

NBS BULLETIN 2 – NBS PROCEDURE MANUAL UPDATE



FRED
HUTCHINSON
CANCER
RESEARCH
CENTER



WHI Nutritional Biomarkers Substudy

NBS Procedure Manual BULLETIN 2 Sections 5 and 7

Date: September 24, 2004
To: NBS Lead-Ops
From: NBS Coordination Team
Subject: Updated NBS Procedures for Measuring Boric Acid

This bulletin contains updated NBS Manual sections. The revised procedures are described in the bulletin below and are incorporated in the attached NBS Manual update pages. The revised sections of the manual pages are marked with a vertical line in the left margin of the page.

All NBS Lead-ops should read and review the updated procedures and discuss with appropriate staff and then file this NBS Bulletin in the front of your NBS Manual.

If you have any questions or problems with the receipt of the bulletin, please contact Helen Penor, NBS Program Assistant at (206) 667-2943 or via e-mail (hpenor@whi.org).

Table of Contents

<u>Contents</u>	<u>Page</u>
A. Section 5 - NBS Visits	2
B. Section 7 - Blood & Urine	2
C. Filing Checklist	2

1100 Fairview Ave. N., P.O. Box 19024, Seattle, WA 98109-1024
667-6883

PHONE 206-
FAX 206-667-4142

Section 5 – NBS Visits**1. Pre-NBS Visit 1 Activities**

- *Section 5.1.3.1 – Supplies and Forms.* This section has been updated to correct the household measure for boric acid to read 0.5 level measuring teaspoon.

2. 24-hour Urine Collection

Section 5.1.4.16 – Explain and Provide Materials for 24-hour Urine Collection. This section has been updated to correct the household measure for boric acid to read 0.5 level measuring teaspoon.

Section 7 – Blood & Urine**1. Day of NBS Visit 1**

- *Section 7.2.2.2.8 – Instructions for 24-hour Urine Collection.* This section has been updated to correct the household measure for boric acid to read 0.5 level measuring teaspoon.

C. Filing Checklist for NBS Bulletin 2

Below are the filing instructions for NBS Bulletin 2. Please remove and insert the indicated materials from your *NBS Manual* as directed in the table below.

✓	Bulletin Attachment Name:	Remove from:	Insert into:	Comments:
	Section 5	Section 5 (NBS Visits) • Pages 21 through 22 and pages 31 through 32: Ver 2: July 2004	Section 5 (NBS Visits) • Pages 21through 22 and pages 31 through 32: Ver. 3: September 2004	
	Section 7	Section 7 (Blood & Urine) • Pages 47 through 48: Ver 2: July 2004	Section 7 (Blood & Urine) • Pages 47 through 48: Ver 3: September 2004	

5.1.3 Pre-NBS Visit 1 Activities

5.1.3.1 Supplies and Forms

- NBS staff confirm that all supplies and forms needed for NBS Visit 1 are available for the participant's visit.

Supplies:

- WHI Folder (for participant handouts)
 - NBS label set
 - Urine collection hat
 - Doubly labeled water (DLW)
 - Lavender (dry EDTA) blood collection tube (for participants ≥ 60 years of age)
 - Corning cryovials, 5 mL
 - 2.0 mL cryovials
 - Disposable transfer pipettes
 - Ziplock bag with pre-weighed tissue
 - Meal replacement beverage (e.g., Boost, Ensure)
 - 24-hour urine collection kit (*Instructions for 24-hour Urine Collection*, urine collection hat, 2 [3-liter] containers, plastic funnel, large safety pin, and 2 gel ice packs in a plastic carrying bag)
 - For participants who receive PABA, the kit contains:
 - A highlighted copy of the *Instructions for 24-hour Urine Collection* where there is a reminder to “take one PABA (B-vitamin) tablet with each meal” on the day of the urine collection (use a Hi-Liter® marker to call attention to this text).
 - 3 sealed PABA (B-vitamin) tablets
 - 2 [3-liter] urine collection bottles in each of which you place 2.0 gram (**0.5 level measuring teaspoon**) boric acid * and on each of which you place two stickers, one that reads “Leave powder preservative inside bottle” and one that reads “Remember...take the PABA (B-vitamin) tablets”
- * The boric acid may be weighed or measured using household measuring spoons labeled, “For boric acid use only.” When handling the boric acid, wear disposable gloves and preferably a disposable mask. Even though boric acid is a safe preservative, take precautions to avoid skin contact or inhalation.
- Complementary meal

Forms:

- *NBS Visit 1 Eligibility Checklist Worksheet*
- *NBS Consent*
- *Form 75 - NBS Visit 1*
- *Form 60 – Food Frequency Questionnaire*
- *Form 35 – Personal Habits Update*
- *Form 45 – Current Supplements (Backup)* - (have available if not directly key-entering supplement information into WHILMA using Task 45)
- *NBS Visit 2 (or Visit 4) PABA Worksheet for Staff*

5.1.3.2 Pre-Visit 1 Reminder Call

- A NBS staff person calls each participant one day prior to her NBS Visit 1. If a participant is scheduled for Monday, the call may be made on the preceding Friday. During the call, complete the following:
 - Confirm the participant's NBS Visit 1 appointment.
 - Remind the participant to refrain from eating any food or drinking any caffeine or calorie-containing beverages for **4 hours** prior to her clinic appointment time.

- Let participant know that during the 4-hour fast she may take all her regular medications with water and she may drink decaffeinated black coffee or herbal tea (without milk, cream or sugar). Regular (caffeinated) coffee or tea should be avoided. Encourage the participant to drink water liberally during the fast; otherwise, she may become dehydrated which can be uncomfortable for the participant and result in difficulties collecting urine and blood samples.
- Ask the participant to bring all her dietary supplements to the visit (they will be documented in *Task 45 – Current Supplements*).
- Ask the participant to wear clothing which allows the sleeve to be easily raised above the elbow without constricting the blood flow to the forearm and hands and allows for ease of multiple urine collections.

- Attach a WHI participant member ID to a *NBS Visit 2 (or Visit 4) PABA Worksheet for Staff* and mark the appropriate response for Question 1 (*Did the 24-hour urine kit contain the 3 PABA (B-vitamin) tablets?*). Place the *NBS Visit 2 (or Visit 4) PABA Worksheet for Staff* in the participant's chart (or special NBS notebook) so that it will be available for use at NBS Visit 2 (or Visit 4).
- Provide the participant with a carrying bag containing the following 24-hour urine collection supplies:
 - *Instructions for 24-hour Urine Collection*, includes a *Record Sheet for 24-hour Urine Collection* (last page of instructions). For participants who receive PABA, substitute a highlighted copy of the *Instructions for 24-hour Urine Collection* where there is a reminder to "take one PABA (B-vitamin) tablet with each meal" on the day of the urine collection (use a Hi-Liter® marker to call attention to this text).
 - Two 3 liter urine collection bottles. For participants who receive PABA, substitute 2 [3-liter] containers that have 2.0 gram (**0.5 level measuring teaspoon**) boric acid inside each bottle and are labeled with two stickers that read "Leave powder preservative inside bottle" and "Remember...take the PABA (B-vitamin) tablets"
 - One urine collection hat
 - One plastic funnel
 - One large safety pin
 - Two gel ice packs
 - One plastic carrying bag
 - For participants who receive PABA, the kit additionally contains 3 sealed PABA (B-vitamin) tablets.
- Inform the participant that a NBS staff person will call to remind her when to begin her 24-hour urine collection. Explain to the participant that she will need to bring her 24-hour urine collection, the *Record Sheet for 24-hour Urine Collection* and the gel ice packs to her NBS Visit 2. For participants who receive PABA (B-vitamin) tablets, explain that she will also be asked to bring the PABA tablet packaging with her to NBS Visit 2.

5.1.4.17 Confirm Appointment for NBS Visit 2

- The NBS Visit 2 occurs on Day 15, fourteen days after NBS Visit 1.
- Confirm that the participant has a NBS Visit 2 appointment scheduled for a date that is two weeks after the first NBS visit. Schedule a NBS Visit 2 appointment, if necessary. If needed, NBS Visit 2 could be scheduled one day before or after Day 15.

5.1.4.18 Provide Complementary Meal

- Thank the participant for her participation and provide a complementary meal (e.g., box lunch). The meal can be offered anytime after her last spot urine sample (i.e., 4-hour spot urine).

5.1.4.19 Check Visit 1 Completeness

- Use the Completeness Checklist on the last page of *Form 75- NBS Visit 1* to check that all NBS Visit 1 activities have been completed. Complete any remaining tasks, if required. The staff member who reviews *Form 75 – NBS Visit 1* and checks completion of NBS Visit 1 tasks, designates completion by recording their Staff ID on *Form 75- NBS Visit 1 (Qx. 20 – Visit 1 Completeness Staff ID)*.

5.1.5 Post-NBS Visit 1 Activities**5.1.5.1 Follow-up on Missing Forms**

- CCs should have a data back-up plan if problems arise with collection of *Form 35 - Personal Habits Update* and *Form 60 - FFQ*. If a participant leaves the clinic and NBS staff discover that *Form 35* or *Form 60* are missing or have incomplete data, assign a staff person to follow-up with the participant within **1-2 days** of NBS Visit 1.

5.1.5.2 Data Entry

- Key-enter *Form 75 - NBS Visit 1* for all participants within 1-2 days of NBS Visit 1. File the completed and key-entered *Form 75 - NBS Visit 1* in the participant's chart (or special NBS notebook).

7.2.2.2.2 DLW Spot Urine Collection Steps

At each time point when collecting the spot urine samples for the doubly labeled water analysis, follow these six steps:

1. Place the urine collection hat on the toilet (under the toilet seat) and ask participant to void into the hat. If she needs to have a bowel movement, she should remove the hat, have the bowel movement, and then replace the hat for the urine collection.
2. Complete the appropriate section of the NBS Visit forms.
3. Attach appropriate labels to cryovials. For participants in the QC subsample, label the extra cryovials.
4. Using a disposable transfer pipette, fill the labeled 5 mL Corning cryovial with 4 mL of urine specimen and store in freezer. Do not fill the cryovial to the top in order to allow for volume expansion upon freezing. For participants in the QC subsample, fill two additional labeled 5 mL Corning cryovials, each with 4 mL of urine specimen. Urine samples for the DLW analyses do not need to be centrifuged.
5. Discard remaining urine by flushing down the toilet.
6. Rinse and **dry** hat. **It is critical that the hat be thoroughly dried.**

Refer to *NBS Manual, Section 5.1.4.10.1 – Handling Collection Problems* for guidelines on handling problems with delayed or insufficient urine collection.

7.2.2.2.3 Time 0 (Fasting) Urine Collection

Before starting the visit procedures, verify that the participant is eligible and has signed the *NBS Consent* by reviewing *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*), question numbers 5, 6, and 7.

Collect the **fasting spot urine** sample by following steps in the *NBS Manual, Section 7.2.2.2.2 - DLW Spot Urine Collection Steps*. Note the exact collection time on *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*).

7.2.2.2.4 Time 2 Urine Collection (2 hours after DLW ingestion)

Collect the **2-hour spot urine** sample by following steps in the *NBS Manual, Section 7.2.2.2.2 - DLW Spot Urine Collection Steps*. The time does not need to be exactly at two hours; however, note the exact collection time on *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*).

7.2.2.2.5 Time 3 Urine Collection (3 hours after DLW ingestion)

Collect the **3-hour spot urine** sample by following steps in the *NBS Manual, Section 7.2.2.2.2 - DLW Spot Urine Collection Steps*. The time does not need to be exactly at three hours; however, note the exact collection time on *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*).

7.2.2.2.6 Time 3 Blood Draw (3 hours after DLW ingestion, for women 60 years of age or older)

Collect the **3-hour blood draw** for women 60 years of age or older, noting the exact time on *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*). **Coordinate the time to occur just after the 3-hour spot urine collection.** Note the exact time on the NBS Visit form.

1. Follow general preparation for the participant (refer to *NBS Manual, Section 7.4.2 - Preparation for the Participants*)
 2. Ensure the participant understands that you will draw 2 teaspoons of blood from her arm.
 3. Following WHI venipuncture procedures (*NBS Manual, Section 7.4.3 - Venipuncture*), draw a single 10 mL lavender-dry EDTA tube 3 hours after the DLW ingestion. Attempt to draw a full tube. If the venipuncture is not successful or if you do not draw enough sample on the first occasion to fill the tube at least halfway, ask the participant for permission to attempt a blood draw a second time. If on the second attempt, less than 10 mL is collected, process the total amount collected. Refer to *NBS Manual, Section 7.4.4.7 - Blood and Urine Collection, Processing, and Shipping; Deficient Serum or Plasma Samples*. **Note:** If the 3-hour spot urine collection is slightly delayed, then delay the 3-hour blood draw to immediately after that urine collection.
 4. Note any missing collections in the “Notes” section of *Form 75 - NBS Visit 1*. Follow the procedures outlined in the *NBS Manual, Section 8.2.1 – Notes on NBS Forms* to notify the CCC.
 5. Check the identifying information on the form and the labels to make sure the form is correctly labeled.
- The 3-hour post-DLW blood draw sample does not need to be protected from light.
 - Bring the lavender tube to the blood processing area. Process the blood according to *NBS Manual, Section 7.5 - Blood Processing*.

7.2.2.2.7 Time 4 Urine Collection (4 hours after DLW ingestion)

Collect the **4-hour spot urine** sample by following steps in the *NBS Manual, Section 7.2.2.2.2 - DLW Spot Urine Collection Steps*. The time does not need to be exactly at four hours; however, note the exact collection time on *Form 75 – NBS Visit 1* (or *Form 77 – NBS Visit 3*).

7.2.2.2.8 Instructions for the 24-hour Urine Collection

For participants who receive PABA (B-vitamin) tablets:

- Add boric acid powder to the urine collection bottles (boric acid supplied by the CCC).
 - Before giving the urine collection bottles to participants, add 2.0 gram of boric acid powder to each urine collection bottle. Measure the boric acid powder using a gram scale. If a gram scale is not available, add **0.5 level measuring teaspoon** of boric acid powder to each bottle*. Use standard safe laboratory practices by wearing a mask and gloves when adding the boric acid powder to the urine collection bottles. Boric acid is a weak acid, although it can be slightly irritating if inhaled.

* The boric acid may be weighed or measured using household measuring spoons labeled, “for boric acid use only.” When handling the boric acid, wear disposable gloves and preferably a disposable mask. Even though boric acid is a safe preservative, take precautions to avoid skin contact or inhalation.

- Place two stickers on each urine collection bottle: one sticker that reads “Leave powder preservative inside bottle” and a second sticker that reads “Remember...take the PABA (B-vitamin) tablets” (stickers supplied by the CCC).