

**UCLA**

**Nutrition Noteworthy**

**Title**

Best Questions and Tools for Quickly Assessing Your Patient's Dietary Health: Towards Evidence-Based Determination of Nutritional Counseling Need in the General Medical Interview

**Permalink**

<https://escholarship.org/uc/item/9s03p43r>

**Journal**

Nutrition Noteworthy, 7(1)

**Author**

Miller, Matt P

**Publication Date**

2005

Peer reviewed

## INTRODUCTION

Growing understanding of the importance of nutrition to overall health has led to recent interest in increased nutrition-related training in medical education, and nutrition assessment and counseling in practice settings (3,9). Studies show, however, that diet counseling is included in only a minority of outpatient visits in the United States (9,10). Several factors may contribute to this deficit, but limited time, limited reimbursement, and low comfort with nutrition knowledge are often cited (3,9).

While specific nutritional assessment, counseling, and/or referral may seem particularly appropriate in certain patients—such as those with uncontrolled diabetes, hyperlipidemia, hypertension, obesity, growth abnormalities, failure to thrive, or certain GI disease—patients with “subclinical” or indolent poor diet may be less likely to receive nutrition assessment at their check-ups. This is unfortunate because, as front-line practitioners, physicians can often serve as the “trigger” for nutrition assessment that may be best performed by allied medical personnel such as registered dietitians, who are often available “just down the hall” (1).

Ideally, medical students and physicians will have access to specific screening questions and tools that quickly and reliably identify if a patient’s diet warrants additional nutritional discussion. This paper will review the state of the literature regarding tools for rapid identification of poor versus healthy diet in general medical patients.

## NUTRITIONAL ASSESSMENT & RECOMMENDATIONS

Nutritional assessment in general practice typically involves one or more of three basic techniques: dietary recall (e.g. of the previous 24 hours or 7 days), food frequency assessment, or food diary or log (which is given to a patient for completion and will be reviewed at a future appointment) (2). Dietary recall and food log techniques attempt to uncover all foods and beverages consumed during the time window—the former retrospectively, with sequential questions asked in interview format (e.g. “What was the first thing you ate or drank yesterday?”), and the latter prospectively, by requesting that patients write down all foods they eat or drink as they consume them. Dietary recall, like all recall, can suffer from recall bias. Food logs risk biasing patient intake because the patient knows he has to record it. The third tool, the food frequency assessment, includes a series of questions regarding consumption of types of foods (e.g. How often do you eat fish? Poultry? Fruit? Legumes?), and are also subject to recall bias, as well as estimation bias.

Alternately or additionally, physicians can regularly ask specific questions that may be particularly useful in assessing areas of nutrition related to health and that provide opportunities for focused patient education. The authors of a 1999 AFP guide suggest this approach as practical for primary care physicians, and recommend specific questions:

1. How many meals and snacks do you eat in a 24h period?
2. How many meals per week do you eat away from home?
3. How often do you eat high-fiber foods such as cereals, fruits and vegetables?
4. How many times per week do you eat red meat, and what size is the usual portion?
5. How many times per week do you eat poultry products, & what size is the usual portion?
6. How many times per week do you eat fish and shellfish, & what size is the usual portion?
7. How many hours of television do you watch per day?
8. How often do you usually consume dairy products, and what type?
9. How often do you eat desserts and sweets?
10. What types of beverages (including alcoholic) do you usually drink?

**Questions suggested by Hark and Deen (3); adapted with permission from the authors.**

#### AVAILABILITY OF TOOLS, RELIABILITY, AND VALIDITY

A variety of formal dietary assessment tools have been constructed and published. In a review published in 2000 (4), Calfas *et al.* investigate tools meeting criteria relevant to use by medical providers: brevity (less than 50 items or 15 minutes), relative ease of administration and scoring, and inclusion of dietary behavior measures associated with medical conditions (specifically: fat, carbohydrate, fiber, fruits/vegetables, cholesterol, salt, caffeine, and alcohol). They identified 14 separate tools described in studies since 1989, ranging in size from 8-46 items and including assessment of 2-5 types of nutrients (all included dietary fat intake). All were designed to be self-administered. Most employed frequency-of-consumption questions with three to seven given frequency answer choices (“<1x/week”, “1-2x/week”, etc.) with corresponding point values (e.g. 0-3 points), and six tools asked about frequency of dietary behavioral strategies such as removing fat or skin from red meat or chicken.

Although Calfas *et al.* did not independently assess the reliability of each tool, they reviewed internal consistency data (test-retest reliability) and validity data provided by instrument authors. They report that four of the fourteen tools had been studied for test-retest reliability, with coefficients from  $r=0.63$  to  $r=0.91$ , which they describe as “modestly comparable” to longer, more detailed assessments. Moreover, 11 tools were validated against a standardized multi-day food record or established food frequency questionnaire, with wide-ranging results: correlation coefficients varied from 0.18 to 0.80. Calfas *et al.* do not make recommendations regarding which tools to use, but conclude that, “despite room for continued improvement of these measures, accurate and reliable dietary measures are currently available to provide initial assessment and to guide provider counseling.” A similar, more recent study reviews dietary assessment instruments designed specifically for adolescents, and finds that reproducible and validated instruments—mostly food frequency assessments of lengths ranging from 10 to 131 items—exist, but that there is still need for a “short, easily administered, inexpensive, accurate instrument that can be used in a broad range of adolescent subpopulations” (5).

Little *et al.*, based in the UK, independently validated the administration of brief dietary assessment instruments by health providers in general practice against more time-consuming methods (6). The brief tools included 3 iterations of a 10-minute normal day’s food portions-based questionnaire developed by the HEA (Health Education Authority of Oxford), a self-completion food frequency questionnaire (EPIC), a food frequency questionnaire commonly used in the UK and filled out by practice nurses over roughly 20 minutes (DINE), and “simple self-completion scoring sheets for fat and fibre” (PGNC). These four brief tools were compared against 24-hour recall administered by a dietitian taking 30-40 minutes, a seven-day checklist of foods eaten each day, and a seven-day record process in which patients weighed all food and drink on a provided digital scale before consumption, which was considered the “standard” for purposes of the study. Little *et al.* noted low percentage differences between all brief and standard instruments’ result values, particularly for percent energy from fat and from saturated fat, though some instruments performed better than others in accurately assessing food type or micronutrient intake. They conclude that their study “provides evidence that the relative validity of brief dietary assessment tools used in general practice is as good as—or better than—more complicated instruments validated in other settings” and even their “standard” itself, although they discuss possible underreporting of total caloric intake as also seen in longer instruments.

The brief tools discussed in these reviews still typically take too long to reasonably be administered by physicians during time-limited interviews. However, Little et al. also found that self-completed assessments perform as well as provider-administered ones. Thus, a physician in general practice may reasonably include one of these brief tools as part of the intake or admission process, to be completed before her patient sets foot in the exam room.

#### DESIGNED FOR SPEED

Rigorous investigation of survey data using multiple regression modeling can identify questions of particular value for inclusion in shorter assessment tools. Although not specifically designed to be pertinent to use in a medical setting, a study by Capps *et al.* published in 2002 used responses from over 5000 subjects in the US Department of Agriculture's 1994-1996 Continuing Survey Food of Food Intakes by Individuals (CSFII) and follow-up Diet and Health Knowledge Survey (DHKS) to identify answers to behavioral questions predictive of higher total and saturated fat intake (7). Capps *et al.* modeled 19 items regarding frequency of dietary behaviors from the DHKS against fat intake results from two nonconsecutive 24-hour recall questionnaires included in the CSFII, adjusting for demographic and other respondent factors.

They found that the 19-question DHKS was a highly statistically significant predictor of percent of energy from total fat and from saturated fat, and that 6 of the 19 questions contributed little to the predictive power, so that a 13-question tool would work almost as well. Questions that were significant predictors of total and/or saturated fat intake include:

- How often do you add butter, margarine, or sour cream to baked or boiled potatoes?  
(*always/sometimes/rarely/never*)
- Would you describe the amount of butter or margarine you usually spread on breads and muffins as? (*none/light/moderate/generous*)
- About how many times in a week do you eat chips, such as potato chips or corn chips?  
(*<1/1-3/4-6/≥7*)
- When you eat meat, do you usually eat portions that are?  
(*small/medium/large/never eat meat*)
- How many eggs do you usually eat in a week?  
(*<1/1-2/3-4/≥5*)
- When you eat chicken, how often do you eat it fried?  
(*always/sometimes/rarely/never*)
- When you eat meat and there is visible fat, do you trim the fat?  
(*always/sometimes/rarely/never*)
- How often do you use fat-free or 1% milk instead of 2% or whole milk?  
(*always/sometimes/ rarely/never*)
- How often do you eat special, low-fat cheeses when you eat cheese?  
(*always/sometimes/rarely/never*)
- How often do you eat cooked vegetables with cheese or another creamy sauce added?\*
- How often do you eating ice milk, frozen yogurt, or sherbet instead of ice cream?\*
- How often do you eat fish or poultry instead of meat?\*\*\*
- How often do you have fruit for dessert when you eat dessert?\*\*\*

\*predict total but not saturated fat intake

\*\*predict saturated but not total fat intake

For example, respondents who answered that they *always* added butter or other fat to potatoes averaged 1.66% higher percent calories from fat in their overall diet than those who answered that they *never* added butter or other fat, and 0.57% higher percent calories from saturated fat. Although Capps *et al.* found that their instrument explains only 18-19% of the variation in respondents' percentage energy from fat, presumably due in part to topics not covered, their 13 question subset is demonstrably high-yield.

Under the NHLBI's Nutrition Academic Award Program, two new related tools, WAVE and REAP, have been developed over the past three years in the interest of improving nutrition training at US medical schools (8). WAVE is a tool designed to facilitate speedy assessment and counseling during patient interviews; the four-letter acronym stands for *Weight, Activity, Variety, and Excess*, and a pocket card has been developed with common general assessment questions on one side and recommendations on the other. Diet-related reminders include: "Is patient eating a variety of foods from important sections of the food pyramid? Do a quick one-day recall. Ask patient to complete a self-administered eating pattern questionnaire. Is patient eating too much fat/saturated fat/calories/salt/sugar/alcohol? Ask about serving/portion sizes..." (The full card is included as an appendix to this paper).

REAP (Rapid Eating Assessment for Patients) is designed specifically to help providers perform a short dietary assessment as part of the medical history at an initial or annual visit. It includes 27 frequency questions answered with *usually/often, sometimes, rarely/never, or does not apply to me*, most of which screen for consumption related to the current food guide pyramid and 2000 US dietary guidelines. The remainder of the frequency questions, and 3 additional *yes/no* items, assess behaviors that may indicate risk, such as skipping breakfast or eating a special diet. One final question gives an estimate of readiness for behavior change with a five-point Likert-type scale. All questions included are listed in the following table:

<p><b>Frequency questions</b> (<i>usually/often, sometimes, rarely/never, does not apply to me</i>):</p> <ol style="list-style-type: none"> <li>1. Skip breakfast?</li> <li>2. Eat 4 or more meals from sit-down or take out restaurants?</li> <li>3. Eat less than 3 servings of whole grain products a day? (Serving = 1 slice of 100% whole grain bread; 1 cup whole grain cereal like Shredded Wheat, Wheaties, Grape Nuts, high fiber cereals, oatmeal, 3-4 whole grain crackers, ½ cup brown rice or whole wheat pasta)</li> <li>4. Eat less than 2-3 servings of fruit a day? (Serving = ½ cup or 1 med. fruit or 4 oz. 100% fruit juice)</li> <li>5. Eat less than 3-4 servings of vegetables/ potatoes a day? (Serving = ½ cup vegetables/ potatoes, or 1 cup leafy raw vegetables)</li> <li>6. Eat or drink less than 2-3 servings of milk, yogurt, or cheese a day? (Serving = 1 cup milk or yogurt; 1½ - 2 ounces cheese)</li> <li>7. Use 2% (reduced fat) or whole milk instead of skim (non-fat) or 1% (low-fat) milk?</li> <li>8. Use regular cheese (like American, cheddar, Swiss, Monterey jack) instead of low fat or part skim cheeses as a snack, on sandwiches, pizza, etc?</li> <li>9. Eat beef, pork, or dark meat chicken &gt;2x/week?</li> <li>10. Eat more than 6 ounces (see sizes below) of meat, chicken, turkey or fish per day? (Note: 3 ounces of meat</li> </ol>	<ol style="list-style-type: none"> <li>16. Use regular salad dressing &amp; mayonnaise instead of low-fat or fat-free salad dressing and mayonnaise?</li> <li>17. Add butter, margarine or oil to bread, potatoes, rice or vegetables at the table?</li> <li>18. Cook with oil, butter or margarine instead of using non-stick sprays like Pam or cooking without fat?</li> <li>19. Eat regular sweets like cake, cookies, pastries, donuts, muffins, and chocolate instead of low fat or fat-free sweets?</li> <li>20. Eat regular ice cream instead of sherbet, sorbet, low fat or fat-free ice cream, frozen yogurt, etc.?</li> <li>21. Eat sweets like cake, cookies, pastries, donuts, muffins, chocolate and candies more than 2 times per day.</li> <li>22. Drink 16 ounces or more of non-diet soda, fruit drink/punch or Kool-Aid a day? (Note: 1 can of soda = 12 ounces)</li> <li>23. Eat high sodium processed foods like canned soup or pasta, frozen/packaged meals (TV dinners, etc.), chips?</li> <li>24. Add salt to foods during cooking or at the table?</li> <li>25. Drink more than 1-2 alcoholic drinks a day? (One drink = 12 oz. beer, 5 oz. Wine, one shot of hard liquor or mixed drink with 1 shot)</li> <li>26. Do less than 30 total minutes of physical activity 3 days a week or more? (Examples: walking briskly,</li> </ol>
--	--

<p>or chicken is the size of a deck of cards or ONE of the following: 1 regular hamburger, 1 chicken breast or leg (thigh &amp; drumstick), or 1 pork chop.)</p> <p>11. Choose higher fat red meats like prime rib, T-bone steak, hamburger, ribs, etc. instead of lean red meats.</p> <p>12. Eat the skin on chicken &amp; turkey or the fat on meat?</p> <p>13. Use regular processed meats (like bologna, salami, corned beef, hotdogs, sausage or bacon) instead of low fat processed meats (like roast beef, turkey, lean ham; low-fat cold cuts/hotdogs)?</p> <p>14. Eat fried foods such as fried chicken, fried fish or French fries?</p> <p>15. Eat regular potato chips, nacho chips, corn chips, crackers, regular popcorn, nuts instead of pretzels, low-fat chips or low-fat crackers, air-popped popcorn?</p>	<p>gardening, golf, jogging, swimming, biking, dancing, etc.)</p> <p>27. Watch more than 2 hours of television or videos a day?</p> <p><b>Yes/no questions</b> (<i>Do you...</i>):</p> <p>28. Usually shop and prepare your own food?</p> <p>29. Ever have trouble being able to shop or cook?</p> <p>30. Follow a special diet, eat or limit certain foods for health or other reasons?</p> <p><b>Likert-type question</b> (<i>5=Very Willing; 1=Not at all willing</i>):</p> <p>31. How willing are you to make changes in what, how or how much you eat in order to eat healthier?</p>
<p><b>Questions included on the NAA Rapid Eating Assessment for Patients (REAP); adapted with permission (9).</b></p>	

REAP covers a relatively wide variety of topics (meals, grains, fruits & vegetables, dairy, meats, fried foods, snacks, fats and oils, sweets, soft drinks, sodium, alcohol, activity, special circumstances, change readiness), and its authors contend that it can be given quickly enough to include within the interview, taking 6-7 minutes if given within the context of the WAVE protocol, 3-5 minutes if given alone, or just 1-2 minutes of introduction if given to the patient to take home.

A “physician key” is also provided with the REAP assessment which may be particularly valuable for physicians uncomfortable with their level of nutrition training. Importantly, the key gives recommendations for further evaluation and treatment, and for patient counseling, for the dietary patterns identified by each of the 27 frequency questions. It also suggests physicians consider referral to a dietitian if five or more *usually/often* answers are elicited.

## DISCUSSION

Increased attention to the need for brief and valid assessment tools for ambulatory care has resulted in evaluation of existing tools and efforts to develop new ones. For the physician, a variety of assessment tools exist, although extensive completion times of 10-30 minutes for many tools mean they may only be usable as questionnaires completed by patients in the waiting room beforehand or at home before the next visit. A few tools, such as the newly developed REAP assessment, or more focused tools assessing particular categories of nutrition, may be usable as part of history-taking itself. Although the existing evidence base is not enormous, it suggests that brief tools can be as valid and reliable as longer, more detailed standards such as multi-day recall or food logs. In addition to full assessment tools, resources for finding specific nutrition-related questions to work into social history are available to physicians in the literature, and some assessments, such as REAP, lend themselves to being broken down into components so that one or two topics can be discussed at each visit (3), though the effectiveness of using individual survey components or specific screening questions in patient interviews does not seem to have been directly studied. Future research may be particularly valuable to physicians if it explores validity and effectiveness (sensitivity, specificity, outcome measures, etc.) of newer brief tools and/or specific, commonly recommended screening questions in outpatient settings in the US, and can further focus how physicians choose to screen for poor diet in their patients.

## APPENDIX

WAVE Pocket Card, REAP Assessment, and REAP Physician Key reprinted with permission. ©2002 Brown University Institute for Community Health Promotion. Current versions are available online at <http://bms.brown.edu/nutrition/>. For further information please contact Dr. Kim Gans at [Kim.Gans@brown.edu](mailto:Kim.Gans@brown.edu).



# Assessment

## Weight

Assess patient's Body Mass Index.\*  
Patient is overweight if BMI>25.

Height	Body Weight lbs.	Height	Body Weight lbs.
4'10"	≥119	5'8"	≥164
4'11"	≥124	5'9"	≥169
5'0"	≥128	5'10"	≥174
5'1"	≥132	5'11"	≥179
5'2"	≥136	6'0"	≥184
5'3"	≥141	6'1"	≥189
5'4"	≥145	6'2"	≥194
5'5"	≥150	6'3"	≥200
5'6"	≥155	6'4"	≥205
5'7"	≥159		

\* Certain pts may require assessment for underweight and/or unintentional weight loss

## Activity

Ask patient about any physical activity in the past week: walking briskly, jogging, gardening, swimming, biking, dancing, golf, etc.

1. Does patient do **30 minutes** of moderate activity on **most days/wk.?**
2. Does pt do "lifestyle" activity like taking the **stairs** instead of elevators, etc.?
3. Does patient usually watch less than **2 hours of TV or videos/day?**

If pt answers **NO** to above questions, assess whether pt is willing to increase physical activity.

## Variety

Is patient eating a variety of foods from important sections of the food pyramid?

- Grains (6-11 servings)
- Fruits (2-4 servings)
- Vegetables (3-5 servings)
- Protein (2-3 servings)
- Dairy (2-3 servings)

Determine **Variety** and **Excess** using one of the following methods:

- Do a quick one-day recall.
- Ask patient to complete a self-administered eating pattern questionnaire.

- *What does pt think are pros/cons of his/her eating pattern?*
- *If pt needs to improve eating habits, assess willingness to make changes.*

## Excess

Is patient eating too much:

- Fat? Saturated fat?
- Calories?
- Salt?
- Sugar?
- Alcohol?

- Ask about serving/portion sizes, preparation methods and added fats like butter, mayonnaise, sour cream, salad dressing, etc.
- Does pt. eat 4 or more meals from sit-down or take-out restaurants per week?
- Does pt. indulge on the weekends?



Nutrition Academic Award Program  
Advancing nutrition, medical education, and clinical practice  
Brown Medical School





# Recommendations

## Weight

### If pt is overweight:

1. **State concern** for the pt, e.g., "I am concerned that your weight is affecting your health."
2. Give the pt **specific advice**, i.e.,
  - a) Make 1 or 2 changes in eating habits to reduce calorie intake as identified by diet assessment.
  - b) Gradually increase activity/decrease inactivity.
  - c) Enroll in a weight management program and/or consult a dietitian.
3. If patient is ready to make behavior changes, jointly **set goals** for a plan of action and arrange for follow-up.
4. **Give pt education materials/resources.**

## Activity

### Examples of moderate amounts of physical activity:

- Walking 2 miles in 30 minutes
  - Stair walking for 15 minutes
  - Washing and waxing a car for 45-60 minutes
  - Washing windows or floors for 45-60 minutes
  - Gardening for 30-45 minutes
  - Pushing a stroller 1 ½ miles in 30 minutes
  - Raking leaves for 30 minutes
  - Shoveling snow for 15 minutes
1. If patient is ready to increase physical activity, jointly **set specific activity goals** and arrange for a follow-up
  2. **Give pt education materials/resources.**

## Variety

### What is a serving?

#### **Grains** (6-11 servings)

1 slice bread or tortilla, ½ bagel, ½ roll,  
1 oz. ready-to-eat cereal, ½ cup rice, pasta,  
or cooked cereal, 3-4 plain crackers

*Is patient eating whole grains?*

#### **Fruits** (2-4 servings)

1 medium fresh fruit, ½ cup chopped or  
canned fruit, ¾ cup fruit juice

#### **Vegetables** (3-5 servings)

1 cup raw leafy vegetables, ½ cup cooked  
or chopped raw vegetables,  
¾ cup vegetable juice

#### **Protein** (2-3 servings)

2-3 oz. poultry, fish, or lean meat, 1-1 ½  
cup cooked dry beans, 1 egg equals

1 oz. meat, 4 oz. or ½ cup tofu

#### **Dairy** (2-3 servings)

1 cup milk or yogurt, 1½ oz. cheese

**See instructions 1-4 under Excess.**

## Excess

### How much is too much?

*Too much fat, saturated fat, calories*

- > 6 oz/day of meat
- Ice cream, high fat dairy products
- Fried foods
- High fat snacks and desserts
- Eating out > 4 meals/wk

*Too much sugar, calories*

- High sugar beverages
- Sugary snacks/desserts

*Too much salt*

- Processed meats, canned/frozen meals,  
salty snacks, added salt

1. **Discuss pros and cons** of pt's eating pattern keeping in mind Variety & Excess.
2. If patient is ready, jointly **set specific dietary goals** and arrange for follow-up.
3. **Give pt education materials/resources.**
4. **Consider referral** to a dietitian for more extensive counseling and support.

## Rapid Eating Assessment for Patients (REAP)

Please check the box that best describes your habits.

TOPIC	In an average week, how often do you:	Usually/ Often	Sometimes	Rarely/ Never	Does not apply to me
MEALS	1. Skip breakfast? 2. Eat <u>4 or more</u> meals from sit-down or take out restaurants?				
GRAINS	3. Eat <u>less than 3 servings</u> of whole grain products a day? <b>Serving</b> = 1 slice of 100% whole grain bread; 1 cup whole grain cereal like Shredded Wheat, Wheaties, Grape Nuts, high fiber cereals, oatmeal, 3-4 whole grain crackers, ½ cup brown rice or whole wheat pasta				
FRUITS & VEGETABLES	4. Eat <u>less than 2-3 servings</u> of fruit a day? <b>Serving</b> = ½ cup or 1 med. fruit or 4 oz. 100% fruit juice 5. Eat <u>less than 3-4 servings</u> of vegetables/potatoes a day? <b>Serving</b> = ½ cup vegetables/potatoes, or 1 cup leafy raw vegetables				
DAIRY	6. Eat or drink <u>less than 2-3 servings</u> of milk, yogurt, or cheese a day? <b>Serving</b> = 1 cup milk or yogurt; 1½ - 2 ounces cheese 7. Use <u>2% (reduced fat)</u> or <u>whole milk</u> instead of skim (non-fat) or 1% (low-fat) milk? 8. Use <u>regular cheese</u> (like American, cheddar, Swiss, Monterey jack) instead of low fat or part skim cheeses as a snack, on sandwiches, pizza, etc?				Rarely use milk  Rarely eat cheese
MEATS/CHICKEN/TURKEY	9. Eat beef, pork, or dark meat chicken <u>more than 2 times a week</u> ? 10. Eat <u>more than 6 ounces</u> (see sizes below) of meat, chicken, turkey or fish <u>per day</u> ? <b>Note:</b> 3 ounces of meat or chicken is the size of a deck of cards or ONE of the following: 1 regular hamburger, 1 chicken breast or leg (thigh & drumstick), or 1 pork chop. 11. Choose <u>higher fat red meats</u> like prime rib, T-bone steak, hamburger, ribs, etc. instead of lean red meats. 12. Eat the <u>skin</u> on chicken and turkey or the <u>fat</u> on meat? 13. Use <u>regular processed meats</u> (like bologna, salami, corned beef, hotdogs, sausage or bacon) instead of low fat processed meats (like roast beef, turkey, lean ham; low-fat cold cuts/hotdogs)?				Rarely eat meat, chicken, turkey or fish  Rarely eat meat  Never eat meat, or poultry  Rarely eat processed meats
FRIED FOODS	14. Eat <u>fried foods</u> such as fried chicken, fried fish or French fries?				

**OVER**

TOPIC	In an average week, how often do you:	Usually/ Often	Sometimes	Rarely/ Never	Does not Apply to me
SNACKS	15. Eat <u>regular potato chips, nacho chips, corn chips, crackers, regular popcorn, nuts</u> instead of pretzels, low-fat chips or low-fat crackers, air-popped popcorn?				Rarely eat these snack foods
FATS AND OILS	16. Use <u>regular salad dressing &amp; mayonnaise</u> instead of low-fat or fat-free salad dressing and mayonnaise? 17. <u>Add butter, margarine or oil</u> to bread, potatoes, rice or vegetables at the table? 18. <u>Cook with oil, butter or margarine</u> instead of using non-stick sprays like Pam or cooking without fat?				Rarely use dressing/mayo  Rarely cook
SWEETS	19. Eat <u>regular sweets</u> like cake, cookies, pastries, donuts, muffins, and chocolate instead of <u>low fat or fat-free</u> sweets? 20. Eat <u>regular ice cream</u> instead of sherbet, sorbet, low fat or fat-free ice cream, frozen yogurt, etc.? 21. Eat <u>sweets</u> like cake, cookies, pastries, donuts, muffins, chocolate and candies more than 2 times per day.				Rarely eat sweets  Rarely eat frozen desserts  Rarely eat sweets
SOFT DRINKS	22. <u>Drink 16 ounces or more</u> of non-diet soda, fruit drink/punch or Kool-Aid a day? <b>Note:</b> 1 can of soda = 12 ounces				
SODIUM	23. Eat high sodium <u>processed foods</u> like canned soup or pasta, frozen/package meals (TV dinners, etc.), chips? 24. <u>Add salt</u> to foods during cooking or at the table?				
ALCOHOL	25. Drink <u>more than</u> 1-2 alcoholic drinks a day? (One drink = 12 oz. beer, 5 oz. Wine, one shot of hard liquor or mixed drink with 1 shot)				
ACTIVITY	26. Do <u>less than</u> 30 total minutes of physical activity 3 days a week or more? (Examples: walking briskly, gardening, golf, jogging, swimming, biking, dancing, etc.) 27. Watch <u>more than</u> 2 hours of television or videos a day?				
<b>Do you....</b>			<b>Yes</b>		<b>No</b>
28. Usually shop and prepare your own food?					
29. Ever have trouble being able to shop or cook?					
30. Follow a special diet, eat or limit certain foods for health or other reasons?					
31. <b>How willing are you to make changes in what, how or how much you eat in order to eat healthier?</b> (Circle the number that best describes how you feel)					
<b>Very willing</b>				<b>Not at all willing</b>	
5		4		3	
				2	
				1	

**Nutrition Academic Award**  
**REAP Physician Key for Diet Assessment and Counseling**

Question(s)	Patients at risk	Further evaluation and treatment	Counseling points/Further info
Meal pattern Q# 1	Patient skipping breakfast	<ul style="list-style-type: none"> <li>Consider risk for undernutrition</li> <li>Explore etiology including medical and psychiatric conditions, socioeconomic issues, shopping and cooking capabilities, degree of life stress</li> <li>Further w/u, treatment, referral as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>If skipped meals are due to poverty or lack of facilities, refer pt to community resources, i.e. congregate meal programs, Meals on Wheels, food bank and pantries</li> <li>Skipping breakfast is correlated with obesity as well as a higher fat overall diet</li> <li>Normalizing meal pattern may help with weight management</li> </ul>
Dining out Q# 2	Patients eating out often	<ul style="list-style-type: none"> <li>Query reasons for frequent restaurant meals</li> <li>If lack of shopping/cooking knowledge and skills, or time are a barrier, patient may benefit from referral to a dietitian</li> </ul>	<ul style="list-style-type: none"> <li>Restaurant portions are often larger than necessary contributing to obesity</li> <li>Restaurant meals are often high in saturated fat, sodium, and calories contributing to hypercholesterolemia, hypertension, and obesity</li> </ul>
Grains Q# 3	Patient eating <3 servings whole grains a day	<ul style="list-style-type: none"> <li>Inquire into reasons for low intake or avoidance of whole grains</li> <li>Counsel appropriately (suggest easy ways to incorporate whole grains such as high fiber breakfast cereal, sprinkling wheat germ on yogurt, eating cereal as a snack)</li> </ul>	<ul style="list-style-type: none"> <li>Fortified or whole grain products are a good source of folate and other vitamins and minerals.</li> <li>Adequate folate intake may decrease the risk for CHD and colon cancer and decreases the risk for fetal neural tube defects</li> <li>Whole grain products are also a good source of fiber and vitamin E</li> <li>Adequate fiber intake may decrease the risk of hypercholesterolemia and certain cancers</li> <li>Higher vitamin E intakes may prevent the development of CHD, and higher intakes of vitamin E from foods are associated with lower CHD mortality</li> </ul>
Fruits and vegetables Q# 4,5	Patient eating <3 portions of vegetables and/or <2 portions of fruits/day	<ul style="list-style-type: none"> <li>Inquire into reasons for low intake (dislike of vegetables and fruits, difficulty with preparation, etc.)</li> <li>Counsel appropriately <ul style="list-style-type: none"> <li>Easy ways to add F &amp; V: have a F or V at each meal and as snack; have fruit and/or tiny carrots for snacks, utilize salad bars, eat larger portions.</li> <li>Importance of eating a variety of vegetables including green leafy, yellow/orange, and cruciferous vegetables</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Fruits and vegetables are generally good sources of vitamins and fiber</li> <li>In observational studies, fruit and vegetable intake has been shown to be inversely associated with risk for cancers and CVD</li> <li>Fruits and vegetables are high in potassium; diets high in potassium may help to treat hypertension</li> <li>Whole fruits and vegetables are preferable to juices; juices contain less fiber and are more concentrated calorie sources</li> </ul>

*Consider referring patients with 5 or more check marks in the usually/often category to a dietitian.*

Adequate calcium/dairy Q# 6	Patient consuming less than two servings/day dairy products (age 18-50) or three servings (age 14-18 or 51+)	<ul style="list-style-type: none"> <li>Inquire into reasons for low intake including lactose intolerance</li> <li>If patient unable to consume dairy, suggest lactose-reduced/free dairy products, non-dairy high calcium foods (fortified soy milk, fortified rice milk) or consider supplementation.</li> </ul>	<ul style="list-style-type: none"> <li>Dairy products are a good source of calcium and vitamin D</li> <li>Adequate calcium and vitamin D intakes are important in the prevention and treatment of osteoporosis</li> <li>High calcium intakes may help to prevent colon cancer</li> <li>Adequate calcium intakes are an important component of the treatment of hypertension, especially in salt-sensitive individuals</li> </ul>
High fat, saturated fat choices/prep for dairy and meats Q# 7-14	Patients consuming higher fat/saturated fat diets including: <ul style="list-style-type: none"> <li>Higher fat dairy products</li> <li>Higher fat cuts of meat</li> <li>Large amounts of meat</li> <li>Fried foods</li> </ul>	<ul style="list-style-type: none"> <li>Inquire into reasons for higher fat choices</li> <li>Counsel and refer appropriately               <ul style="list-style-type: none"> <li>Lower fat dairy products</li> <li>Leaner cuts of meat</li> <li>Fish and skinless poultry instead of meat</li> <li>Increase intake of vegetarian protein sources (legumes, tofu, soy products, etc)</li> <li>Limit meat portion sizes</li> <li>Choose baked, broiled, etc. instead of fried foods</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Fat contains 9 calories/gram, as opposed to 4 calories/gram in protein and carbohydrates; high fat diets contribute to obesity</li> <li>Diets high in saturated fats have been shown in observational studies to be associated with higher rates of some cancers, and cause hypercholesterolemia</li> </ul>
High fat, saturated fat choices for sweets, snacks, spreads, food prep. Q# 15-20	Patients not making lower fat choices in desserts, snack foods, spreads, food preparation	Counsel appropriately <ul style="list-style-type: none"> <li>Choose lower fat sweets, frozen desserts and snacks</li> <li>Choose lower fat spreads, dressings, condiments, etc.</li> <li>Limit amount of spreads, dressings, fats used</li> <li>Use non-stick sprays or cook foods without adding fat/oil</li> </ul>	See above
High sugar/calorie sweets and beverages Q# 21, 22	Individuals eating sugary sweets often and/or drinking large quantities of high sugar/calorie beverages	Counsel appropriately <ul style="list-style-type: none"> <li>Eat smaller quantities of sweets</li> <li>Eat low sugar desserts, fruit, etc.</li> <li>Choose diet, decaffeinated soft drinks</li> <li>Drink more water instead</li> </ul>	<ul style="list-style-type: none"> <li>Sweets and sugary beverages are a major source of calories and contain “empty calories”, which replace more nutritious foods</li> <li>Caffeine and phosphates in cola-type beverages can decrease <math>Ca^{2+}</math> absorption</li> </ul>
Sodium Q# 23,24	Individuals with a family history of hypertension or patients with blood pressures above optimum range who often eat higher sodium foods	Counsel appropriately <ul style="list-style-type: none"> <li>Eat high sodium foods less often</li> <li>Choose low sodium versions of processed foods</li> <li>Use lemon and herbs instead of salt in cooking and at the table</li> <li>Eat fruits, vegetables more often</li> </ul>	<ul style="list-style-type: none"> <li>A proportion of the population (esp. some ethnic groups) is salt sensitive and may develop high blood pressure if eat too much sodium.</li> <li>Some patients with hypertension may benefit from reduced sodium intakes, esp. as part of an eating pattern high in potassium (from fruits and vegetables) and calcium (low-fat dairy products).</li> </ul>

Consider referring patients with 5 or more check marks in the usually/often category to a dietitian.

Alcohol Q# 25	Women consuming > 1 drink per day, Men consuming > 2 drinks/day	<ul style="list-style-type: none"> <li>• Consider further evaluation for alcoholism (i.e. CAGE)</li> <li>• Consider evaluation for binge drinking (i.e. a lot only on weekends)</li> <li>• Recognize potential for underreporting</li> </ul>	<ul style="list-style-type: none"> <li>• Note relationship between alcohol and hypertension</li> <li>• Alcohol is a high calorie food containing few other nutrients. High alcohol intakes may displace more nutrient-dense foods from the diet</li> <li>• Pregnant women or women attempting to become pregnant should not consume any alcohol</li> </ul>
Physical activity Q# 26,27	Sedentary adults	<ul style="list-style-type: none"> <li>• Counsel to increase physical activity to recommended levels (30 or more minutes of moderate physical activity per day 3 or more times a week) See patient survey for examples).</li> <li>• Activity may be incorporated into usual activities: i.e.: walking up and down stairs, walking briskly to and from work, etc.</li> <li>• Counsel to decrease TV/video watching, hours on computer, etc</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing physical activity has been shown to have numerous benefits including improving serum lipid profiles, decreasing blood pressure, contributing to weight loss and maintenance of weight loss, improving bone density, and improving mood</li> <li>• Moderate physical activity may be as beneficial as more strenuous activity to health</li> </ul>

Consider referring patients with 5 or more check marks in the usually/often category to a dietitian.

## REFERENCES

1. Splett P and Myers EF, A proposed model of effective nutrition care. *J Am Diet Assoc.* 2001 Mar;101(3):358-363.
2. Olendzki B and Speed C, Dietary and nutritional assessment. *UpToDate.* 2003 Dec. Available at: [http://www.utdol.com/application/topic.asp?file=genr\\_med/8148&type=A&selectedTitle=7~69](http://www.utdol.com/application/topic.asp?file=genr_med/8148&type=A&selectedTitle=7~69). Accessed January 14, 2005.
3. Hark L and Deen D, Taking a nutrition history: a practical approach for family physicians. *Am Fam Physician.* 1999 Mar;59(6):1521-1528.
4. Calfas KJ, Zabinski MF, and Rupp J, Practical nutrition assessment in primary care settings: a review. *Am J Prev Med.* 2000;18(4):289-299. Supplementary appendix including measures evaluated available online only at: [http://www.sciencedirect.com/science/MiamiMultiMediaURL/B6VHT-404H245-4/B6VHT-404H245-4-1/6075/d6811888545e2cd923867aeb8b39887d/Supplementary\\_data\\_1.pdf](http://www.sciencedirect.com/science/MiamiMultiMediaURL/B6VHT-404H245-4/B6VHT-404H245-4-1/6075/d6811888545e2cd923867aeb8b39887d/Supplementary_data_1.pdf).
5. Rockett HRH, Berkey CS, and Colditz GA, Evaluation of dietary assessment instruments in adolescents. *Curr Opin Clin Nutr Metab Care.* 2003;6:557-562.
6. Little P, Barnett J, Margetts B, Kinmonth A-L, Gabbay J, Thompson R, Warm D, Warwick H, and Wooton S, The validity of dietary assessment in general practice. *J Epidemiol Community Health.* 1999;53:165-172.
7. Capps O, Cleveland L, and Park J, Dietary behaviors associated with total fat and saturated fat intake. *J Am Diet Assoc.* 2002 Apr;102(4):490-502.
8. Gans KM, Ross E, Barner CW, Wylie-Rosett J, McMurray J, and Eaton C, REAP and WAVE: new tools to rapidly assess/discuss nutrition with patients. *J Nutr.* 2003 Feb;133(2):556S-62S.
9. WAVE tool, REAP tool, and REAP Physician Key (Adobe Acrobat format). Available at: <http://bms.brown.edu/nutrition/acrobat/wave.pdf>, <http://bms.brown.edu/nutrition/acrobat/reap5.pdf>, and <http://bms.brown.edu/nutrition/acrobat/reapmdkey.pdf>. Accessed August 1, 2005. Reprinted with permission of the Brown University Institute for Community Health Promotion.
10. Anis NA, Lee RE, Ellerbeck EF, Nazir N, Greiner KA, and Ahluwalia JS, Direct observation of physician counseling on dietary habits and exercise: patient, physician, and office correlates. *Prev Med* 38 (2004) 198-202.