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The Procedure Manual and Handbook for Environment Health Technicians in Liberia

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BACKGROUND

Through its Education and Training Strengthening Initiative, RBHS is transforming the pre-service training of mid-level health care providers (CMs, EHTs, PAs, & RNs), the teaching skills of instructors and clinical preceptors, the educational environment at learning institutions, and the overall management of these institutions, as well as strengthening health facilities serving as clinical sites. Job descriptions have been revised and core competencies and a competency based curriculum have been developed for each cadre that is being utilized at all accredited mid-level health care professional training institutions. The effective implementation of the curricula, especially the EHT curriculum, has proven to be a challenge and RBHS has been working with the STTA, MOHSW and other stakeholders to prepare/provide additional teaching and learning resources. The Handbook for Health Personnel edited by Dr. Paul Mertens has been updated and includes contents on environmental health. For the EHT teachers a “Manual of Course-Related Classroom, Laboratory and Field Activities for Training Environmental Health Technicians: A Guide for Faculty”, has been developed. In continuation of efforts to promote effective implementation of the EHT curriculum, RBHS continue the process of working with Dr. Mertens, faculty of TNIMA and other EH stakeholder and has now developed “The Procedure Manual and Handbook for Environmental Health Technicians (EHTs)”.

ACKNOWLEDGMENTS

This manual and handbook was made possible with funds from USAID through the Rebuilding Basic Health Services in Liberia project (RBHS) and the support of the Ministry of Health and Social Welfare (MOHSW). Jhpiego Global Learning Office and Senior Technical Advisor Marion Subah were instrumental in leading in the creation this manual. Training Assistant Nowai Johnson was also instrumental in assisting with the process of working with the EHT School and EH stakeholders in setting up the workshops for the working group. Special thanks also to Prof. E. William Spannake, PhD, Johns Hopkins University Bloomberg School of Public Health, Udaya Thomas and Dr. Paul Mertens for all they have done for EHT education and to Jhpiego’s publications unit for final editing and formatting.

In addition, the editors of this IPM would like to thank Jhpiego HHSP Zambia/Zambia Ministry of Health; Centers for Disease Control and Prevention; authors of the Jhpiego Infection Prevention Manual, Johns Hopkins University School of Nursing; the *COTS Program* funding by USAID Office of Disaster Assistance to ICDDR,B Dhaka, Bangladesh staff, students and Director David Sack, who compiled standard guidelines and practices in cholera outbreak treatment and shigellosis response strategies to save lives. Other components can be downloaded, free of charge from <http://www.cotsprogram.com/wordpress/>

Many thanks go to the EHT *Procedure Manual Working Group and the Educational and Training National Working Group (ETN WG)* made up of representatives from the MOHSW, health training institutions in the country, and other stakeholders in education and environmental health for participating in the creation/development of this manual and handbook. These individuals include:

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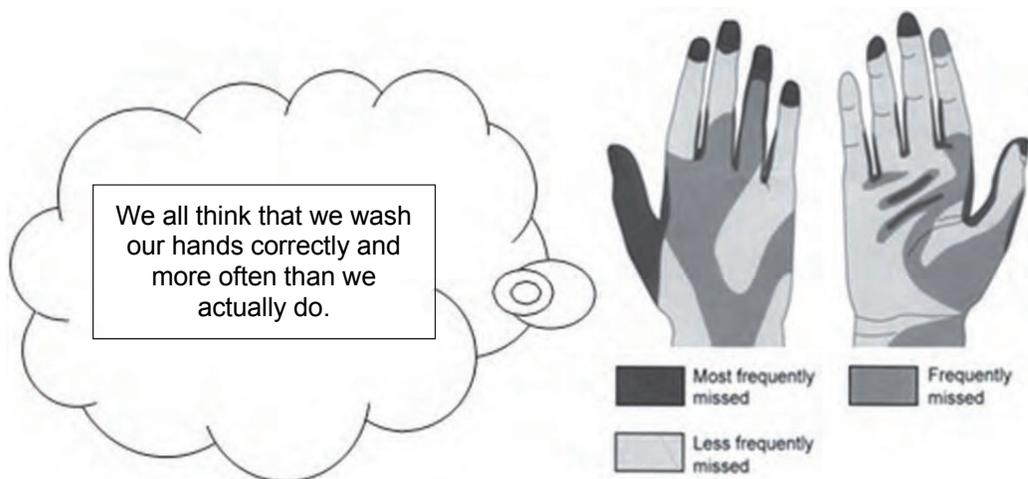
INTRODUCTION

Welcome to the Procedure Manual (PM) and Handbook for Environment Health Technicians (EHTs). The importance of hands-on and experiential learning in enabling students to acquire the necessary competencies as EHTs cannot be over emphasized. The content, checklists, protocols, and job aids in this manual are to assist you in practicing and preparing for becoming a competent EHT.

The handbook is in two parts. The information in the first part is primarily from the *Handbook for Health Personnel in Liberia* by Dr. Paul Mertens and should be used **as resource materials when teaching in communities while the second part is for the EHT working with the community**. Please note that the procedures, placed in alphabetical order, included in the procedure manual were identified by EHTs, as procedure/tasks from the EPHS, with some from the *Interdisciplinary Procedure Manual for Health Workers in Liberia* produced for RMs, RNs and PAs, and **have been determined through the Task Analysis Study as critical tasks to your repository of competencies as an EHT in Liberia**.

When assessed, you may not be given an entire service task, but rather a critical component of the task, as each station would not require more than 10 minutes to accommodate all learners in an efficient manner. All tasks included should be used for valid and reliable assessment of learners.

The single, most important step in preventing disease and reducing risk of becoming sicker once infected is hand hygiene. Hand hygiene may be hand washing or use of alcohol-based hand rub. However, if hands are visibly soiled, hand washing is recommended. Because we and others are not able to see these virulent pathogens, humans often minimize hand washing, but in every procedure included in the manual it is a critical step. It is included in this manual also as a separate task to be assessed and passed. Of note are the fingertips (*under fingernails*), thumbs and the left hand ring finger (probably with ring/s on).



**Part I:
Handbook for
Environmental Health
Technicians**

HEALTH EDUCATION GUIDE FOR RURAL HEALTH WORKERS

By Marion Subah, RBHS, updated from her 1989 revision
Original document by Florida Traub, Former Director of Health Education

WHAT IS HEALTH EDUCATION?

Health education is one of the essential services necessary in promoting and sustaining healthy behavior. Health education means more than “health talks.” In the past, we believed that giving health talks in the clinics or during home visits, lecturing about how illnesses are caught, and placing posters on the walls of our clinics were our greatest efforts in health education. What we did in the past were good efforts toward health education, but we need to look at the other important parts of health education that we left out. Health education programs must actually help people to solve the problems that keep them from behaving in a healthy way. It must encourage and enable people to acquire the information, skills, values, resources, and support they need to help them behave in ways that will make and keep them well or healthy.

Health education can be defined as:

“...that component of health and medical programs that consists of planned attempts to change individual, group, and community behavior (what people think, feel and do), with the objective of helping achieve curative, rehabilitative, disease preventive and health promotive ends.”¹

In other words, health education is any activity that teaches people how to treat illness, get well faster, avoid getting sick, or how to stay healthy.

The Aims of Health Education

There are four major aims of health education:

1. To teach them what to do to have good health.
2. To encourage people in the community to develop and use health services.
3. To make people value good health.
4. To encourage community efforts and actions to have a healthy community.

Methods of Health Education

To accomplish the four aims above, health workers must help people:

1. Acquire (learn and understand) basic health information
2. Examine attitudes and values about health and illness
3. Acquire new and/or improved healthful skills
4. Obtain needed resources for improving health
5. Become receptive to social support

¹ Guy Steward-Mustand, *Introduction to Public Health*, 1968, pg. 399.

HEALTH EDUCATION INVOLVES PEOPLE IN IDENTIFYING, PRIORITIZING, AND SOLVING THEIR OWN PROBLEMS.

Now to accomplish the four major aims, health workers need the following:

1. **Community Diagnosis**, to learn about the community
2. **Community Organization**, to work to help them organize
3. **Community Education**, to provide information
4. **Clinic Health Education**, to change harmful behavior

Community Diagnosis

When we as health workers want to know what is making a person sick, we take a history and examine the person to make a diagnosis. When we want to know what is causing ill health in a community, we must learn all we can about the community and its problems to make a community diagnosis as to what is causing ill health and death. Health workers must work with the people to identify and become acquainted with their problems in order to make such a diagnosis. Information on behavior can be collected by:

- **OBSERVATION**—Watching and listening
- **INTERVIEWS**—Both formal and informal, discussing and questioning, asking how, why, when and where (often when just visiting with people).
- **RECORDS AND DOCUMENTS**—Written observations and experiences of other people. Health facilities' records are a very good example.

Through the methods above, the following questions are asked to obtain information:

- How do people get rid of their garbage?
- How many latrines are in the town? Are they being used?
- Where do people get drinking water?
- Where do people wash clothes?
- What do most people do to earn money?
- What foods do mothers give babies 6 months of age and older?
- What kinds of illnesses do I have in my clinic records?
- What kinds of illnesses are common in town that I do not see at the clinic?
- And why do people not come to the clinic for these illnesses?
- Where do people go for treatment other than to the clinic?
- What associations or clubs exist in the community?
- How is the general sanitary condition of the town?
- How many schools are there in the community?
- Where do women deliver other than the medical facility and why?

After you get this information, you can use it to determine what problems you have in the community that are causing illness and death. To be sure you are right, check your clinic records for the number of cases of these diseases.

Another question you could answer from the results of your community diagnoses is “why do people not use the health facilities more often?” Ask yourself these questions:

- Are you greeting patients, establishing a relationship, explaining procedures and reasons, making sure patients understand, and encouraging and answering patients’ questions?
- Are your clinic hours convenient? Are your people mostly farmers who have to get to work very early to beat the sun and drive away the birds during rice farming season?
- How can you establish and maintain a cordial relationship with your patients or adjust your clinic hours to meet the time convenient for most people in the community?
- Could you visit patients or have other hours for the clinic?



Contaminated water sources and poor latrines mean poor health for the community.

TO ENCOURAGE PEOPLE TO MAKE USE OF AND TAKE PART IN THE DEVELOPMENT OF HEALTH SERVICES, WE MUST GET THEM INVOLVED IN PROBLEM IDENTIFICATION, PROBLEM-SOLVING, DECISION-MAKING, PLANNING, AND IMPLEMENTING OUR HEALTH CARE DELIVERY SYSTEM. WE CAN DO THIS BY ORGANIZING OUR COMMUNITY FOR THE PURPOSE OF “ACTION FOR HEALTH.”

Community Organization

Community organization means getting the community to participate in activities that they have decided will improve their health. For example, if a community of 2,000 people that has a lot of diarrhea and children dying as a result, decides that the community wants to build more latrines and dig more wells, and then proceeds to do so, this is **community action**, and community action is the result of **community organization**.

In working with the community, the person doing health education must realize that the community was organized before he or she came. Therefore, he/she must always promote harmless and good behavior. He must see what organization is in the community already, and always use the best part of it. He or she can work with the community by following the process below. Each stage fits in a circle of steps and one often has to go back to a previous step first to accomplish the present stage. These stages are:

- **DIALOGUE (TALKING) WITH THE COMMUNITY**—Talk with the people in groups and as individuals. Include chiefs, teachers, and other leaders who can influence community opinion, as well as the average women, men, and children in the community. Ask questions and seek explanations to find out about the community and its health problems.

- **REPRESENTATION OF ISSUES BY THE HEALTH EDUCATOR TO BE SURE HIS PERCEPTIONS ARE CORRECT**—This can sometimes be done through drama, such as a play demonstrating the problems, or with visual aids. In other words, the health educator is asking, “Is this what you are saying?”
- **IDENTIFICATION OF PROBLEMS AND DECIDING ON SOLUTIONS**—In a town meeting, the health educator then listens to the problems that the people have identified and discusses with them how they can best solve these problems. The health worker should keep records during the meeting and at the end of each meeting review what was decided to stress the commitment that each community member has made. For example, if the community decided to dig four wells, and one well-digger volunteers to dig two wells, this commitment can be confirmed and established during a review at the end of the meeting. A Community Health and Development Committee, made up of representatives of the different groups in the community, should be set up to allow the people to play a key role in efforts to achieve better health for themselves. The officers of the community are primarily responsible for making sure that programs and projects are carried out. Among the officers should be a secretary to keep records. However, the health worker (who is also a member of the council) should also keep his own records.
- **PRIORITIZING**—The people of the community should then decide what problem they want to work with first and exactly what steps they will take in solving it, and by whom and when.
- **IMPLEMENTATION**—The health educator then works with the people to solve the problem. He must follow up the project selected by the community until it has been completed. After one project is underway, another project can begin. Also, the health worker should point out any difficulties that may delay the project. This will enable the community to anticipate some problems and find ways to avoid these problems. After you have helped the community to organize and a project is started, you can use your community meetings for giving “health talks.” Your topics should center on the project. For example, if the project was to build a well for safe drinking water, discuss how to keep the water free of germs from the time it leaves the well until it enters the stomach.



The whole project goes at the pace that the people are able to maintain.

HEALTH EDUCATION IN THE COMMUNITY AND CLINIC

Suggested Process for Conducting Health Education Sessions:

1. **BEGIN WITH A DISCUSSION STARTER**—Use a 3–5 minute visual aid, drama, story, or song to show a problem, such as measles, diarrhea, neonatal tetanus, difficulty breathing, convulsions, etc., that exists in your community or health facility. Do not show the cause of the problem.
2. **CHECK UNDERSTANDING** of the visual aid, drama, story or song. Ask questions: “What did you see or hear in this visual aid, drama, story or song?” “Why do you think this happens in this visual aid, drama, story, or song?”
3. **CHECK THE HAPPENING** of the problem in real life in the community— “Has anyone seen or heard about this happening in the community? What have you seen or heard in this community?” Check to make sure the people are actually not aware of the cause of the problem in their community. Now lead the people to discuss: “Why did that happen in the community?” (The cause of the community’s problem can now be identified by the people.)
4. **PROVIDE INFORMATION**—Confirm what the audience said that was correct, and add any new information that was not mentioned. It is good to use demonstrations and visual aids as much as possible.
5. **CHECK LEARNING**—Involve as many persons as possible. Ask as many questions as possible. “What would you do now, if this happens?” Use return demonstration anytime you do a demonstration—use more than one person if it is an activity with many steps. Also, one person could say what should be done and one could demonstrate how to do it.

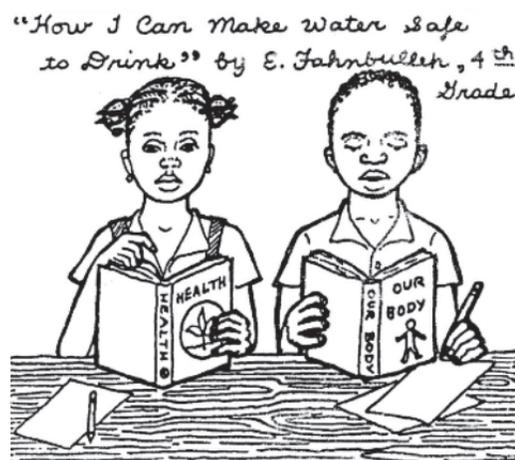
Types of Health Education Sessions

Community Health Education

Community health education can occur in any place where you have the opportunity to speak to the people and get them to participate by asking questions. Some of the places are: the market, churches, cinema halls, schools (school health education), and club meetings.

Community health education should always be given in the language of the people. If the health worker cannot speak the language, let him use an interpreter. Secondly, he must not use more than 30 minutes to talk and demonstrate to the people, and preferably less time (10 or 15 minutes is often better).

Thirdly, talk to the people on only one topic. Use visual aids to help the people understand and also do some demonstrations. Visual aids do not always mean posters. For an example, if you are talking on nutrition, it is better to do a demonstration using the real local foods instead of posters.



ONE TOPIC. LESS THAN 30 MINUTES. IN THE LOCAL LANGUAGE

Before you do your health talk you must prepare:

- **Decide on the topic.** (It is best to choose a topic that is a problem of your community and patients.)

- **Write down the points** you want to stress.
- **Collect the visual aids** you will need.
- **Make sure you get there on time.**
- **Speak in the language of the people** or get an interpreter.

Clinic Health Education

Along with your community health education, you must have some health education in the clinic. You should plan your health talks for the clinic in the same way as the community health talks. However, it usually is more convenient to have your health talk for 5 to 10 minutes, just before clinic starts. A talk that includes a demonstration will take longer. **Plan for the demonstration and return demonstration.** When the patients have arrived at the clinic be sure to take care of emergency cases first before beginning the health talk. Posters and other visual aids can be used at the time. Place posters on the walls after the talk. They will remind the patients what you have talked about.



Evaluation of Health Education Services

To be able to measure your achievements and shortcomings, health educators must evaluate their activities. Evaluation enables them to plan better for activities they want to carry out in the future; allows them to improve activities that are being carried out now, and permits them to judge whether or not they are being successful. Evaluation can take place any time during the execution of activities.

There are several designs for evaluating, but for health education one of the best is the “before-after” design. In this design, baseline information is collected on the status of the community before the project is started. After the community chooses a project and completes it, evaluation is done again to determine what changes have taken place in the community status.

Below are some samples of methods for evaluating:

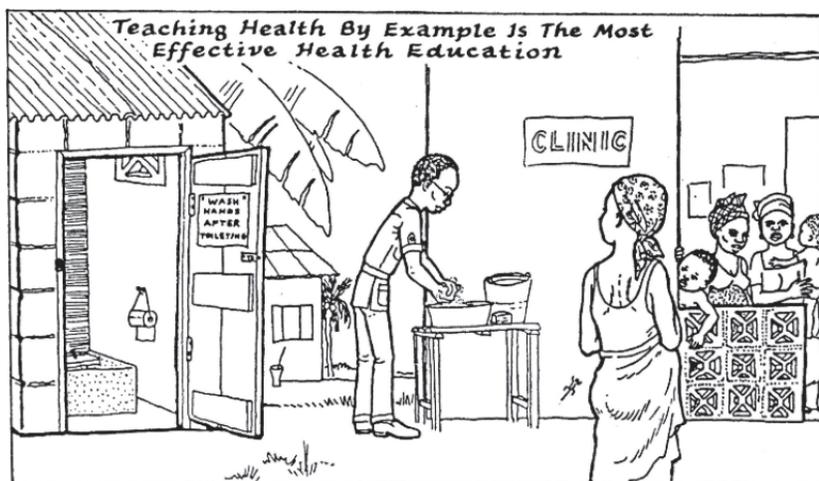
- Getting your patients or community members to answer questions at the end of your talks or having them repeat a demonstration. With this you can evaluate how well the people understand what you are trying to teach them.
- Looking at your clinic records for a period of time and comparing it with last year’s record.
- Looking at the number of persons who attend your community meeting regularly.
- Comparing the number of diarrhea cases before the latrines were built and after the latrines were built and people were taught how to use them.
- Checking how many mothers know how to make and use sugar-salt solution for diarrhea.
- Checking how many projects were successfully completed and how many failed.
- Checking how many persons in your community are using the wells and latrines that were constructed through self-help.

- Comparing how many home visits you were able to make this year with the number you made last year.
- Comparing how many times you were able to visit the schools this year with the number of school visits made last year.

These are just examples of how you can determine your achievements and shortcomings. After you determine your shortcomings, you should find ways to overcome your difficulties.

Points to Remember on Health Education Services

1. Health education is a planned process, and planning it well is very important. Set up objectives for each program:
 - What do you want to do?
 - How will you accomplish your aims?
2. Health education must involve the people for which it is planned—you must have a target group. This group must actively participate in efforts to improve their own health.
3. Health education must be carried out or organized by health workers who are sincere, honest, trustworthy, and friendly. For you to communicate successfully with people, they must have confidence in you. **Where there is no communication, health education will fail.**
4. Health education services need constant evaluation and follow-up. How much were you able to do, and why were you not able to do some of what you had planned?
5. Health education is teamwork. All members of the health care delivery system must be involved in health education services.



GOOD HEALTH—THE WAR ON SICKNESS THROUGH ENVIRONMENTAL SANITATION

By Raphael Kpissay, and Dennis Bella, Director, Environmental Health
(Use this first section for materials to teach to communities)

Good health means being happy and having a strong body free of sickness. Sickness can be caused by:

- Contaminated water
- Stool—sometimes from flies first walking on the stool, then on food, or stool getting into water, or from not washing hands after toileting
- Contaminated food
- Garbage and trash
- The cough of a sick person
- Dirty hands
- Mosquitoes
- Dust
- Rats

**SOME SICKNESSES ARE EASY TO PREVENT; OTHERS ARE HARD TO PREVENT.
SOME SICKNESSES ARE EASY TO TREAT; OTHERS ARE HARD TO TREAT.**

CAUSES OF SICKNESS

- GERMS—bacteria, viruses, and single-celled parasites
- WORMS in the stomach, or under the skin
- SPOILED FOOD—may cause diarrhea and vomiting
- TOO LITTLE FOOD—the person will become dry and poor. Or TOO MUCH FOOD—obese people can easily develop diabetes, heart failure and hypertension
- THE WRONG KINDS OF FOOD—if children do not get enough body-building foods, they also become weak and dry, and in such children their legs may swell. We say they are malnourished.
- INJURIES/ACCIDENTS
- WORRY, ANXIETY—a person can worry until he becomes sick.
- Some part of the body WEARS OUT and no longer works well, such as in heart failure. This often happens in old age.



A protected spring

- **CANCERS or TUMORS**—something growing within the person’s own body that can spread to other parts and destroy the body’s organs.

Many illnesses caused by the first three causes above—germs, worms, and spoiled food—can be easily prevented! This is the area of concern of environmental health programs. Our environment includes the air, water, soil, buildings, people, and other living things with which we come in contact.

IT IS BETTER TO PREVENT ILLNESSES THAN TO TREAT THEM.

WAYS TO IMPROVE HEALTH BY IMPROVING OUR ENVIRONMENT

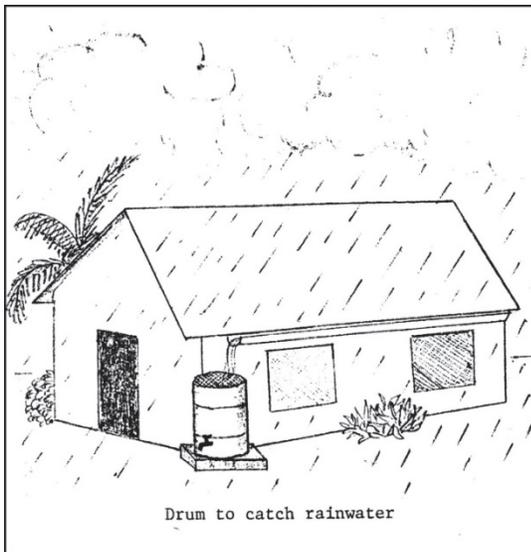
Build Safe, Clean Wells and Protect Springs for Drinking Water

A fence or cement blocks can be put around a spring to keep dirt out. Make a ditch from above the spring outside the fence down both sides to keep water on the ground from running in.

Or build a complete cement box around and over the spring. This is called a SPRING BOX. It is somewhat expensive because of the amount of cement that is needed, but very good for keeping water safe. The health technician can show you how to build a spring box.



A Drilled Well with a Hand Pump is usually an excellent source of safe clean water. Some projects will supply community drilled wells. Well-drillers can also be contracted by the community if members pool their resources, although this is more expensive.



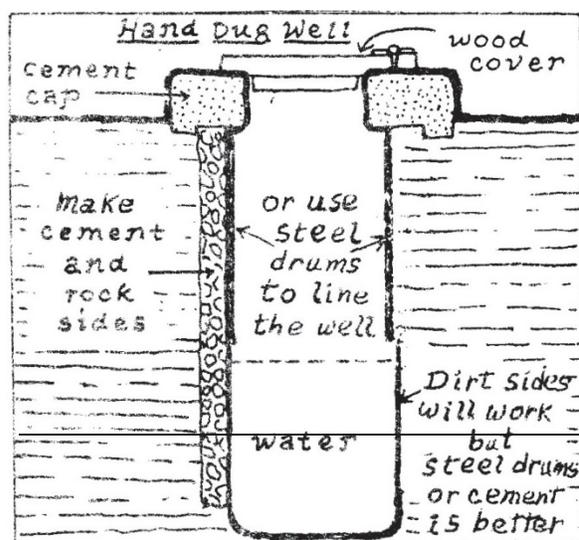
Safe, Hand-dug Wells can be built by the community, or by any one person for his family to use. The health technician for the area can show the town or any person who wants to build a well how this can be done. The well must be at least 60 feet from any toilet (150 feet is better—about half the length of a football field) and must not be dug down a hill from a toilet. It must be protected from water and dirt from the ground getting into it with a steel drum with both ends cut out or a cement cap and a cover. It is better if the side of the well can be lined with cement and stone or steel drums, but dirt sides are all right.

Community Wells

Water from an open community well can be disinfected by adding chlorine in the form of bleach (Clorox®) weekly. Ask the local environmental health technician for advice about the amount of Clorox needed and the method.

Another way to get clean water is to collect rain water in a steel drum or other container.

The drum should have a screen over it to keep out leaves, dirt, and insects. The tank or drum must be emptied and cleaned regularly especially at the beginning of the rainy season. Draw the water through a tap—a local plumber or environmental health technician can install it. Filtering the rainwater after drawing it further increases its safety. **Do not drink rain water collected from asbestos-cement roofs** (asbestos can cause mesothelioma malignancies), but **water from corrugated zinc roofs is fine**.



Hand pump over a drilled well Picture from germes-online.com

Diseases Spread by Dirty Water Include:

- Diarrhea
- Polio
- Typhoid Fever
- Cholera
- Yellow Jaundice
- Dysentery

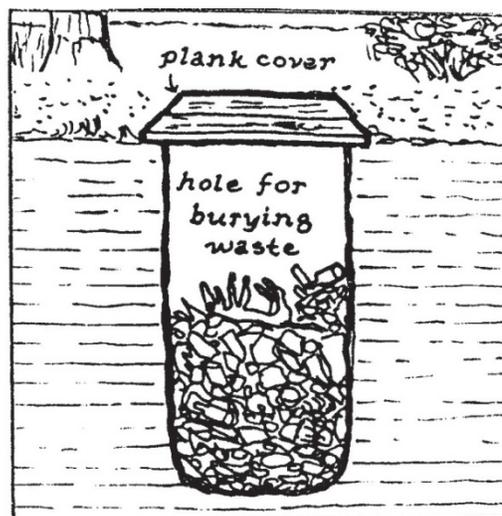
Use a clean bucket to dip or draw the water from the good well, spring box, protected spring, or drum for collecting rain water. After getting clean and safe water, keep it in a clean bucket or barrel with a cover to keep out dust and dirt. Use a clean dipper cup to take it out of the bucket—not the cup from which someone is drinking.

Boiling will make water from any source safe for drinking. Experience has shown us that most people do not want to spend money or take time to use firewood to boil their water.

WASTE MANAGEMENT

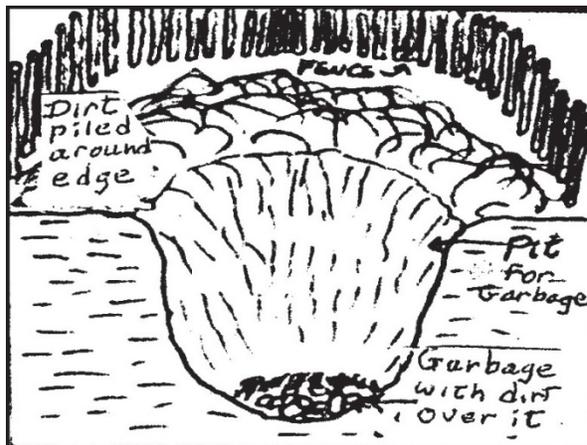
Waste is defined as anything not wanted such as materials thrown away by humans from cooking, weaving, building, etc. Examples of wastes are:

- GARBAGE—wastes from food
- RUBBISH—scrap papers, tin cans, empty bottles, etc.
- STREET WASTE—leaves, dirt, dead animals, etc.



DISPOSAL of waste can be done satisfactorily in different ways:

- **Burying waste** is a very good method. It does require community cooperation to dig a deep hole for the purpose. Flies can be kept away from the waste by building a wood cover for the hole. When the hole fills up, a new hole will need to be dug.
- A second way to bury the waste is to pile the dirt from the hole around the edges, and throw some of the dirt over the waste each time it is dumped in the hole instead of building a wood cover.
- Some waste can also be **burned**, such as paper or leaves.
- **Dumping** (simply throwing waste away in an open place on the ground) is not satisfactory but better than leaving the waste on the ground in the town if the place selected is away from the town and not near a stream or well. But try to discourage open dumping and encourage the people to bury waste instead.

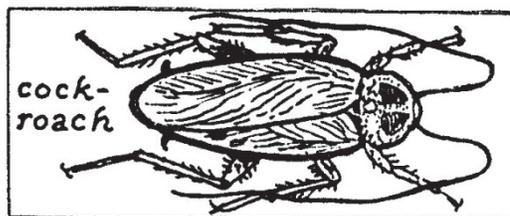


ENCOURAGE THE COMMUNITY TO KEEP THE TOWN CLEAN OF WASTES

CONTROL INSECTS AND RODENTS

Roaches

Roaches can carry bacteria on their feet from garbage to food, but do not otherwise transmit disease. They feed on garbage or food left out. They can be discouraged by keeping food covered or in a screened box and keeping food areas free of garbage.



Flies

Flies carry bacteria from stool on their feet to food, especially bacillary dysentery. They breed in stool or rotting garbage. Building latrines and garbage pits with covered holes reduces the number of flies. Screening of doors and windows helps keep them out of the house. Keep them away from food by storing the food in covered containers or in screened boxes.

Rats

Rats carry a number of serious diseases and destroy much food. They can be partially controlled by blocking passageways and by storing food in containers or in rooms protected by heavy screens. Trapping rats helps to reduce their numbers, and a cat will discourage and kill rats and mice.



Mosquitoes

Prevent sickness carried by mosquito bites by draining standing water so mosquitoes do not grow, and using long-acting-insecticide-treated bed nets and screens. Mosquitoes lay eggs in water in old tin cans, water puddles, etc. The eggs hatch and grow into more mosquitoes. Digging ditches to drain standing water and emptying water from old tin cans, then throwing them into a trash pit and covering them with dirt, will prevent some mosquitoes from growing. Screen windows and doors to keep out mosquitoes.

Some sicknesses that mosquitoes carry are:

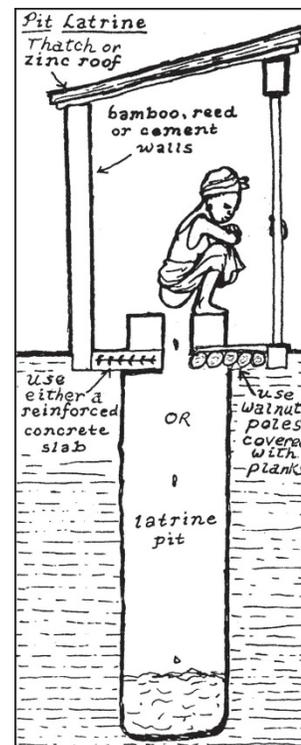
- Malaria
- Elephantiasis
- Yellow Fever
- Dengue

When a mosquito bites someone with certain illnesses, it can carry those illnesses to someone it bites later. The main illness that mosquitoes carry is **malaria**, but also Yellow Fever, Dengue, West Nile Fever, and others. **Sleeping under a mosquito net treated with a long-lasting insecticide (LLITN) is an excellent way to prevent malaria and other illnesses carried by mosquitoes.**

Build Pit or Trench Latrines (Toilets)

When germs from stool and urine are carried into streams or wells when it rains, people who drink the water can get sick. Worm eggs in the stool on the ground also get spread around in the dust and dirt and may cause other people to get worms. Flies can get on the stool and carry germs to food. To keep stool and urine from getting on the ground and causing sickness, the people in each town need to build and use latrines.

A pit latrine is made by digging a deep hole (at least twice as deep as a person) in the ground and putting a small house over the hole. The hole may be 3–5 feet wide. A trench latrine is made by digging a hole 2–3 feet wide and 6–7 feet long so that 2 separate toilets, side-by-side, (one for male and one for female) can be built over it. It must be far from a well or stream (at least 60–100 feet), and as far away as half a football field (150 feet) if the ground is sandy. It must not be built up a hill from a well.



Materials Needed

- A shovel
- Walnut poles for the cover
- Strong cross-sticks or planks to put over the walnut poles for the cover
- Wood for rafters
- Zinc or thatch for the roof
- Mud blocks or zinc for the walls, or mud-and-stick walls
- Nails

A door and paint can be added if you wish.

Building the Latrine

1. Dig the hole.
2. Make the wood cover to go over the hole. Make it as described below:
 - Lay the strong walnut poles over the hole. Be sure they are at least one foot wider on each side than the hole. Remember to leave a 10-12 inch space in the center for the toilet hole.
 - Cut your cross-sticks or planks and lay them across the strong walnut poles. Cut a hole in the center for the toilet-hole. Nail the cross-sticks to the walnut poles so the cross-sticks will not move.
 - To keep the flies out and reduce the smell, make a cover for the toilet-hole in the center of the planks out of wood and put a handle on it.
3. Build the walls of the latrine with mud-and-stick, mud block, reed, or stick-and-zinc. Adding a door is a good idea so people cannot see in, but a fence in front can also be used.
4. Put up the roof poles and add the zinc or thatch.
5. If the ground is too sandy, it is good to take an old drum, cut out both ends, and put it in the top of the hole for a single latrine to keep the dirt on the sides from falling in.

Taking Care of the Pit Latrine

- Keep the area around your latrine clean and free from weeds.
- Keep the inside of your latrine clean. Wash the floor often.
- Put the tight cover you made over the hole of the latrine when no one is using it to keep flies out and to reduce the odor.
- Teach children and others who do not know latrines how to use it.
- Teach those using the latrine not to throw bottles, tin cans, rocks, or sticks into the latrine. Human waste decays in a few weeks and the fluid escapes into the ground, but bottles and cans only fill the latrine up and make it necessary to dig a new latrine soon.

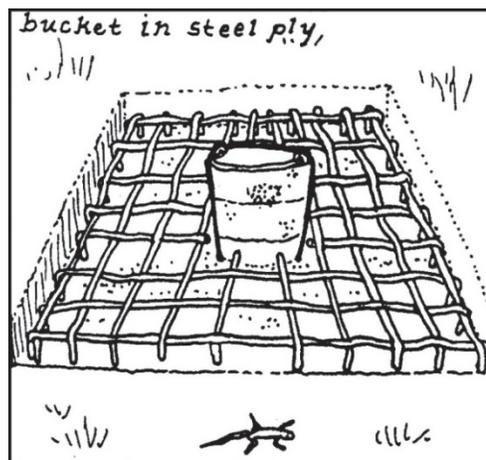
IF EVERYONE USED PIT LATRINES, PEOPLE WOULD NOT GET MOST WORMS, WE WOULD HAVE MUCH LESS RUNNY STOMACH AND DYSENTERY, PEOPLE WOULD CATCH LESS TYPHOID AND YELLOW JAUNDICE, LESS CHILDREN WOULD DIE, AND THE COMMUNITY WOULD BE HEALTHIER.



For someone who can afford to buy cement and steel rod, a stronger floor can be made for a latrine that will not rot and can be moved if the latrine hole fills up and a new hole must be dug.

You will need:

- Cement
- Hoe
- Small bucket with rope
- Sand
- Tie wire
- ¼ inch steel rod

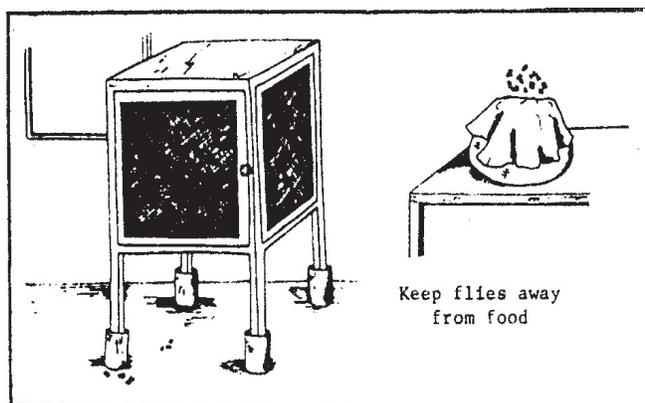


How to make the cement slab for the floor:

1. Dig a shallow hole about 3–4 inches deep and wide enough to overlap the latrine hole by at least one foot on each side.
2. Make sure the bottom is level and smooth.
3. Cut the steel rods and lay them in the hole and cross and tie them as shown here.
4. Put an old bucket in the center of the steel ply in the hole. Then mix 1 part of cement, 2 parts of sand, and 3 parts of gravel with water, and pour it in the hole covering the rods. Remove the old bucket slowly after 20 minutes. Let the cement become hard for 2 days, then move it over the hole that you dug for the latrine.

Prevent Hookworm infestations

Because not everyone uses latrines, wear shoes or slippers to help prevent hookworm. Small hookworms hatched from eggs passed in the stool live in the ground. When a bare foot is on the ground, they attach to the foot and crawl through the skin into the body and suck your blood.



Also note cans around legs with small oil to keep out ants

Take Care of Food

Cover food to keep off flies. Flies often land on stool and waste. They carry germs from the stool on their feet to the food they land on. Keep food covered.

WASH YOUR HANDS BEFORE HANDLING FOOD. USE CLEAN DISHES AND SPOONS.

Do not let food remain long enough to spoil or become sour. Spoiled food will cause sickness. If food cooked for supper sleeps overnight, eat it soon the next morning.

ENVIRONMENTAL HEALTH UPDATE

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Introduction: This section is for health personnel—not for those whom we teach

Environmental Health refers to those characteristics of the environment which affect the quality of human health. It is that aspect of public health that is concerned with those factors of life, substances, forces and conditions in the surroundings of man that exert an influence on human health and well-being.

Although all health personnel are concerned both with the health of individuals and the health and sanitation problems of the communities, and take both curative and preventative approaches, **Environmental Health Technicians primarily concentrate on health problems of whole communities to correct those problems and prevent them.**

COMMUNITY MEDICINE

Community medicine is concerned with improving the health of a community and reducing or eliminating illnesses which are prevalent in the community. To achieve these objectives it is necessary for the health worker to study both the pattern of the occurrence of disease in the community and the pattern of health care services to community dwellers. The chart below compares clinical and community medicine.

Comparison of	Clinical medicine (PAs, MDs)	Community medicine (mainly ETHs, MPHs, also PAs)
Objective	To cure the pt	Improve community health status
Information required	Clinical history Physical examination and laboratory investigation	History of population's health problems Studying community diseases and patterns and availability of health services
Diagnosis	Differential and probable Dx	Correctly identifying community health problems
Action plan	Treatment and rehabilitation	Health programs needed to solve health problems Prioritizing problems is very important
Evaluation	Follow up assessment	Evaluate changes in health status of community

The best approach to accomplish this is not to come into the community and start telling the people what they ought to do, but rather to **make friends with them** and **ask them what they see as problems**, then **stimulate them to think what the community needs to do** to correct the problems. The **people of the community need to “own” the problems and their solutions.** **Understanding how to approach and stimulate the community is essential for practicing community medicine!** See Community Health and Health Education, pages 175 – 184, and The Role of Clinic Staff in the Primary Health Care Program, pages 355 – 564.

NOTE: For Community Health Education, translate the information in this section into more simple terms such as those used in the previous section.

To successfully practice either curative medicine or community medicine it is necessary to know the pathways by which humans develop diseases and the methods we can use to cure and prevent the illnesses.

A. Overview of the pathways of diseases—we get many illnesses in the following ways:

1. **Psychosocial causes**—Disasters, stress, unhappy human relationships, guilt, etc.
Psychological stress can cause depression, anxiety, and physical illnesses.
2. **Air pollution**--particular (smoke, dust) or chemical (industrial fumes, car exhaust)
3. **Airborne bacterial and viral organisms**—from pathogenic organisms coughed out from sick people or in dust raised by the wind and breathed in
4. **Direct person-to-person contact and fomites**—organisms transmitted by handling or touching a sick person or a contaminated object (fomite)
5. **Waterborne bacterial, viral and parasitic illnesses**—through drinking unsafe water
6. **Water-contact (parasitic) illnesses**—parasites in water which can penetrate the skin and enter into a person wading or swimming in the water
7. **Food**—
 - a. **Food spoiled or contaminated** with disease organisms, then someone eats it
 - b. **Malnutrition** from too little food or too little protein or lack of a vitamin
 - c. **Obesity**—from too much food leading to hypertension, diabetes and atherosclerosis
8. **Soil**—pathogenic organisms in soil can be ingested from unwashed hands, or in the case of hookworm and strongyloides, can penetrate a barefoot person's skin
9. **Vectors**—a **vector** is any agent (person, animal, insect or microorganism) that carries and transmits an infectious pathogen into another living organism. **We think particularly of insects** such as **mosquitoes**. See the Vectors section (p. 354).
10. **Lack of exercise**—sedentary life-style
11. **Malignancies**—develop when cellular mechanisms to limit cell multiplication spoil
12. **Old age and degenerative diseases**

B. Prevention of Illnesses—In order to keep us safe and healthy, we need to use the following seven **Hygienic Principles**:

1. **Personal hygiene**—keeping the body clean and washing hands before eating
2. **Household hygiene**—Keeping the house clean and screened from flying insects, keeping dishes and eating utensils clean, keeping clothing clean, and having a proper latrine for human excrements
3. **Community hygiene**—Keeping the town clean—this includes sufficient good latrines, a safe water source, method for garbage disposal (garbage pit for small towns, garbage collection and proper disposal for cities)
4. **Industrial hygiene**—industries must not contaminate the environment or atmosphere, and provide a safe and toxin-free situation for workers
5. **Institutional hygiene**—Such as cleanliness and universal precautions for hospitals, and proper aeration and cleanliness for schools with protocols to prevent the spread of illness from sick individuals

6. **Food hygiene**—Proper preparation and storage of food, avoiding contamination
7. **Water hygiene**—Use water from a safe source and avoid contamination

C. Diseases Associated with water:

It is estimated that water-borne bacteria, viruses, and parasites produce about 4 billion cases of diarrhea each year world-wide. About one billion or more people lack access to safe drinking water (15% or more of earth's population) and 2 million people, most of whom are infants and children under the age of five, die each year from water-borne diseases, principally from dehydration. In Liberia, only about 28% have access to safe drinking water. In fact, water may serve in some way as the vehicle for the transmission of as much as 80% of all illnesses, when all ways it assists the development of illnesses are considered. There are four principle avenues through which water can cause or assist in the development of illnesses—these are:

1. Water-borne Diseases:

- These illnesses result from the ingestion of drinking water that contains the causative organisms, including viral and E. coli gastroenteritis, bacillary dysentery, Typhoid (p. 134), Cholera (p. 332), amebiasis and giardiasis (p. 44), Hepatitis A, and others

2. Water-contact Diseases:

- These can be developed through direct contact with organisms in water that can penetrate the skin. The most common example is schistosomiasis (p. 49).

3. Vector-Related Diseases from insects which breed in water: Examples are: Malaria (p. 46), Yellow Fever (p. 334), Filariasis (p. 51) and Dengue carried by mosquitoes.

Prevention includes eliminating places where mosquitoes can breed—including: draining stagnant pools, filling up ditches, cutting down weeds to a low level and burying empty cans, among others. Remember to screen windows and doors, and to sleep under Long-Lasting Insecticide-Treated Nets (LLITNs) to prevent mosquito bites (p. 48). Give Yellow Fever vaccine to everyone over 1 year of age. Simulium gnats transmit onchocerciasis—avoid living or working near rapid-flowing streams where they breed, or take ivermectin yearly.

4. Water-Wash Diseases: These result from the lack of sufficient water for personal hygiene and washing. Examples are:

- a. Diarrheal diseases (from not enough water to wash hands after passing stool, then handling food and contaminating it)
- b. Some intestinal helminths (from getting worm eggs from soil on hands while digging or planting and not having enough water to wash), and
- c. Skin and eye infections.

The World Health Organization (WHO) guidelines for controlling/preventing waterborne diseases include:

1. The provision of safe drinking water for everyone
2. Washing hands before eating
3. The proper disposal of human wastes, and
4. Educating communities how to prepare safe water at home (WaterGuard, Clorox)

D. Water Sources:

Rain is the main source of all of human water supplies—all the water in our springs, wells, brooks, streams, rivers, lakes, ponds and deep aquifers originally comes from rain. There are 2 sources of drinking water—Surface water and Ground water.

1. **Surface water** – The water in our rivers, streams, creeks, lakes, ponds, springs, and oceans. (For being complete, we mention that some countries such as Saudi Arabia and coastal cities do use ocean water for drinking, but first remove the salt, minerals and impurities usually by reverse osmosis. This is a very small fraction of total human water use, and not needed and impractical in Liberia.)
2. **Ground water** – This is the greater source of water available for human consumption. It is stored naturally in the ground and in deep underground aquifers. We get ground water for use through dug wells, and water from aquifers from deep drilled wells with pumps.

E. Producing a SAFE and DRINKABLE WATER SUPPLY

A primary requisite for good health is an adequate supply of water that is safe to drink and of good taste and appearance. To **prevent illnesses** it must be free of pathologic bacteria, viruses, and parasites; and free of toxins—both organic and inorganic (i.e., it must be **potable water**); and also must be free of unpleasant tastes or odors and clear in appearance to make people like to drink it (i.e., palatable water). Note that water that is palatable may not also be safe. Generally, the purpose of water treatment is to provide **POTABLE WATER** that is also **PALATABLE** for human consumption.

1. **Safe Drinking Water:** Safe surface drinking water is rarely found in nature (perhaps it is safe in a mountain spring in an unpopulated area). Rain reaching the earth becomes contaminated with disease-producing micro-organisms in the soil, often from human or animal stool or urine, or decaying plants or animals, or from excrement in streams, and therefore is unsafe to drink. Ground water in a properly-constructed well at least 150 feet from a latrine is usually safe, and water from a drilled well reaching a deep aquifer is most always safe. To be safe to drink, water from rivers, streams, lakes, ponds, and many shallow wells must be treated.
 2. There are three major levels with different systems for treating water in Liberia. The main two objectives for each level are to produce potable and palatable water:
 - a. Municipal water treatment—for cities
 - b. Community/ village well treatment—for larger towns
 - c. Home water treatment—for smaller communities and for individual homes
- a. **The municipal water treatment** – such as White Plains Water Works for Monrovia. **(Although very few health personnel will ever work in a municipal water plant, this information is good to know.)** For a city such as Monrovia or for any really large town, a municipal water supply with a water purification plant is best. In most municipal water treatment plants water obtained from a river after testing is first passed through a slow sand screen to take out suspended matter (leaves, twigs, dead small fish, amebic cysts, etc.) Anything large enough so it will not pass through the sand is removed by this filter. Then the pH of the water is adjusted. Water from a deep aquifer often doesn't have many suspended particles and so may not require initial sand screen filtration. Next the water may be pre-chlorinated, then treated with alum to cause small particles that did not filter out to coagulate and flocculate, then sent to a sedimentation tank to let the flocculated particles settle down to

the bottom. Then it may be aerated to remove odors, and sent through a rapid sand filter to remove any flocculate which didn't settle out. Finally it is disinfected, usually with a chlorine-containing chemical such as sodium hypochlorite or chloramine (some facilities use ultraviolet light instead of chlorine), and then sent through the distribution pipes for community use. Each municipal water system also has its own particular problems to address, such as excessive iron or manganese to remove from some groundwater, and particular procedures for these. White Plains distributes its safe treated water to Monrovia and the surrounding suburbs. Encourage families living near a water line from a municipal water purification plant to connect to it.

- b. **Community Water Supply:** The Community/Village Well Treatment: For smaller towns or communities, drilled wells with pumps or safe dug wells or protected springs are usually adequate. A drilled well reaching a deep aquifer with a pump is almost always safe and needs no treatment. And although a properly-constructed dug well correctly located is usually initially safe, it may be contaminated by buckets lowered into it to draw out water, or by things falling into it. Periodic **checking and decontamination** by adding **chlorine** to the water in such wells is needed. All medical personnel should know how to chlorinate a well with Clorox.

Terms to Know for Well Chlorination:

1. Well depth (WD) – The distance from ground level at the well opening to the very bottom of the well
2. Static Water Level (SWL) – The distance from ground level at the well opening to the surface of the water in the well. (Do not measure when water has just been drawn out of the well because it will be a little lower than it usually is.)
3. Water Column (WC)–The depth of the water in the well–i.e., the distance from the top of the water (SWL) to the bottom of the well (Subtract distances SWL from WD for the height of the water column)

WELL CHLORINATION MATERIALS (What you will need to periodically chlorinate a well to be sure the water is safe to drink):

1. **Rubber bucket**—to mix HTH with water
2. **Measurement tape** (100 ft)—to measure the well's depth and static water level
3. **Tablespoon**—to measure chlorine powder—must be an actual 15 ml tablespoon
4. **Chlorine powder**—**High-Test Hypochlorite (HTH – 70% available chlorine)**—comes as calcium hypochlorite powder. (Clorox solution-5% chlorine-can also be used instead of HTH powder but requires much more Clorox than HTH powder.)
5. **Notebook**—to write down water depth and record your calculation and date
6. Pen/pencil
7. Calculator
8. Rubber gloves to protect hands, glasses or perhaps goggles to protect eyes—HTH or Clorox solution will burn eyes or skin. If either gets on skin or in eyes, wash it off immediately with plenty of water!

9. **Guide** to calculate amount of powder or Clorox to use for water column depth
The following example shows how to calculate the amount of HTH chlorine powder to be used for a **three-foot-wide well** (about 1 meter) with the following measurements:

Step 1: Measure the Well depth (WD) = 32ft
Measure the Static water level (SWL) = 14ft
Now what is the depth of the water column (WC)?

Step 2: Calculate the depth of the water column (WC).
Formula: $WD - SWL = WC$
Well Depth $WD = 32 \text{ ft}$ Minus $SWL = 14 \text{ ft}$
Therefore the $WC = 18 \text{ ft}$

Step 3: Find the number of grams of HTH powder to use for 18 feet of water in the well. This can be done by looking in the official Guide which says 30.1436 grams for 18 feet, or **by multiplying the number of feet of water (WC) in any well about 3 feet in diameter by 1.675 grams**—in this case: WC of 18 ft x 1.675 grams/foot = 30.15 grams (almost exactly the same figure as the number of grams from the Guide). **(This produces about 5 mg of chlorine per liter in the well water—a reasonable low level).**

Step 4: Now calculate the number of tablespoons (tbsp.) of HTH powder to use. Since there are 15 ml. in 1 tablespoon, and calcium hypochlorite is 2.35 times as heavy as water, with the powder slightly lighter/ml., 1 tablespoon HTH powder weighs about 30 grams. Therefore: **Grams of HTH powder divided by 30 = Tablespoons of HTH powder to use.** So divide 30.15 grams by 30. This gives 1.0375 tablespoons (approx. 1 tbsp.) So use 1 tablespoon. **Note: If using Clorox, multiply correct amount of grams of HTH by 14—this gives the correct number of ml of Clorox to use instead of HTH powder.**

Step 5: Wearing gloves and glasses or goggles, mix the tablespoon of powder with water (perhaps 4 or 5 liters) in the rubber bucket and pour it into the well. Now distribute the chlorine through all the well water by tying a rock on a long rope and moving it up and down and around in the water in the well for 10 minutes, or pulling up a bucket of water from the well and pouring it back in 12 to 15 times.

Step 6: Wait perhaps 2 hours before using the well water (minimum 30 minutes).
For a well that is larger or smaller than 3 feet in diameter, start by measuring the diameter of the well, and calculating the area, then multiply by the water depth (WC).

Formula: $V = \frac{\pi D^2 h}{4}$ Measure in meters. V = Volume of water in well in cubic meters (M^3)
Divide above by 4 D = Diameter of the well (M)—square it ($D \times D$)
 H = depth of water (M) $\pi = 3.1416$

Example: Well 1.8 meters wide, with h (orWC) 2.3 meters

$V = 3.1416 \times 1.8 \text{ meters wide} \times 1.8 \times 2.3 \text{ meters WC} = 23.4112 M^3$

$23.4112 M^3$ divided by 4 = $5.85 M^3$ (This is V —the volume of water in the well)

Now for 5 mg of chlorine/liter concentration, use 7.2 grams HTH powder (or use 100 ml Clorox) for every M^3 . Therefore, for $5.85 M^3$, use $5.85 \times 7.2 \text{ grams} = 42.12 \text{ grams HTH powder}$, or use $5.85 \times 100 \text{ ml Clorox} = 585 \text{ ml Clorox}$. Note: $42.12 \text{ grams HTH divided by } 30 = 1.4$ (approximately 1.5) tablespoons of HTH powder

For a badly-contaminated well (such as if a dirty river flooded and filled it with sewage-contaminated river water, or a well suspected of causing a cholera or typhoid outbreak): Use much more HTH powder per cubic meter. WHO would use 25 gm HTH powder per M³--giving 17.5 mg chlorine/Liter. (Others would use even more—up to 140 gm per M³, giving 100 mg chlorine/Liter—perhaps too much.) In such a case the well should not be used for 24 hours, then pumped or drawn dry, wasting the water on the ground to run away from the well. Pumping dry should be repeated if the water still smells much of chlorine. The sides of the well above the water, if made of steel drums or stone, should be scrubbed with a long brush on a pole dipped in the chlorine solution before putting the chlorine in the well. Do not enter the well to scrub it—breathing chlorine is toxic.

c. Sources of Potable and Palatable Water for Individual Families and Persons:

1. Drilled well with a pump—this is very good, and water is almost always safe without further treatment, but limited for a single family by high cost of drilling
2. Hand-dug well—good if properly constructed and properly located so that the water will be safe to drink
3. Protected spring--if well-protected and running from a hillside without a big pool around it the water is usually safe
4. Rainwater collected in a screened barrel from a zinc roof (but not from a cement-asbestos roof) is usually safe
5. Water run through a good water filtration home unit. Microporous ceramic filters efficiently remove bacteria, protozoa and microbial cysts that can cause disease, but not all viruses. Ceramic water filters must have their outside surface abraded when they have become clogged with impurities. See page 354.
6. Boiled water—limited through cost of fuel and time and effort to prepare safe water, but very good for water safety.
7. Clean-appearing water from a stream or unprotected spring made safe for drinking by adding iodine or chlorine preparations such as Clorox or Water Guard. This process is known as **self-chlorination**. It is good for emergency use but not the best for continual use, although continual is o.k. if nothing else is available.

The Home Water Treatment with self-chlorination: The two preparations used are either Water Guard or Clorox liquid bleach

The materials needed for Self-chlorination:

1. **Container** for self-chlorination to hold chlorinated water—containers should be **plastic, glass or wood**, but **not metal**, Containers come in 4 sizes:
2. 1 gallon container, 3 gallon, 5 gallon, or pig-foot wooden barrel (about 32 gallons)
3. **Pan** or **bowl** for hand-washing
4. **Soap** and **towel** for hand-washing
5. The Clorox bleach or Water Guard

6. A **standard eye-dropper** (16 drops/ml) or standard 5 ml **teaspoon** (caution-not all droppers give the same size of drops and not all small spoons hold exactly 5 ml.) or best, a **small medical syringe to accurately measure Clorox liquid bleach**

Steps/ Procedures for Self-chlorination with Clorox: Use a 16 drops/ml eye-dropper- (recommended by Clorox Company) or syringe for accuracy. Gives 25 mg chlorine/gallon, or 7mg/Liter

1. Wash your hands thoroughly with clean water and soap before preparation
2. For one gallon container of water put eight (8) drops (or 1/2 ml.) of Clorox
3. For three gallon container of water, put twenty-four (24) drops (1½ ml) of Clorox
4. For five gallon container of water, put forty (40) drops (or 2 ½ ml) of Clorox and
5. For a pig-foot barrel of water, put in 1 tablespoon (or 3 5-ml teaspoons) of Clorox
6. Shake, swirl or stir the container to mix the Clorox well with the water

NOTES: Wait for at least 30 minutes before drinking that water. The above amounts are for water looking clear. **If the water looks cloudy, use twice the amount of Clorox.**

Steps/procedures for Self-chlorination using Water Guard:

1. Wash your hands thoroughly with clean water and soap.
2. Pour out 1 capful of Water Guard
3. Pour the Water Guard into a 5 gallon container of water
4. Cover the gallon and shake well until Water Guard is completely dissolved and thoroughly mixed with the water
5. Wait for at least 30 minutes for Water Guard to work
6. Your water is now safe to be used for drinking

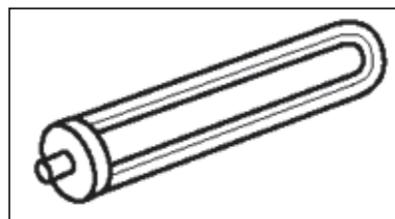
Boiling water to make it safe to drink:

1. No matter how contaminated, boiled water has no live bacteria, viruses or parasites and is safe to drink. After reaching boiling, it only needs to boil for one minute.
2. Boiling, however, will not remove heavy metals or some other toxins.
3. Of course, do not let hot water waste on anyone and let it cool before drinking.

Ceramic water filters for homes are excellent for **removing bacteria** and **parasites**, but some small **viruses may pass through them**. The filters use ceramic “candles” full of millions of extremely small pores which let water and most chemicals in solution slowly pass through, but strain out anything larger, such as bacteria. After some weeks the water passing through may become very slow if the outside surfaces of the candles become plugged with what was strained out, and require cleaning and scraping the outside surfaces. Also inspect candles periodically to be sure they have not developed cracks.

Diseases Spread by Vectors

Vectors are living organisms that transmit infections from one host to another. Most are arthropods (mosquitoes, flies, fleas, lice, ticks, crabs) but some animals also are vectors. Vectors are either biological (part of the life cycle of the infective organism develops in the vector), or mechanical (vector carries the infection, but is not essential for the infective organism's life cycle).



Home water filtration unit Pictures by Fairey.com

Important vectors in Liberia are:

Biological Vectors	Diseases
Mosquito	Malaria (p. 46-48), Yellow Fever (p. 334), Dengue, Filariasis (p. 51)
Tsetse flies (<i>Glossina</i>)	African sleeping sickness (p. 49)—very rarely seen presently
Black flies (<i>Simulium</i>)	River blindness (onchocerciasis)(p. 52)
Sand flies (<i>Phlebotomus</i>)	Leishmaniasis
Snails	Schistosomiasis (p. 49)
Freshwater Crabs or Crayfish	Paragonimiasis (p. 50)
Mechanical Vectors	Diseases
Multimammate Rat	Lassa Fever (p. 332)
Dogs, Wild animals, Bats (bites)	Rabies (p. 334)
Fleas (from infected rats)	Bubonic Plague (not currently being seen)
Lice	Typhus (at least not currently identified)
Lice and Ticks	Relapsing Fever (at least not currently being identified)
House Flies	Diarrhea, including bacillary dysentery (stool on fly's feet to food)

The purpose of vector control is to prevent the spread of illnesses transmitted by vectors. Prompt and correct identification of vector-borne illnesses is essential. Avoidance of vectors is the usual prevention. Screens and bed nets protect against mosquitoes and flies. Draining water where mosquitoes breed is necessary. Sprays—malathion and pyrethrins—are used sometimes to destroy insect vectors. See notes on page references for prevention of illnesses.

Housing

Properly-constructed houses that are designed for safety and promote healthful living are very important for any community. The objectives of health in the housing program are to build to meet the following needs:

1. The fundamental physiological needs (a special environment), including:
 - a. Protection from wind and rain, with a good roof that does not leak
 - b. An insulating ceiling to prevent the house from overheating in sunlight
 - c. Screened windows and doors to keep out flies and mosquitoes
2. The fundamental psychological needs, e.g., good privacy and reduction of outside noise
3. Protection against contagion, e.g., safe drinking water and a proper toilet or good latrine
4. Protection against accidents:
 - a. Built strongly to withstand violent storms

- b. Fire safety—Built to not burn rapidly; any propane tank must be outside the house
- c. Railings for any stairways to prevent falls

Although any person in the health field can give advice to community members about building houses, this is mainly the very important role of the EHT to promote a proper housing environment, and to influence policy related to the provision of needed public and community facilities.

The planning for residential environment should include careful consideration of a number of important items if an optimum healthful living environment is to be developed:

- Space for light, air, and recreation
- Adequate safe water supply
- Proper sewage and waste disposal facilities
- Good water drainage
- Freedom from unnecessary noise and disturbances
- Insect, rodent, and nuisance control
- Clean air
- Suitable recreational facilities
- Building code
- A land-use plan with zoning

Good housing does not just happen. It is the result of far-sighted thinking by individuals in many walks of life. The state, county, and community leaders have the fundamental responsibility of protecting the life, health and welfare of all people residing within their catchment areas. However, where provided, the EHT's responsibilities are given in the public health laws and the sanitary code.

The more obvious solutions to the housing problem are the production of new housing, rehabilitation of sound housing, redevelopment, slum clearance, and public housing for low income families.

Structural Safety:

To be considered structurally safe, a building must be able to support two-and-a-half to four times the load and stresses to which it is or may be subjected. Every approach within any building should have a sound floor and every tread should be strong enough to bear a concentrated load of at least 400 lbs without danger of breaking.

Part II: Checklists

CHECKLIST 1: SUPPORTING SUCCESSFUL BREASTFEEDING

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR SUPPORTING SUCCESSFUL BREASTFEEDING	
STEP	SCORE
GETTING READY	
1. Greet the mother.	
2. Include the family in discussion of breastfeeding if possible.	
3. Ask the mother if there is any reason she cannot breastfeed.	
4. Explain why it is important to breastfeed soon after birth.	
5. Perform hand hygiene with soap and water and dry with a clean, dry cloth or allow to air dry.	
HELP THE MOTHER AND BABY START BREASTFEEDING	
6. Explain each step as it is done so the mother can do it herself.	
7. Mother’s position: <ul style="list-style-type: none"> • Help the mother into a comfortable position. 	
8. Baby’s position: <ul style="list-style-type: none"> • Place baby close to the mother. • Ensure that head and body are in a straight line. • Ensure that the baby is facing breast with nose close to the nipple. • Ensure that whole body is fully supported. Put baby on a blanket or pillow (if needed), so the baby and breast are at the same level. 	
9. Perform hand hygiene.	
10. Document procedure and/or findings.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO SUPPORT SUCCESSFUL BREASTFEEDING

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

TIPS/EXERCISE 1: BUILDING CONSTRUCTION

Student name: _____

Any site upon which a proposed building is to be erected needs to be investigated to establish its suitability for the project in hand. Investigation should consider the followings:

Tips/Exercise: Yes / No

Site topography Y / N

Existing building on or close to the site Y / N

Position and size of underground service Y / N

The level of the water table Y / N

Previous history of the site Y / N

Physical observation of the site Y / N

Assessor signature: _____ Date: _____

Assessor comment:

CHECKLIST 2: CARDIOPULMONARY RESUSCITATION

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
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Learner _____

Date _____

CHECKLIST FOR CARDIOPULMONARY RESUSCITATION	
STEP	SCORE
GETTING READY	
1. Approach the patient, check for response with gentle shake, and ask if okay.	
2. Call for help.	
PROCEDURE	
3. Place the patient in a safe position (flex the neck to open airway).	
4. Check for breathing.	
5. Give two breaths (1 second each).	
6. Check carotid pulse.	
7. Locate CPR hand position (2 finger breadths above xyphoid process).	
8. Deliver first cycle of compressions (<23 seconds for 30 compressions).*	
9. Open airway, give two breaths.	
10. Deliver second cycle of compressions.	
11. Open airway, give two breaths.	
12. Deliver third cycle of compressions.	
<i>Stop test and determine if student passes or does not pass. Continue in real life, depending on spontaneous breathing and pulse returning. If another person comes, may assist with breaths or compressions.</i>	
13. Perform hand hygiene.	
14. Document procedure and/or findings.	
TOTAL	

*per the American Heart Association

Learner IS **QUALIFIED** **NOT QUALIFIED TO PERFORM CPR**

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments (in case of need to remediate or other):

CHECKLIST 3: CHLORINATION OF WELL

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Learner _____

Date _____

CHECKLIST FOR CHLORINATION OF WELL	
STEP	SCORE
GETTING READY	
Input: 100ft measurement tape, plastic bucket/cup, chlorine HTH 70%, alumina spoon, note book, and calculator, hammer, scissor, and cement.	
PROCEDURE	
1. Crack the manhole to open	
2. Measure the 4ft diameter of the well	
3. Measure the static water level	
4. Measure the depth of the well	
5. Subtract the SWL from WD	
6. Work with the result on table A - 3	
7. Do the conversion of gram into table spoon to measure the chlorine	
8. Measure the number of table spoon full	
9. Steer it in a bucket/cup until it turns to a milky color	
10. Pour it into the well	
11. Sealed up the manhole with cement	
12. Wait until after 4 hours before you drink from the well	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO CHOLRINATE A WELL

Assessor's Signature _____

Date _____

Assessor's Printed Name _____

Comments *(in case of need to remediate or other)*:

CHECKLIST 4: CONSTRUCTION OF SANITARY LANDFILL

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
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Learner _____

Date _____

CHECKLIST FOR CONSTRUCTION OF SANITARY LANDFILL	
STEP	SCORE
GETTING READY	
1. Equipment/tools: Shovel wheelbarrow, cutlasses, diggers, head pan, bucket, drum etc. 2. Materials: sand, crush rock, steel rod, cement, tire wire, planks, and rafter/sticks etc. Landfills are engineered facilities designed and operated for the long term containment of solid wastes. Design of the landfill will vary greatly base on the volume of waste and the location of the facility. Landfills are technically advanced facilities and should be considered in the followings: 1) Appropriate sitting, 2) Engineered design that is carefully implemented during construction and operation, 3) Exclusion of inappropriate wastes, and 4) Short and long term monitoring.	
PROCEDURE	
1. Landfill is constructed as a series of daily cells, where a day wastes is compacted and covered.	
2. Sitting the area and clearing the site	
3. Prepare the profile of the pit or area with specification.	
4. A depression deep into the earth’s surface.	
5. The pit is lined with plastic and clay lines to prevent leachate from reaching the ground beneath the facility.	
6. Install a network of pipes to collect leachate from bottom of landfill.	
7. Install a network of pipes to collect explosion methane gas.	
8. Dig a well outside the landfill to detect leachate or methane leaks with specification.	
9. Capped the finished landfill with clay to prevent rain water from entering.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO CONSTRUCT A SANITARY LANDFILL

Assessor’s Signature _____ Date _____

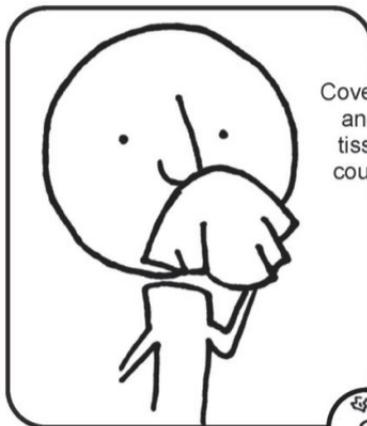
Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

JOB AID 1: COVER YOUR COUGH

Stop the spread of germs that make you and others sick!

Cover your Cough



Cover your mouth and nose with a tissue when you cough or sneeze

or cough or sneeze into your upper sleeve, not your hands.



Put your used tissue in the waste basket.



You may be asked to put on a surgical mask to protect others.

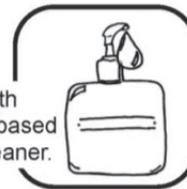
Clean your Hands

after coughing or sneezing.



Wash with soap and water

or clean with alcohol-based hand cleaner.



Minnesota Department of Health
717 SE Delaware Street
Minneapolis, MN 55414
612-676-5414 or 1-877-676-5414
www.health.state.mn.us



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CHECKLIST 5: DRESSING A SIMPLE WOUND²

(To be used by the **Assessor** at the end of the module)

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Learner _____

Date _____

CHECKLIST FOR DRESSING A SIMPLE WOUND	
STEP	SCORE
GETTING READY	
1. Greet the patient respectfully and with kindness.	
2. Explain the procedure to the patient and check for tape and iodine allergies.	
3. Perform hand hygiene. Put on gloves and appropriate PPE.	
4. Prepare the necessary equipment and supplies.	
BANDAGING	
5. Position the patient and expose the area.	
6. Clean the site using iodine or other antiseptic if necessary. Irrigate with saline if necessary.	
7. Apply sterile gauze pads or roll depending on the type of wound to be covered.	
8. Use appropriate tape to hold bandage in place.	
POST-PROCEDURE STEPS	
9. Dispose of waste materials in appropriate container.	
10. Remove PPE.	
11. Perform hand hygiene.	
12. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO DRESS A SIMPLE WOUND

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

² Adapted from: Zambia Clinical Officer Student Learning Guide.

CHECKLIST 6: FAMILY PLANNING COUNSELING

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Learner _____

Date _____

CHECKLIST FOR FAMILY PLANNING COUNSELING	
STEP	SCORE
GETTING READY	
1. Ensure room is well-lit and ventilated.	
2. Ensure availability of chairs and table.	
3. Prepare equipment and supplies.	
4. Ensure availability of writing materials (e.g., client, daily activity register, follow-up cards).	
5. Ensure privacy.	
PROCEDURE	
6. Greet the woman respectfully.	
7. Confirm the woman’s name, address, and other required information.	
8. Offer the woman a comfortable place to sit.	
9. Reassure the woman that the information in the counseling session is confidential.	
10. Ask the woman what she knows about family planning and if she has ever used a contraceptive method before; if yes: <ul style="list-style-type: none"> • What methods did she use? • Did she have any problems with that method or does she have any questions or concerns about that method? 	
11. Ask the woman about her reproductive goals.	
12. Give a brief description of the family planning methods available.	
13. Use body language to show interest in and concern for the woman.	
14. Ask questions appropriately and with respect. Elicits more than “yes” and “no” answers.	
15. Use language that the woman can understand.	
16. Appropriately use visual aids, such as posters, flipcharts, drawings, samples of methods and anatomic models.	
17. Assesses the woman’s risk for STIs and HIV/AIDS, as appropriate.	

CHECKLIST FOR FAMILY PLANNING COUNSELING	
STEP	SCORE
18. Briefly provide general information about each contraceptive method available: <ul style="list-style-type: none"> • How it prevents pregnancy • How it is administered • Effectiveness • Advantages and disadvantages • Side effects • Need for protection against STIs including HIV/AIDS 	
19. Clarify any misinformation the woman may have about family planning methods.	
20. Ask which method interests the woman. Helps the woman chose a method.	
METHOD-SPECIFIC COUNSELING – Once the woman has chosen a method	
21. Using the language the woman will understand, take a reproductive and basic medical history.	
22. Perform a physical assessment that is appropriate for the method chosen; if indicated, refer the woman for evaluation.	
23. Ensure there are no conditions that contraindicate the use of the chosen method. If necessary, help the woman to find a more suitable method.	
24. Briefly, giving only the most important information, tell the woman about the family planning method she has chosen: Type, how it works, effectiveness, advantages and non-contraceptive benefits, disadvantages, contraindications, common side effects, and protection against STIs and HIV/AIDS.	
25. Provide the method of choice if available or refer woman to the nearest health facility where it is available.	
26. Give the woman instructions about her chosen methods of contraception : <ul style="list-style-type: none"> • How to use the method of contraception • Side effects • Tell her to return to the clinic if she has any problems • Any other relevant information 	
27. Educate the woman about prevention of STIs and HIV/AIDS, if she is at risk. If necessary, provide her with condoms, instructions on how to use them, and where to obtain them.	
28. Encourage the woman to repeat the instructions to be sure she understands.	
29. Ask if the woman has any questions or concerns. Listen attentively, and address her questions and concerns.	
30. Schedule the follow-up visit. Encourage the woman to return to the clinic at any time if necessary.	
31. Thank the woman, politely say goodbye, and encourage her to return to the clinic if she has any questions or concerns.	
32. Perform hand hygiene.	
33. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO CONDUCT FAMILY PLANNING COUNSELING

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (in case of need to remediate or other):

CHECKLIST 6.1: ASSESSMENT AND COUNSELING FOR COMBINED ORAL CONTRACEPTIVE USE

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Learner _____

Date _____

CHECKLIST FOR ASSESSMENT AND COUNSELING FOR COMBINED ORAL CONTRACEPTIVE USE	
STEP	SCORE
GETTING READY	
1. Prepare the necessary equipment.	
2. Greet the woman, by name, with respect and kindness. Introduce yourself.	
3. Offer the woman a place to sit.	
4. Ensure confidentiality.	
5. Tell the woman what is going to be done and encourage her to ask questions. Listen to what the woman has to say.	
ASSESSMENT (Ask/Check Record)	
6. Ask the woman about her reproductive goals and need for contraception.	
7. Take a reproductive and basic medical history of the woman.	
8. Assess the woman’s risk for STIs and HIV/AIDS.	
9. Assess the woman’s blood pressure and take appropriate action.	
10. Ask the woman what she knows about the pill (combined oral contraceptives) and correct any misinformation.	
11. Briefly, giving only the most important information, tell the woman about the pill.	
12. Instruct the woman about how to take the pill.	
13. Have the woman repeat the instructions.	
14. Ask the woman if she has any questions. Answer any questions she has.	
15. Confirm eligibility.	
16. Provide the woman with the pill.	
17. Discuss return visits and follow-up with the woman; review side effects and warning signs. Schedule a follow-up visit in 3 months to make sure that the woman is not having any problems with the pill.	
18. Perform hand hygiene.	

CHECKLIST FOR ASSESSMENT AND COUNSELING FOR COMBINED ORAL CONTRACEPTIVE USE	
STEP	SCORE
19. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PROVIDE ASSESSMENT AND COUNSELING FOR
COMBINED ORAL CONTRACEPTIVE USE

Assessor's Signature _____ Date _____

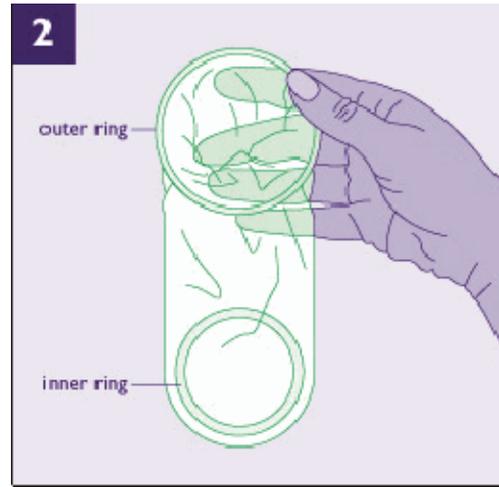
Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

JOB AID 2: HOW TO USE FEMALE CONDOMS



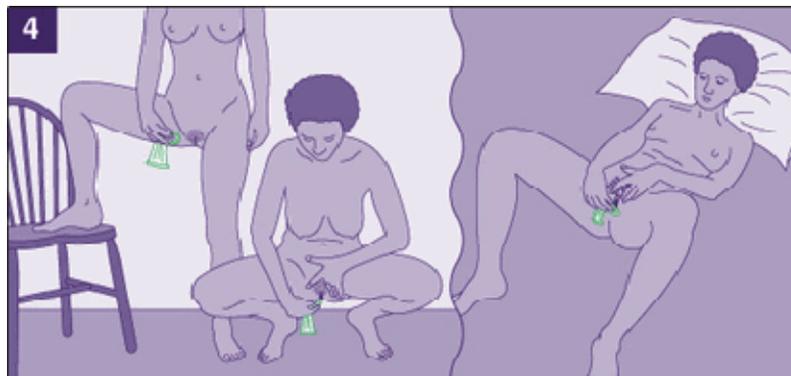
Open the female condom package carefully; tear at the notch on the top right of the package. Do not use scissors or a knife to open.



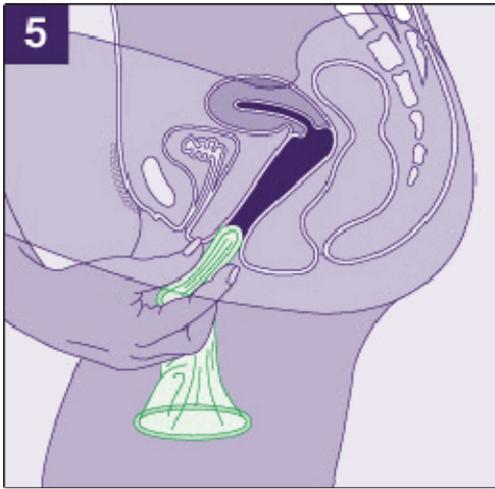
The outer ring covers the area around the opening of the vagina. The inner ring is used for insertion and to help hold the sheath in place during intercourse.



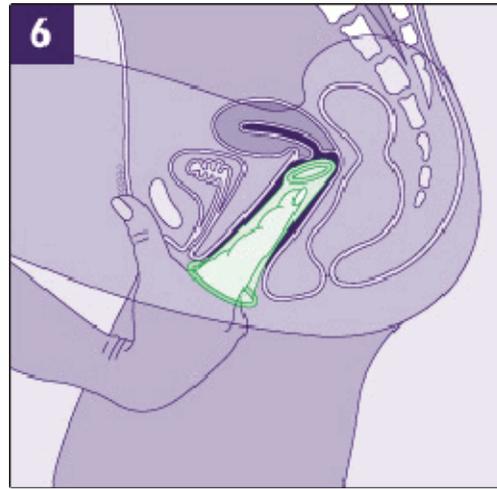
While holding the female condom at the closed end, grasp the flexible inner ring and squeeze it with the thumb and second or middle finger so it becomes long and narrow.



Choose a position that is comfortable for insertion – squat, raise one leg, sit, or lie down.



5 Gently insert the inner ring into the vagina. Feel the inner ring go up and move into place.



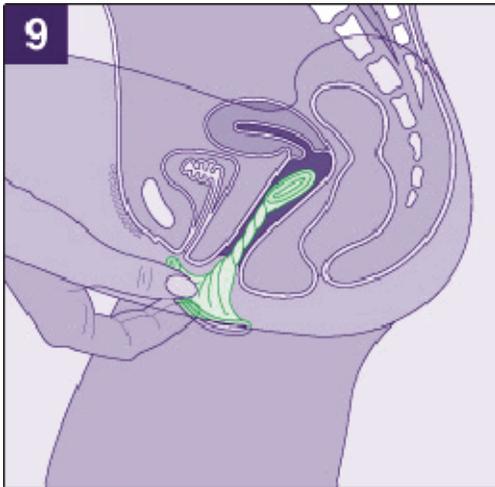
6 Place, the index finger on the inside of the condom, and push the inner ring up as far as it will go. Be sure the sheath is not twisted. The outer ring should remain on the outside of the vagina.



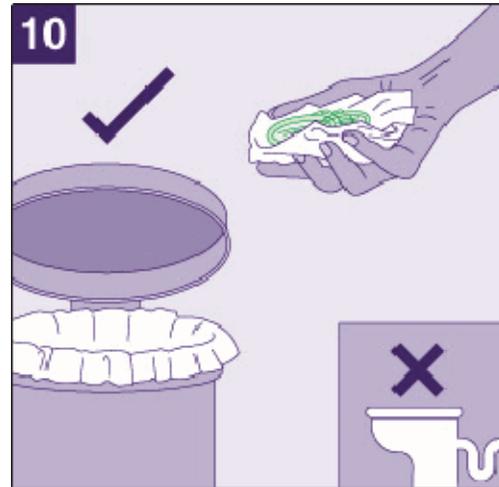
7 The female condom is now in place and ready for use with your partner.



8 When you are ready, gently guide your partner's penis into the condom's opening with your hand to make sure that it enters properly – be sure that the penis is not entering on the side, between the sheath and the vaginal wall.



To remove the female condom, twist the outer ring and gently pull the condom out.



Wrap the condom in the package or in tissue, and throw it in the garbage. Do not put it into the toilet.

FREQUENTLY ASKED QUESTIONS (FAQS) ABOUT THE FEMALE CONDOM

1. Is the female condom (FC) difficult to use?
The FC is not difficult to use, but it may take some practice to get used to it. Women should practice putting it in and removing it prior to using it for the first time during sexual intercourse. Research has indicated that female condoms may need to be tried up to three times before users become confident and comfortable using them. New users should try to insert the device several times, and each time with the body in a different position (e.g., lying down, crouching, sitting) to find the most comfortable one. While individual counseling and personal fitting may help to reassure women, group sessions and peer groups may overcome early abandonment as women can share anxieties, ideas, and laughter with each other.
2. What happens if the penis doesn't enter correctly?
It is important that the penis is guided into the center of the FC and not between the vaginal wall and the outer side of the FC. Diagrams and/or anatomical models should be used to illustrate this problem at introduction. If the penis does enter incorrectly, the man should withdraw his penis and the couple should start over.
3. What kind of lubricant should be used with the FC?
The FC comes pre-lubricated with a silicone-based, non-spermicidal lubricant. This lubrication helps assist in the insertion of the device and allows easy movement during intercourse. The lubricant may make female condoms a little slippery at first. If the outer ring of the FC gets pushed in or pulled out of the vagina, more lubricant may be needed. Also, if the FC makes noise during sex, simply add more lubricant. The FC can be used with both water-based and oil-based lubricants, whereas male latex condoms should only be used with water-based lubricants. Women, if you suffer from vaginal dryness, additional lubricant may be required.
4. Can the FC be used more than once?
The female condom is approved for a single use only, but re-use has been reported in several countries. WHO, UNAIDS, and USAID, among others, have conducted studies to investigate the safety of disinfection, washing, drying, storage, and re-lubrication, followed by re-use, and WHO has convened two technical consultations to review data from these studies.

WHO recommends use of a new male or female condom for every act of intercourse, where there is a risk of unintended pregnancy and/or STI/HIV infection. Recognizing the urgent need for risk-reduction strategies for women who cannot or do not access new condoms, WHO has developed a draft protocol for the safe handling and preparation of used female condoms intended for re-use. WHO does not recommend or promote re-use, but will make available the protocol, together with guidelines on programmatic issues, to program managers who intend to evaluate its feasibility and application in local settings. WHO's Information Update on re-use is available online at www.who.int/reproductive-health/rtis/reuse.en.html

5. Is the inner ring uncomfortable for me or my partner?

Some women do report that the inner ring is uncomfortable. If it is, you can try to place the FC differently (i.e., reinsert or re-position the device) so that the inner ring is tucked back behind the cervix and out of way. However, some people report that both the inner and outer rings add to both a man's and a woman's sexual pleasure.

6. Is the FC big?

There may be an initial negative reaction to the FC because of its size, but this feeling diminishes with use. It is useful to compare the FC to an unrolled male condom to highlight that the FC is the same length but wider than the male condom. It is also important to note that the FC provides added protection because the base of the penis and the external female genitalia are partly covered during use. To reduce potential negative reactions, some programs have suggested introducing the FC rolled up to minimize its size; inserting the FC before the initiation of sexual activity; and stressing the advantages of the wider diameter, as many men complain about the constricting nature of male condoms.

7. How do I dispose of the FC?

The proper removal and disposal of female condoms should be included with the packaging of the FC as well in introductory training programs:

- The FC does not need to be removed immediately after a man's ejaculation, like the male condom. But it should be taken out before the woman stands up to avoid the semen spilling out.
- The outer ring should be twisted to seal the condom so that no semen comes out.
- The FC can be pulled out and wrapped in the package it came in and/or in tissue.
- The FC should be disposed of in waste containers and not in the toilet.
- Also, since in many countries women dispose of sanitary napkins in a clean and private way, the same procedures can be promoted for the disposal of FC.

8. Can I use female condoms in different sexual positions?

The FC can be used in any sexual position; however, additional lubricant may be needed. Some women may feel more comfortable learning to use the FC in the missionary position, and then adding other positions after that. Group counseling sessions are often ideal for women to learn from each other how to use the device while having sex in different positions. The FC is not specifically approved or recommended for anal sex, but there are reports from all over the world that it is used for anal sex. Several studies have been done and published and others are ongoing. The polyurethane of an FC is stronger than latex and can be used with any kind of lubricant.

9. Can we use a female condoms and a male condom at the same time?
You should not use both condoms at the same time. Using the condoms simultaneously may cause friction resulting in either one or both of the condoms slipping or tearing, and/or the outer ring of the FC being pushed inside the vagina.
10. How long will the FC last?
The United States Food and Drug Administration has approved the FC for a shelf life of 5 years from the date of manufacture. Because of the properties of polyurethane, the FC is not affected by differences in temperature and humidity, so no special storage conditions are required.
11. Who can use the FC?
- People who want to protect themselves and their partners from unintended pregnancy and STIs, including HIV/AIDS, and show their partners that they care
 - People whose partners cannot or will not use the male latex condom
 - Women who are menstruating
 - Women who have recently given birth
 - Women who have had a hysterectomy
 - Women who are peri- and post-menopausal
 - People who are allergic or sensitive to latex
 - People who are HIV+ or have HIV+ partners

CHECKLIST 6.2: CONDOM USE (MALE) AND DISPOSAL

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR CONDOM USE AND DISPOSAL	
STEP	SCORE
GETTING READY	
1. Collect male condom and penis model (and vagina model if available).	
2. Greet the client respectfully.	
PROCEDURE	
3. Tell the client that you are going to demonstrate condom use and reasons for condom use.	
4. Introduce the condom, identifying the penis model to the client.	
5. Check the expiry date and if the condom cover is intact.	
6. Push the condom to the side of the package, open the package at the marking and take the condom out.	
7. Pinch the tip of the condom and unroll to the base of the (erect) penis.	
8. State that the condom should be used once, and demonstrate proper insertion and removal from vagina model (or fisted hand).	
9. Roll off condom before penis loses erection.	
10. Place in tissue paper and dispose in waste bin.	
CHECK FOR CLIENT UNDERSTANDING	
12. Have the client re-demonstrate condom use and disposal and coach/repeat steps where needed.	
13. Perform hand hygiene.	
14. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO TEACH MALE CONDOM USE AND DISPOSAL

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other)*:

CHECKLIST 6.3: DMPA PROVISION

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
No step should be left blank.

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Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR DMPA PROVISION	
STEP	SCORE
GETTING READY	
1. Prepare the necessary equipment.	
2. Greet the woman respectfully	
3. Offer the woman a place to sit.	
PROCEDURE	
4. Ensure confidentiality.	
5. Tell the woman what is going to be done and encourage her to ask questions. Listen to what the woman has to say.	
6. Perform hand hygiene.	
ASSESSMENT (Ask/Check Record).	
7. Ask the woman about her reproductive goals and need for contraception.	
8. Take a basic medical and reproductive history of the woman.	
9. Assess the woman’s risk for STIs and HIV/AIDS.	
10. Assess the woman’s blood pressure and take appropriate action.	
11. Confirm eligibility for DMPA.	
12. Ask the woman what she knows about DMPA and correct any misinformation.	
13. Briefly, giving only the most important information, tell the woman about DMPA.	
14. Instruct the woman about injection schedule and menstrual bleeding changes, and have the woman repeat the instructions to be sure she understands.	
ADMINISTRATION	
15. Perform hand hygiene.	
16. Clean injection site with alcohol or antiseptic solution (if skin is soiled) and allow to dry.	
17. Prepare DMPA for injection.	
18. Confirm that the medication and amount are correct.	
19. Insert needle deep into muscle (deltoid or ventro-gluteal).	
20. Aspirate to make sure the needle is not in a vein, then inject DMPA slowly and remove needle.	

CHECKLIST FOR DMPA PROVISION	
STEP	SCORE
POST-PROCEDURE TASKS	
21. Apply pressure to the injection site with clean cotton; do not rub site.	
22. Place auto-disabled, disposable syringe and needle in puncture-proof container.	
23. Dispose of waste materials.	
POST-PROCEDURE COUNCELING	
24. Instruct the woman to return within 12 weeks for next injection. Give her an appointment date and	
25. Perform hand hygiene.	
26. Document procedure and/or findings.	

Learner IS QUALIFIED NOT QUALIFIED TO PROVIDE DMPA

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments *(in case of need to remediate or other)*:

CHECKLIST 6.4: ASSESSMENT AND COUNSELING FOR PROGESTIN-ONLY PILL CONTRACEPTIVE USE

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

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Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR ASSESSMENT AND COUNSELING FOR PROGESTIN-ONLY PILL CONTRACEPTIVE USE	
STEP	SCORE
GETTING READY	
1. Prepare the necessary equipment.	
2. Greet the woman, by name, with respect and kindness. Introduce yourself.	
3. Offer the woman a place to sit.	
4. Ensure confidentiality.	
5. Tell the woman what is going to be done and encourage her to ask questions. Listen to what the woman has to say.	
ASSESSMENT (Ask/Check Record)	
6. Ask the woman about her reproductive goals and need for contraception.	
7. Take a reproductive and basic medical history of the woman.	
8. Assess the woman’s risk for STIs and HIV/AIDS.	
9. Assess the woman’s blood pressure and take appropriate action.	
10. Ask the woman what she knows about the pill (progestin-only pill or “Mini Pill”) and correct any misinformation.	
11. Briefly, giving only the most important information, tell the woman about the pill.	
12. Instruct the woman about how to take the pill and stress that effectiveness increases if she can take it <i>at the exact same time every day.</i>	
13. Have the woman repeat instructions.	
14. Ask the woman if she has any questions. Answer any questions she has.	
15. Confirm eligibility for the method.	
16. Provide the woman with the pill.	
17. Discuss return visits and follow-up with the woman; review side effects and warning signs. Schedule a follow-up visit in 3 months to make sure that the woman is not having any problems with the pill but otherwise give her a year supply.	
18. Perform hand hygiene.	

CHECKLIST FOR ASSESSMENT AND COUNSELING FOR PROGESTIN-ONLY PILL CONTRACEPTIVE USE	
STEP	SCORE
19. Document procedure and/or findings.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PROVIDE ASSESSMENT AND COUNSELING FOR PROGESTIN-ONLY PILL CONTRACEPTIVE USE

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

JOB AID 3: LAM COUNSELING GUIDE



LAM

Lactational Amenorrhea Method

A Family Planning Method
for Breastfeeding Women

Counseling Guide

for Teaching Women
How to Use LAM

Explain Who Can Use LAM

You can use LAM if you meet ALL 3 of these criteria:

1

Your menstrual bleeding has not returned since your baby was born.



Why?

When you begin menstrual bleeding you are fertile again. You can get pregnant even if you continue to breastfeed.

2

You breastfeed your baby day and night and do not give any other food, water or liquids.



Why?

When your baby receives any food, water or other liquids besides breast milk, **your baby will not nurse as often**. This will cause you to be fertile again. You can get pregnant.

3

Your baby is less than 6 months old.



Why?

When your baby turns 6 months old you may be fertile again. You can get pregnant, even if you continue to breastfeed.

Explain How to Use LAM



Breastfeed Regularly

- Breastfeed as often as your baby wants, day and night.
- Continue to breastfeed even when you or your baby is sick.



Breastfeed Only

- Do not give your baby any foods, water, or other liquids before 6 months of age.
- Medicines, vitamins and vaccines are okay.
- Breastfeeding provides your baby with everything she/he needs to be healthy for the first 6 months.
- Do not use bottles, pacifiers or other artificial nipples. These discourage your baby from breastfeeding as frequently.



Begin Thinking About Another Method Now

- When your menstrual bleeding returns, start using another method.
- If your baby receives other food or liquids besides breastmilk, start using another method.
- When your baby reaches 6 months old, start using another method.

Breastfeeding alone is not enough to protect you from pregnancy. All 3 criteria must be met.

Encourage the woman to start thinking about other methods now, to be ready when LAM no longer works for her.

Review other methods.

Explain Who Can NOT Use LAM

These women are fertile again and need to start using another family planning method immediately:



A mother who has begun her menstrual bleeding cannot use LAM.

Bleeding after the baby is 2 months old is considered menstrual bleeding.

OR



A mother whose baby receives other foods or liquids cannot use LAM.

Even if the baby is still breastfeeding.

OR



A mother whose baby is 6 months or older cannot use LAM.

NONE of these women can use LAM.

Counsel the Woman Who Cannot or Chooses Not to Use LAM

1. Encourage her to start using another method now.
2. Help her choose another method.
3. Encourage her to continue breastfeeding her baby.
4. Encourage her to wait until her baby is at least two years old before getting pregnant again.



Other Family Planning Methods for Breastfeeding Women

Methods women can use any time:

- Condoms
- Vasectomy

Methods women can start using 6 weeks after giving birth:

- Progestin-only pills, injectable, implants
- IUD*
- Tubal ligation**

Methods women can use 6 months after giving birth:

- Combined pills (with estrogen)
- Combined injections (with estrogen)
- Natural methods (if specific criteria are met)



*An IUD can be inserted up to 48 hours after giving birth or after 6 weeks postpartum.

**Tubal ligation can be performed up to 7 days after giving birth or after 6 weeks postpartum.

Encourage the woman to wait at least 2 years before getting pregnant again. Waiting 2 years is best for the health of the baby and the woman.



Family Planning Initiative
Addressing unmet need for postpartum family planning



LAM

Lactational Amenorrhea Method

A Family Planning Method for Breastfeeding Women

LAM can help you prevent pregnancy if you are breastfeeding and meet ALL these criteria.

1

No menstrual bleeding since your baby was born



2

You only breastfeed your baby (no other food or liquid is given)



3

Baby is less than 6 months old



Do YOU meet all 3 of these criteria?

If yes, you can use LAM to prevent pregnancy.

When you no longer meet ALL these criteria, begin using another family planning method immediately.

While You Are Using LAM:



Breastfeed as often as your baby wants, day and night.



Do not give any foods or other liquids (not even water). Breast milk is all your baby needs to grow and be healthy for the first 6 months.



Continue to breastfeed even when you or your baby is sick.

Begin thinking about a new method while still using LAM.

Be ready to switch to a new method immediately, when you no longer meet ANY of the 3 LAM criteria.

The best methods for breastfeeding women are condoms, IUD, tubal ligation, vasectomy, and some pills and injections.

A health care provider can help you choose the best method for you.

When you start using another method, continue to breastfeed. **Breast milk is the best food for your baby!**

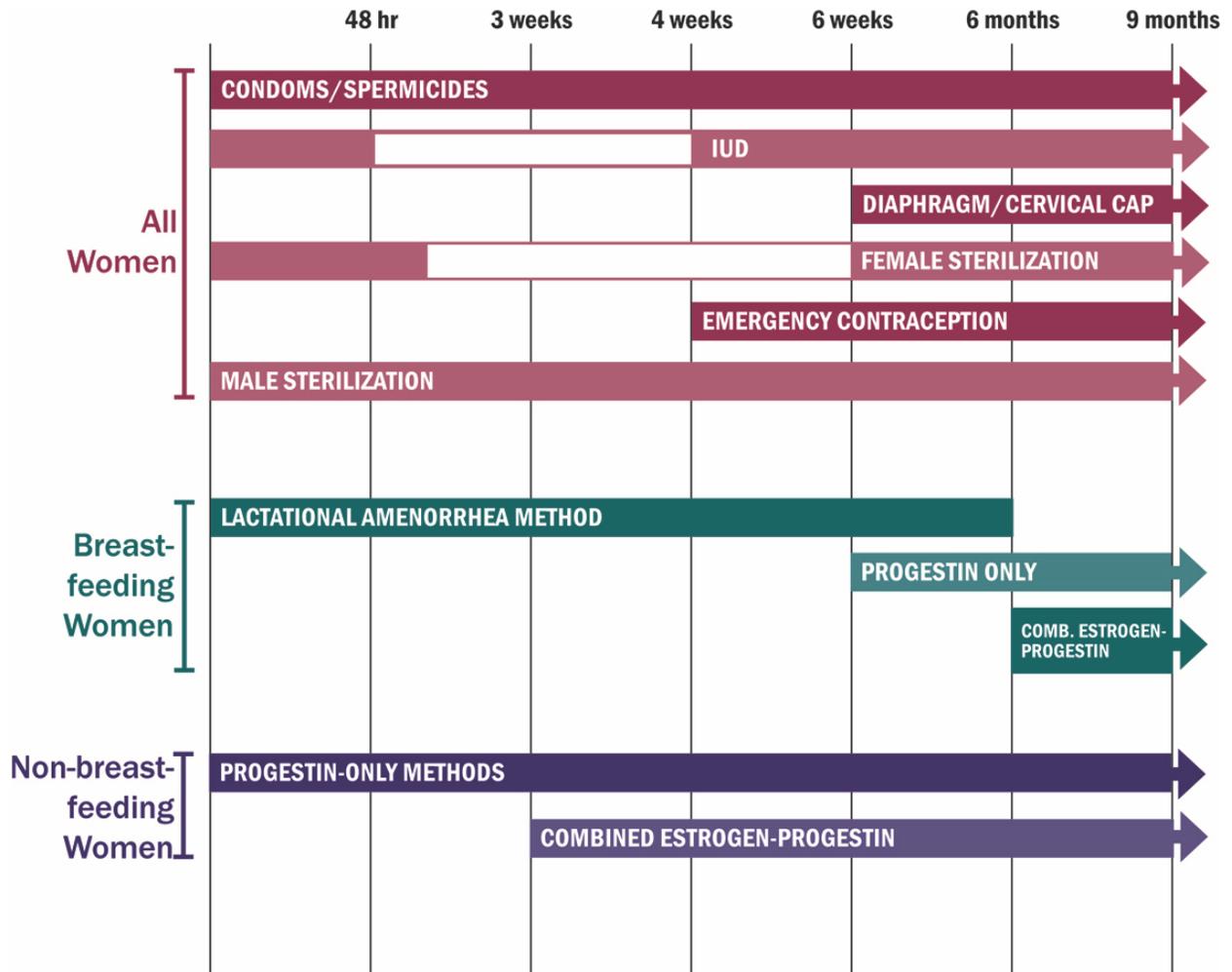


Wait 2 years after your baby is born before getting pregnant again. It is good for the health of your baby and you.



Family Planning Initiative
Addressing unmet need for postpartum family planning

JOB AID 4: POSTPARTUM CONTRACEPTIVE OPTIONS



CHECKLIST 7: FABRICATION OF WELL COVER

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
No step should be left blank.

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Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR FABRICATION OF WELL COVER	
STEP	SCORE
GETTING READY	
Input: Tools: shovel, hammer, tap rule, wheelbarrow, level travel, rubbing board, saw, head pan etc. Materials: cement, sand, crust rock, mesh wire, tire wire etc.	
PROCEDURE	
1. Ratio of 1x2x2: 1 part cement, 2 parts sand and 2 parts crust rock	
2. Assemble and prepare the mold	
3. Level the ground to set the mold	
4. Thoroughly mix the cement and sand it turn to grey color	
5. Put in the crust rock to be mixed with the cement and sand mixture	
6. Pour in the water to complete the mixture of the mortar	
7. Cut the mesh wire according to the size of the mold	
8. Install the mesh wire inside the mold	
9. Pour the concrete mixture inside the mold	
10. Compact it properly and wait for 7days	
11. Finally, remove the mold and prepare for installation	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO FABRICATE A WELL COVER

Assessor’s Signature _____

Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 8: FOOD PREPARATION AND SERVICE

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

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Learner _____

Date _____

CHECKLIST FOR FOOD PREPARATION AND SERVICE	
STEP	SCORE
GETTING READY	
<p>Utensils: spoons, forks, knives, cups, pans, bowls or dishes etc. The preparation and service of food can involve one or more procedures. Food borne illnesses preventing require and effective food safety measures that ensure good personal hygiene and avoid cross contamination and temperature abused.</p> <p>Preparation and service include all the activities that occur between storage and consumption of the by the consumers.</p>	
PROCEDURE	
1. Gathering food items together with a potable water supply.	
2. Put water into the pan or bowl and wash your hands thoroughly to prepare food.	
3. Put the food items into the pan or bowl with first wash, second wash and third with sanitizer or use chlorine water	
4. Wash grain items one by one before cutting	
5. Wash all fruits and vegetables before eating.	
6. Wash hands after handling raw meat, fruits or vegetables.	
7. Prevent cross contamination from raw foods to cooked or ready to eat foods by washing and sanitizing equipment and utensils.	
8. Light the fire and put the pot on the fire /stove for cooking.	
9. Put food items and ingredients together and pour into the pot.	
10. Food must be cooked to 145 ⁰ F (65 ⁰ C) or above.	
11. Cooked food s must be cooled from 135 ⁰ F (57 ⁰ C) to 70 ⁰ f (21 ⁰ C) within 2 hours and from 135 ⁰ F (57 ⁰ C) to 410F (5 ⁰ C) within 6 hours.	
12. Food must also be reheated to 1650F (740C) within 2 hours and held at 1350F (570C) until served. Food should be reheated only one time.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PROVIDE FOOD PREPARATION AND SERVICE

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

CHECKLIST 9: FOOD PREPARATION METHOD

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

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Learner _____

Date _____

CHECKLIST FOR FOOD PREPARATION METHOD	
STEP	SCORE
GETTING READY	
Materials: spoons. Soap, towel water, forks, knives, cups, pans, bowls, or dishes. Food preparation method is essential to reduce decay and infection and for short and long terms. The purpose for food preparation is a method/ procedure use to keep food from becoming perishable unless preserved properly or to keep it from damaging or destroying.	
PROCEDURE	
1. Air, heat or sun shining	
a. Receiving product and ingredients after washing your hands.	
b. Applied salt on the food items, if red meat and fish	
c. Put the food item on the clean cloth and place it on the table outside for air or sun drying.	
d. Put a body net screen to avoid fly infestation.	
2. Smoking:	
a. Preserve and give flavor to food by hanging it in smoke or on a drying for dehydration.	
b. Wash your hands before receiving products and ingredients.	
c. Hang the food items over the smoke it is a red meat or fish	
d. Put the food items on the mat dryer,	
e. Use the fire match to light the fire wood and heat to smoke the food item on the mat dryer.	
3. Salting:	
a. Salt is commonly known as sodium chloride and it is often added to food in order to improve its flavor.	
b. Wash your hands before receiving products and ingredients.	
c. Slash the food items and applied the salt on it.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PREPARE FOOD

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other)*:

CHECKLIST 10: FOOD SERVICE

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

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Learner _____

Date _____

CHECKLIST FOR FOOD SERVICE	
STEP	SCORE
GETTING READY	
TOOLS: serving food to consumer require proper dress code, hair gear, clean uniform, good health etc.	
PROCEDURE	
1. Gathering of servicing utensils/dishes	
2. Put water into the pan or bowl and wash your hands thoroughly to serve food.	
3. Put the dishes/utensils into the pan, bowl or basin and do first wash second wash and rinse in the third wash basin.	
4. Wash in hot, soapy water, rinsing in a clean water, chemical sanitizing and air drying.	
5. Scrap and flush large particles from equipment and utensils before the items are placed in a cleaning solution.	
6. Spray the equipment and utensils with warm water and avoid using hot water.	
7. Pre-scrap and pre-flush soiled equipment and pre-soak utensils to remove visible soil.	
8. When serving foods, always practice good personal hygiene.	
9. Start up with the wearing of clean uniform and hair restraint.	
10. Hold utensils only by the handles and do not touch beverages glasses by the outside or inside rims.	
11. Handle plates and bowls by the bottom or outer rims.	
12. Wash your hands after handling dirty tableware and utensils.	
13. Never dry your hands on your apron. Always use a single service towel.	
14. Put on a disposable to serve food to consumers.	
15. Throw away or never reuse washed disposable gloves.	
16. Remove gloves from hands when you are ready to handle money, because money is highly contaminated.	

Learner IS QUALIFIED NOT QUALIFIED TO PERFORM FOOD SERVICE

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

CHECKLIST 11: HAND HYGIENE

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Learner _____

Date _____

CHECKLIST FOR HAND HYGIENE	
STEP	SCORE
GETTING READY	
1. Make sure your nails are short (tips are less than 0.5 cm long and you do not wear artificial nails or nail polish).	
2. Remove all jewelry (rings, watches, bracelets).	
3. Do not allow your clothing to touch the sink during handwashing.	
PROCEDURE	
4. Turn on the water and adjust it until it is comfortably warm.	
5. Wet your hands thoroughly up to the wrists.	
6. Apply sufficient soap (bar or liquid) to cover all areas of your hands and thumbs up to your wrists. (If using a soap bar, rinse it and return it to the soap dish.)	
7. Wash your hands up to the wrists with vigorous rubbing, using a circular motion.	
8. Cover all surfaces (front and back of hands, thumbs and between fingers) and continue washing for 15 seconds.	
9. Use the fingernails of the opposite hand or an orange wood stick to clean your nails.	
10. Rinse your hands thoroughly with water covering all areas, especially between the fingers and under your nails.	
11. Dry your hands with a paper towel or clean cloth personal towel.	
12. Use a towel to turn off the water if there is no foot control or automatic shut off to prevent contaminating your hands.	
13. Apply an oil-free lotion to prevent drying and cracking of hands and fingers.	
14. Perform hand hygiene.	
15. Document procedure and/or findings.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM HAND HYGIENE

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

TIPS/EXERCISE 2: HEALTH EDUCATION

Purpose: the purpose of this exercise is to enable the participants to conduct proper health talk or education.

STEP ONE: Yes / No

- Conduct assessment Y / N
- Analyze the result Y / N
- Develop a plan Y / N
- Identify a topic Y / N
- Identify the learner Y / N
- Write out your objectives Y / N
- Develop the content Y / N
- Evaluate the plan Y / N

STEP TWO: Running the Teaching session:

12. Introduce yourself and the topic – get everyone attention Y / N
13. Give a summary of the main points you will cover Y / N
14. Present your facts and information showing relevant Visual aids when appropriate Y / N
15. Make sure your language is to the level of your audience And speak louder and clear for one to understand Y / N
16. Try not to be distracted by too much Y / N
17. Keep a constant watch on the reaction of the group, look out Signs of misunderstanding or boredom in the audience Y / N
18. Actively encouraging questions Y / N
19. Provide practical assignment or reading to follow.

CHECKLIST 12: ADMINISTERING AN INTRAMUSCULAR INJECTION

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Learner _____

Date _____

CHECKLIST FOR ADMINISTERING AN INTRAMUSCULAR INJECTION	
STEP	SCORE
GETTING READY	
1. Check the medication order and verify its accuracy by checking it against the doctor’s order.	
2. Check the patient’s record for any drug allergies.	
3. Gather equipment.	
4. Perform hand hygiene.	
5. Cross-check the patient’s identity with medication order.	
6. Check the label on the medication three times before administering it.	
7. Prepare the vial and syringe.	
8. Add appropriate amount of air into syringe.	
9. Prepare the correct amount of medication in the syringe.	
10. Provide for privacy; position and drape the patient.	
PROCEDURE	
11. Select appropriate injection site using landmarks.	
12. Cleanse injection site if skin is soiled.	
13. Remove needle cover.	
14. Grasp or spread skin with non-dominant hand depending on the amount of muscle present.	
15. Quickly insert the needle at 90° using a smooth darting motion.	
16. Pull back on the plunger slightly to check for blood.	
17. If none, inject medication slowly. If blood return, remove needle and re-start procedure with a new needle and syringe.	
18. Withdraw needle and massage area.	
19. Discard needle in sharps container.	
20. Record medication given, site used, dosage, and time.	

CHECKLIST FOR ADMINISTERING AN INTRAMUSCULAR INJECTION	
STEP	SCORE
21. Perform hand hygiene.	
22. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM INTRAMUSCULAR INJECTIONS

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

CHECKLIST 13: KANGAROO MOTHER CARE

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
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Learner _____

Date _____

CHECKLIST FOR KANGAROO MOTHER CARE	
STEP	SCORE
GETTING READY	
1. Instruct the mother about the necessity of keeping the baby warm with special care.	
2. Explain the benefits of the Kangaroo Mother Care method and ask permission to demonstrate.	
3. Ensure the availability of clothes to keep the baby warm.	
4. Encourage the woman to ask questions and listen to what she has to say.	
PROCEDURE	
5. With the baby naked, keep the baby upright so as to place the baby against the chest of the mother between the breasts.	
6. Turn the head of the baby to one side of the chest so that there is no difficulty in breathing.	
7. Flex all of the baby’s limbs such that the baby’s face, chest, abdomen, and limbs come in contact with the mother’s chest.	
8. Place the baby against the lower part of the mother’s chest (near the epigastrium).	
9. Ensure that the cloth that is used for holding the baby to the mother properly supports the baby’s buttocks.	
10. Tie the lappa (wrapper) either to the front or back of the mother.	
11. Perform hand hygiene.	
12. Document procedure and/or findings.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO TEACH KANGAROO MOTHER CARE

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 14: MALARIA RAPID DIAGNOSTIC TEST

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR MALARIA RAPID DIAGNOSTIC TEST	
STEP	SCORE
GETTING READY	
1. Read expiration date.	
2. Use test kit with earliest expiration date <i>(and run controls if due)</i> .	
3. Allow RDT to warm to room temperature if kept in cool storage.	
4. Perform hand hygiene.	
5. Verify request form (by consulting with clinician, if required), date, and time request was received/recorded.	
6. Identify the patient and record the patient’s details and laboratory number.	
7. Explain the procedure to the patient, and provide reassurance as needed.	
8. Put on gloves.	
PROCEDURE	
Blood Collection plus Dispensing	
9. Select site, clean with alcohol swab, and allow to dry.	
10. Firmly prick site with sterile lancet.	
11. Collect adequate volume of blood without excessively squeezing the finger chosen.	
12. Dispense blood in correct well.	
RDT Procedure + Reading Results	
13. Dispense correct volume of fluid.	
14. Dispense fluid in correct well.	
15. Wait for correct time (according to manufacturer’s instruction).	
16. Verify internal test control.	
Recording Results	
17. Read results correctly.	
18. Record results correctly (including mixed infections if a combo test is used).	
19. Record date and time of reporting results.	

CHECKLIST FOR MALARIA RAPID DIAGNOSTIC TEST	
STEP	SCORE
Disposal of Infectious Material	
20. Dispose of used tests, transfer devices, and other contaminated material into plastic-lined bin.	
21. Dispose of used lancet into a sharps container.	
Result Delivery	
22. Deliver results back to the patient or clinician.	
23. Note time taken from receiving request to delivery of results.	
24. Perform hand hygiene.	
25. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM MALARIA RAPID DIAGNOSTIC TEST

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (*in case of need to remediate or other*):

CHECKLIST 15: MEASURING UPPER ARM CIRCUMFERENCE (MUAC)

(To be completed by the Assessor)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR MUAC	
STEP	SCORE
GETTING READY	
1. Greet the patient respectfully.	
2. Explain procedure to parent/s and child/children in a gentle, soft voice.	
3. Perform hand hygiene.	
PROCEDURE	
4. Locate the mid-point of the upper arm by determining the tip of the shoulder and the tip of the elbow.	
5. Use tape to determine midpoint and lightly mark skin with a pen.	
6. Wrap MUAC tape around midpoint of left arm.	
7. Read the measurement from the window of the tape or from the tape.	
8. Record the MUAC to the nearest 0.1 cm or 1 mm.	
9. Repeat procedure to ensure correct interpretation while communicating to parent/s and child/children what you are doing.	
10. Perform hand hygiene.	
11. Document procedure and/or findings.	
TOTAL	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM MEASUREMENT OF UPPER ARM CIRCUMFERENCE (MUAC)

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 16: REPAIR OF HAND PUMPS

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR REPAIR OF HAND PUMPS	
STEP	SCORE
GETTING READY	
Input: Tool Kits-fishing tool and spanner, Bush, bearing assembles, plunger seal. Valve bobbing foot valve “O” ring. Waving parts: Bobbing C-2088 cup seal-f2758 bearing bush oath-C2044 Bearing bush Inner. C 2045 O-ring (1021 pump and centralized-C2212.	
PROCEDURE A: ACCESS PROBLEM	
1. Determine the cause of the problem, dismantle the pump as necessary.	
2. Determines the cause of action-repair the pump with local expertise and parts	
3. Identify defective components and secure replacement part	
4. Disassemble the hand pump to local defective components	
5. Assessable the pump after replacing defective components	
6. Record detail in the maintenance card	
7. Keep all parts clean by starting in pump head cover while repairing pump	
PROCEDURE B: ACCESS AND DISASSEMBLE	
1. Before staring remember to keep clean water for washing parts	
2. Loosen pump head cover bolt	
3. Take off cover loosen both hanger nuts and loosen both fulcrum nuts	
4. Put spanner through hanger eye raise and withdraw handle	
5. Remove fulcrum bearing and pin	
6. Remove hanger bearing and pin	
7. Pull up rods and plunger and join rods to fishing tool and lower down the well to pick up foot valve	
Foot valve: <ul style="list-style-type: none"> • Replace old robbing with new one • Replace old “O” ring with new one • Drop foot valve down the well • Put back plunger on the rods • Join rods while lowering down the well • Make sure that foot valve is in place by pushing the at arm length down the well 	

CHECKLIST FOR REPAIR OF HAND PUMPS	
STEP	SCORE
<ul style="list-style-type: none"> • Put spanner through hanger eye to support rods • Put back hanger pin with new bearing • Put back fulcrum pin with new bearing • Put back handle to support the hanger • Remove spanner and tighten all nut • Put back cover and tighten bolt • Pump until clear water comes before drinking 	
PROCEDURE: DISMANTLED (PLUNGER AND FOOT VALVE)	
1. Check at least once a year	
2. Open cover bolt and remove cover	
3. Loosen hanger pin and fulcrum pin nuts	
4. Keep handle in lowest position, insert spanner into retainer bush and rest it in the slots provided	
5. Move handle to a horizontal position and put it out carefully	
6. Remove fulcrum pin and the bearing bushes from the handle	
7. Remove hanger pin and the bushes from the rod hanger	
8. Lift up the tripod and introduce resting tool below the connection	
9. Open all connections on top of the resting tool	
10. Remove all pump rods and plunger rods	
11. Replace plunger rod with fishing tool and re-install all pump rods for fishing the foot valve.	

Learner IS QUALIFIED NOT QUALIFIED TO REPAIR HAND PUMPS

Assessor's Signature _____ Date _____

Assessor's Printed Name _____

Comments (in case of need to remediate or other):

CHECKLIST 17: SIMPLE PIT LATRINE CONSTRUCTION

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR SIMPLE PIT LATRINE CONSTRUCTION	
STEP	SCORE
GETTING READY	
1. Inputs: shovel, pick, miner bar, slab, cover (wood or metal and Materials for the superstructure. Cement, sand, crushed Rock, steel rod, tire wire, rafter and stick. 2. Effective volume of the pit, defecation hole, slab, cover Superstructure, roof etc. 3. Slab seating, drainage channel, water table, alternative slab. Quality of wood is important: aging + termites = danger.	
PROCEDURE	
1. Choose a site downhill from groundwater abstraction points 30m/100ft away (consolidated formation) 50m/160ft unconsolidated soil and clean the site	
2. Prepare the profile of the pit latrine	
3. Dig a pit 0.04m3 x 25 people (WHO recommended)	
4. If cement slab; extend it at least 1.5cm beyond each side	
5. If unsuitable soil, make a foundation to strengthen the pit wall	
6. Construct the superstructure; it may be brick, (mud /concrete) etc.	
7. Fix a roof with sloping toward the back	
8. Door and painting formation	
9. Dig a drainage channel around the latrine to prevent runoff entering and to protect the pit wall	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO CONSTRUCT A SIMPLE PIT LATRINE

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 18: SLAB MAKING

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*
No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR SLAB MAKING	
STEP	SCORE
GETTING READY	
Inputs: Tools: shovel, hammer, tap rule, water level, travel and rubbing board, saws, head pan etc. Materials: cement, sand, crust rock, steel rod, tire wire, nails, planks, rafters and sticks, chicken wire etc.	
PROCEDURE	
10. 1x2x2: 1 part cement, 2 parts sand and 2 parts crust rock + water	
11. Thoroughly mix cement and sand to turn to grey color	
12. Put in the crust rock to be mixed with the cement and sand mixture	
13. Pour in water to mix the mortar	
14. Fix a square plank box 4x4 to pour in the mixture mortar	
15. Level the ground to set the box. Lay emptied cement or bag at the bottom	
16. Cut the steel rod according to the width and length of the box. Tire the steel rod with a 6in tire wire	
17. Put in half inch mortar at the bottom and lay the chicken wire and then the steel rod before pouring in the mortar into the box. After proper compacting, wait for 7 days to remove the box.	
18. Remove the slab from the ground and prepare for installation.	

Learner IS **QUALIFIED** **NOT QUALIFIED TO CONSTRUCT A SLAB**

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other)*:

TIPS/EXERCISE 3: SOLID WASTE COLLECTION:

Purpose: is to enable participants /students discuss solid waste collection and storage.

Exercise: To discuss waste collection and storage.

I. COLLECTION OF SOLID WASTES: YES / NO

STEP ONE: Gathering of equipment for collection of refuse Y / N

STEP TWO: Institutions daily collection of refuse EXCEPT Sunday. Y / N

STEP THREE: Residential areas: Refuse collection twice a week during rainy

Season and one a week during the dry season Y / N

STEP FOUR: Slum and ghetto areas: usually require of at least twice a week. Y / N

STEP FIVE: conduct a house to house inspection.

CHECKLIST 19: VENTILATED IMPROVED PIT LATRINE

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

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Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR VENTILATED IMPROVED PIT LATRINE (VIP)	
STEP	SCORE
GETTING READY	
Inputs: shovel, pick, miner bar, slab, cover(wood or metal) and Materials for the superstructure. Cement, sand, crust Rock, steel rod, tire wire, rafter, planks and stick. Effective volume of the pit, defecation hole, slab, cover Superstructure, roof, vent pipe (PVC), nylon or mosquito netting etc. Slab seating, drainage channel, water table, alternative slab, Quality of wood is important: aging + termites = danger	
PROCEDURE	
19. Choose a site downhill from groundwater abstraction points 30m/100ft away (consolidated formation) 50m/160ft unconsolidated soil and clean the site	
20. Prepare the profile of the pit latrine	
21. Dig a pit 0.04m ³ x 25 people (WHO recommended)	
22. Build the foundation to the upper part to support the slab	
23. Cast the slab and place it over the pit. The slab should have a second hole behind the defecating hole of 150mm for the vent pipe	
24. Construct the superstructure; it may be brick, (mud /concrete) or stone etc.	
25. Fix the ventilated pipe at the back of the latrine. It may be round/square PVC, metal, brick, or reed with either plastic or nylon string or one may use the mosquito net material	
26. Door and painting formation	
27. Dig a drainage channel around the latrine to prevent runoff entering and to protect the pit wall.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO BUILD A VENTILATED IMPROVED PIT LATRINE

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other)*:

CHECKLIST 20: WASTE DISPOSAL THROUGH LANDFILL METHODS

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

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Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR WASTE DISPOSAL THROUGH LANDFILL METHODS	
STEP	SCORE
GETTING READY	
1. Tools/Equipment: shovels, rakes, truck, frontend loader vehicle, brook, 4- door pickup, wheelbarrow. 2. Materials: sand Landfills hold a very large volume of waste and are engineered specification to prevent rainwater from leaking contamination into ground water.	
PROCEDURE	
1. The bottom is lined with a dense layer of clay and sealed with thick plastic sheeting.	
2. Garbage is piled up in rows that are 10 to 20 feet high.	
3. The bulldozer and rollers aid in compacting the garbage at the end of the day.	
4. Added garbage is covered with sand or soil to carry on daily cell layer of 4 to 5 layers.	
5. The bulldozer crushes the garbage and covering it with soul or soil to continue the daily cell layer	
6. Finally, compacts in the trenches and cover them properly.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM WASTE DISPOSAL THROUGH LANDFILL METHODS

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 21: WASTE SEGREGATION (DEGRADATION AND NON-DEGRADABLE SUBSTANCE)

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR WASTE SEGREGATION (DEGRADATION AND NON-DEGRADABLE SUBSTANCE)	
STEP	SCORE
GETTING READY	
Tools/Materials: gloves, rain boots, rain coats, nose masks etc. Much of the refuse organic. People reuse cans, bags, and other plastics and metals as long as they can. Recycling including composting methods is carried on. Solid waste removes from the waste stream items made of recyclable materials, such as glass metal, plastics and paper before the wastes are disposed of.	
PROCEDURE	
1. Place symbols to represent (left to right) lap a product that can be recycled, a product that contain at least some recycled materials and a product that contains a specified percentage of recycled materials	
2. At the collection or storage areas pick among the solid waste and remove the waste stream for the purpose.	
3. Pick food wastes from plastic paper.	
4. Pick yard waste from glass bottle (can or wood)	
5. Pick all hazardous from non-hazardous wastes.	
6. Separate waste before the collection team arrives to take the trash outside the city.	
7. All garbage bins or drums, bags should be different for segregation.	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM WASTE SEGREGATION

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*

CHECKLIST 22: WATER QUALITY ASSESSMENT

Place a “1” in score box if STEP is performed satisfactorily or is not applicable OR a “0” if it is not performed satisfactorily or if not observed. *Checklists may be used in simulation or in the clinical area and should be used for practice prior to assessment.*

No step should be left blank.

Satisfactory= 1: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory= 0: Does not perform the step or task according to the standard procedure or guidelines

Not applicable= 1: The step does not apply in the setting, for example, if certain resources are not available in the clinic versus hospital or gloves/supplies are disposed of versus sterilized

Learner _____

Date _____

CHECKLIST FOR WATER QUALITY ASSESSMENT	
STEP	SCORE
GETTING READY	
Input: Tools and equipment: Clean glass, or plastic bottle, marker pen and thermometer Turbidity Quality Assessment and chemical Quality assessment	
PROCEDURE	
Select a special transparent graduated plastic tube or calibrated beaker	
Pour water sample into the tube and check for turbid information/ appearance	
Record reading in a log book	
II. Chemical Quality Assessment	
PROCEDURE	
Collect at least two by eleven inch mineral bottle and rinse	
Collect water sample fill up to top and close tightly	
Take water sample to the laboratory for analysis	

Learner IS **QUALIFIED** **NOT QUALIFIED** TO PERFORM WATER QUALITY ASSESSMENT

Assessor’s Signature _____ Date _____

Assessor’s Printed Name _____

Comments *(in case of need to remediate or other):*