Dear Colleague:

We are asking you and other female nurses to participate in a prospective study of lifestyle practices, nutritional factors and the occurrence of breast cancer and other major illnesses. This research is being funded on a high priority by the National Institutes of Health. For 13 years we have been conducting the Nurses' Health Study, which continues to provide invaluable information on factors that influence the health of women. However, the youngest members of that group are currently 43 years of age and many important questions relate to early life-style practices.

Exercise and diet seem to play important roles (both preventive and causative) in cancer, but it is unclear which foods or nutrients confer benefit or risk. The long-term health effects of oral contraceptives are also not fully resolved, and can be answered only with information from younger women. We therefore are inviting female R.N.'s 25 to 42 years of age to enroll in Nurses' Health Study II. Because of your level of education and awareness of health issues, you can provide the accurate and complete information needed in this study.

To participate, please complete the attached questionnaire and return it in our prepaid envelope. We plan to send follow-up questionnaires of about this length every two years. The 1991 questionnaire will include a detailed dietary component. On alternate years you will receive a newsletter about the progress of the study and summaries of the latest findings. We may request permission to obtain relevant medical records in the event of a serious health problem.

Instructions for completing the questionnaire are on the reverse side of this letter. For efficient processing, we use an optical scanning system which requires an ordinary pencil. Additional notes should be made on a separate piece of paper; we will read them all. All information you provide will be held in strictest medical confidence, identified by ID number only and used solely for medical statistical purposes. We have obtained your name from your state Board of Nursing or Nurses Association with the understanding that we will not release it to any other organization.

We hope that you will collaborate with us on this long-term study. The results will have important public health implications in determining risk factors for cancer and other illnesses as well as the diet and lifestyle practices which lead to optimal health.

Sincerely,

Walter Willett, M.D.
Professor of Epidemiology and Nutrition
INSTRUCTIONS

Please use an ordinary pencil to answer all questions by completely filling in the appropriate response bubble, or by writing the requested information if a space is provided. This form is meant to be read by optical-scanning equipment; it is important that you make no stray marks and keep any write-in responses within the provided spaces. 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.

Note: THIS STUDY IS FOR FEMALE RN’s ONLY.

EXAMPLE 1: Have you EVER used oral contraceptives?

Fill response bubbles completely, do not mark this way:

EXAMPLE 2: Type of cigarette?

What specific brand and type?
(e.g. Marlboro Lights 100's)

MARLBORO LIGHTS 100's

Keep handwriting within borders of the response box.

EXAMPLE 3: Date of birth and weight:

a) Write in birthdate and weight in the boxes at the top of each grid. For example, May 12, 1964 would be

b) Below each number, fill in the bubble that corresponds to that number

Thank you for completing the Questionnaire.

Please tear off the cover letter (to preserve confidentiality) and return the questionnaire (pages 1-4) in the enclosed prepaid envelope.

Please do NOT return ORAL CONTRACEPTIVE PHOTO BOOKLET because of Postal Weight restrictions.
### 1. Date of Birth

<table>
<thead>
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<th>Year</th>
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### 2. Current Weight (lbs)

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<tr>
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<th>Weight (lbs)</th>
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<tbody>
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### 3. Weight at Age 18

<table>
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### 4. Your Height

<table>
<thead>
<tr>
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<th>Inches</th>
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<td>4</td>
<td>0</td>
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<tr>
<td>5</td>
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</tbody>
</table>

### 5. Place of Birth (State)

[Blank space]

### 6. Which best describes your current employment status?

- Inpatient or E.R. Nurse
- Outpatient/Community Nurse
- Operating Room Nurse
- Nursing Education
- Nursing Administration
- Other Nursing
- Non-Nursing Employment
- Fulltime Homemaker

### 7. Your Major Ancestry (you may mark more than one)

- Southern European/ Mediterranean
- Scandinavian
- Other Caucasian
- African-American
- Hispanic
- Asian
- Other

### 8. What is the total number of years during which you worked rotating night shifts (at least 3 nights/month in addition to days or evenings in that month)?

- Never
- 1-2 yrs
- 3-5 yrs
- 6-9 yrs
- 10-14 yrs
- 15-19 yrs
- 20 years or more

### 9. What is your current marital status?

- Never Married
- Married
- Divorced
- Separated
- Widowed

### 10. Age your menstrual periods began?

- 9 or less
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17 or more

### 11. How many years after the onset of your menstrual periods did your cycles become regular?

- (Your cycle is the interval from first day of period to first day of next period.)
  - <1 Year
  - 1-2 years
  - 3-4 years
  - 5 years or longer
  - Never

### 12. Have you ever tried to become pregnant for more than one year without success?

- Yes
- No

### 13. In the past 2 years have you had:

- a) A physical exam?
  - No
  - Yes, for symptoms
  - Yes, for screening

- b) A breast exam by health provider?
  - No
  - Yes, for symptoms
  - Yes, for screening

### 14. Current usual blood pressure (if checked within 2 years):

#### Systolic

- Unknown/Not checked within 2 years
- <105 mmHg
- 105-114
- 115-124
- 125-134
- 135-144
- 145-154
- 155-164
- 165-174
- 175+

#### Diastolic

- Unknown/Not checked within 2 years
- <65 mmHg
- 65-74
- 75-84
- 85-89
- 90-94
- 95-104
- 105+

### 15. Your Serum Cholesterol (if checked within 5 years):

- Unknown/Not checked within 5 years
- <140 mg/dl
- 140-159
- 160-179
- 180-199
- 200-219
- 220-239
- 240-269
- 270-299
- 300-329
- 330+ mg/dl

### 16. Have you ever had a mammogram?

- Yes
- No

#### 1) At what age did you have your first mammogram?

- <30
- 30-34
- 35-39
- 40+

#### 2) How many years has it been since your most recent mammogram?

- <1 Year
- 1 Year
- 2 Years
- 3+ Years

#### 3) Reason for last mammogram:

- Routine screening
- Follow-up of abnormality

### 17. In how many months did you practice breast self-examination in the past year?

- None
- One
- 2-3
- 4-6
- 7-11
- 12

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**GO TO QUESTION 18**
19. As a child or adolescent, once you had been exposed to the sun several times, what kind of reaction would your skin have after 2 or more hours in the sun without sunscreen on a bright sunny day?

- Practically none
- Some redness only
- Burn
- Painful burn
- Painful burn with blisters

20. Between the ages 15–20, how many times did you have severe sunburns which blistered?

- Zero
- One
- Two
- 3–4
- 5–9
- 10 or more

21. Have you EVER used oral contraceptives (OC's) for any reason (contraception, acne, menstrual irregularity, etc.)?

- Yes
- No

22. Do you CURRENTLY use any of these forms of contraception?

- None
- Oral Contraceptive
- Sponge
- Diaphragm/Cervical Cap
- Tubal Ligation
- Foam or Jelly
- Intrauterine Device
- Rhythm
- Vasectomy
- Other

23. Have you ever given birth to twins?

- No
- Yes

24. Have you ever had more than one birth (separate pregnancies) during the same year of age?

- No
- Yes

25. Have you ever had toxemia/pre-eclampsia (raised blood pressure and proteinuria) with any pregnancy?

- No
- Yes

26a. Pregnancy History

For each year of age listed below, please fill in a response bubble for each age at which you completed a pregnancy lasting six months or more, OR had a pregnancy lasting less than six months (including miscarriages and abortions).

Mark here if you are currently pregnant
Mark here if you never had any pregnancies

<table>
<thead>
<tr>
<th>Year</th>
<th>Mark each age you completed a pregnancy lasting 6 months or more</th>
<th>Mark your age at the end of each pregnancy lasting less than 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 or less</td>
<td>1</td>
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<td>14</td>
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<td>42</td>
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</tbody>
</table>

26b. Oral Contraceptive (OC) Use History

If you NEVER used OC'S for any reason, skip to Page 3.

For each year of age listed below, please fill in a response bubble if you used oral contraceptives for at least 2 months. Also, indicate the 3-digit code for brand and type using the alphabetic list and photobooklet provided. Include OC usage for any reason.

Mark each age of OC use for 2 months or more
Mark each age of OC use for full year (10+ months)
Type of oral contraceptive used (write in 3 digit brand code from Photo-Booklet)

If more than one type of OC was used at any age, indicate type used the longest at that age.
27. Have your menstrual periods ceased permanently?
   - No: Premenopausal
   - Yes: No menstrual periods
   - Yes: Had menopause but now have periods induced by hormones
   - Not sure

28. Have you EVER used replacement sex hormones (e.g. estrogen)?
   - Never
   - Past Only
   - Currently

29. During ages 18-22 what was the usual length of your menstrual cycle (interval from first day of period to first day of next period)?
   - <21 days
   - 21-25 days
   - 26-31 days
   - 32-39 days
   - 40-50 days
   - 50+ days or too irregular to estimate

30. What was the pattern of your menstrual cycles (excluding time around pregnancies or when using oral contraceptives):
   During high school:
   - Very regular (+3 days)
   - Regular
   - Usually irregular
   - Always irregular
   - No periods

   During ages 18-22:
   - Very regular (+3 days)
   - Regular
   - Usually irregular
   - Always irregular
   - No periods

31. How often did you participate in strenuous (aerobic) physical activity or sports at least twice per week (e.g. swimming, aerobics, field hockey, basketball, cycling, running):
   During high school (please average):
   - Never
   - 1-3 months/yr
   - 4-6 months/yr
   - 7-9 months/yr
   - 10-12 months/yr
   - Over 1 year

   During ages 18-22 (please average):
   - Never
   - 1-3 months/yr
   - 4-6 months/yr
   - 7-9 months/yr
   - 10-12 months/yr
   - Over 1 year

32. During the past year, what was your average time per week spent at each of the following recreational activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>1-4 Min.</th>
<th>5-19 Min.</th>
<th>20-59 Min.</th>
<th>One Hour</th>
<th>1-1.5 Hrs</th>
<th>2-3 Hrs</th>
<th>4-6 Hrs</th>
<th>7-10 Hrs</th>
<th>11+ Hrs</th>
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</thead>
<tbody>
<tr>
<td>Walking or hiking outdoors (include walking to work)</td>
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<td>Jogging (slower than 10 minutes/mile)</td>
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<td>Running (10 minutes/mile or faster)</td>
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<td>Bicycling (including stationary machine)</td>
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<td>Calisthenics/Aerobics/Aerobic Dance/Rowing Machine</td>
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<tr>
<td>Tennis, Squash, or Racquetball</td>
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<td>Lap swimming</td>
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<tr>
<td>Other aerobic recreation (e.g. lawn mowing)</td>
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</tbody>
</table>

33. On average, how many hours per week do you spend:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Zero Hours</th>
<th>One Hour</th>
<th>2-5 Hrs</th>
<th>6-10 Hrs</th>
<th>11-20 Hrs</th>
<th>21-40 Hrs</th>
<th>41-60 Hrs</th>
<th>61-90 Hrs</th>
<th>Over 90 Hrs</th>
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<tr>
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<tr>
<td>Sitting at home</td>
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</table>

34. What is your usual walking pace outdoors?
   - Easy, casual (less than 2 mph)
   - Normal, average (2-2.9 mph)
   - Brisk pace (3-3.9 mph)
   - Very brisk/striding (4 mph or faster)
   - Unable to walk

35. How many flights of stairs (not individual steps) do you climb daily?
   - 2 flights or less
   - 3-4
   - 5-9
   - 10-14
   - 15 or more flights

36. Please count the number of moles on your lower legs (knees to ankles, both legs).
   - Inconvenient to count
   - None
   - 1-2 moles
   - 3-5
   - 6-9
   - 10-14
   - 15-20
   - 21 or more moles

37. In a typical week during the past year, on how many days did you consume an alcoholic beverage of any type?
   - No days
   - 1 day
   - 2 days
   - 3 days
   - 4 days
   - 5 days
   - 6 days
   - 7 days

38. In a typical month during the past year, what was the largest number of drinks of beer, wine, and/or liquor you may have had in one day?
   - None
   - 1-2
   - 3-5
   - 6-9
   - 10-14
   - 15 or more
39a. During these age intervals, what was your usual number of drinks of alcohol? (Number of drinks equals total of bottles/cans of beer, plus 4 oz. glasses of wine, plus shots of liquor)

<table>
<thead>
<tr>
<th>Number of Drinks</th>
<th>None or Less Than One Per Month</th>
<th>1-3 Per Mo.</th>
<th>1 Per Week</th>
<th>2-4 Per Week</th>
<th>5-6 Per Week</th>
<th>7-13 Per Week</th>
<th>14-24 Per Week</th>
<th>25-38 Per Week</th>
<th>40+ Per Week</th>
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<tr>
<td>Age 18-22</td>
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<tr>
<td>Age 31-40</td>
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</tbody>
</table>

39b. During the past year, what was your usual consumption of these alcoholic beverages?

- Beer (1 glass, bottle, can)
- Wine (4 oz. glass)
- Liquor (1 drink or shot)

40. Have you had any of the following physician-diagnosed conditions? Mark here for Yes

- High blood pressure (excluding during pregnancy)
- Diabetes: Gestational
- Diabetes: Not during pregnancy
- Elevated cholesterol
- Fibrocystic or other benign breast disease
- Confirmed by biopsy?
- Confirmed by aspiration?
- MI or angina
- Stroke (CVA) or TIA
- Melanoma
- Basal or squamous cell skin cancer
- Breast Cancer
- Other Cancer:
  - Specify site of other cancer
  - Venous Thrombosis/Pul. Emb.
  - Migraine headaches
  - Premenstrual syndrome (PMS)
  - Severe teenage acne
  - Gall stones
  - Thyroid disease
  - Polycystic ovaries
  - Other major illness
  - Specify illness

41. Do you currently take a multiple vitamin preparation?

- Yes
- No

a. How many do you take per week?

- 2 or less
- 3-5
- 6-9
- 10 or more

b. How many years?

- 0-1 years
- 2-4 years
- 5-9 years
- 10+ years

42. Current Medication (mark if used regularly)

- Acetaminophen, 2+ times/week (e.g. TYLENDOL)
- Aspirin, 2+ times/week (e.g. ANACIN, Bufferin, ASCETIN)
- Other anti-inflammatory, 2+ times/week (e.g. IBUPROFEN, ADVIL)
- Thiazide diuretic (e.g. HYDRODIURETIC, DYEZIDE, HCTZ, DIURIL)
- Any anti-hypertensive medication
- Furosemide-like diuretics (e.g. LASIX, BUMETONE)
- Beta-blocker (e.g. LOPRESSOR, TENORMIN, CORDARON)
- Thyroid hormone replacement (e.g. SYNTHROID, LEVOTHROID)
- Insulin
- Oral Hypoglycemic Agent

If you regularly take any medications not included on this questionnaire, please list them on a separate sheet. (DESCRIBE DOSE, FREQUENCY, AND DURATION.)

43a. Did any of these relatives have...

- Myocardial Infarction?
  - Mother
  - Father
  - Brother
  - Sister

- Breast Cancer?
  - Mother
  - Father
  - Brother
  - Sister

- Melanoma?
  - Mother
  - Father
  - Brother
  - Sister

- Diabetes?
  - Mother
  - Father
  - Brother
  - Sister

- Colon or Rectal Cancer?
  - Mother
  - Father
  - Brother
  - Sister

43b. Hypertension?

- Mother
- Father
- Brother
- Sister

44. Which diagram best depicts your outline at each age?

1. 2. 3. 4. 5. 6. 7. 8. 9.

Currently

- Age 5
- Age 10
- Age 20
- Age 30
- Age 40

45. Is your last name, as printed on this questionnaire, your maiden name?

- Yes
- No

What is your maiden name?

46. Your Social Security Number

(For positive identification in event of loss of contact or death)

47. Please indicate the name of someone at a different address that we might write to in the event we are unable to contact you:

Name:

Address:

Thank You!

Please return the questionnaire in the enclosed postage-paid envelope to:

Walter Willett, M.D.
Nurses' Health Study II
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115