

SPECIMEN COLLECTION MANUAL

September 2, 2009

**COUNTY OF BUTTE
PUBLIC HEALTH DEPARTMENT LABORATORY**

695 OLEANDER AVENUE
CHICO, CA 95926

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ROUTINE HOURS: 8:30 AM - 5 PM, MONDAY - FRIDAY

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Laboratory Director

PREFACE

This manual is available on Butte County's intranet to the providers in the Health Department. Find the link named "Specimen Collection Manual" and select it. Follow the instructions in the manual.

The Butte County Public Health Laboratory provides reference and diagnostic laboratory services in Bacteriology, Water Bacteriology, Food Bacteriology, Parasitology, Immunoserology, Hematology, Immunohematology, and Chemistry Testing.

Specimen collection is a critical initial step in laboratory diagnosis. Meaningful laboratory results require careful attention to the specimen source, the method of collection, and the timing, storage, transport and handling of the collected specimens. In addition, a completed request form with relevant history, if appropriate, is essential for optimal and efficient laboratory workup of the collected specimens.

This manual on specimen collection is designed as a guide for physicians, nurses and other allied health personnel in charge of ordering, selecting and collecting specimens from patients. Should you need additional information, please call us. Our staff will be glad to assist you.

Our goal is to provide accurate, precise and timely results to support County health programs and to help reduce morbidity and mortality.

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Telephone Number (530) 891-2747

Fax Number (530) 895-6660

Hours of Operation:

Monday through Friday
8:30 a.m. – 5:00 p.m.

GENERAL GUIDELINES

How to Obtain Specimen Collection Materials and Forms

Supplies can be picked up in the Laboratory office during regular business hours or mailed upon request.

Specimen Submittal from the Health Department

Specimen(s), not requiring a blood draw, should be sent with a "Patient Request Form" to the Laboratory by interoffice mail, email, if secure, or fax.

Rejected Specimens

If the "Patient Request Form" is not complete or if the specimen(s) are not with the request form, a laboratory representative will mark the form to indicate the missing information and/or specimen(s). Then the form will be signed and dated and sent back to the submitter. As an alternative the submitter may be contacted by fax or telephone. Once the submitter completes the form and/or finds the specimens, they should submit the form with the specimen(s) to the Laboratory.

Other causes for specimen rejection;

- 1 The "Patient Request Form" is not complete.
- 2 The specimen is collected in the incorrect manner (i.e. incorrect collection tube or incorrect collection kit).
- 3 All the specimen(s) are not with the request form.
- 4 Specimens lacking proper identification or not labeled.
- 5 Specimens labeled with information that does not match information on the request form.
- 6 Specimen containers that are broken, leaking, or have evidence of contamination of outer surfaces or of the request form.
- 7 Specimens delayed in transit making results invalid
- 8 Urine specimens for culture that have been held at room temperature for more than two hours from time of collection and pooled 24-hour urine

- 9 Sputum specimens for mycobacterial cultures that have been held at room temperature for more than two hours from time of collection, or pooled 24-hour sputum.
- 10 Cultures should not be submitted in petri dishes (except for gonorrhea cultures). Please contact the lab for any further information.
- 11 Incorrect Specimens- Specimen(s) that are not correct, i.e. a sputum specimen which is not sputum but saliva.
- 12 Specimen is < the minimal volume needed for testing, commonly referred to as QNS- Quantity Not Sufficient for testing
- 13 Enteric specimens (fresh) for Campylobacter cultures that have been held at room temperature for more than two hours from time of collection, or specimens preserved in Cary Blair transport media but not refrigerated at 2-8 degrees Centigrade.

Labeling of Specimen

The provider submitting the specimen is responsible for the correct labeling and completion of request forms for the specimen(s) - See below "Patient Request Form". Specimen(s) must be permanently labeled with the patient's name, date of collection, and chart number (if applicable) or the specimen will not be accepted by the laboratory. If not obvious from the type of collection tube submitted then the test requested must also be indicated on the specimen.

Patient Request Form

The provider or their assistant will complete the "Patient Request Form" with the following information at a minimum:

- Date collected
- Patient's first and last name
- Chart number
- Date of birth
- Source of specimen
- Test(s) requested

If relevant, include clinical diagnosis and pertinent history. In the case of zoonoses and unusual pathogens, include history of travel, exposure, risk factors or occupation. If the patient is under any type of treatment, please specify type, dosage and duration.

Specimen Packaging and Submission

Submit specimens to the Public Health Laboratory at 695 Oleander Avenue, Chico, 95926, during normal working hours, 8:30 AM to 5 PM, Monday through Friday. Otherwise, please telephone the laboratory to make special arrangements in advance.

Transport specimens promptly to the laboratory. If delay is unavoidable, hold the specimens at 4°C unless otherwise indicated. Package specimens properly to protect the material while in transit and the personnel who handle the packages. Submit labeled specimens in “Ziploc” - type biohazard bags.

Mailed specimens must be packaged in accordance with postal and federal regulations.

The following directions are offered as a general overview and not meant to supplant packaging and shipping certification.

Wrap the specimen tube or vial with enough absorbent paper to absorb the entire specimen in case of leakage or breakage. Insert the wrapped specimen tube or vial in a securely closed secondary container. If several tubes are to be packed in the same secondary container, wrap the tubes individually with absorbent material. Wrap the request forms around the secondary containers. Place the secondary container (wrapped with the request form) in a durable outer shipping container which displays the appropriate etiological agents/ biomedical material label (see Appendix 1).

(For a diagram of a typical packaging “set up” refer to Appendix 1)

Use of County mail is not recommended, since delivery often requires several days and the specimens may deteriorate before arrival.

Turn-Around Times

Specimens are processed as soon as possible after receipt, usually the same day. In order to quickly advise clinicians, positive results, also known as “Panic or Critical Values”, are communicated verbally by phone followed by faxed or

mailed (interoffice or US mail) preliminary and final written reports. Tests, which are sent out to appropriate reference facilities, may take up to several weeks before results are available.

The testing schedule for this Laboratory is:

WEEKLY _____

Chlamydia trachomatis / Neisseria gonorrhoeae by Aptima

Cryptosporidium / Giardia IF Assay (by request)

O&P

DAILY _____

Culture for Identification

Routine Enteric cultures

Gram Stain

Malarial Smear

Mycobacteria Smear & Culture - may be performed weekly dependent on specific circumstances

Mycology Culture

Water Testing (Monday through Thursday)

Viral Testing - Referred

AS NEEDED _____

Rabies

1. Test within 24-48 hours (if possible) of a human bite case.
2. Test within 72 hours of a human exposure case.

Food Poisonings – on referral

Tick - for Identification

Tick Testing - for *Borrelia burgdorferi*

NOTE: “Turn-Around Times” are flexible and are dependant on adequate staffing levels, schedules and holidays.

Reporting of Results

Generally all results are mailed (interoffice) or faxed to the provider when specimens are submitted by the Butte County Health Department clinics or the nursing staff. All other submitter's results are faxed or mailed (USPS)

Additionally, the following reports are telephoned or faxed to expedite reporting:

TEST	REPORTING
Food Borne Illness	Phone & Fax EH, CD, HO, California State Health Department
Rabies DFA (animals)	If positive phone & Fax HO,CD, AC & EH, If negative phone fax AC and EH
<i>Bordetella pertussis</i>	Phone submitter
Microbiological cultures	Phone submitter
Water bacteriology reports (potable samples with "coliforms present")	Phone, fax, or mail. If positive for either test fax copy to EH
Unsatisfactory specimens	Phone submitter

EH Environmental Health
HO Health Officer
CD Communicable Disease officer
Epi Epidemiologist
AC Animal Control

SPECIMEN COLLECTION

Phlebotomy Procedure for Collecting Specimens

Principle:

Collecting quality blood specimens from patients by venipuncture.

Procedure:

Preparation --Using the patient's test requisition, assemble the proper tubes that will collect enough specimen to complete all of the testing ordered. Refer to "Tubes to Use for Blood Draws" below.

Arrange the following supplies on the table next to the drawing chair: safety needle and vacutainer sleeve, tubes, tourniquet, gloves, alcohol swab, bandage, cotton or gauze, and tape. A sharps container should always be within reach. Tubes should be arranged by order of draw: Red Top, Blue Top, SST, Green Top, Lavender Top, Yellow Top, and Gray Top. Have the patient say their name to confirm the paperwork.

Tubes to Use for Blood Draws and Amounts Needed for Testing (Non Referred Specimens)

RED TOP-TIGER OR GOLD TOP (6 ml)

ABO & Rh (3 ml red blood cells)
ANTIBODY SCREEN (1 ml serum)
RUBELLA (0.5 ml serum)
HCG (QUAL) (1 ml serum)
MONO SPOT (0.5 ml serum)

HIV (0.5 ml serum)
RPR (0.5 ml serum)

LAVENDER TOP

HDL
CBC's (3 ml whole blood)

(1 ml serum)
ALL PANELS (2 ml serum)
SED RATE (4 ml whole
blood) (Basic Metabolic,
Comprehensive, Electrolyte
, Hepatic, Lipid, Renal)

RHEUMATOID FACTOR (0.5 ml serum)
ALL INDIVIDUAL CHEMISTRIES

(0.5 ml serum)

Store tubes @ room temperature 15-25°C and deliver to the Laboratory with the appropriate requisition.

Venipuncture:

After putting on gloves, inspect the patient's arms to determine where a sample can be collected. Apply the tourniquet and clean the site with the alcohol swab. After the site has dried, insert the needle into the vein and fill each tube. Remove the tourniquet before removing the needle. The vacutainer tube should be removed from the needle before removing the needle from the vein. The tubes that contain additive must be inverted 8 – 10 times immediately after drawing. After the needle has been removed, apply direct pressure with a cotton ball or gauze on the insertion site. The bleeding should have stopped before 5 minutes and can now be bandaged.

Reference: LabCorp Directory of Services and Interpretive Guide, 2003 – 2004.

Phlebotomy Specimen Processing:

Label all of the blood tubes collected with the following information: Name, Identification Number, Date of Birth, Date of Collection, Time of Collection, and Initials of Phlebotomist.

If any information is missing from the test requisition, do the following: On in-house requisitions, fill out the bottom "Rejected Area", and put it in the rejected specimen box. This box is on the wall in the clinic. On Quest requisitions, get assistance from the attending nurse for completion. Carry the specimens collected and completed requisitions in a basket to the laboratory for processing.

Failure to Collect a Phlebotomy Specimen:

If for any reason a blood specimen can not be collected, do the following: Transfer all testing data to the Quest form with the assistance of the attending nurse. Explain to the patient that they will need to take their paperwork to the Quest collection site to have the specimen collected. Provide the patient with an information sheet for Quest which includes a map, phone number, and hours of operation.

Serology Specimens:

For serological diagnosis of viral or bacterial infections, collect both acute and convalescent sera. Acute serum should be collected within 7 days of onset of symptoms; convalescent serum 2 to 4 weeks later.

Neisseria gonorrhoeae Culture

Male Specimen Collection Using a Urethral Swab

1. Instruct patient not to urinate for at least one hour prior to collecting the sample.
2. Wipe urethral orifice clean with sterile gauze.
3. Use Dacron swab to collect spontaneous discharge or discharge obtained by milking the urethra. If discharge is not evident, insert a sterile urogenital Dacron swab on wire stem into the urethral canal for approximately two centimeters and rotate gently.
4. Immediately inoculate the specimen onto Modified Thayer-Martin medium by rolling swab in parallel streaks on surface of the medium plate.
5. Incubate the inoculated plates at 35-37°C in a CO₂ environment.
6. If a smear is required, collect a second swab and roll it on the surface of a clean glass slide.
7. Gently spread the smear evenly over an area of about 1 cm². Allow smear to air dry, then insert in a slide mailer.

Female Specimen Collection Using a Cervical Swab

1. Place patient in supine position.
2. Expose the cervix with a bivalve vaginal speculum moistened with warm water (lubricants inhibit the organism's growth and should not be used).
3. Wipe excess mucous discharge from the cervix with a cotton swab.
4. Insert a sterile Dacron swab in the cervical os, allow to soak for about 30 seconds, rotate gently to collect endocervical exudates; withdraw, taking care not to touch the vaginal mucosa.
5. Inoculate the specimen onto Modified Thayer-Martin plates as described above.

Chlamydia trachomatis / Neisseria gonorrhoeae

Amplified Nucleic Acid Probe by the GenProbe APTIMA Method

Male Urethral Specimen Collection (Unisex Swab)

Patient should not have urinated for at least 1 hour prior to sample collection.

1. Insert specimen collection swab (blue shaft swab in package with green printing) 2 to 4 cm into urethra.
2. Gently rotate swab clockwise for 2 to 3 seconds in urethra to ensure adequate sampling.
3. Withdraw swab carefully.
4. Remove cap from swab specimen transport tube and immediately place specimen collection swab into specimen transport tube.
5. Carefully break swab shaft at scoreline; use care to avoid splashing contents.
6. Re-cap swab specimen transport tube tightly.

Female Endocervical Specimen Collection (Unisex Swab)

Some spermicidal agents and feminine powder sprays interfere with the assay and should therefore not be used prior to collection of specimens for this assay.

1. Remove excess mucus from cervical os and surrounding mucosa using cleaning swab (white shaft swab in package with red printing). Discard this swab. A large-tipped cleaning swab (not provided) may be used to remove excess mucus.
2. Insert specimen collection swab (blue shaft swab in package with green printing) into endocervical canal.
3. Gently rotate swab clockwise for 10 to 30 seconds in endocervical canal to ensure adequate sampling.
4. Withdraw swab carefully; avoid any contact with vaginal mucosa.
5. Remove cap from swab specimen transport tube and immediately place specimen collection swab into specimen transport tube.

6. Carefully break swab shaft at scoreline; use care to avoid splashing contents.
7. Re-cap swab specimen transport tube tightly.

Specimen Transport and Storage:

After collection, transport and store swab in swab specimen transport tube at 2°C to 30°C until tested. Specimens must be assayed with the Gen-Probe APTIMA Assay for CT and/or GC within 60 days of collection. If longer storage is needed, freeze at -20°C to -70°C for up to 90 days after collection.

Collection for Male and Female Urine Specimens

Patient should not have urinated for at least 1 hour prior to specimen collection.

1. Direct patient to provide first-catch urine (approximately 20 to 30 ml of initial urine stream) into urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution that may reduce test sensitivity. Female patients should not cleanse labial area prior to providing specimen.
2. Remove cap from urine specimen transport tube and transfer 2 ml of urine into urine specimen transport tube using disposable pipette provided. The correct volume of urine has been added when the fluid level is between black fill lines on urine specimen transport tube label.
3. Re-cap urine specimen transport tube tightly. This is now known as the “processed urine specimen.”

Specimen Transport and Storage:

After collection, transport and store the processed urine specimens in the GEN-PROBE APTIMA urine specimen transport tube at 2°C to 30°C until tested. Processed urine specimens should be assayed with the APTIMA Assay for CT and/or GC within 30 days of collection. If longer storage is needed, freeze at -20°C to -70°C for up to 90 days after collection.

Urine samples that are still in the primary collection container must be transported to the lab at 2°C to 30°C. Transfer urine sample into APTIMA urine specimen transport tube within 24 hours of collection. Store at 2°C to 30°C and test within 30 days of collection.

Note: Only swabs with the GEN-PROBE specimen collection system can be used for specimen collection. Specimens collected with this system cannot be used for culture.

Chlamydia trachomatis by DNA Probe

Collection of Conjunctival Specimens (Use Male Gen-Probe Swab-NOT THE APTIMA SWAB**)**

Conjunctival swabs can only be tested for *Chlamydia trachomatis* **not** for *Neisseria gonorrhoeae*

1. If pus or discharge is present, use a sterile Dacron swab (not provided) to clean the area. Do not scrape the conjunctiva while cleaning the eye(s).
2. If both eyes are affected, swab the least affected eye first.
3. Thoroughly swab the lower then the upper conjunctiva 2 to 3 times each with the GEN-PROBE urethral/conjunctival swab.
4. Prepare swab for transport.

VIRAL Culture using throat washings and/or swabs

GENERAL COLLECTION PROCEDURES

For best results collect specimen during the first 2-3 days of onset of symptoms

NASAL WASH:

1. Tilt patient's head back at an angle.
2. Insert a rubber bulb syringe containing 3-7 ml phosphate buffered saline (PBS) into nostril, squirt the PBS, then aspirate the washings.
3. Place aspirates in sterile screw-cap tube.
4. Store refrigerated and transport with cold packs. Do not freeze.

THROAT WASHING-Instruct patient to gargle with 10-15 mL of Viral Transport Media. Place the gargled fluid back into the tube and tighten the screw-cap lid.

6. VIRAL SWAB (Nasopharyngeal- NP)- Place swab into Viral Transport Media (VTM).
7. Transport to the laboratory. If not transported within 30 minutes refrigerate specimen or store with cold packs. Do not freeze specimens

COLLECTION AND SUBMITTAL OF SPECIMENS FOR INFLUENZA

CRITERIA FOR COLLECTION:

Patients with influenza-like illnesses (temperature $\geq 100^{\circ}\text{F}$ or 37.8°C (oral) having a cough and/or sore throat, especially those:

- with severe symptoms OR
- with recent overseas travel OR
- whom have received this year's influenza vaccine

COLLECTION:

- **Please use the sterile swabs provided.** Collect one nasal swab and one throat swab from each patient and place into a single tube of viral transport medium (VTM). Break off shafts of swabs at a short enough length to allow the tightening of the VTM screw cap. **Screw caps on tightly**. After inoculation, the tube **MUST BE REFRIGERATED at 4 °C!**
- Label the tube with the following: **patient's name, physician's name, date collected, and type of specimen** (under "Comments").
- Complete a Viral and Rickettsial Disease Specimen Submittal Form (see attached) for each tube.

SHIPPING OF SPECIMEN:

- Place the inoculated viral transport medium (VTM) tube into a plastic specimen biohazard bag containing an absorbent pad. Place this bag into a styrofoam icebox or other suitable container with two frozen cool packs.
- Multiple specimens can be shipped in the same box.
- Specimens can be shipped Monday through Friday provided they are delivered to the Laboratory no later than 4 PM.
- Specimens can be stored at 4 ° C for up to 4 days.
- Specimens received by this Laboratory on Friday are stored at 4 °C and arrangements for pick- up on Monday or Tuesday, if over a holiday weekend.
- **Freezing may decrease viability of the specimen, and is not recommended unless a -70 ° C deep freezer is available.**

Note: Viral transport medium (VTM) should be stored at room temperature PRIOR to inoculation. Freeze cool packs until ready to use. Replacement kits will be sent to you for each specimen received.

SPECIMEN TYPES

Seasonal Influenza:

- Nasopharyngeal swab (1st choice): Use Dacron swab with an aluminum or plastic shaft. Place NP swab into a sterile screw-capped tube of viral transport media (VTM). Volume of VTM should be ~ 2 mls.
- Oropharyngeal swab (2nd choice): Use Dacron swab with an aluminum or plastic shaft. Place oropharyngeal swab into a sterile screw-capped tube of viral transport media (VTM). Volume of VTM should be ~ 2 mls.
- Nasopharyngeal wash/aspirate: Collect 1-2 ml into sterile vial (preferred for children < 2 yrs of age)

Swine Influenza (H1N1): COLLECT the following SPECIMENS:

- Nasopharyngeal swab (Preferred): Use Dacron swab with an aluminum or plastic shaft. Place NP swab into a sterile screw-capped tube of viral transport media (VTM). Volume of VTM should be ~ 2 mls.

OR

- Oropharyngeal swab: Use Dacron swab with an aluminum or plastic shaft. Place oropharyngeal swab into a sterile screw-capped tube of viral transport media (VTM). Volume of VTM should be ~ 2 mls.

OR

- Nasopharyngeal wash/aspirate: Collect 1-2 ml into sterile vial (preferred for children < 2 yrs of age)

Timing the Collection of the Specimen(s):

Collect respiratory specimens within 3 days of onset of symptoms. If possible, collect serial specimens from the patient over several days.

[For serologic testing: the acute sample should be collected within the first week of illness and a second sample should be collected 2-4 weeks later.](#)

Please contact the Laboratory if you have any questions concerning submission of specimens @ 530.891.2747

Bacterial Throat Culture - not Group A Streptococcus

1. Tell the patient to open his/her mouth. Depress the tongue completely with the tongue depressor. It often helps with children to ask them to "Pant like a dog." Most adults are more comfortable with making an "EHHH" sound as in "less."
2. Using the sterile Rayon or Dacron swab, vigorously SWAB each tonsillar pillar and the posterior pharyngeal wall. Any visible exudates should also be swabbed. Use one continuous motion during the collection. Correct technique will result in discomfort for the patient.
3. Avoid touching the tongue, teeth, uvula or saliva.
4. Do not swab throat in cases of acute epiglottitis unless prepared to perform tracheotomy.
5. If **gonococcal pharyngitis** is suspected, inoculate the collected specimen directly onto a Modified Thayer-Martin plate.
6. Transport promptly to the laboratory.

Group A Streptococcus (Strep throat) Culture

1. Tell the patient to open his/her mouth. Depress the tongue completely with the tongue depressor. It often helps with children to ask them to "Pant like a dog." Most adults are more comfortable with making an "EHHH" sound as in "less."
2. Using the sterile Rayon or Dacron swab, vigorously SWAB each tonsillar pillar and the posterior pharyngeal wall. Any visible exudates should also be swabbed. Use one continuous motion during the collection. Correct technique will result in discomfort for the patient. The most common error in throat swab collection is not using enough vigor during the swabbing. It is essential that the swab be inundated with exudates from the patient's throat. Specimens collected using cotton and/or wooden shafted swabs cause incorrect results. These samples will be rejected.
3. Transport to laboratory within 1 hour at room temperature.
4. The throat swab should be tested as soon as possible after collection of the specimen. If test is not performed immediately, the swab may be stored at room temperature or in the refrigerator (2-8°C) for 24 hours

Mycobacterial Cultures (Tuberculosis) - Sputum specimens

These cultures are forwarded to a reference laboratory.

The patient will be collecting 3 sputum specimens, first thing in the morning, on 3 different days. This must be done before eating or drinking anything.

AT NIGHT:

Cleanse mouth and nose carefully before going to bed. Leave the plastic sputum container and the ziplock bag at your bedside.

IN MORNING:

As soon as you sit up, before eating or drinking, take 2 deep breaths, then COUGH DEEPLY and collect enough SPUTUM from your chest and throat, NOT SALIVA FROM YOUR MOUTH to reach the 5 ml mark on the plastic container. Close the lid tightly, put the plastic container into the ziplock bag, label with the date, and set it upright. Refrigerate the container until you bring it to the Health Department. Specimens should be brought to the Health Department Lab by 4:00 p.m. each day.

URINE for Urine culture

The first urine voided in the morning is preferred because it has a more uniform volume, is concentrated and a lower pH, which helps preserve the formed elements. At least 2 ml of “clean-catch” urine is collected in a clean dry container. Patient name and identification number must properly identify all specimens sent to the Laboratory, as well as date and time collected.

“Clean-Catch” Urine Collection

A clean-catch specimen is necessary to confirm the presence or absence of infecting organisms in urine. The specimen must be free of any contaminating matter that might be present on the genital organs; therefore, patients should be urged to follow the steps outlined below.

Instructions for the **Female** Patient

1. If patient is menstruating, first insert a fresh tampon or use cotton to stop the flow
2. Separate the skin folds around the urinary opening
3. Wash the urinary opening and its surroundings from front to back with a sterile antiseptic pad.
4. Begin urinating into the toilet, making sure you keep the skin fold apart with the fingers of one hand.
5. Wait until the urine stream is well established before moving the container into the path of the stream to catch the rest of the urine. Do not touch the container to the genital area.

Instructions for the **Male** Patient

1. Wash the end of the penis well with soapy water. Let it dry.
2. Begin urinating into the toilet. Wait until the urine stream is well-established before moving the container into the path of the stream to catch the rest of the urine. Do not touch the container to the genital area.

The collected urine should be received in the laboratory within 30 minutes of collection or refrigerated immediately to retard the growth of bacteria until the test is performed.

Enteric Culture: Salmonella, Shigella, Enteropathogenic E. coli (E. coli 0157), Campylobacter, and Yersinia by stool or rectal swab

Stool Specimen Collection

IF PATIENT IS TAKING ANTIBIOTICS you must wait at least 2 weeks, after taking the last dose, before collection of the stool samples.

Specimens should be collected during the acute stage of the disease when the causative agent is likely to be present in large numbers.

Each specimen must be received by the Laboratory within 24 hours of collection.

READ ALL of the following instructions before collection of the stool samples.

1. Don't urinate on the stool sample or in the collection container. DON'T pass the sample directly into the container from the toilet.
2. The stool should be collected in a "Hat" provided by the Health Department, in a clean, dry container (bucket, butter container, milk carton with the top cut off, or other wide-mouthed container) lined with a clean plastic bag or place plastic wrap between the toilet bowl and seat.
3. Unscrew the lid on sample container with the red liquid. Using the attached scoop, place 5-6 scoops of stool into the liquid in the container. Mix the contents of the container with the scoop then twist the cap tightly closed. **The fluid in the vial is POISONOUS. If swallowed by accident, drink large amounts of milk and call your doctor immediately.**
4. TIGHTEN THE LID SECURELY! Shake the container so the stool and liquid are well mixed.
5. WRITE THE NAME, THE DATE OF THE SAMPLE COLLECTION ON THE LAB SLIP AND ON THE COLLECTION CONTAINER. THIS IS IMPORTANT.
6. Place the container back in the plastic bag. Place the lab slip in the pocket of the plastic bag.
7. Place the plastic bag with the container in the brown paper bag. Keep refrigerated at 2-8 degrees C until transported to the laboratory. Transport on "Chill pack" or ice during transport.

8. Deliver the sample(s) to the Public Health Laboratory at 695 Oleander Avenue, Chico, 95926, between 8:30 AM and 5:00 PM on Monday through Wednesday within 24 hours of collection.

Enteric Samples from Infants

If collecting multiple samples it is recommended to collect specimens at least 24 hours apart. Freshly passed stool is preferred. Collect stool in clean screw-cap plastic container and transport immediately to the laboratory. If delay is unavoidable, sample those portions of the stool that contain mucus, blood or pus and place in appropriate red transport medium. If not delivered to the Laboratory within one hour of collection, store and transport refrigerated. **The fluid in the vial is POISONOUS. If swallowed by accident, drink large amounts of milk and call your doctor immediately.**

Rectal Swabs on Infants

1. Insert swab past the anal sphincter and sample the mucosa within the rectal vault.
2. Place swabs in the container with the red liquid. Break off swab shaft, leaving swab tip in transport vial.
3. **The fluid in the vial is POISONOUS. If swallowed by accident, drink large amounts of milk and call your doctor immediately**
4. Place the plastic bag with the container in the brown paper bag. Keep refrigerated at 2-8 degrees C until transported to the laboratory. Transport on "Chill pack" or ice during transport.

Typhoid Fever – Special Collection Procedures

Begin collection after 30 days of disease onset and at least 1 week after discontinuation of therapy.

Three (3) pairs of urine and stool specimens are required for clearance. Each pair of stool and urine specimens must be collected at least 24 hours apart. Don't mix the urine and stool specimens together. Keep each in a separate collection container.

Caution: The fluid in the specimen vial is POISONOUS, KEEP OUT OF REACH OF CHILDREN.

1. Write name of individual on specimen container (unless a pre-printed label is in place), as well as the date and time of collection.
2. For urine, collect urine in a large container then pour into the collection container. Obtain a clean catch midstream urine specimen. The laboratory should receive the specimen: within 1 hour of collection if not refrigerated and no more than 24 hours later if urine has been refrigerated.
3. For stool, collect the stool in a "toilet hat" or place plastic sheet such as "saran wrap" over toilet and pass stool on the plastic.
4. Using the spoon attached to the inside of the cap of the specimen vial or a tongue blade, collect specimen and add to vial until liquid reaches the "fill line." Mash the specimen in the vial until well mixed with the fluid. **DO NOT OVER OR UNDER FILL THE SPECIMEN CONTAINER, as it may invalidate the specimen. The fluid in the vial is POISONOUS. If swallowed by accident, drink large amounts of milk and call your doctor immediately.**
5. Replace the specimen container cap on vial. Be sure the cap is tight! Then shake until mixture looks like "soup."
6. Wash hands with soap and water.
7. Put specimen container in zip lock bag.
8. Place the plastic bag with the container in the brown paper bag. Keep refrigerated at 2-8 degrees C until transported to the laboratory. Transport on "Chill pack" or ice during transport.

Ova and Parasites

Parasites (O & P) other than Pinworm

The fluid in the vials is POISONOUS. If swallowed by accident, drink large amounts of milk and call your doctor immediately.

For optimal recovery of parasites collection of samples at intervals of 48 hours or more is recommended.

1. Submit specimen in the two-fixative vial system. Place one portion of the stool in the vial containing modified polyvinyl alcohol fixative. In order to obtain optimum results, immediately after being passed, specimens should be thoroughly mixed with the PVA fixative. Otherwise the organisms may lose their characteristic morphology. Do not refrigerate the PVA-specimen mixture. Leave at room temperature 10-30°C
2. Place a second portion of the stool in the vial containing 10% formalin fixative.
3. For optimum preservation, the mixture ratio should be 1 part stool to 3 parts fixative.
4. Specimens not submitted in preservative must be received by the laboratory within 1-2 hours of collection.
- 5.

Unpreserved (Fresh) Specimen

In order to recover helminth eggs, larvae and protozoan cysts, an unpreserved fresh specimen should be examined. Sample size should be size of a large marble. The specimen is not considered fresh if more than 4 hours elapses between passage of the specimen and delivery and/or examination in the laboratory.

Pinworm Using Paddle Collection Kits

1. Collect specimen at night preferably in the early morning around 3:00 AM.
2. Place stick side of pinworm paddle against area of skin outside but next to the anus.
3. Place paddle back into collection tube and submit to Laboratory

Appendix 1: Packaging and Labeling of Etiologic Agents

Transportation of potentially infectious substances is specifically regulated, to protect those handling and receiving the shipment. If samples are to be transported to the Public Health Laboratory by a courier service, the previously available mailing cylinders may be placed inside a sealed cooler or similar carrier and hand-delivered. If specimens are to be shipped by air or postal service, the watertight primary collection or sample tube must be wrapped (individually, in the case of multiple tubes) in bubble pack with absorbent material enclosed sufficient to absorb any spilled material, and placed within a secondary watertight package. The secondary package must be placed within a rigid container capable of withstanding standardized crush tests and then be properly labeled. The labels will denote the presence of biohazardous materials. The name and phone number of the person responsible for the shipment should be listed on a "Shippers Declaration for dangerous Goods" form. A list of the contents is to be enclosed between the primary and secondary containers. Call the laboratory for specific information. An example of the proper mailing system is shown below:

Appendix 2: Instructions in Spanish for Enteric Specimen Collection

INSTRUCCIONES PARA LA RECOLECCION DE MUESTRAS DE EXCREMENTO SHIGELA Y SALMONELA

LEA CUIDADOSAMENTE TODAS las instrucciones antes de recolectar las muestras.

Todas las muestras deberán ser entregadas al Laboratorio de Salud Pública dentro de los 5 primeros días después de haber sido tomada la primer muestra.

SI ESTA TOMANDO ANTIBIOTICOS espere por lo menos 48 horas después de haber tomado la última dosis para empezar a recolectar las muestras.

Usted va recolectar dos muestras de excremento. Después de recolectar la primer muestra deberá esperar al menos 24 horas antes de recolectar la segunda, cada muestra debe ir en su propio recipiente y por separado.

1. No orine al recolectar la muestra de excremento; no recolecte la muestra directamente al tubo ni tampoco de la taza del excusado. Siga las indicaciones siguientes para la recolección.
2. La muestra debe recolectarse en un recipiente limpio y seco (como por ejemplo un balde, un recipiente de mantequilla, un envase de leche, etc.) forrado con una bolsa de plástico; o bien, puede colocar un plástico entre la taza del excusado y el asiento, para que la muestra no caiga en la taza del excusado.
3. Destape el tubo, y usando la cucharita que viene integrada a la tapa, añada de 5 a 6 cucharaditas del excremento al líquido del tubo. Mezcle el contenido del tubo con la cuchara y cierre herméticamente.
4. **APRIETE LA TAPADERA DEL TUBO HERMÉTICAMENTE**, agite para mezclar la muestra con el líquido del tubo.
5. Escriba la fecha en que recolectó la muestra en el formulario del laboratorio y en el tubo con la muestra. **ESTO ES MUY IMPORTANTE.**
6. Coloque el tubo en la bolsa de plástico proporcionada por el laboratorio y el formulario en el compartimiento exterior de la misma bolsa.
7. Tire el plástico que utilizó para la recolección y deseche el resto del excremento por el excusado. Lávese bien las manos.

8. Coloque la bolsa de plástico con el tubo dentro de la bolsa de papel proporcionada. Consérvela en el refrigerador.
9. Llevar las muestras al Laboratorio de Salud Pública en 1445 Veterans Memorial Circle, Yuba City, 95992 entre las 8:00AM y las 5:00 PM de Lunes a Viernes.

Appendix 3: Instructions in Spanish for Typhoid Specimen Collection

INSTRUCCIONES PARA LA RECOLECCION DE MUESTRAS DE ORINA Y EXCREMENTO PARA CULTIVO DE TIFOIDEA

Lea cuidadosamente todas las instrucciones antes de recolectar las muestras. Si esta tomando antibióticos espere por lo menos 48 horas una semana después de haber tomado la última dosis para poder empezar a recolectar la muestra. Usted va recolectar dos tres seis pares de muestras de excremento y orina.

Espere al menos 24 horas 48 horas un mes antes de recolectar las muestras subsecuentes. Cada muestra debe ir en su propio recipiente y por separado. Todas las muestras deberán ser entregadas al Laboratorio de Salud Pública dentro de los 5 primeros días después de haber sido tomada la primer muestra.

1. MUESTRA DE ORINA

- a. Empiece orinando en la taza del baño y pare.
- b. Continué orinando en un vaso de papel o bien en un recipiente de vidrio limpio y seco.
- c. Transfiera la orina al tubo de recolección que no tiene cucharita integrada a la tapa. No tire el preservativo del tubo. Cierre el tubo y apriete la tapa. Mezcle la orina con el líquido del tubo.

2. MUESTRA DE EXCREMENTO

- a. No orine al recolectar la muestra de excremento; no recolecte la muestra directamente al tubo ni tampoco de la taza del excusado. Siga las indicaciones siguientes para la recolección.
- b. La muestra debe recolectarse en un recipiente limpio y seco (como por ejemplo un balde, un recipiente de mantequilla, un envase de leche, etc.) forrado con una bolsa de plástico; o bien, puede colocar un plástico entre la taza del excusado y el asiento, para que la muestra no caiga en la taza del excusado.
- c. Destape el tubo, y usando la cucharita que viene integrada a la tapa, coloque de 5 a 6 cucharaditas de excremento en él liquido que vienen en el tubo. Cierre herméticamente la

tapa y mezcle bien el excremento con él líquido.

3. Escriba la fecha en que colecto la muestra en el formulario del laboratorio y en el tubo con la muestra. ESTO ES MUY IMPORTANTE.
4. Coloque los tubos en la bolsa de plástico proporcionada por el laboratorio y el formulario en el compartimiento exterior de la misma bolsa.
5. Tire el plástico que utilizo para la recolección y deseche el resto del excremento por el excusado. Lávese bien las manos.
6. Coloque la bolsa de plástico con los dos tubos (orina y excremento) dentro de la bolsa de papel proporcionada. Consérvela en el refrigerador.
7. Después de haber colectado una dos todas las muestras:
 - 1 Llevar las muestras al Laboratorio de Salud Publica en 695 Oleander Avenue, Chico, CA 95926 entre las 8:00AM y las 5:00 PM de Lunes a Viernes.

Appendix 4: Instructions in Spanish for Parasite Specimen Collection

PARASITOS Y JEBECILLOS

(Las soluciones de los tubos son venenosas; no las ingiera!)

Lea cuidadosamente todas las instrucciones antes de recolectar las muestras. Todas las muestras deberán ser entregadas al Laboratorio de Salud Pública dentro de los 5 primeros días después de haber sido tomada la primer muestra. Si está tomando antibióticos espere por lo menos 48 horas después de haber tomado la última dosis para empezar a recolectar la muestra. Usted va a recolectar tres pares de muestras de excremento. Cada par contiene dos tubos.

Después de recolectar el primer par deberá esperar al menos 24 horas antes de recolectar el segundo par, y otras 24 horas antes del tercer par.

Cada muestra debe ir en su propio recipiente y por separado.

1. No orine al recolectar la muestra de excremento; no recolecte la muestra directamente al tubo ni tampoco de la taza del excusado. Siga las indicaciones siguientes para la recolección.
2. La muestra debe recolectarse en un recipiente limpio y seco (como por ejemplo un balde, un recipiente de mantequilla, un envase de leche, etc.) forrado con una bolsa de plástico; o bien, puede colocar un plástico entre la taza del excusado y el asiento, para que la muestra no caiga en la taza del excusado.
3. Destape el tubo, y usando la cucharita que viene integrada a la tapa, añada suficiente excremento de tal manera que el líquido del tubo alcance la línea roja. Repita el mismo procedimiento con el segundo tubo.
4. CIERRE HERMETICAMENTE LA TAPA y agite para mezclar el excremento con el líquido.
5. ESCRIBA LA FECHA EN QUE RECOLECTO LA MUESTRA EN EL FORMULARIO DEL LABORATORIO Y EN EL TUBO CON LA MUESTRA. ESTO ES MUY IMPORTANTE.
6. Coloque los tubos en la bolsa de plástico proporcionada por el laboratorio y el formulario en el compartimiento exterior de la misma bolsa.
7. Tire el plástico que utilizo para la recolección y deseche el resto del excremento por el excusado. Lávese bien las manos.

8. Coloque la bolsa de plástico con los dos tubos dentro de la bolsa de papel proporcionada. Consérvela a temperatura ambiente.
9. Llevar las muestras al Laboratorio de Salud Pública 695 Oleander Avenue, Chico, CA 95926, entre las 8:00AM y las 5:00 PM de Lunes a Viernes.