

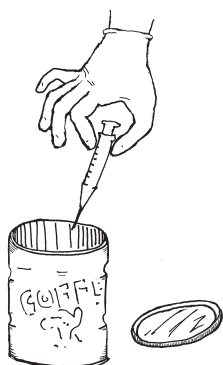
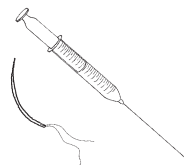
# APPENDICES

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# Get Rid of Wastes Safely

Every time you examine a person's mouth, fill a cavity, or extract a tooth, you are left with some waste. For example, used cotton or gauze, disposable needles and syringes, plastic gloves, and other materials must be thrown away. But **do not put them in the trash**. These wastes carry germs and can spread infections to you and to people in the family and community. Wear gloves when you touch wastes, and get rid of them carefully.



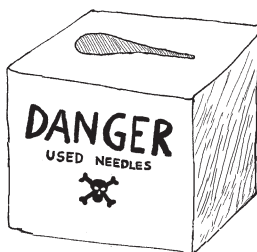
## HOW TO DISPOSE OF SHARP WASTES

Sharp wastes must be put into a container so they will not injure anyone who finds them. A container made of metal or heavy plastic, with a lid or tape to close it, works well.

When the container is half full, add 5% bleach solution, then seal it closed and bury it deep in the ground.

## Make a box to dispose of needles safely

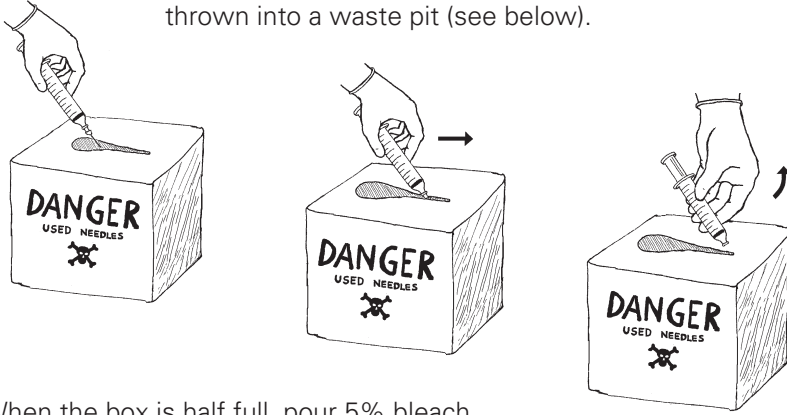
Find a metal or hard plastic box. Make a long hole in the lid of the box that is wide on one side and gets narrower on the other side.



(continued on next page)

When you have finished using a disposable syringe, put the needle into the box and slide it down to the narrowest point.

Then pull up on the syringe and the needle will fall off into the box. The plastic syringe can be sterilized and thrown into a waste pit (see below).



When the box is half full, pour 5% bleach solution into the box, seal it closed, and then bury it deep in the ground.

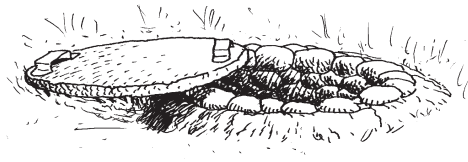
## OTHER WASTES

Other wastes, like plastic gloves, syringe barrels, or cloth soaked in blood, should be sterilized and then buried deep in the ground. You can sterilize them by soaking them in bleach for 20 minutes.

**WARNING: Do not burn plastic gloves, syringes, or any other plastics.** Burning plastic wastes is dangerous—when plastic burns, it makes smoke and ash that is very poisonous.

## BURYING WASTES

Find a place away from where people get their drinking water and away from where children play. Dig a safe waste pit to bury wastes.



# The Dental Kit



In the next 10 pages, there are lists of medicines, instruments, and other supplies recommended in this book. Keep them together in a kit. **You may want to change some of them, or add others to meet your own needs.**

As a dental worker, you will be able to get many of the items on the lists from your government medical stores. Some things you will have to buy yourself. That can be expensive, so we make several suggestions to help you save money.

Before you order, decide how many of each thing you need. Ask yourself: How many persons do I treat each day? For what problems? Then order enough medicines and supplies for three months.

**Note: As more people learn about the treatment you can give, more will come to ask for your help. Remember this when you order. Remember, also, that some persons may need more than one treatment.**

On pages 208 to 209 we give an example. We recommend how many medicines, supplies, and instruments you will need if you see 10 people a day—200 a month. You cannot be exact, of course, because you cannot predict exactly what problems will arise. However, we can say that, **on the average:**

In a group of 10 persons with urgent problems:

- 6 persons need you to take out 1 or more teeth (so you must inject)
- 2 persons need cement fillings
- 2 persons need medicine before you can treat them.

Many of these persons must return for another visit:

- 5 persons need you to scale their teeth and teach them how to care for them better
- 1 person will need a cement filling
- 2 persons will need treatment after taking medicine.

## MEDICINES

Use ↓	Proper Name ↓	local name (write in here) ↓	Amount you need in 3 months ↓	Amount to keep in kit ↓	See Page ↓
<b>For Pain</b>	1. aspirin, 300 mg tablets	_____	2,000 tablets	100 tablets	<b>94</b>
	2. acetaminophen (paracetamol) 500 mg tablets	_____	500 tablets	10 tablets	<b>94</b>
<b>For infections</b>	1. penicillin, 250 mg tablets	_____	2,000 tablets	100 tablets	<b>94</b>
	2. erythromycin, 250 mg tablets	_____	500 tablets	40 tablets	<b>94</b>
	3. nystatin drops or gentian violet	_____	12 small bottles	2 small bottles	<b>105</b>

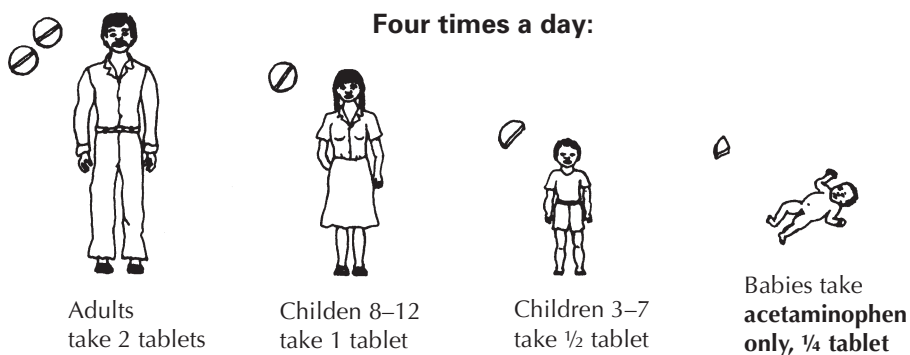
Another antibiotic, tetracycline, is not recommended for any of the treatments in this book because it is a broad-spectrum antibiotic. Narrow spectrum antibiotics (see 'antibiotics,' page 223) are usually safer and just as effective for most dental problems. If you do use tetracycline, read page 355 of *Where There Is No Doctor* and remember, **do not give tetracycline to a pregnant woman or to a young child.** Tetracycline can make young, developing teeth turn yellow.

### SUGGESTIONS:

1. Compare prices before you buy medicines. Often the same medicine has many different names. The **generic name** (the name we use on this page) usually is cheapest, and the medicine is just as good as the 'brand-name medicines'. Use the generic name to order and buy, not the brand name.
2. Always look for a date on the package. It is called the expiration date (or expiry date). **If today is later than that date, do not buy or use that medicine.**
3. Be careful to give the correct dose. Read the next 2 pages carefully, as well as the 'Treatment' section of each problem in Chapter 7. If pages 209 and 210 are not clear to you, read Chapter 8 (pages 59 to 64) of *Where There Is No Doctor*.
4. For serious infections, see page 210.

## THE CORRECT DOSE

Before you give medicine, think about the sick person's weight and age. The smaller children are, the less medicine they need. For example, pain medicine such as aspirin (300 mg tablets) or acetaminophen (500 mg tablets) can be broken up into smaller tablets:



**Note:** Do not hold aspirin on the bad tooth. Aspirin has acid that can hurt the tooth. Always swallow aspirin immediately. **For severe pain**, when aspirin does not help, an adult can take 30 mg of codeine 4 to 6 times a day, as needed.

## ANTIBIOTICS: TO FIGHT INFECTION

Antibiotics kill bacteria that cause infections. Some antibiotics work better than others on certain bacteria. If you can, test the pus to find which antibiotic works best.

**Do not give penicillin to a person who is allergic to it.** Ask about the person's allergies before you give penicillin pills or injections. When you inject penicillin, always keep epinephrine (*adrenalin*) ready to inject if the person shows signs of allergic shock. Stay with the person for 30 minutes. If you see these signs...

- cool, moist, pale, gray skin (cold sweat)
- difficulty breathing
- weak, rapid pulse (heartbeat)
- loss of consciousness

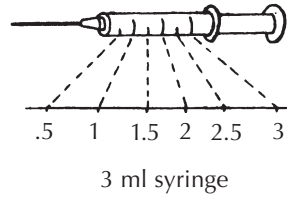
... immediately inject epinephrine: .5 ml for adults or .25 ml for children. If necessary, inject the same dose again after 20 or 30 minutes. For more information on allergic shock, see *Where There Is No Doctor*, pages 70 to 71.

**Always give the full dose of penicillin or any antibiotic**, even if the person feels better. See page 94 for the correct dose of penicillin or erythromycin. Erythromycin also comes in liquid form. It has 125 mg in 5 ml, so 10 ml of liquid (about 2 large teaspoons) is the same as one 250 mg tablet.

**It is important to take a strong first dose of penicillin or erythromycin**, and then smaller doses 4 times a day for 3 to 5 days after that. Carefully read the instructions on page 94.

## INJECTIONS: FOR SEVERE INFECTIONS

It is always safer to take medicine by mouth. Sometimes, however, an infection is so bad that you need to give medicine by injection. **Learn how to give injections from an experienced health worker.** The injections described on this page are not like the anesthetic injections in Chapter 9 of this book—you must inject these medicines into a large muscle in the buttocks or arm. For more instructions on this kind of injection, see Chapter 9 (pages 65-74) of *Where There Is No Doctor*.



**For severe infection:** There are 2 kinds of penicillin to inject.

**Procaine Penicillin**



300,000 units  
in 1 ml

You will usually use 'aqueous procaine penicillin'. Give only 1 injection per day.



**Crystalline Penicillin**



1,000,000 units  
in 1 ml

For very severe infections, give 'crystalline penicillin' every 6 hours for the first day. It acts quickly and for a short time only.

### INJECTABLE MEDICINES

SUPPLIES			DOSE		
Proper Name	Amount you need in 3 months	Amount to keep in kit	Adult (over 40 kg)	Child 6-12 years old (22-39 kg)	Child 1-6 years old (10-22 kg)
1. procaine penicillin, bottle with 300,000 Units per ml	200 bottles	4 bottles	4 ml 2 times/day	2 ml 2 times/day	1 ml 2 times/day
2. crystalline penicillin, bottle with 1,000,000 Units per ml	50 bottles	1 bottle	3 ml 4 times/day	1.5 ml 4 times/day	1 ml 4 times/day



<b>SUPPLIES</b>					
Use ▼	Proper Name ▼	Local name (write in here) ▼	Amount you need in 3 months ▼	Amount to keep in kit ▼	See Page ▼
To make dressings	1. clean cotton gauze	_____	8 packages of 100	20 pieces	<b>225</b>
	2. clean cotton rolls	_____	10 packages of 50	8 rolls	<b>147</b>
To fill cavities	3. oil of cloves (eugenol)	_____	50 ml	1 small bottle	<b>146</b>
	4. zinc oxide powder	_____	500 grams	1 small bottle	<b>146</b>
To treat sensitive teeth	5. flouride toothpaste	_____	1 tube	1 tube	<b>211 (below)</b>
To give injections of local anesthetic	6. lidocaine 2% 1.8 ml cartridge	_____	8 boxes of 100 cartridges	10 cartridges	<b>136</b>
	7. disposable needles, 27 gauge long	_____	8 boxes of 100 needles	10 needles	<b>136</b>
	8. lidocaine topical anesthetic	_____	5 small tubes	1 tube	<b>141</b>

## FLUORIDE

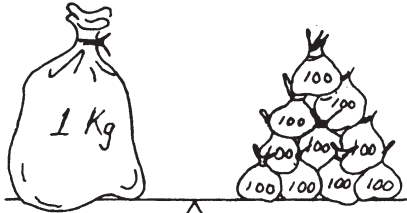
You can use a special solution of fluoride (if available) or any fluoride toothpaste, which is much cheaper and more common (see above, number 5), in 2 ways:

**To treat a sensitive tooth:** Put cotton rolls between the lip and gum on each side of the bad tooth. Dry the bad tooth with cotton and look for the small groove that is causing the pain. Cover the groove with a smear of fluoride toothpaste and tell the patient not to spit or rinse it out for several minutes. One week later, give the same treatment again, or have the patient do it himself.

**To help prevent cavities,** in children who do not clean their teeth with fluoride toothpaste, once a week have children bring their toothbrushes or toothsticks to school. Put some fluoride toothpaste on each child's brush or stick and have them brush and coat their teeth, leaving the paste in their mouths for at least one minute. Then they can spit it out. Do not eat or drink for 30 minutes.

On page 24, children are shown using a twice yearly application of a special paste, a 'topical fluoride gel'. This is good, but the weekly treatment with fluoride paste is even better for the teeth.

**Weight** (how heavy something is)



1 kilogram (kg) = 10 x 100 grams (g)

1 kilogram = 1000 grams  
1 gram = 1000 mg

**Volume** (how full something is)



1 liter      1 cup      1 teaspoon

1000 ml = 1 liter

236.5 ml = 1 cup

5 ml = 1 teaspoon

1 ml = 1 cubic centimeter (cc)

Use	Proper Name	local name (write in here)	Amount you need in 3 months	Amount to keep in kit	See Page
To make rinses	1. salt	_____	2 kilograms	100 grams	<b>7</b>
	2. hydrogen peroxide	_____	3 liters	500 ml	<b>8</b>
To keep instruments clean	1. 95% alcohol disinfectant solution	_____	18 liters	1.5 liters	<b>89</b>
	2. bleach for disinfectant solution	_____	2.5 liters	125 ml (½ cup)	<b>89</b>
To keep instruments sharp	Arkansas sharpening stone	_____	1 stone	1 stone	<b>134</b>
For examining	wooden tongue depressors	_____	8 boxes of 50 per box	10	<b>75</b>

**SUGGESTIONS:**

If you order your supplies in bulk long before you need them, you probably will pay lower prices. If you have a place to store supplies that is clean, dry, and free from cockroaches and rats, consider ordering enough for one year instead of only 3 months.

## INSTRUMENTS

When you are treating several people on the same day, you will need to clean some instruments (see pages 86 to 89) at the same time that you are using others. Therefore, it is necessary to have several of each kind of instrument, to be sure that the instrument you need will be ready (clean or sterile) when you need it.

There are 3 instruments you will need for each person who comes to you, no matter which treatment is needed. They are: a mirror, probe, and cotton pliers. Keep them together. Below we recommend that you have 15 of each of these, so you can keep one in each treatment kit. **You do not need to buy all of these instruments.** You can make several of them—see pages 214–216. If you like, buy only one example of each of the instruments below, and use them as models to copy when you make your own extra instruments.\*

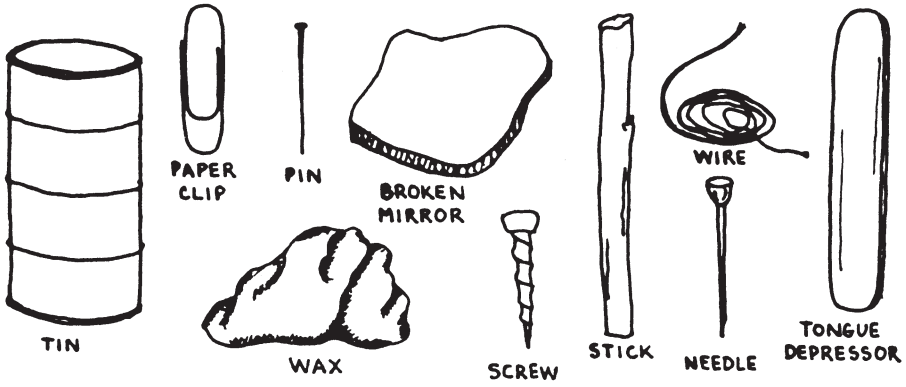
Use ↓	Proper Name ↓	Local name (write in here) ↓	Number to buy or make ↓	See Page ↓
To examine or to give any treatment	1. dental mouth mirror	_____	15	75
	2. explorer	_____	15	75
	3. cotton pliers	_____	15	128
To inject	Aspirating dental syringe to use with 1.8 ml cartridges	_____	3	135
To scale teeth	1. Ivory C-1 scaler	_____	1	128
	2. Gracey 11–12 curette	_____	1	128
To place cement fillings	1. spoon excavator	_____	1	145
	2. filling instrument	_____	1	145
	3. cement spatula	_____	1	145
To remove teeth	1. spoon excavator	_____	3	161
	2. straight elevator (No. 34)	_____	3	161
	3. upper universal forcep (No.150)	_____	3	161
	4. lower universal forcep (No.156)	_____	3	161

**Note:** See pages 161–162 for recommendations of other elevators and forceps that are good to have if you can afford them.

\*If you want the help of a charitable organization in buying instruments, see page 217.

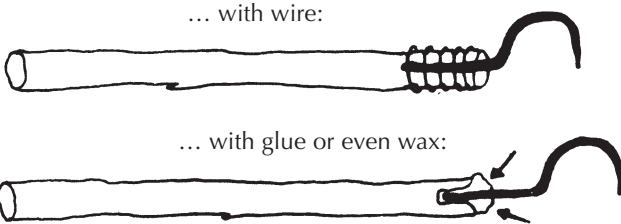
## MAKING YOUR OWN DENTAL INSTRUMENTS\*

Here are a few ideas for making instruments at low cost. Try to use materials that are available where you live.

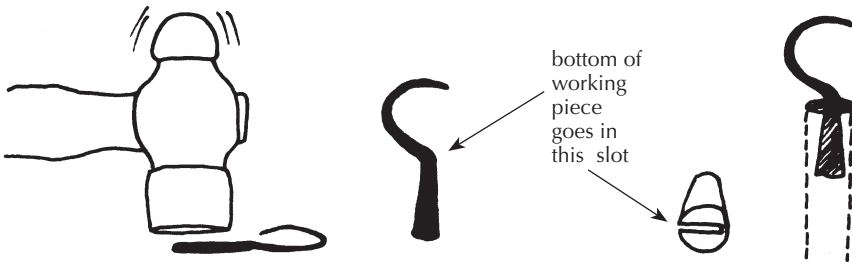


Can you think of any other materials you can use?

Each instrument has two parts: a **handle** and a **working piece** at the end. Join them together:



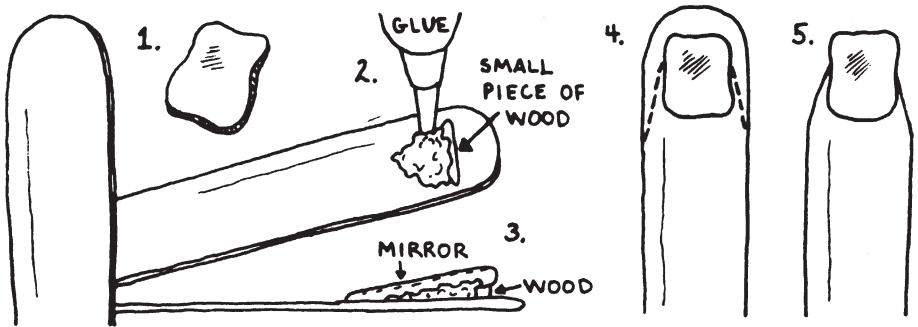
If you make the end flat, it can prevent the working piece from turning. Pound the working piece with a hammer and make a flat slot in the handle so the working piece cannot turn.



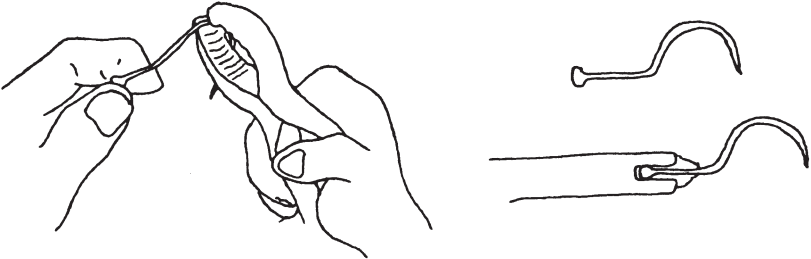
\*I am grateful to Aaron Yaschine for the ideas in this section.

## MAKING THE THREE INSTRUMENTS YOU USE MOST

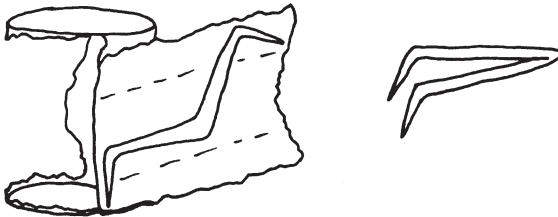
**Mirror:** Use old pieces of mirror or a shiny piece of tin. You even can use a polished silver coin. A tongue depressor is the handle.



**Probe:** Use the end of a paper clip, pin or needle for the working piece. Rub it against a smooth stone to sharpen it. Bend it so it can reach around to the back of a tooth. Attach the working piece to a smooth stick handle (p. 214).

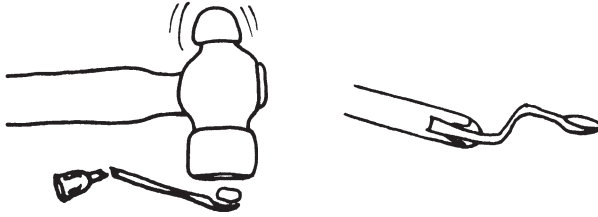


**Tweezers:** Draw the shape on a piece of tin and then cut it out with strong scissors. Use a file or a smooth stone to make the edges smooth. Bend in half to make the tweezers.

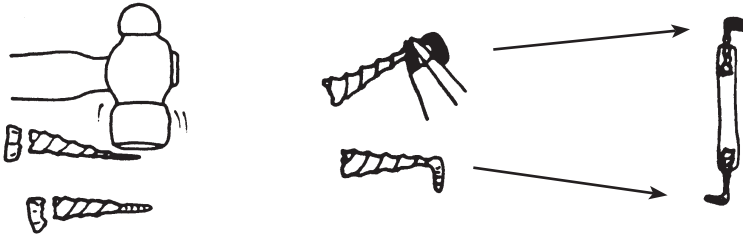


## MAKING OTHER INSTRUMENTS AND SUPPLIES

**Spoon:** Bend a paper clip or needle. Flatten the end. Then pound a small stone against the end, to make it hollow. Make 2 bends and attach to a stick handle.

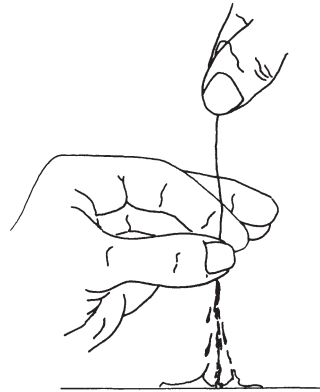


**Filling Tool:** Remove the heads from 2 long screws. With a file and hammer, make the end of one screw flat and the end of the other screw round. Bend each end in the direction of the edge (not the face) of the flat side. Attach both working pieces to a small stick handle.



**Dental Floss:** When using string to clean between your teeth (pages 71–72), you may have trouble getting this string down in between your teeth. Sometimes, also, the string gets caught there, forming a kind of 'bird's nest'. Three things can cause problems with dental floss:

- 1. An incorrectly made filling**—flat and rough instead of round and smooth. Replace the filling.
- 2. Teeth too tight together.** Use the floss on a tooth. Then pull the string out from between the teeth as you press the free end down against the gum with the fingers of your other hand. If there is a sharp filling on a tooth, the string will pass under the filling as it comes free.
- 3. String that is too thick.** Make thinner but stronger floss by waxing as in this picture. The wax also will make the floss easier to slide between your teeth.



## BUYING DENTAL SUPPLIES

When you do not have much money, you must spend wisely. Dental instruments are very expensive, especially when you buy them at commercial prices. Ask other health workers in your area where you can get instruments at lower prices. You can also try contacting the national dental association in your country. If you do not know how to locate your national dental association, contact the World Dental Federation:

### **FDI – World Dental Federation**

Tour de Cointrin, Avenue Louis Casai 51  
Case Postale 3  
1216 Geneve-Cointrin  
SWITZERLAND  
tel: 41-22-560-81-50  
fax: 41-22-560-81-40  
website: [www.fdiworldental.org](http://www.fdiworldental.org)

There are many organizations that donate health supplies—including dental instruments—or that distribute them at low cost. Some of these organizations prefer to help church-sponsored health projects, but others will provide instruments to anyone who needs them.

Durbin PLC, a company in England, may sell the instruments mentioned in this book at lower than commercial prices. For more information, contact:

### **Durbin PLC**

180 Northolt Road  
South Harrow, Middlesex HA2 0LT  
UK  
tel: 44-20-8660-2220  
fax: 44-20-8668-0751  
website: [www.durbin.co.uk](http://www.durbin.co.uk)  
e-mail: [cataloguesales@durbin.co.uk](mailto:cataloguesales@durbin.co.uk)

**Other organizations that may be able to help:**

### **World Dental Relief**

PO Box 747  
Broken Arrow, OK 74013-0747  
USA  
tel: 1-918-251-2612  
fax: 1-918-251-6326  
website: [www.worlddentalrelief.com](http://www.worlddentalrelief.com)  
e-mail: [dentalreliefinc@aol.com](mailto:dentalreliefinc@aol.com)

### **Project HOPE**

255 Carter Hall Lane  
P.O. Box 250  
Millwood, VA 22646 USA  
tel: 1-540-837-2100  
website: [www.projecthope.org](http://www.projecthope.org)  
e-mail: [HOPE@projecthope.org](mailto:HOPE@projecthope.org)

### **Direct Relief International**

27 S. La Patera Lane  
Goleta, CA 93117 USA  
tel: 1-805-964-4767  
fax: 1-805-681-4838  
website: [www.directrelief.org](http://www.directrelief.org)  
e-mail: [info@directrelief.org](mailto:info@directrelief.org)

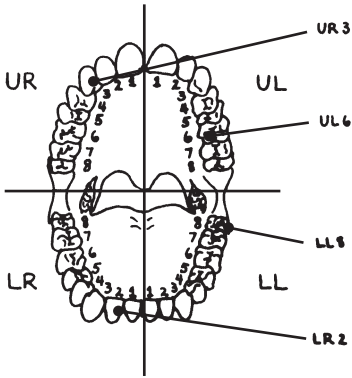
### **MAP International**

4700 Glynco Parkway  
Brunswick, GA 31525-6800  
USA  
tel: 1-800-225-8550  
website: [www.map.org](http://www.map.org)  
e-mail: [map@map.org](mailto:map@map.org)

### **Dentaid**

116 Commercial Road  
Totten, Hampshire  
SO40 3AD  
tel: 44-1794-324249  
fax: 44-1794-323871  
website: [www.dentaid.org](http://www.dentaid.org)  
e-mail: [info@dentaid.org](mailto:info@dentaid.org)

# Records, Reports, and Surveys



For record keeping, you can divide the mouth into 4 parts:

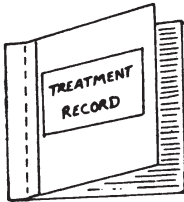
- Upper Right (UR)
- Upper Left (UL)
- Lower Left (LL)
- Lower Right (LR)

In each part there are 8 teeth (fewer in children—see page 43).

You can call each tooth by its short name, for example, UR3.

Here are the short names of 4 teeth. Can you find the tooth named LL5?

Keep a record of each person you see. Write some brief information about the person and the problem. This way, if the person returns, you remember what you did to help.



Date	Name	Diagnosis	Treatment	Instructions
6 June 83	1. Edati	Abscess	Removed	Bits on cotton
	2. Toni (5 years)			

When a person needs to come more than once to take care of a problem, it is better to keep a special record for that person. With all the treatments on one page, you can follow that person's progress more easily. Below is an example for a person named Yupere. Yupere has a bad tooth that has hurt from time to time for 2 months. One day when he woke up, his face was swollen. Yupere decided to wait a day to see if the swelling would go away. The next day it was worse, so he went to the medical post for treatment.



NAME <u>Yupere Epp</u>			
DATE	DIAGNOSIS	TREATMENT	INSTRUCTIONS
6 June 83	Abscess UL4 with swollen face	1. Penicillin 4 tabs immediately, then 1 tab 4x1 day for 3 days	1. Heat inside mouth and on face 2. Drink lots of liquids 3. Return on 3rd day
10 June 83	Abscess UL4	Removed UL4	usual



## Reports

You need to write a report whenever you send a person for medical help. Give as much information as possible so that your treatment can continue and new treatment starts as quickly as possible. If you cannot go along, **always send a report with a sick person.**

**The story of Niame:** After drinking for several hours, Niame's husband returned home asking for money. She had none and told him so. He did not believe Niame, so he beat her with his hands and then a knife. Niame's friends carried her, unconscious and bleeding, to the aid post. The front part of her lower jaw was hanging out of position.

URGENT ! <u>Pato, Niame</u>			
Date	DIAGNOSIS	TREATMENT	INSTRUCTIONS
3/12/81	Cuts to face, broken jaw	1. sutured cuts on face 2 Tetanus Toxoid 0.5 ml 3. Proc. Pen. 1,200,000 units 4. Aspirin 5. head bandage	sent to Immanuel Hosp. tal at 11:30 P.M
			Yalis Aid Post
			December 31, 1981
			Time: 11:30 P.M.
Patient: <u>Niame Pato, 25 years</u>			
Diagnosis: <u>Cuts and a broken jaw</u>			
<u>This lady was beaten by her husband tonight. I saw her at 10:30 P.M and treated her by:</u>			
<u>1. suturing the cuts on her face.</u>			
<u>2. giving tetanus toxoid 0.5 mls.</u>			
<u>3. giving Procaine Penicillin 1,200,000 units</u>			
<u>4. giving aspirin 2 tablets</u>			
<u>5. making a head bandage to support her jaw.</u>			
<u>Please treat her broken jaw. Later I can help her at home with a special diet.</u>			
<u>Sincerely,</u>			
<u>Nisa Stephen</u>			
<u>Aid Post Orderly</u>			

## Surveys

It is a good idea to know how many persons in your community have cavities and gum disease. Look in the mouths of children and adults and make a record of what you see. Here is an example that is used in Mozambique:

### Put a line through the circle for each person with:

- cavities    Ø
- red, swollen gums    Ø

<b>CHILDREN UNDER 5 YEARS</b> : Maternal child clinic	
<b>EXAMINED:</b>	<b>WITH CAVITIES:</b>
5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.
	<b>WITH RED, SWOLLEN GUMS:</b>
	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.

<b>CHILDREN 6-14 YEARS</b> : Freedom School	
<b>EXAMINED:</b>	<b>WITH CAVITIES:</b>
5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.
	<b>WITH RED, SWOLLEN GUMS:</b>
	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.

<b>ADULTS</b> : 1st of May Cooperative	
<b>EXAMINED:</b>	<b>WITH CAVITIES:</b>
5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.
	<b>WITH RED, SWOLLEN GUMS:</b>
	5 rows of 5 circles each. 10 circles in the first row are marked with a diagonal line.

The dental workers in Mozambique do a quick survey in 2 schools, 2 mother-and-child health clinics, and 2 cooperatives or factories in their community.

In each place, they examine 50 persons. This is enough to give an idea of the general health of teeth and gums in the community.

They make a paper for each age group. Each paper has 3 sections. They make a mark for each person they see, until all 50 circles have marks in them. They make extra marks if they see a tooth and/or gum problem.

In this example, you can see that children have more problems with cavities, while adults suffer more from gum disease. This is often true.

This survey helps the dental worker in three ways:

1. it shows how serious tooth decay and gum disease are in the community.
2. it shows which age group is suffering the most. To these people the dental worker must plan to give the most attention.
3. it gives the dental worker something to show the people when they are discussing why to change some old habits and adapt some new ideas.