, h	ow n	nany ho	urs per	week	do yo	u spend:		LESS THAN 1/2 HR.	1/2-1 HR.	1-2 HRS.	3-5 HRS.	6-9 HRS.	10-20 HRS.	21-40 HRS.	41-60 HRS.	61-90 HRS.	OVER 90 HRS.	(5)
	Walking	or hik	ing ou	tdoors (inc	lude walk	ing to v	vork)			0	0	0	0	0	0	0	0	0	0	0
	Standing	or w	alking	around at	work or a	away fro	om hom	ie?	- 1	0	0	0	0	0	0	0	0	0	0	0
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C	Sitting a	The state of the s							- 11	0	0	0		0	0	0	0	0	0	
0.	What is your usual walking pace outdoors? O Easy, casual O Normal, average O Brisk pace (3-3.9 mph) (less than 2 mph) (2-2.9 mph) (3-3.9 mph) O Very brisk/striding O Unable to walk (4 mph or faster)													(6)						
7.	How ma			of stairs	(not in			s) do you			200					- The	te sque	odi ju		0
8.	Have yo	u eve	r had	a colon	oscopy										. in all	8 . W	rik n	ubini	Hoxar	(8)
	The second secon												a							
	O No	L M. A		fore 1980) 198) 198) 1988) 1989) (1990	or lat	er	77 BH
		b)	Why	did you h	nave the	FIRST	colonos	scopy or s	sigmoi	doscor	y? (ma	ark all	that a	pply)						(b)

O Positive test for occult fecal blood

1986

() 1987

O Family history of colon cancer

c) When did you have your most recent colonoscopy or sigmoidoscopy?

1984-85

Abdominal pain

1988

Routine screening (no symptoms)

0 1989

1990 or later

Visible blood in stool

O Diarrhea or constipation

O Before 1980 O 1980-83

GO TO

PAGE 2

		your average use, each specified food.	Never, or less than once	1-3 per	1 per	2-4 per	5-6 per	1 per	2-3 per	4-5 per	6+ per
		EGGS, MEATS ETC. (continued)	per month	month		week	week	day	day	day	day
		Processed meats, e.g. sausage, salami, bologna, etc. (piece or slice)	0	0	(W)	0	0	0	0	0	O
		Hamburger (1 patty)	0	0	(W)	0	0	0	0	0	C
		Beef, pork, or lamb as a sandwich or mixed dish, e.g. stew, casserole, lasagne, etc.	Ŏ	Ŏ	00	Ŏ	Ŏ	0	O	Ŏ	Č
			0	0	(W)	0	0	(D)	0	0	0
		Pork as a main dish, e.g. ham or chops (4-6 oz.) Beef or lamb as a main dish, e.g. steak, roast (4-6 oz.)	Ŏ	O	8	0	Ö	0	0	Ö	Č
					(1)			0	0	0	-
		Canned tuna fish (3-4 oz.) Dark meat fish, e.g. mackerel, salmon, sardines, bluefish, swordfish (3-5 oz.)	ŏ	O	8	O	O	0	Ö	Ö	C
		Other fish (3-5 oz.)	0	0	W	0	0	0	0	0	C
		Shrimp, lobster, scallops as a main dish	Ŏ	ŏ	(0)	Ŏ	Ŏ	0	ŏ	Ŏ	Č
			Never, or less	1-3	1	2-4	5-6	1	2-3	4-5	6-
		BREADS, CEREALS, STARCHES	than once per month	a contract of	per week	per week	per	per day	per day	per day	da da
		Cold breakfast cereal (1 cup)	10	0	00	0	0	0	0	0	C
		Cooked oatmeal/cooked oat bran (1 cup)	0	0	(W)	0	0	0	0	0	C
		Other cooked breakfast cereal (1 cup)	0	0	0	0	0	0	0	0	C
		White bread (slice), including pita bread	0	0	(W)	0	0	0	0	0	C
		Dark bread (slice), including wheat pita bread	0	0	0	0	0	0	0	0	C
		English muffins, bagels, or rolls (1)	0	0	W	0	0	0	0	0	C
		Muffins or biscuits (1)	0	0	W	0	0	0	0	0	C
		Brown rice (1 cup)	Ŏ	Õ	(v)	Ŏ	Ŏ	(D)	O	Ŏ	Č
		White rice (1 cup)	O	0	(W)	O	Ŏ	0	Õ	O	Č
		Pasta, e.g. spaghetti, noodles, etc. (1 cup)	O	Õ	(W)	0	0	0	Õ	0	C
		Other grains, e.g. bulgar, kasha, couscous, etc. (1 cup)	Ŏ	Ö	8	Ö	Ö	0	Ö	Ö	Č
		Pancakes or waffles (serving)	0	0	(W)	0	0	0	0	0	C
		French fried potatoes (4 oz.)	0	0	(W)	0	0	0	0	0	C
		Potatoes, baked boiled (1) or mashed (1 cup)	0	0	(W)	0	0	0	0	0	C
		Potato chips or corn chips (small bag or 1 oz.)	0	0	W	0	0	0	0	0	C
		Crackers, Triscuits, Wheat Thins (1)	0	0	W	0	0	0	0	0	C
		Pizza (2 slices)	0	0	W	0	0	0	0	0	C
			Never,	1.0		2.0	r e		2-3	AE	6-
			or less	1-3 per	per	2-4 per	5-6 per	per	per	4-5 per	pe
		BEVERAGES	per month	month		week	week	day	day	day	da
RBONATED		Low-calorie cola, e.g. Diet Coke with caffeine	0	0	W	0	0	0	0	0	C
EVERAGES	(sugar-free) types	Low-calorie caffeine-free cola Other low-calorie carbonated beverage, e.g.	0	00	(S)	00	00	0	00	0	C
nsider the ving size as 1		Fresca, Diet 7-Up, diet ginger ale				0					
ss, bottle or for these	Regular types	Coke, Pepsi, or other cola with sugar	O	0	(W)	0	0	0	0	O	C
bonated	(not sugar-	Caffeine Free Coke, Pepsi, or other cola with sugar	O	0	(W)	0	0	0	0	0	C
verages.	OTHER	Other carbonated beverage with sugar, e.g. 7-Up Hawaiian Punch, lemonade, or other non-	0	0	(S)	0	0	0	0	0	C
E	BEVERAGES	carbonated fruit drinks (1 glass, bottle, can)			0			0	0		
		Beer (1 glass, bottle, can)	0	O	(W)	0	Ö	0	0	O	0
		Red wine (4 oz. glass)	O	0	(W)	0	Ö	0	0	O	0
		White wine (4 oz. glass)	O	Ö	(W)	Ö	Ö	0	0	Ö	0
		Liquor, e.g. whiskey, gin, etc. (1 drink or shot)	O	0	(W)	O	O	0	O	O	C
				()	W	0	0	0	0	0	C
		Plain water, bottled or tap (1 cup or glass)		-	-						
		Tea (1 cup), not herbal tea	Ŏ	Ŏ	(W)	0	0	0	O	0	C
			00	00	888	00	00	000	00	00	000

29.	(Continued) Please fill in your <u>average</u> use, <u>during the past year</u> , of each specified food.	Never, or less	1-3	1	2-4	5-6	1	2-3	4-5	6+			200		
ı	SWEETS, BAKED GOODS, MISCELLANEOUS	than once	ACCUSED AND ADDRESS OF THE PARTY OF THE PART	per	per	per	per	per	per	per	(a) (1)	20	346	000	
	Chocolate (bar or packet) e.g. Hershey's, M & M's	per month	month	week	week	week	day	day	day	day	00				700
	Candy bars, e.g. Snickers, Milky Way, Reeses	10	0	(8)	0	0	0	0	0	0	8	6			7
	Candy bars, e.g. Snickers, Milky Way, neeses Candy without chocolate (1 oz.)	0	0	(8)	0	0	0	0	0	0	ŏ	e e	A) (A) (A	6	
		0	0	_	0	0	<u> </u>	0	0	0	8		000		000
-	Cookies, home baked (1)		0	(W)	0	0	0	0	0	0	$\stackrel{\sim}{\sim}$				
	Cookies, ready made (1)	10	0	(W)	2	0	0	0	0	0	$\frac{1}{6}$				
	Brownies (1)	0	0	(W)	0	0	(D)	0	0	0	$\frac{1}{6}$		2 2 2 2 3		
	Doughnuts (1)		0	(W)	0	0	0	0	0	0	10		3 3 3		
	Cake, home baked (slice)	0	0	(W)	0	0	(b)	0	0	0	10	-	4)(4)(4)		
	Cake, ready made (slice)		0	(S)	0	0	0	0	0	0	10		5) (5) (6)		
	Pie, homemade (slice)	0	0	\sim	0	0	(D)	0	0	0	2	8	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		
	Pie, ready made (slice)	0	0	(W)	0	0	0	0	0	0	18	3			
	Sweet roll, coffee cake or other pastry, home baked (serving)		0	(W)	0	0	(0)	0	0	0		O	9 (9 (9 (9 (9 (9 (9 (9 (9 (9 (9 (9 (9 (9	000	
	Sweet roll, coffee cake or other pastry, ready made (serving)		O	(W)	O	0	0	O	0	0	O		B B B		
	Jams, jellies, preserves, syrup, or honey (1 Tbs)	0	0	(W)	0	0	0	0	0	0	0		000		
	Peanut butter (1 Tbs)	0	0	00	0	0	0	0	0	0	0		000		
	Popcorn (1 cup)	0	0	(W)	0	0	(D)	0	0	0	O	00	200)@@	
	Peanuts (small packet or 1 oz.)	0	0	(W)	0	0	0	0	0	0	O	00	3 3 3		030
	Other nuts (small packet or 1 oz.)	0	0	W	0	0	0	0	O	0	O		4)(4)(4		
	Oat bran, added to food (1 Tbs)		0	W	0	0	0	0	0	0	O		5 6		
	Other bran, added to food (1 Tbs)	0	0	W	0	0	0	0	0	0	0	00	000		
	Wheat germ, (1 Tbs)		0	(W)	0	0	D	0	0	0	O	00	000		
	Chowder or cream soup (1 cup)	0	0	W	0	0	0	0	0	0	O		8 8 6		and the second
	Olive oil salad dressings (1 Tbs)	0	0	(W)	0	0	D	0	0	0	O	0	996) 3 (9	900
	Oil and vinegar dressing, e.g. Italian (1 Tbs)	0	0	W	0	0	0	0	0	0	O	O			
	Mayonnaise or other creamy salad dressing (1 Tbs)	0	0	(W)	0	0	0	0	0	0	O				
	Salt added at table (1 shake)		0	(W)	0	0	0	0		0			000		
	30. Liver: beef, calf or pork (4 oz) Never (Less the	an 1/m	10 () 1/m	0 (2-3	mo () 1/w	eek or	more	The second second	000	THE RESERVE	
	Liver: chicken or turkey (1 oz) Never () Less tha	an 1/m	10 () 1/m	0 () 2-3	mo () 1/w	eek or	more		200 300		
31.	When you have beef or lamb as a main dish, ho			and the same				20	V 1	7		31	a a	000	000
00	Rare Medium rare Medium		/ledium) Well		100000	t know	//not e	eaten				
32.	How often do you eat meat that was charred d	- 2				-					4		000		
	O Never O Less than 1/mo O 1/m	0	02	-3/mo		01	/week		02	+/we	ек	10 mm			
22		Same Parameters of	100 2002	WETCH'S			102					(33)	386	100	
33.	How much of the visible fat on your beef, pork								0	Van Wa		1	200	000	000
3/1	Remove all visible fat Remove most What kind of fat do you usually use for frying a		The last ten area and the							on t e	at meat	@	9)9)6		000
J.4.	Real butter Margarine		/egetab			egetal				01	ard	9			1
35	What kind of fat do you usually use for baking			лег оп		eyetat	ne situi	termig		U I	zara	(95)			20
55.	Real butter		/egetab	la oil	01	/protah	de chor	tenina		0	ard				3
36	How often do you eat food that is fried at home						ne siloi	reming		O i	Laru	(GG)			@(
	O Less than once a week () 1-3 tim	es per	week	() 4-6	and the second		ek	O	Daily				©
37.	How often do you eat fried food away from hor								_	0.		3)			6
00	O Less than once a week (es per	week	() 4-6	times p	er we	ek	OI	Daily				00
38.	What type of cooking oil do you usually use at (e.g. Mazola Corn Oil)	Specify bra	and and t	yne.								(33)			(3)
39	Are there any other important foods that you us				that v	out them	ally				Usı	ıal	C	Servings	
55.	eat at least once per week?		Other foods that you usually Usu eat at least once per week serving											er weel	
	Include for example: Paté, tortillas, yeast, cream	(8	a)	178											
	sauce, custard, radishes, fava beans, carrot juice, coconut, avocado, mango, horseradish, parsnips,	(Ł	o)												
	rhubarb, papaya, dried apricots, dates, figs, etc.	(6					Tipe '	hin u							
	(Do not include dry spices and do not list something that has been listed in the previous sections.)	ā -	(d)												