An Inside Look at WHI Lab Tests

There you sit at your Clinical Center, sleeve rolled up, offering your arm—really, your blood—to science. Though the trip from vein to needle is very short, your blood sample has a long journey to travel: from the hands that extract it, to the distant freezer where it will be stored, and into the hands of researchers who will analyze it for years to come.

Every participant in WHI provides at least two blood samples during the study. Each Clinical Trial and Observational Study participant has a blood draw at her first visit to the Clinical Center. For a woman in the Clinical Trial, blood is also taken at her first annual visit; for a few women, blood is also drawn at the third, sixth, and ninth annual visits. Observational Study participants have blood drawn at the visit during their third year in the study.

Every blood sample is divided into separate, smaller tubes for storage. These tubes allow separate analyses to be run on each person’s blood in future years. Each tube is assigned its own identification number; the number is stuck to each tube with a bar code label. No other identification or names are put on the samples. Only the WHI Clinical Coordinating Center and your Clinical Center can identify the source of the blood.

Once the blood samples are processed and frozen at the Clinical Center, they are packed on dry ice and sent to McKesson BioServices, a huge storage warehouse in Rockville, Maryland. By the end of WHI, 100 freezers will be needed to store our participants’ blood samples. Each of these freezers holds 30,000 to 40,000 samples. That’s at least three million specimens by the end of the study!

The tubes of blood are stored at minus 94 degrees Fahrenheit. A computer monitors the freezers and alarms sound if the temperature rises. There are back-up electrical generators if the power supply fails or weakens.

Most of the blood will be stored until the end of the study, when researchers will start to study their ideas about why certain diseases or injuries occurred in some WHI participants and not in others. These health events

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are called outcomes. When we reach the end of the study, the researchers can look back on the outcomes and compare the blood of healthy participants to participants who became ill. Their blood samples may show differences in lipids (like cholesterol), clotting factors, vitamins, glucose, or insulin.
Researchers are also finding new genetic tests that can show markers of disease in a person's blood. Scientists may use some of WHI's blood samples to do this kind of genetic testing. These genetic tests might explain why some women become ill and others do not. All such testing is only done and used by WHI researchers. No insurance companies or other individuals will ever see the specific results of these tests.
All of the blood samples are very important to our research because they help build a database, which is a large amount of information from which scientists can find answers. When you have blood drawn at your Clinical Center, it is similar to filling out WHI forms. In time, all of these single forms and samples will be combined, so more can be known about women's health than ever before.
It is important to remember that these blood tests do not replace your usual medical care and the results will not be given to your doctor. Unlike when your doctor checks your cholesterol level and reports the findings about your health to you—WHI looks at all the lab results together, so individual results are not available. The one exception to this is the general screening blood test you had when you first joined the study. This blood test determined if you were healthy enough to join the study. In some cases, potential participants learned they had anemia or low platelet counts, and were referred to their doctors. Observational Study participants also receive this blood count test in their third year in WHI.
Though giving a blood sample without getting immediate answers can be frustrating, try to remember why many of you joined the study: "I want to help future generations." Those vials of blood may one day provide countless answers to preventing or curing diseases. Every drop is like a critical piece in the puzzle of women's health and well-being.
Hormone and Dietary Participants: Calcium/Vitamin D Needs You
Broken bones and cancers of the colon, rectum, and breast are health problems most women would like to avoid. WHI researchers are studying whether or not taking calcium and vitamin D supplements might help prevent broken bones and these cancers. To do this, we need your help!
Over half of the 40,000 women we need have already enrolled in this important part of the study, but many more participants are needed for the results to be certain. If you are in the Dietary or Hormone programs, you will be invited to join at your first and second annual visits to your Clinical Center. If you join:
• it will not increase the number of clinic visits you make if you are in the Hormone program and will add one visit if you are in the Dietary program;
• it will not add to the number of years you are in WHI;
• you can continue to take your own calcium and vitamin pills, and any medication you are now taking, or you can start taking these in the future.
If you have already joined this study but stopped taking your pills, please think about starting them again and talk it over with your Clinical Center staff. They can tell you about the new study pills we now have.
Future generations thank you for your support of women's health research!
Embracing Life’s Journey

Helen Keller wrote: “Avoiding danger is no safer in the long run than outright exposure. Life is either a daring adventure or nothing.” WHI participant Dorothy Sainz lives by these words. As an outdoor enthusiast, she embraces each day and eagerly plans one adventure after another.

Dorothy lives in Tucson, Arizona, but can often be found hiking through the country far from home. Her outdoor trips create an impressive list of feats: backpacking in the wilderness of Montana, Alaska, New Mexico, Oregon, and Washington; hiking the Grand Canyon rim-to-rim; bicycling almost 400 miles down the Oregon coast, and 500 miles from the Grand Canyon to Mexico; canoeing the upper waters of the Colorado River and the boundary waters in Minnesota; and much more. “I’ve been everywhere,” says Dorothy delightedly.

When she is at home, a typical day begins at 5:00 a.m., when she awakes from sleeping on the floor. “I’ve been backpacking in the woods so much that I just like the hard surface,” notes Dorothy. “and when I first wake up, I can do exercises right there.” Her floor exercises are followed by stretching, an hour of Tai Chi and Hatha Yoga, and at least 20 minutes of meditation. She’s done this morning routine for the last 20 years.

Such discipline and consistent exercise of body and mind have kept Dorothy feeling much younger than her 72 years. In fact, she often finds herself alone on her adventures, as many of her peers can’t keep up, or have other interests. “My family worries about me doing all these treks alone,” she says, “but the alternative is to not go, and I refuse to be that way.”

Dorothy’s favorite place is her “home coun-

try”: the area near the Columbia Gorge in the southern part of Washington State. She enjoyed a happy childhood there, filled with outdoor experiences. But her parents died when she was young and her life changed drastically. She’s taken two long “memory hikes” there in recent years. She found healing in her journeys as she recalled many wonderful times with her family.

Her busy life made her a good fit for the Observational Study in WHI, which she was eager to join. “I think it’s wonderful they are doing a study like this,” Dorothy says. “It’s so long overdue, I think it will benefit every woman in this country somewhere along the line.” She notes, “I don’t even mind filling out the (study) forms. I think it’s a very intriguing challenge.”

Dorothy also challenges herself with reminiscence writing, playing the guitar, singing folk songs, writing letters to pen pals around the globe, and reading extensively. “This is the best time in my life,” explains Dorothy, “I love retirement! People say to me, Aren’t you bored? And I say, ‘Bored? What is that? I’ve never heard of it!’”

She adds, “There’s a saying, ‘Some people require comfort and convenience for their well being but others carry their well being inside themselves.’ That’s me.” Her advice to others: “Stay healthy and be in love with life!”

Dorothy Sainz
Boosting Your Memory

If you've ever misplaced your car keys, remembered a face but forgotten the name, or wracked your brain trying to recall a familiar phone number, you worry. You may fear that your memory is slipping, and that the command you once had of facts and figures might be giving way to chronic forgetfulness or early Alzheimer's.

You're not alone in this worrying. Surveys on attitudes toward aging find that fear of losing one's memory ranks high on the list of concerns. But a failing memory is not an inevitable part of aging, nor is it a sure sign of Alzheimer's disease.

Memory is a complex system, with a number of areas of the brain storing different types of information. Memory is also very efficient, storing only a very small sample of experiences and information for long-term storage.

Information from long-term storage, such as the name of a childhood friend who moved away, can be recalled with determined concentration. Some memories might also come flooding back without effort, like when you hear a long-forgotten song or catch a whiff of some smell that transports you to your mother's kitchen.

As the years pass, it may become a little more difficult to remember specific details of our early memories, yet overall, our long-term memory remains intact. So does a type of memory called implicit memory: knowing how to swim or ride a bike. Your skills might get rusty if you don't use them, but you never really forget how to do it.

The memory glitches most of us usually focus on are the day-to-day short-term storage and retrieval problems. For instance, you're heading out the door to a friend's house, become anxious when you can't find your wallet, and spend 10 minutes hunting for it. Yet, once the wallet's found, you draw on your implicit memory to drive your car to your destination.

So how do you know if your brain's just a little sluggish or if you might be ill? Generally, we're all forgetful from time to time. But when a person goes from losing car keys to not knowing what they're for, that signals a problem. Or when your elderly mother gets lost in her neighborhood, you should be concerned. If a loved one suddenly can't remember names of close family members, it could be a symptom of an underlying, and possibly treatable, illness. Consult a doctor if you or someone else is experiencing this type of memory loss or confusion.

Keeping Mentally Fit

Although we lose about 20 percent of our 100 billion brain cells by the time we reach 70, new connections (synapses) that link cells can continue to be made. Thus, if some of the links in our memory are lost, new links can be forged through mentally stimulating activities.

Here are some ways you can sharpen your memory:

- **Keep routines.** If you're constantly losing your glasses, purse, or keys, decide on a specific place to always put them. Keep a spare set of keys or glasses in a drawer to cut down on your frustration until you find the misplaced item.
- **Stay mentally fit.** "Use it or lose it" applies to our minds, as well as our bodies. Many researchers now believe that people who challenge
their minds build a reserve of brainpower they can draw on, like a retirement account, as they age. Playing challenging games like bridge, chess, crossword puzzles, or board games; having stimulating conversations; taking classes; and reading all contribute to our brain’s “fitness” level.

- Focus your thoughts. We’re bombarded with information every day, so what we remember is highly selective. If you feel that your memory isn’t as good as it should be, try to be more aware of selecting information that you want to remember. Focus on that information for at least 10 seconds and then review it a few minutes later. For example, it’s helpful to use a highlighter pen to pinpoint key ideas while reading.

- Exercise. Keeping our bodies and lungs functioning well is important, too, because they affect blood flow to the brain. Running marathons isn’t necessary—long, brisk walks, climbing stairs, mowing the lawn, or doing household chores on a regular basis will keep you fit enough to help your memory.

- Cease or decrease smoking. Smoking reduces the blood flow to the brain. Since smokers tend to score lower on memory tests, quitting or reducing the number of cigarettes smoked is desirable.

- Play mind games. The more you manipulate information by associating it with familiar things, the more likely you are to remember it.

For instance, when being introduced to someone named Bob, you might mentally picture him linking arms with your Uncle Bob. Or if you park in section E6 at the airport, you can remember the spot by linking the numbers and letters to something you know well: E is the first letter in your sister’s name, and your grandson is six years old.

- Don’t worry; be happy. Studies show that people who feel in charge of their lives and their happiness and those who have satisfying relationships with others remain mentally sharp later in life. Researchers think that these people are better able to control the level of stress hormones their bodies make when faced with a conflict or crisis. In other words, it’s not a matter of having stress or not, but one’s attitude. Increase your support network, breathe deeply, take risks, smile more, and pursue your dreams! All of these steps will help you manage stress and look forward to each day.

Memory is an amazing part of our brain’s function. It is important to take charge of our memory skills, as we do other health areas. Remembering critical information is the reward of concentrated effort and a healthy lifestyle.

For more information about memory loss and local support groups, contact the Alzheimer’s Association at 1-800-272-3900.
For Your Health

- Cooking meat until it’s brown or until the juices run clear doesn’t always mean the meat is safe to eat. The Meat Science Laboratory recommends using a meat thermometer, since hamburger cooked to the safe temperature of 160 degrees can still be pink, and undercooked meat may have clear juices. Only a meat thermometer will tell you if it’s truly cooked enough.

- You’re out for a walk and suddenly, a neighborhood dog runs up to you, teeth bared and growling. What should you do? Researchers offer these tips: Avoid direct eye contact with the dog; remain motionless when approached by a strange animal; don’t scream or run from a dog; if knocked over, curl up in a ball, place your hands over the back of your neck and your face, and lie still.

- Over-the-counter medicines sold in the U.S. are some of the most safety packaged products in the world. Still, tampering does occur, so always read the label. Medicines with tamper-evident packages tell you what seals and other features you should look for. Also inspect the outer packaging; don’t use any medicine from a package that shows cuts, slices, tears, or other imperfections.

- According to the Chicago Dental Society, most people brush their teeth for only 45 seconds. This is far short of the two minutes of brushing needed to remove plaque. Keep a timer in the bathroom or use your watch to make sure you don’t stop brushing too soon.

- Warming up your ankles before you exercise will protect you against sprains. For any easy warm-up, practice your AICCs: before lacing up your shoes, draw the letters A through M in the air with your right big toe, N through Z with the left.

- If you get a minor burn, put the burned area under cold running water at once. Or, apply a clean cloth that’s been soaked in cold water. If you don’t have either of those, any cold liquid (e.g., iced tea, soda pop, milkshake) can be poured on the burn. Keep cold on the burn until the pain stops.

- The Glaucoma Research Foundation estimates that 3 million Americans have glaucoma, and 67 million people worldwide will have glaucoma by the year 2000. At least half do not know they have it because glaucoma usually has no symptoms (that’s why it’s called the “sneak thief of sight”). Untreated, glaucoma is a leading cause of irreversible blindness and can affect all ages, young and old. People at greater risk include: those over the age of 60; people who are African-American and over age 40; those with relatives who have glaucoma; those who have diabetes; and people who are very nearsighted. Regular and complete eye exams are important. In general, a check for glaucoma should be done every one to two years after age 60.

Letters
We’d love to hear feedback on the newsletter and your story ideas. We regret that we cannot answer questions about individual medical conditions. Send a letter to:

WHI Matters
Fred Hutchinson Cancer Research Center
1100 Fairview Ave N, MP-1002
Seattle, WA 98109

Staff Information
WHI Matters is produced semi-annually by the WHI Coordinating Center at the Fred Hutchinson Cancer Research Center. Editors: Colleen Stedquist, Julie Flute, Ph.D.
Design: Matt Briggs
Dear WHI,

I eagerly read your publication, but I am puzzled by the article on incontinence (Vol. 3). You suggest wearing a tampon? Unless biology has changed, the vagina and urethra are not the same.

You are right—the vagina and urethra are not the same. We advised wearing a tampon during exercise if you are experiencing incontinence. The tampon isn’t placed to absorb any urine that might escape during exercise; instead, it’s often suggested by urologists for two reasons:

1. The tampon can become a focal point to assist the user in contracting the pubovisceral muscle to prevent urine from leaking. When isolating this muscle, many women inadvertently push, which increases the pressure on the urethra. Having something to hold in place (forcing contraction of the correct muscle), such as a tampon or weighted vaginal cone, can help women identify and strengthen this muscle.

2. A tampon can apply pressure against the urethral tube, thereby stopping urine from leaking out. A “kink” is normally created in the urethral tube by the contraction of the surrounding muscles. When these muscles are lax, the urethral tube alone cannot stem the flow of urine and incontinence occurs. A tampon can create an artificial “kink” while in place.

Sending the Release of Information form will not change your usual medical care in any way.

By signing the Release of Information form and allowing WHI clinic staff to get your medical records, you and all WHI participants will help medical care providers to better care for their patients around the world and to help the women of future generations.

Ronald W. Litten

Letters to the Editor

Q: “If I report my hospitalizations, illnesses, or surgeries when I fill out WHI forms, why do I still need to sign the form to release my medical records?”

A: One of the most important forms that you are asked to complete in WHI is the Release of Information form, which you are asked to sign about every 6 to 12 months. This form allows the staff from your WHI clinic to collect information about health events that have happened to you during the time you are a part of WHI.

What does WHI do with this medical information? First, a special group of scientists and doctors looks at all of the health events that happen in the study. They do this to make sure that the study continues to be safe for all participants. This is done at least twice a year, but more often, if needed, throughout the entire length of the study. Second, this information allows us to draw scientific conclusions about the different groups in WHI.

It is important in a research study to confirm that illnesses are diagnosed in the same way so that the study results are valid. Without your information, we would not be able to answer questions that WHI is asking about heart disease, cancer, and osteoporosis.

If you visit the hospital or your doctor, we will frequently need to get those medical records. By signing the release form, you are giving WHI permission to get this important information. Please remember that the medical information we collect is kept completely confidential and will not be shared with anyone except those involved with the WHI study. Your name and other personal information will never be released. Signing the Release of Information form will not change your usual medical care in any way.

By signing the Release of Information form and allowing WHI clinic staff to get your medical records, you and all WHI participants will help medical care providers to better care for their patients around the world and to help the women of future generations.
Stay In Touch

Don’t forget to call your local Clinical Center if your address changes!

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If you have questions, use the telephone number listed above to contact your Clinical Center.

Calling 1-800-54-WOMEN will no longer connect you with your local center.

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