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| **Total Dietary Intake - ASA24** |
| **Protocol Id** | 051201 |
| **Version #** | 1 |
| **Description of Protocol** | The 24-hour recall process consists of an initial "quick list," where the respondent reports all the foods and beverages consumed during the day by eating occasion. This is followed by detailed probing questions about food preparation, additions to food, and amount consumed. Respondents are then queried about forgotten foods; these represent food in categories commonly omitted in 24-hour recall reporting. The 24-hour recall ends with a final review, where any other item not already reported can be added. Throughout the program, respondents can add, delete, copy, modify, or change foods reported on their recalls. The 24-hour recall usually takes 20-30 minutes. Intake of dietary supplements for the past 24 hours can also be queried. |
| **Specific Instructions** | The Working Group recommends at least two 24-hour recalls be administered: more than a week apart, one on a weekday and one on a weekend day. |
| **Protocol Text** | The National Cancer Institute (NCI) has developed a Self-Administered Automated 24-hour Dietary Recall (ASA24™) for use in large-scale nutrition research studies. The format and design of the ASA24™ are modeled on the interviewer-administered Automated Multiple Pass Method (AMPM) 24-hour Recall developed by the U.S. Department of Agriculture (USDA). This recall requires multi-level food probes to accurately assess food types and amounts. This tool consists of a Respondent Website (English and Spanish), where data are collected, and a Researcher Website to manage study logistics and obtain analyses.The ASA24™ software is programmed with a food database which includes all foods available from USDA’s Food and Nutrient Database for Dietary Studies (FNDDS) database. In addition, the software includes pictures of foods in multiple portion sizes and audio to help respondents estimate portion size. This branching database allows questions and possible responses to be displayed on the screen for respondent selection. The steps in the interview process include a Meal-based Quick List, Meal Gap Review, Detail Pass, Forgotten Foods, Final Review, Last Chance, and Usual Intake Question. Researchers may also select to include a Supplemental Module.Features of the Respondent Website include:* provides an animated guide and audio and visual cues to instruct participants and enhance use in low-literacy populations (with options to turn off the guide and/or the audio);
* asks respondents to report eating occasion and time of consumption;
* includes optional modules to query where meals were eaten, whether meals were eaten alone or with others, and television and computer use during meals;
* flows as per modified USDA Automated Multiple-Pass Method (AMPM) 24-hour recall;
* allows respondents to report foods and drinks by browsing by category or searching from a list of food and drink terms derived from the National Health and Nutrition Examination Survey (NHANES);
* asks detailed questions about food preparation, portion size, and additions so that food codes from USDA’s Food and Nutrient Database for Dietary Studies (FNDDS) can be assigned;
* uses images to assist respondents in reporting portion size;
* allows the respondent to add or modify food and drink choices at multiple points during the interview;
* includes an optional module to query dietary supplement intake based on supplements reported in the 2007-08 NHANES;
* is available in English and Spanish; and
* is accessible by individuals with speech and hearing impairments.

The Researcher Website allows researchers, clinicians, and teachers to register a study, set study parameters, manage study logistics, and obtain dietary analyses. Features of that website include:* allows researchers to add their own opening and closing text scripts and study logo for use on the Respondent Website;
* enables researchers to monitor study progress and to obtain a variety of reports, including statistics for complete, incomplete, and upcoming recalls for each participant; and
* produces individual-level nutrient estimates based on the Food and Nutrient Database for Dietary Surveys (FNDDS) and food group estimates based on USDA’s MyPyramid Equivalents Database (MPED). The version of the databases applied depends on the version of ASA24™ used by the study. A system is available for comparing versions of the ASA24™. These data can be analyzed by researchers or used to provide reports to respondents.

**Additional information:**NCI is currently providing the ASA24™ at no cost to researchers and clinicians. Costs that might be incurred by researchers are systems and labor costs associated with providing participant IDs, dates to complete, and other information to NCI as well as costs associated with contacting participants to complete the ASA24™.The ASA24™ development team conducted numerous small-scale cognitive and usability tests on the Beta version and Version 1 of the Respondent Website. Preliminary examination of output from recalls completed using ASA24™ suggests acceptable face validity (i.e., calorie, nutrient, and food group estimates that are consistent with data from the National Health and Nutrition Examination Survey). To formally evaluate the impact of the change in mode of administration from the interviewer-administered AMPM 24-hour recall to a self-administered web-based recall, two studies will be conducted using Version 1 of ASA24™.Additional Information about numerous aspects of the ASA24™ can be found on the National Cancer Institute, Risk Factor Monitoring and Methods Branch website.ASA24™ is a trademark of the U.S. Department of Health and Human Services. |
| **Selection Rationale** | A 24-hour dietary recall has been found to be more reliable than food frequency questionnaires and more versatile across a variety of populations. |
| **Source** | ASA24™ Website, National Cancer Institute (http://riskfactor.cancer.gov/tools/instruments/asa24/)Ingwersen, L., Raper, N., Anand, J., & Moshfegh, A. (2004). Validation study shows importance of probing for forgotten foods during a dietary recall [abstract]. *Journal of the American Dietetic Association, 104*(Suppl. 2), A-13.National Cancer Institute, Risk Factor Monitoring and Methods Branch. (2011). Automated Self-administered 24-hour Dietary Recall (ASA24™).Thompson, F. E., & Byers, T. (1994). Dietary assessment resource manual. *Journal of Nutrition, 124*(11 Suppl.), 2245S-2317S.Thompson, F. E., & Subar, A. F. (2008). Dietary assessment methodology. In A. M. Coulston & C. J. Boushey (Eds.), *Nutrition in the prevention and treatment of disease*(2nd ed., pp. 3-40). Burlington, MA: Elsevier. |
| **Language** | English, Spanish |
| **Participant** | An individual aged 18 or older. |
| **Personnel and Training Required** | None |
| **Equipment Needs** | Respondent Website:The site requires high-speed internet access and Microsoft® Silverlight browser plug-in, which can be downloaded for free.Researcher Website:High-speed internet connection, such as cable, DSL, or FIOS;Monitor size of at least 10" (greater than 13" is recommended); andFlash Player 10. |
| **Standards** |

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| **Standard** | **Name** | **ID** | **Source** |
| Common Data Elements (CDE) | Person Past Day Total Diet Intake Number | 2946934 | [CDE Browser](https://cdebrowser.nci.nih.gov/CDEBrowser/search?elementDetails=9&FirstTimer=0&PageId=ElementDetailsGroup&publicId=2946934&version=1.0) |
| Logical Observation Identifiers Names and Codes (LOINC) | Total dietary intake proto | 63074-9 | [LOINC](http://s.details.loinc.org/LOINC/63074-9.html?sections=Web) |

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| **General References** | Subar, A. F., Crafts, J., Zimmerman, T. P., Wilson, M., Mittl, B., Islam, N. G., McNutt, S., Potischman, N., Buday, R., Hull, S. G., Baranowski, T., Guenther, P. M., Willis, G., Tapia, R., & Thompson, F. E. (2010). Assessment of the accuracy of portion size reports using computer-based food. *Journal of the American Dietetic Association, 110*(1), 55-64.Subar, A. F., Thompson, F. E., Potischman, N., Forsyth, B. H., Buday, R., Richards, D., McNutt, S., Hull, S. G., Guenther, P. M., Schatzkin, A., & Baranowski, T. (2007). Formative research of a quick list for an automated self-administered 24-hour dietary recall. *Journal of the American Dietetic Association, 107*(6), 1002-1007.Zimmerman, T. P., Hull, S. G., McNutt, S., Mittl, B., Islam, N., Guenther, P. M., Thompson, F. E., Potischman, N. A., & Subar, A. F. (2009). Challenges in converting an interviewer-administered food probe database to self-administration in the National Cancer Institute Automated Self-administered 24-Hour Recall (ASA24). *Journal of Food Composition and Analysis, 22*(Suppl. 1), S48-S51. |
| **Protocol Type** | Self-administered questionnaire |
| **Derived Variables** | None |
| **Requirements** |

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| **Requirement Category** | **Required** |
| Average time of greater than 15 minutes in an unaffected individualAverage time of greater than 15 minutes in an unaffected individual | **Yes** |
| Major equipmentThis measure requires a specialized measurement device that may not be readily available in every setting where genome wide association studies are being conducted. Examples of specialized equipment are DEXA, Echocardiography, and Spirometry | No |
| Specialized requirements for biospecimen collectionThis protocol requires that blood, urine, etc. be collected from the study participants. | No |
| Specialized trainingThis measure requires staff training in the protocol methodology and/or in the conduct of the data analysis. | No |

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