CG 201 - Health

Diploma and Certificate Level

Student Workbook

Nazarene Theological Institute

Church of the Nazarene

Nazarene Theological Institute
Church of the Nazarene--Africa Region

CG 201 - Health

Diploma and Certificate level
Syllabus

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Course Description

This course is designed to examine and promote holistic healthy life styles in a personal and community environment, with a Christ-like, Biblically based foundation. Practical application of this information in the context of Africa will be addressed.

Rational

Pastors and laypersons in Africa are potential key leaders in role-modeling Christ-like lives in a society needing Christ. As they live out holy lives in every aspect—spiritually, physically, socially, emotionally/mentally—they can impact their communities with the truth of Christ in practical and compassionate ways. Role modeling and teaching others about holistic, healthy Christ-centered life styles can make a significant impact in the lives of others.

At the end of this course, each student should have a practical understanding of holistic health with the interconnectedness between spiritual, physical, social and mental health. Though mental/emotional health is not specifically examined, it is interwoven in thoughts and behaviors of how people respond to others.

Program Outcomes

Content

CON 14 - Learn the fundamentals of personal and community health
CON 5 - Realization of the biblical, theological, and practical implications of holiness doctrine when taught from a Wesleyan perspective
CON 12 - Application of Christian morality in daily life
CON 13 - Understanding of principles of interpersonal relationships

Competence

COM 8 - Ability to provide pastoral care, visit the sick, engage in important rites of passage, and give Biblical counselling

Character

CAR 2 - Ability to show sexual purity before and after marriage and apply principles of marriage to the Christian family
CAR 1 - Ability to give value to Christian morality and apply this ethic to life
CAR 4 - Ability to allow Christ's character to form the attitudes and actions of one's daily life
CAR 6- Ability to give value to relationships through openness, righteousness and honesty
CAR 12 - Ability to exert self-control

Context

CXT 5 - Ability to interpret, on a scientific and biblical basis, the Christian position on magic, spiritism, medicine and traditional healing

The following sessions and activities of this course offer the following percentages of the four Cs:

Content 40%, Competence 20%, Character 10%, Context 30%

Course Outline and Outcomes

1. Definition of holistic health from a Christian holiness perspective, interconnecting physical, mental/emotional, social and spiritual well-being (CON 5, CON 14)

2. Review of major aspects of African Traditional Religion, as this has an important influence in the lives of Africans; Review of Biblical directives with regards to ATR and Christ-like responses in everyday contextual situations (CON 5, CON 8, CAR 4, COM 8, CXT 2, CXT 5)

3. Examination of spiritual health, looking at cultural, personal and spiritual factors; Overview of six spiritual formation disciplines: Worship, Bible reading, prayer, fasting, giving, hospitality and the practical application of holistic health. (CON 12, CON 13, CON 14, COM 8, CAR 1, CAR 4, CXT 2)

4. Examination of social health, based on relationships: with Christ, with others (family: husband/wife, parent/children/others) (CON 5, CON 12, CON 13, CON 14, COM 8, CAR 1, CAR 2, CAR 6)

5. Examining sexual purity before and after marriage, with practical applications; the risks of premarital sex will be identified. (CON 12, CON 13, CON 14, CAR 1, CAR 2, CAR 4, CAR 6, CAR 12, COM 8, CXT 2)

6. Examination of physical well-being: brief overview of anatomy and physiology of the eleven body systems. (CON 14)

7. Understanding what an infectious and non-infectious disease is. (CON 14, COM 8)

8. Identification of healthy hygiene practices: personal, community, and within the local environment (CON 14, CON 13, COM 8, CAR 4, CAR 12)

9. Nutrition: identifying healthy eating habits for a healthy body (CON 14, COM 8)

10. Information on Basic HIV/AIDS (CON 14, COM 8)

11. Identifying eight common infectious diseases found in sub-Saharan Africa; understanding the cause, how it is spread to others, description

of the disease, prevention, treatment and care (Measles, Typhoid, Malaria, T.B. Scabies, Polio, Conjunctivitis, Tetanus) (CON 14, COM 8)

12. Diarrhea and dehydration: causes, prevention, and treatment will be covered. (CON 14)

13. Examining two common non-infectious diseases: cardiovascular diseases and Diabetes (CON 14, COM 8, CAR 12)

14. First Aid: Identifying and responding to airway, breathing, circulatory, nervous system, musculoskeletal, soft tissue and other conditions that pose a threat and emergency situation to self or others (CON 14, COM 8, CAR 1, CAR 4)

Course Requirements

1. The student must be present and on time for all course sessions with a Bible and any other required materials. Any absence (session or full day) will result in deduction of points in attendance, participation and demonstrations/presentations, if missed.

2. Students must attend each session and be able to participate in discussions related to the course content (Course outcomes 1-14)

3. Students must complete their assignments as directed by the leader (Course outcome 3, 9)

4. Students must participate in classroom discussion, group demonstrations/activities, and scenario presentations in each session. (Course outcomes 1-14)

5. Each student is required to write the final examination. If the student does not comprehend the written examination, opportunity will be provided to give oral answers, if a translator is available. (Certificate level students only) (Course outcomes 1-14)

Course Evaluation

Attendance: /40 (8 points per day- total deducted per day missed and partial points deducted for late or missed sessions)

Class participation: /50 (10 points per day)

Group Demonstrations/Scenario presentations: /50 (10 points per day)

Assignments: /60 (Matthew 5-7, dietary recording/questions, reading assignment--20 points per assignment)

Final Exam: /100

TOTAL GRADE IS /300 (teachers will calculate and record final grade based on a 100% scale by dividing the student's final point total by the total number of points possible, 300.)

Course schedule: based on a 40 hour course (including homework assignments)

Day 1 Introduction, Definitions, Holistic Health, ATR, Spiritual Well-Being

Day 2 Social Well-Being

Day 3 Physical Well-Being, finish up Communicable diseases

Day 4 Complete Physical Well Being, Begin First Aid

Day 5 First Aid, Summary

Works consulted

Beers, M.H., M.D. and Berkow, R., M.D., editors, 1999, *The Merck Manual of Diagnosis and Therapy* (17th ed.) Whitehouse Station, N.J. Published by Merck Research Laboratories

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Lockeyer, H., Sr., general editor, 1986, *Nelson's Illustrated Bible Dictionary, Nashville*, Tennessee: Thomas Nelson, Inc, Publishers

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CG 201 - HEALTH
STUDENT WORKBOOK

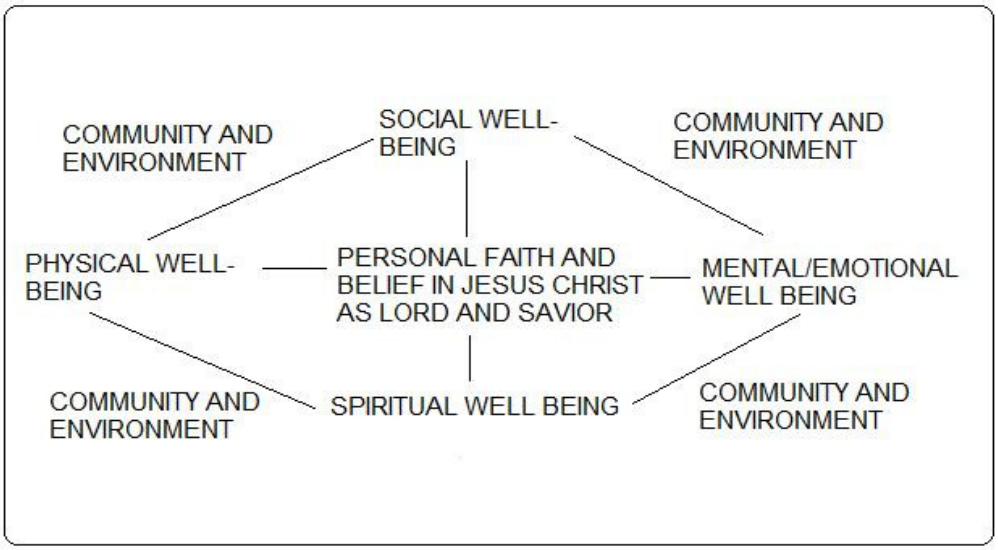
HOLISTIC HEALTH: Is the interconnectedness between

_____, _____,
_____,

_____ state of wellness experienced by a person within

a _____ environment.

The Holistic Community Health/Well-Being Model (Laurie Watton 2009)



Review of African Traditional Religion: Effects on health and wellness and a Biblical response.

Traditional religion must be evaluated in the light of God's eternal and unchanging _____.

BIBLICAL DIRECTIVES:

2 Cor. 11:14

2 Thess. 2:2

John 12:27

1 Thess. 2:18

2 Cor. 2:11

All forms of witchcraft and sorcery are forbidden in Scripture because of their association with _____
_____.

Divine Healing: Article of Faith #14. We believe in the Bible doctrine of divine healing and urge our people to seek to offer the prayer of faith for the healing of the sick. We also believe God heals through the means of medical science.

Scriptural references: 2 Kings 5:1-19; Psalm 103:1-5; Matthew 4: 23-24; 9:18-35; John 4:46-54; Acts 5:12-16; 9:32-42; 14:8-15; 1 Corinthians 12:7-10; James 5: 13-16

Spiritual Well-Being

Three Factors that influence the hunger and thirst for a spiritual life:

1. _____

2. _____

3. _____

With these 3 factors, we will look at ways in which Scripture encourages us to be formed into Christ-likeness.

Romans 12:1-2

Philippians 3:10-11

How is Christ formed in a believer's life? What practices can help with this formation?

Six Spiritual Formation Disciplines:

Spiritual discipline #1 - _____

Rick Warren, in his book, *The Purpose Driven Life*, states: "The heart of worship is _____."

Four Characteristics of the kind of worship that pleases God:

- Worship in _____
- Worship that is sincere. Christ had some very strong words to say to the Pharisees who in outward appearances 'worshipped' God, but their life was far from pleasing to God.
- Worship that is _____. Isaiah 29:13 warns us by saying: "The Lord says, 'These people come near me with their mouth and honour me with their lips, but their hearts are far from me. Their worship of me is made up only of rules taught by men."
- God is pleased when our worship is _____. Romans 12:1

5 reasons for gathering together with other believers in corporate worship:

1.

2.

3.

4.

5.

Spiritual Discipline #2 - Bible Reading. Psalm 19:7,10; John 17:17; James 1:22-25

How should you read your Bible?

1.

2.

3.

4.

Spiritual Discipline #3 - _____

A. C. T. S. (Adoration, Confession, Thanksgiving, Supplication)

Spiritual Discipline #4 - _____

Spiritual discipline #5 - _____

Spiritual discipline #6 - _____

EVENING Student ASSIGNMENT: Read Matthew chapters 5-7. Open up your time by reading and praying the prayer that Jesus taught his disciples to pray. Meditate on each part of this prayer. Answer the following questions and hand them in tomorrow morning.

1. Explain how Matthew chapters 5, 6 and 7 challenge you to live your life with Christ at the center. As well, how is God interested in every aspect of your life, and not just the spiritual?

2. Describe how the Pharisees were 'religious' but how they were not godly.

3. As you meditated on the prayer that Jesus taught his disciples to pray, what part do you find the hardest?

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Holistic Health: Social Well-being

Social well-being is all about _____.

Summary presentations of Groups on how we are to treat one another according to Scriptural principles:

With Christ: John 3: 16-18, 1 John 3:1

With Others:

Group 1: 1 Cor. 13: 4-7, Exodus 20: 12-17, Matthew 7: 12

Group 2: Acts 4: 32-35, Romans 12: 9-21, Romans 13: 8-10, Romans 15: 1-7, Galatians 5:16-26

Group 3: Galatians 6: 1-5, 9-10, Ephesians 4:25-32, Philippians 2: 1-4, Colossians 3: 12-17

With Family:

Husband and wife:

Group 1: Genesis 2:20b-24, Exodus 20:14, 17

Group 2: 1 Cor. 7

Group 3: Colossians 3:18-19, Ephesians 5: 22-23, 1 Peter 3: 1-7

There is one act that separates marriage from other relationships and that is _____.

Risks of premarital sex:

Strategies for Sexual Purity (single, pre-marriage, marriage, post marriage (including widowed and divorced)

1. Commitment to Christ and controlled by the _____

2. Be on _____ The devil is sly, cunning and deceitful. James 4:7, Eph. 5:3, 1 Peter 5:8-9, 2 Cor. 10:5, Romans 12:2

- Pray
- Discipline your eyes, mind, and heart
- Avoid sexually explicit material

3. Determine ahead of time what situations you choose to avoid and a strategy or plan to effectively deal with temptation when it comes.

4. Discuss cultural pressures that may oppose Biblical directives. There are no exceptions in the Bible for pre-marital or adulterous sexual relationships.

Helps for protecting the marriage bed:

1. Fulfill your part in satisfying your spouse.

2. Communicate and understand each other's _____.

3. Guard your _____, _____, and actions towards other women/men. Keep these pure.

Relationships between Parents and children

Summary of Bible principles:

Exodus 20:12, Ephesians 6: 1-4, Colossians 3: 20-21, Proverbs 22:6

Difference between discipline and abuse:

Important aspects to remember when 'training up a child'

1. Set a godly _____.

2. Be consistent.

3. Be _____.

Biblical steps to restoring broken relationships:

1. Talk to God before talking to the person. Remember James 4: 1-2. Ask the Holy Spirit to search your heart. What are your attitudes? What are your expectations? Are they realistic or unrealistic?

2. Take the _____ in resolving conflict. Matthew 5:23. If anger is involved, remember Eph. 4: 24-27.

3. Sympathize with their _____"Use your ears more than your mouth."

4. Confess your part of the _____.

5. Deal with the _____. Find workable solutions that are pleasing to the Lord.

Biblical directives on good communication skills:

Proverbs 15:1, Proverbs 21:23, James 1:19-20, Ephesians 4:29, Colossians 4:6

Active listening: Listening, clarifying," Are you saying . . .?", repeating, rephrasing what the other person is saying but in your own words.

6. Cooperate as much as possible. (Romans 12:18) Keep in mind Romans 12:1-2 as well. As a Christian, you follow the ways of Christ in every situation.

7. Emphasize reconciliation and not just resolution.

Social well-being in the work and or education setting:

Summary of Biblical directives:

Colossians 3:23, Exodus 20:15, Ephesians 4: 28, Proverbs 11:1, Mal. 3:5, Exodus 23:8

Holistic Health: Physical Well- Being

Overview of the Anatomy and Physiology of the 11 Body Systems.

Integumentary System	_____, _____, _____,_____ _____ _____	Protects body; helps regulate body temperature, eliminates some wastes; helps produce vitamin D; detects sensations, such as pain, touch, hot, and cold

Skeletal System	_____and _____of the body and their associated _____	Supports and protects body; aids body movement; houses cells that give rise to blood cells; stores minerals and lipids (fats)
Muscular System	Muscles composed of_____, _____so named because it is usually attached to bones	Produces body movements; such as walking; stabilizes body position (posture), generates heat.
Nervous System	_____, _____ _____, _____ And special sense organs, such as _____ and _____	Uses nerve impulses to regulate body activities; detects changes in body's internal and external environment, interprets the changes, and responds by causing muscular contractions or glandular secretions.
Endocrine System	Hormone-producing cells and glands, such as _____, _____, _____	Regulates body activities by releasing hormones, which are chemical messengers transported in blood from an endocrine gland to a target organ
Cardiovascular System	_____, _____, _____	Heart pumps blood through blood vessels; blood carries oxygen and nutrients to cells and carbon dioxide and wastes away from cells and helps regulate acidity, temperature, and water content of body fluids; blood components help defend against disease and mend damaged blood vessels.
Lymphatic and Immune System	Lymphatic fluids and vessels; also includes structures or organs that contain large numbers of white blood cells called lymphocytes, such as spleen, thymus, lymph	Returns proteins and fluid to blood; carries lipids (fats) from gastrointestinal tract to blood; are sites of maturation and proliferation of lymphocytes that protect against disease causing organisms (germs such as bacteria, viruses)

	nodes, and tonsils	
Respiratory System	_____ and the airways leading into and out of them	Transfers oxygen from inhaled air to blood and carbon dioxide from blood to exhaled air; helps regulate acidity of body fluids; air flowing out of lungs through vocal cords produces sounds
Digestive System	Organs of gastrointestinal tract, a long tube that includes the _____,_____ , _____, _____(small and large) and_____; also includes accessory organs that assist in digestive processes, such as the salivary glands, liver, gallbladder, and pancreas	Achieves physical and chemical breakdown of food; absorbs nutrients; eliminates solid wastes.
Urinary System	_____, _____, _____, _____.	Produces, stores, and eliminates wastes and regulates volume and chemical composition of blood; maintains body's mineral balance; helps regulate red blood cell production
Reproductive System	Gonads (_____ or _____) and associated organs;_____, _____, and _____in females and_____, _____, and _____ in males.	Gonads produce gametes (sperm or ova) that unite to form a new organism and release hormones that regulate reproduction and other body processes; associated organs transport and store gametes.

Definitions:

Infectious disease: A disease that is easily _____ from one infected person to another.

The _____is the body's first line of defense against germs.

When Do Infectious Diseases Happen? In order for an infectious disease to occur, the following must happen:

1. The germs must be _____.

2. The germs must enter the body either through the skin (often broken skin), mouth, nose, genitalia, rectum, blood.

3. The person must have a weak _____.

4. There must be enough germs present in the body to cause disease/infection.

Four different ways in which germs can be spread:

1. _____ contact

2. _____ contact

3. Germs spread by the _____.

4. _____ transmission

Healthy Hygiene Practices:
Personal, Community and Environment.
Summary of group presentations:

1. Personal cleanliness

2. Home cleanliness

3. Food preparation area/cooking/eating cleanliness

4. Clean drinking water

5. Sanitation: private and community environment

6. Living area cleanliness

NUTRITION: HEALTHY EATING FOR A HEALTHY BODY.

A healthy body relies on healthy eating. Good food is needed for a body to grow well, work hard and stay healthy. (The following nutrition information from the book *Where There is No Doctor* is reprinted with permission.)

MAIN FOODS AND **HELPER FOODS**

In much of the world, most people eat **one main low-cost food** with almost every meal. Depending on the region, this may be rice, maize, millet, wheat, cassava, potato, breadfruit, or banana. **This main food usually provides most of the body's daily food needs.**

However, the **main food** alone is not enough to keep a person healthy. Certain **helper foods** are needed. This is especially true for growing children, women who are pregnant or breast feeding, and older people.

Even if a child regularly gets enough of the main food to fill her, she may become thin and weak. This is because the main food often has so much water and fiber in it, that the child's belly fills up before she gets enough energy to help her grow.

We can do 2 things to help meet such children's energy needs:

1. **Feed children more often**—at least 5 times a day when a child is very young, too thin, or not growing well. Also give her snacks between meals.

CHILDREN, LIKE CHICKENS,
SHOULD ALWAYS BE PECKING.

2. **Also add high energy 'helper foods'** such as oils and sugar or honey to the main food. It is best to add vegetable oil or foods containing oils—nuts groundnuts (peanuts), or seeds, especially pumpkin or sesame seeds.

To meet her energy needs, a child would need to eat this much boiled rice.

If the child's belly fills up before her energy needs are met, the child will become thin and weak.

But she needs only this much rice when some vegetable oil is mixed in.

EATING RIGHT TO STAY HEALTHY

The 'main food' your family eats usually provides **most—but not all**—of the body's energy and other nutritional needs. By adding **helper foods** to the **main food** you can make low-cost nutritious meals. You do not have to eat all the foods listed here to be healthy. **Eat the main foods you are accustomed to, and add whatever 'helper foods' are available in your area.** Try to include 'helper foods' from each group, as often as possible.

GO FOODS

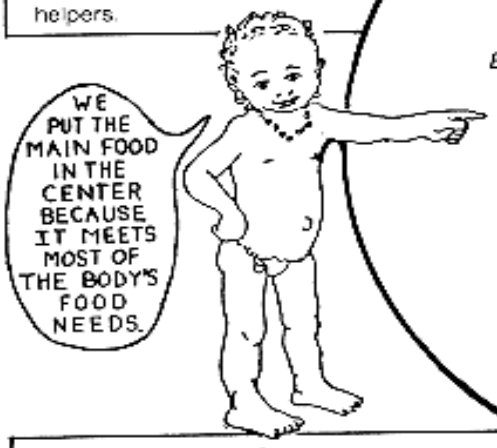
(energy helpers)

Examples:

Fats (vegetable oils, butter, *ghee*, lard)
Foods rich in fats (coconut, olives, fatty meat)
Nuts* (groundnuts, almonds, walnuts, cashews)
Oil seeds (pumpkin, melon, sesame, sunflower)
Sugars (sugar, honey, molasses, sugar cane, jaggery)

* *Note:* Nuts and oil seeds are also valuable as body-building helpers.

REMEMBER: Feeding children **enough** and feeding them **often** (3 to 5 times a day) is usually more important than the types of food you feed them.



MAIN FOODS

Examples:

Cereals and grains (wheat, maize, rice, millet, sorghum)
Starchy roots (cassava, potatoes, taro)
Starchy fruits (banana, plantain, breadfruit)

Note: Main foods are cheap sources of energy. The cereals also provide some protein, iron, and vitamins—at low cost.

GROW FOODS

(proteins or body-building helpers)

Examples:

Legumes (beans, peas, and lentils)
Nuts (groundnuts, walnuts, cashews, and almonds)
Oil seeds (sesame and sunflower)
Animal products (milk, eggs, cheese, yogurt, fish, chicken, meat, small animals such as mice, and insects)

GLOW FOODS

(vitamins and minerals or protective helpers)

Examples:

Vegetables (dark green leafy plants, tomatoes, carrots, pumpkin, sweet potato, and peppers)
Fruits (mangoes, oranges, papayas, etc.)

Note to nutrition workers: This plan for meeting food needs resembles teaching about 'food groups', but places more importance on giving enough of the traditional 'main food' and **above all, giving frequent feedings with plenty of energy-rich helpers.** This approach is more adaptable to the resources and limitations of poor families.

Many common sicknesses come from not eating enough or not eating well

Poor nutrition can result in the following health problems:

In CHILDREN:

-
-
-
-
-
-
-
-

In ANYONE:

-
-
-
-
-
-

Eating Right Helps the Body Resist Sickness

Eating Right Helps the Sick Get Well

Reading assignment:

Read pages 116-118, 120-122 taken from *Where There is No Doctor* (which has been reprinted with permission) and answer the following questions, based on the information presented in these pages and from the lecture. Hand this in tomorrow morning.

1. Record what you normally eat during a one week time period. What is your diet lacking? Why?

2. You observe in your community very young children who just eat bread and cassava. They are small for their age and seem to be sickly. How can you or your church provide practical help to these children. (Think about educational programs and possibly compassionate ministry outreach.)

Better Foods at Low Cost:

Many of the world's people eat a lot of bulky, starchy foods, without adding enough helper foods to provide the extra energy, body-building, and protection they need. This is partly because many helper foods are expensive—especially those that come from animals, like milk and meat.

Most people cannot afford much food from animals. Animals require more land for the amount of food they provide. A poor family can usually be better nourished if they **grow or buy plant foods like beans, peas, lentils, and groundnuts together with a main food such as maize or rice, rather than buy costly animal foods like meat and fish.**

People can be strong and healthy when most of their proteins and other helper foods come from plants.

However, where family finances and local customs permit, it is wise to eat, when possible, some food that comes from animals. This is because even plants high in protein (body-building helpers) often do not have all of the different proteins the body needs.

Try to **eat a variety of plant foods.** Different plants supply the body with different proteins, vitamins, and minerals. For example, beans and maize together meet the body's needs much better than either beans or maize alone. And if other vegetables and fruits are added, this is even better.

Here are some suggestions for getting more vitamins, minerals, and proteins at low cost.

1. **Breast milk.** This is the cheapest, healthiest, and most complete food for a baby. The mother can eat plenty of plant foods and turn them into the perfect baby food—breast milk. Breast feeding is not only best for the baby, it saves money and prevents diseases!

2. **Eggs and chicken.** In many places eggs are one of the cheapest and best forms of animal protein. They can be cooked and mixed with foods given to babies who cannot get breast milk. Or they can be given along with breast milk as the baby grows older.

Eggshells that are boiled, finely ground, and mixed with food can provide needed calcium for pregnant women who develop sore, loose teeth or muscle cramps.

Chicken is a good, often fairly cheap form of animal protein—especially if the family raises its own chickens.

3. **Liver, heart, kidney, and blood.** These are especially high in protein, vitamins, and iron (for anemia) and are often cheaper than other meat. Also **fish** is often cheaper than other meat, and is just as nutritious.

4. **Beans, peas, lentils, and other legumes** are a good cheap source of protein. If allowed to sprout before cooking and eating, they are higher in vitamins. Baby food can be made from beans by cooking them well, and then straining them through a sieve, or by peeling off their skins, and mashing them.

Beans, peas, and other legumes are not only a low-cost form of protein. Growing these crops makes the soil richer so that other crops will grow better afterwards. For this reason, crop rotation and mixed crops are a good idea (see p. w13).

5. **Dark green leafy vegetables** have some iron, a lot of vitamin A, and some protein. The leaves of sweet potatoes, beans and peas, pumpkins and squash, and baobab are especially nutritious. They can be dried, powdered, and mixed with babies' gruel.

Note: Light green vegetables like cabbage and lettuce have less nutritional value. It is better to grow ones with dark-colored leaves.

6. **Cassava (manioc) leaves** contain 7 times as much protein and more vitamins than the root. If eaten together with the root, they add food value—at no additional cost. The young leaves are best.

7. **Lime-soaked maize (corn).** When soaked in lime before cooking, as is the custom in much of Latin America, maize is richer in calcium. Soaking in lime also allows more of the vitamins (niacin) and protein to be used by the body.

8. **Rice, wheat, and other grains** are more nutritious if their outer skins are not removed during milling. Moderately milled rice and whole wheat contain more proteins, vitamins, and minerals than the white, over-milled product.

NOTE: The protein in wheat, rice, maize, and other grains can be better used by the body when they are eaten with beans or lentils.

9. **Cook vegetables, rice, and other foods in little water.** And do not overcook. This way fewer vitamins and proteins are lost. Be sure to drink the leftover water, or use it for soups or in other foods.

10. Many **wild fruits and berries** are rich in vitamin C as well as natural sugars. They provide extra vitamins and energy. (Be careful not to eat berries or fruit that are poisonous.)

11. **Cooking in iron pots** or putting a piece of old iron or horseshoe in the pan when cooking beans and other foods adds iron to food and helps prevent anemia. More iron will be available if you also add tomatoes.

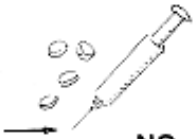
For another source of iron, put some iron nails in a little lemon juice for a few hours. Then make lemonade with the juice and drink it.

12. In some countries, **low-cost baby food preparations** are available, made from different combinations of soybean, cotton seed, skim milk, or dried fish. Some taste better than others, but most are well-balanced foods. When mixed with gruel, cooked cereal, or other baby food, they add to its nutrition content—at low cost.

WHERE TO GET VITAMINS: IN PILLS, INJECTIONS, SYRUPS—OR IN FOODS?

Anyone who eats a good mixture of foods, including vegetables and fruits, gets all the vitamins he needs. It is always better to eat well than to buy vitamin pills, injections, syrups, or tonics.

If you want vitamins, buy eggs or other nutritious foods instead of pills or injections.



YES **NO**

Sometimes nutritious foods are scarce. If a person is already poorly nourished, he should eat as well as he can and perhaps take vitamins besides.

Vitamins taken by mouth work as well as injections, cost less, and are not as dangerous. **Do not inject vitamins! It is better to swallow them—preferably in the form of nutritious foods.**

If you buy vitamin preparations, be sure they have all these vitamins and minerals:

- Niacin (niacinamide)
- Vitamin B_1 (thiamine)
- Vitamin B_2 (riboflavin)
- Iron (ferrous sulfate, etc.)—especially for pregnant women. (For people with anemia, multi-vitamin pills do not have enough iron to help much. Iron pills are more helpful.)

In addition, certain people need extra:

- Folic Acid (folicin), for pregnant women
- Vitamin A, Vitamin C (ascorbic acid), Vitamin D — for small children
- Iodine (in areas where goiter is common)
- Vitamin B_6 (pyridoxine), for small children and persons taking medicine for tuberculosis
- Calcium, for children and breast feeding mothers who do not get enough calcium in foods such as milk, cheese, or foods prepared with lime

THE BEST DIET FOR SMALL CHILDREN

THE FIRST 6 MONTHS OF LIFE

For the first 6 months give the baby breast milk and nothing else. It is better than any baby food or milks you can buy. Breast milk helps protect the baby against diarrhea and many infections. It is best not to give extra water or teas, even in hot weather.

Some mothers stop breast feeding early because they think that their milk is not good enough for their baby, or that their breasts are not making enough milk. **However, a mother's milk is always very nutritious for her baby, even if the mother herself is thin and weak.**

If a woman has HIV/AIDS, sometimes she can pass this disease to a baby in her breast milk. But if she does not have access to clean water, her baby is more likely to die from diarrhea, dehydration, and malnutrition than AIDS. Only you can evaluate the conditions in your home and community and decide what to do.

Nearly all mothers can produce all the breast milk their babies need:

- The best way for a mother to keep making enough breast milk is to **breast feed the baby often, eat well, and drink lots of liquids.**
- Do not give the baby other foods before he is 4 to 6 months old, and **always breast feed before giving the other foods.**
- If a mother's breasts produce little or no milk, she should continue to eat well, drink lots of liquids and **let the baby suck her breasts often.** After each breast feeding, give the baby, by cup (not bottle), some other type of milk—like boiled cow's or goat's milk, canned milk, or powdered milk. (Do not use condensed milk.) Add a little sugar or vegetable oil to any of these milks.

Note: Whatever type of milk is used, some cooled, boiled water should be added. Here are two examples of correct formulas:

#1

2 parts boiled, cooled cow's milk
1 part boiled, cooled water
1 large spoonful sugar or oil for each large glass

#2

2 parts canned evaporated milk
3 parts boiled, cooled water
1 large spoonful sugar or oil for each large glass

If non-fat milk is used, add another spoonful of oil.

- If possible, boil the milk and water. **It is safer to feed the baby with a cup (or cup and spoon) than to use a baby bottle.** Baby bottles and nipples are hard to keep clean and can cause infections and diarrhea (see p. 154). If a bottle is used, boil it and the nipple each time before the baby is fed.
- If you cannot buy milk for the child, make a porridge from rice, cornmeal, or other cereal. Always add to this some skinned beans, eggs, meat, chicken, or other protein. Mash these well and give them as a liquid. If possible add sugar and oil.

WARNING: **Cornmeal or rice water alone is not enough for a baby. The child will not grow well. He will get sick easily and may die. The baby needs a main food with added helper foods.**

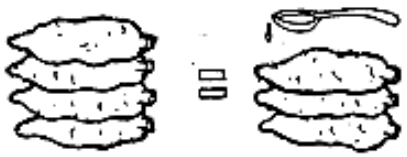
FROM 4 MONTHS TO 1 YEAR OF AGE:

1. **Keep giving breast milk,** if possible until the baby is 2 or 3 years old.

2. When the baby is between 4 and 6 months old, **start giving her other foods in addition to breast milk.** Always give the breast first, and then the other foods. It is good to start with a gruel or porridge made from the main food (p. 111) such as maize meal or rice cooked in water or milk. Then start adding a little **cooking oil** for extra energy. After a few days, start adding **other helper foods** (see p. 110). But **start with just a little of the new food,** and **add only 1 at a time** or the baby may have trouble digesting them. These **new foods need to be well cooked and mashed.** At first they can be mixed with a little breast milk to make them easier for the baby to swallow.

3. Prepare inexpensive, nutritious feedings for the baby by adding helper foods to the main food (see p. 110). Most important is to add foods that give extra energy (such as oil) and—whenever possible—extra iron (such as dark green leafy vegetables).

Remember, a young child's stomach is small and cannot hold much food at one time. So **feed her often,** and **add high-energy helpers** to the main food:



A spoonful of cooking oil added to a child's food means he has to eat only 3/4 as much of the local main food in order to meet his energy needs. The added oil helps make sure he gets enough energy (calories) by the time his belly is full.

CAUTION: The time when a child is most likely to become malnourished is from 6 months to 2 years old. This is because breast milk by itself does not provide enough energy for a baby after 6 months of age. Other foods are needed, but often the foods given do not contain enough energy either. If the mother also stops breast feeding, the child is even more likely to become malnourished.

For a child of this age to be healthy we should:

- Keep feeding her breast milk—as much as before.
- Feed her other nutritious foods also, always starting with just a little.
- Feed her at least 5 times a day and also give her snacks between meals.
- Make sure the food is clean and freshly prepared.
- Filter, boil, or purify the water she drinks.
- Keep the child and her surroundings clean.
- When she gets sick, feed her extra well and more often, and give her plenty of liquids to drink.

For mothers infected with the HIV/AIDS virus: After 6 months, your baby will be bigger and stronger, and will have less danger of dying from diarrhea. If you have been breast feeding her, now you should switch to other milks and feed the baby other foods. This way the baby will have less risk of getting HIV/AIDS.

ONE YEAR AND OLDER:

After a child is 1 year old, he can eat **the same foods as adults,** but should **continue to breast feed** (or drink milk whenever possible).

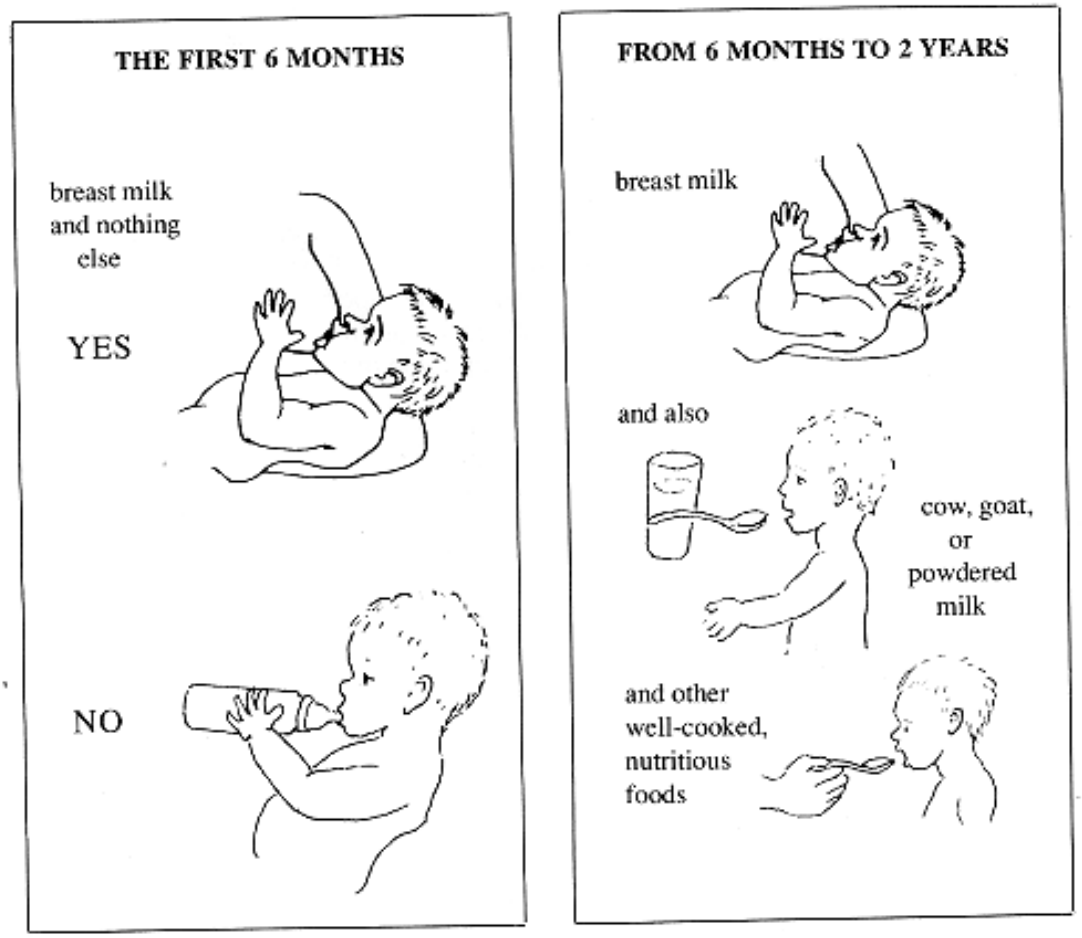
Every day, try to give the child plenty of the main food that people eat, together with 'helper' foods that give added high energy, proteins, vitamins, iron, and minerals (as shown on p. 111) so that he will grow up strong and healthy.

To make sure that the child gets enough to eat, **serve him in his own dish,** and let him take as long as he needs to eat his meal.

Children and candy: Do not accustom small children to eating a lot of candy and sweets or drinking soft drinks (colas). When they have too many sweets, they no longer want enough of the other foods they need. Also, sweets are bad for their teeth.

However, when food supply is limited or when the main foods have a lot of water or fiber in them, adding a little sugar and vegetable oil to the main food provides extra energy and allows children to make fuller use of the protein in the food they get.

THE BEST DIET FOR SMALL CHILDREN



HIV/AIDS

What is HIV Infection:

H

I

V

Effects on the body:

1. The virus _____.
2. The immune system is _____and _____.
3. The person develops serious _____.
4. The person becomes an AIDS patient.
5. The person _____.

How is HIV spread?

1.

2.

3.

How HIV is **NOT** Spread

-
-
-
-
-

Testing:

Treatment:

NO CURE.

What is AIDS?

A.

I.

D.

S.

Major signs or symptoms of someone with AIDS. (things that you will see or that an infected person may experience)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

Signs and symptoms can be treated, but as the body continues to weaken, as more and more the defense system of the body is destroyed by the virus, eventually the person will die. Antiretroviral drugs help to extend a person's life and delay AIDS.

Prevention of HIV:

1.

2.

3.

4.

5.

6.

7.

8.

9.

TEN GREAT REASONS WHY A PERSON SHOULD SAY NO TO SEX BEFORE MARRIAGE:

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

DECIDE ON THE FOLLOWING:

1.

2.

3.

4.

5.

6.

Common infectious diseases found throughout Africa

Measles:

Organism that causes disease: _____

How it is spread or enters the body:

Description of the disease: After 7-18 days following being infected, the person will experience fever, and severe upper respiratory tract infection as well as conjunctivitis (pink eye). This can last for about 1 week. Then white spots that look like grains of salt that are called Koplik spots appear in the mouth. If you see Koplik spots, the disease is not usually an upper respiratory disease, but measles. After about 4 days, the measles rash comes. There are many slightly dark and raised patches of various sizes on the skin. These start on the face and shoulders and then spread to the rest of the body. The other symptoms improve as the rash appears. Depending on how bad the infection is, some people also develop bacterial infections in their throats and lungs which can develop into pneumonia.
Prevention: Immunization at 9 months of age. Keep other children far away from children who are sick with measles.
Treatment and Care: Bed rest. Drink lots of liquids and give nutritious food. If possible, give vitamin A to prevent eye damage. For fever and discomfort give acetaminophen. If earache develops, an antibiotic may be needed. If signs of pneumonia, meningitis, or severe pain in the ear or stomach develop, get medical help. If the child has diarrhea, give rehydration drink.

Typhoid Fever

Organism that causes disease: _____

How it is spread or enters the body: The bacteria are spread from feces (shit) and urine to mouth through contaminated food or the water supply. This may occur if a person who is infected defecates (shits) and doesn't wash his hands thoroughly and then handles food that other

people will eat. If infected people do not use a toilet and their feces or urine enters water that is used for drinking. Sometimes flies carry the bacteria from feces to food. The bacteria multiply in the intestines (bowel) and then spread through the whole body. The feces of a person who is and has been infected, may remain infectious to others for weeks or months; and some people may become a carrier of the bacteria for life.

Description of the disease: Signs of typhoid: First week--it begins like a cold or flu, often including headache, sore throat, and a dry cough. Fever goes up and down but rises a little more each day until it reaches 40 degrees Celsius or more. The pulse is often relatively slow for the amount of fever present. Take the pulse and temperature every half hour. If the pulse gets slower when the fever goes up, the person probably has typhoid. Sometimes there is vomiting, diarrhea, or constipation. Second week--high fever and a relatively slow pulse are common. A few dark spots may appear on the body and the person may experience trembling. The person may not think clearly or make sense. Weakness, weight loss, and dehydration are also common symptoms. Third week--if there are not complications, the fever and other symptoms slowly go away.

Prevention of the disease: Care must be taken to avoid contamination of water and food by human feces. Be sure drinking water is clean. If there are cases of typhoid in your area, all drinking water should be boiled. Look for the cause of the contaminated food or water. To avoid the spread of typhoid, a person who has the disease should stay in a separate room. No one should eat or drink from dishes he uses. People who care for this person should wash their hands after. After recovering from typhoid, some people still carry the disease and spread it to others. So anyone who has had typhoid should be extra careful with personal cleanliness and should not work in restaurants. Specific antibiotics are given to treat this disease. If treated properly, this would cure the person as well as prevent a chronic carrier state.
Treatment and Care: Eat nutritious meals and drink plenty of fluids (clean water). Take an antibiotic that is specific for treating typhoid. Use

proper body hygiene and washing of hands after toileting and always before handling food.

Malaria

Organism that causes disease:_____.

How it is spread or enters the body: Malaria is an infection of the blood that causes chills and high fever. The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites. The parasite has to be at a certain stage when the mosquito sucks up the blood from this person. If it is, and then the mosquito sucks from another person, that new person can become infected by the parasite.

Description of the disease: The typical disease has 3 stages: 1) Malaria begins with chills and often a headache. The person shivers or shakes for 15 minutes to an hour. 2) Chills are followed by a fever, often 40º C or more. The person is weak and, at times, not in his right mind. The fever lasts several hours or days. 3) Finally, the person begins to sweat and his temperature goes down. After an attack, the person feels weak, but may feel more or less ok. The fever pattern may not be regular or typical. For this reason, anyone who suffers unexplained fevers should have his blood tested for malaria. Chronic malaria often causes a large spleen and anemia (low red blood cells). In children with malaria affecting the brain, (cerebral malaria) fits may be followed by periods of unconsciousness.

Prevention: Avoid mosquitos from biting you. Sleep where there are no mosquitos or underneath a net. Make sure windows have adequate screening. Destroy mosquitos and their young. Mosquitos breed in water that is not flowing like clear ponds, pits, old cans, or containers that collect water. Keep water containers covered well.

Treatment and Care: If you suspect malaria or have repeated fevers, if possible, go to a health center for a blood test. Seek current recommended drug treatment. Eat nutritious foods. If you are anemic, you may be given iron and folic acid as well. Treat fever.

Tuberculosis (TB, Consumption)

Organism that causes disease: _____

How it is spread or enters the body: TB is a bacterial infection most commonly affecting the lungs. It is contagious (spreads easily). It often strikes persons who have AIDS or who are weak, poorly nourished or live with someone who has TB. It is spread by exposure to the mycobacteria in airborne droplets from someone infected with TB in the lungs through coughing or sneezing.

Description of the disease: Most frequent signs of TB: a cough that lasts longer than 3 weeks, often worse just after waking up. There may be pain in the chest or upper back, chronic loss of weight, and increasing weakness. In serious or advanced cases: Coughing up blood, a lightening of the skin, (especially the face), and a hoarsening of the voice (very serious). In young children: the cough may come late. Instead, look for steady weight loss, frequent fever, lighter skin color, swelling in the neck (lymph nodes) or the belly.

Prevention: If someone in the house has TB: if possible, see that the whole family is tested for TB. Have children vaccinated against TB with B.C.G. vaccine. Everyone, especially children, should eat plenty of nutritious food. The person with TB should eat and sleep separately from the children, if possible, as long as he has any cough at all. Also, ask him to cover is mouth when coughing and not to spit on the floor. Watch for weight loss and other signs of TB in members of the family. If anyone in the family shows signs of TB, have tests done and begin treatment. EARLY AND FULL TREATMENT IS A KEY PART OF PREVENTION.

Scabies

Organism that causes disease: _____

How it is spread or enters the body: Scabies is a parasitic disease of the skin caused by a mite who enters just below the skin, burrows

and lays eggs. It is spread by touching the affected skin or by clothes and bedding that have the mites on them.

Description of the disease: It causes very itchy little bumps that can appear all over the body but are most common between the fingers, on the wrists, around the waist, on the genitals and between the toes. Small itchy sores on the penis and scrotum of young boys are almost always scabies. Scratching can cause infection, producing sores with pus and sometimes swollen lymph nodes or fever.

Prevention: Prevention of spread is best done by teaching others how scabies is spread and prompt treatment.

Treatment and Care: If one person has scabies, everyone in his family should be treated. Personal cleanliness is of first importance. Bathe and change clothes daily. Cut fingernails very short to reduce spreading and infection. Wash all clothes and bedding, or better still, boil them and hang them in the sun.

Infantile Paralysis (polio, poliomyelitis)

Organism that causes disease:_____

How it is spread or enters the body: The virus is spread primarily from person to person, mostly through feces to mouth. The virus typically lasts in the throat for approximately 1 week and in the feces for 3-6 weeks or longer.

Description of the disease: Polio is most common in children under 2 years of age. It is caused by a virus infection similar to a cold, often with fever, vomiting, diarrhea, and sore muscles. Usually the child gets completely well in a few days, but sometimes a part of the body becomes weak or paralyzed. Most often this happens to one or both legs. In time, the weak limb becomes thin and does not grow as fast as the other one.

Prevention: Vaccination against polio is the best protection. Do not give injections of any medicine to a child with signs of a cold, fever or other signs that might be caused by the polio virus. The irritation caused by an injection could turn a mild case of polio without paralysis into a severe case with paralysis.

Treatment and Care: A child who has been paralyzed by polio should eat nutritious food and do exercises to strengthen remaining muscles. Help the child learn to walk as best as he can.

Pink Eye (conjunctivitis, known as 'apollo' in some West African countries)

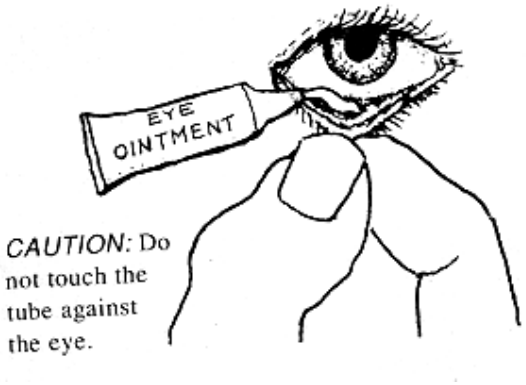
Organism that causes the disease:_____

How it is spread or enters the body: by contact with the secretions from the eye or upper respiratory tracts of infected people; from contaminated fingers, clothing, and other articles. It spreads very easily.

Description of the disease: Conjunctivitis begins with watery eye(s), irritation in the eye, then redness in one or both eyes, swelling of the eyelids and pus discharge. It may last from two days to 2-3 weeks.

Prevention: Personal hygiene and hygienic care and treatment of affected eyes help prevent the spread of this infection to others. The infection is easily spread, so do not let a child with pink eye play or sleep with others, or use the same towel. Wash hands after touching eyes.

Treatment and Care: Specific treatment: clean pus from eye with a clean cloth. Never wipe uninfected eye with the same cloth that was used to wipe the infected eye. Put a small amount of antibiotic eye ointment inside the lower lid as demonstrated in the picture below (reproduced with permission).



Tetanus

Organism that causes disease: _____

How it is spread or enters the body: Tetanus results when the tetani bacteria that live in the feces of animals or people enter the body through a wound. Deep or dirty wounds are especially dangerous, wounds caused by animal bites, gunshot and dirty knife wounds, holes made with dirty needles, injuries caused by barbed wire, and puncture wounds from thorns, splinters or nails. Causes of tetanus in the newborn child: The tetanus bacteria enter through the umbilical cord of a newborn baby because of lack of cleanliness or failure to take other simple precautions, such as cutting the cord with an instrument that has not been boiled and kept clean, when the cord has not been cut close to the body, when the newly cut cord is tightly covered or when it is not kept dry and clean.

Description of the disease: Signs of tetanus include an infected wound (sometimes no wound can be found) and discomfort and difficulty in swallowing. The jaw gets stiff, then the muscles of the neck and other parts of the body. The person has difficulty walking normally. Painful convulsions (sudden tightening) of the jaw and finally of the whole body occur. In the newborn, the first sign of tetanus generally appears 3-10 days after birth. The infant begins to cry continuously and is unable to suck. Often the umbilical area is dirty or infected. After several hours or days, lockjaw and the other signs of tetanus begin.

Prevention: It is easier to prevent tetanus than to treat it. Immunization/vaccination: this is the surest protection against tetanus. Both children and adults should be vaccinated. When you have a wound, especially a dirty or deep wound, clean it very well with clean water, making sure that all the dirt is out. If the wound is very big, deep, or very dirty, seek medical help. An antibiotic may be needed. As well, if 5 years has gone by since your last booster tetanus shot, it may be recommended that you receive another injection of the vaccine following a deep, dirty wound. Normally, every 10 years, after the regular series has been received, the tetanus vaccine is repeated.

Treatment and Care: Anyone with tetanus will need medical care. Death rates are highest in infants and the elderly or very weak/sick people who get infected with tetanus.

Diarrhea: As a symptom of an infection, (diarrhea is a symptom and therefore can be caused by either infectious or non-infectious reasons).

Organisms that can cause diarrhea: Bacteria, virus and parasitic agents can cause diarrhea.

How it is spread or enters the body:

Description of diarrhea: frequent, loose or watery feces. The person may also have vomiting and fever.

Prevention:

Read the following information taken from *Where There Is No Doctor*, pages 151-159 (which is authorized for reprinting). Dehydration due to diarrhea is the cause of many infant, young children, sick and elder's deaths. This can be prevented.

CHAPTER 13

SOME VERY COMMON SICKNESSES

DEHYDRATION

Most children who die from diarrhea die because they do not have enough water left in their bodies. This lack of water is called dehydration.

Dehydration results when the body loses more liquid than it takes in. This can happen with severe diarrhea, especially when there is vomiting too. It can also happen in very serious illness, when a person is too sick to take much food or liquid.

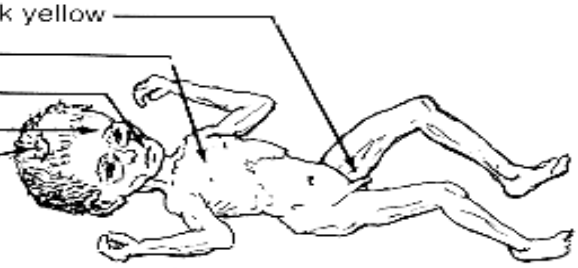
People of any age can become dehydrated, but **dehydration develops more quickly and is most dangerous in small children.**

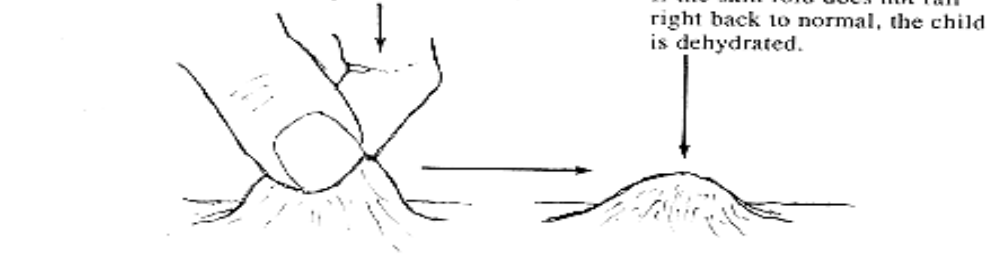
Any child with watery diarrhea is in danger of dehydration.

It is important that everyone—especially mothers—know the signs of dehydration and how to prevent and treat it.

Signs of dehydration:

- thirst is often a first, early sign of dehydration
- little or no urine; the urine is dark yellow
- sudden weight loss
- dry mouth
- sunken, tearless eyes
- sagging in of the 'soft spot' in infants
- loss of elasticity or stretchiness of the skin





Very severe dehydration may cause rapid, weak pulse (see Shock, p. 77), fast, deep breathing, fever, or fits (convulsions, p. 178).

When a person has watery diarrhea, or diarrhea and vomiting, do not wait for signs of dehydration. **Act quickly**—see the next page.

To prevent or treat dehydration: When a person has watery diarrhea, **act quickly:**

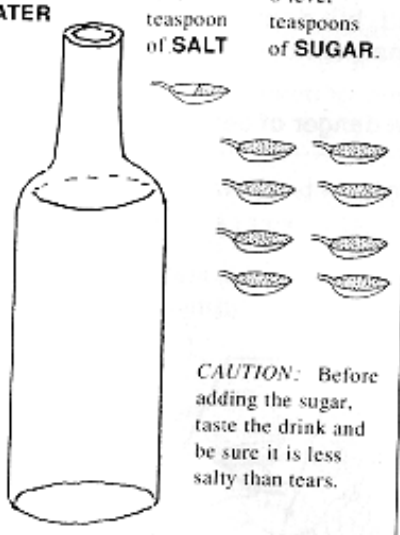
- **Give lots of liquids to drink:** Rehydration Drink is best. Or give a thin cereal porridge or gruel, teas, soups, or even plain water.
- **Keep giving food.** As soon as the sick child (or adult) will accept food, give frequent feedings of foods he likes and accepts.
- To babies, **keep giving breast milk** often—and before other drinks.

A special **Rehydration Drink** helps to prevent or treat dehydration, especially in cases of severe watery diarrhea:

2 WAYS TO MAKE 'HOME MIX' REHYDRATION DRINK

1. **WITH SUGAR AND SALT** (Raw sugar or molasses can be used instead of sugar.)

In 1 liter of clean **WATER** put half a level teaspoon of **SALT** and 8 level teaspoons of **SUGAR**.

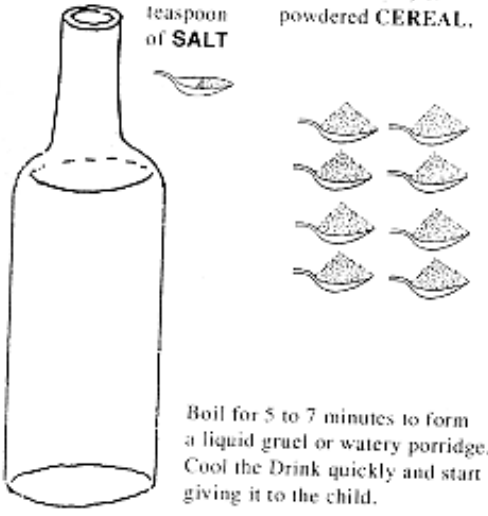


CAUTION: Before adding the sugar, taste the drink and be sure it is less salty than tears.

To either Drink add half a cup of fruit juice, coconut water, or mashed ripe banana, if available. This provides potassium which may help the child accept more food and drink.

2. **WITH POWDERED CEREAL AND SALT**
(Powdered rice is best. Or use finely ground maize, wheat flour, sorghum, or cooked and mashed potatoes.)

In 1 liter of **WATER** put half a teaspoon of **SALT** and 8 heaping teaspoons (or 2 handfuls) of powdered **CEREAL**.



Boil for 5 to 7 minutes to form a liquid gruel or watery porridge. Cool the Drink quickly and start giving it to the child.

CAUTION: Taste the Drink each time before you give it to be sure it is not spoiled. Cereal drinks can spoil in a few hours in hot weather.

IMPORTANT: Adapt the Drink to your area. If liter containers or teaspoons are not in most homes, adjust quantities to local forms of measurement. Where people traditionally give cereal gruels to young children, add enough water to make it liquid, and use that. Look for an easy and simple way.

Give the dehydrated person sips of this Drink every 5 minutes, day and night, until he begins to urinate normally. A large person needs 3 or more liters a day. A small child usually needs at least 1 liter a day, or 1 glass for each watery stool. Keep giving the Drink **often** in small sips, **even if the person vomits.** Not all of the Drink will be vomited.

WARNING: **If dehydration gets worse or other danger signs appear, go for medical help** (see p. 159). It may be necessary to give liquid in a vein (intravenous solution).

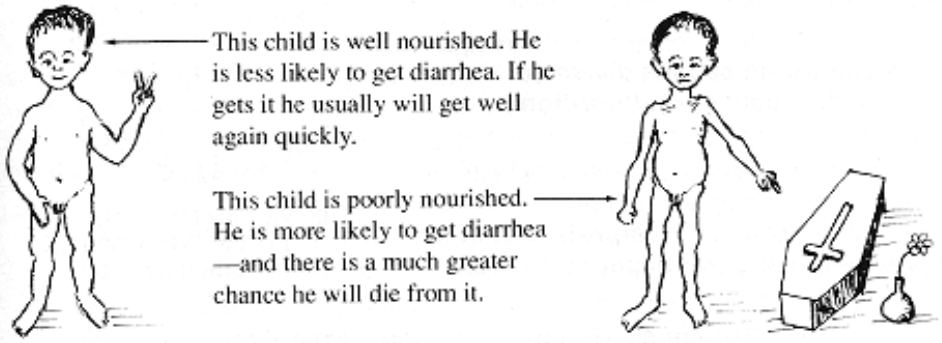
Note: In some countries packets of Oral Rehydration Salts (ORS) are available for mixing with water. These contain a simple sugar, salt, soda, and potassium (see p. 382). However, homemade drinks—especially cereal drinks—when correctly prepared are often cheaper, safer, and more effective than ORS packets.

DIARRHEA AND DYSENTERY

When a person has loose or watery stools, he has *diarrhea*. If mucus and blood can be seen in the stools, he has *dysentery*.

Diarrhea can be mild or serious. It can be *acute* (sudden and severe) or *chronic* (lasting many days).

Diarrhea is more common and more dangerous in young children, especially those who are poorly nourished.



This child is well nourished. He is less likely to get diarrhea. If he gets it he usually will get well again quickly.

This child is poorly nourished. He is more likely to get diarrhea —and there is a much greater chance he will die from it.

Diarrhea has many causes. **Usually no medicines are needed,** and the child gets well in a few days if you give him lots of Rehydration Drink and food. (If he does not eat much, give him a little food many times a day.) Occasionally, special treatment is needed. However, **most diarrhea can be treated successfully in the home,** even if you are not sure of the exact cause or causes.

THE MAIN CAUSES OF DIARRHEA:

poor nutrition (p. 154) This weakens the child and makes diarrhea from other causes more frequent and worse.

shortage of water and unclean conditions (no latrines) spread the germs that cause diarrhea

virus infection or 'intestinal flu'

an infection of the gut caused by bacteria (p. 131), amebas (p. 144), or giardia (p. 145)

worm infections (p. 140 to 144) (most worm infections do not cause diarrhea)

infections outside the gut (ear infections, p. 309; tonsillitis, p. 309; measles, p. 311; urinary infections, p. 234)

malaria (*falciparum* type—in parts of Africa, Asia, and the Pacific, p. 186)

food poisoning (spoiled food, p. 135)

AIDS (long-lasting diarrhea may be an early sign, p. 399)

inability to digest milk (mainly in severely malnourished children and certain adults)

difficulty babies have digesting foods that are new to them (p. 154)

allergies to certain foods (seafood, crayfish, etc., p. 166); occasionally babies are allergic to cow's milk or other milk

side effects produced by certain medicines, such as ampicillin or tetracycline (p. 58)

laxatives, purges, irritating or poisonous plants, certain poisons

eating too much unripe fruit or heavy, greasy foods

Preventing diarrhea:

Although diarrhea has many different causes, the most common are **infection** and **poor nutrition. With good hygiene and good food, most diarrhea could be prevented.** And if treated correctly by giving **lots of drink and food,** fewer children who get diarrhea would die.

Children who are poorly nourished get diarrhea and die from it far more often than those who are well nourished. Yet diarrhea itself can be part of the cause of malnutrition. And if malnutrition already exists, diarrhea rapidly makes it worse.

Malnutrition causes diarrhea.
Diarrhea causes malnutrition.

This results in a vicious circle, in which each makes the other worse. For this reason, **good nutrition is important in both the prevention and treatment of diarrhea.**

THE 'VICIOUS CIRCLE' OF MALNUTRITION AND DIARRHEA TAKES MANY CHILDREN'S LIVES.

Prevent diarrhea by preventing malnutrition.
Prevent malnutrition by preventing diarrhea.

To learn about the kinds of foods that help the body resist or fight off different illnesses, including diarrhea, read Chapter 11.

The prevention of diarrhea depends both on **good nutrition** and **cleanliness.** Many suggestions for personal and public cleanliness are given in Chapter 12. These include the use of **latrines,** the importance of **clean water,** and the **protection of foods** from dirt and flies.

Here are some other important suggestions for preventing diarrhea in babies:

- **Breast feed rather than bottle feed babies.** Give only breast milk for the first 4 to 6 months. Breast milk helps babies resist the infections that cause diarrhea. If it is not possible to breast feed a baby, feed her with a cup and spoon. **Do not use a baby bottle** because it is harder to keep clean and more likely to cause an infection.
- When you begin to give the baby new or solid food, start by giving her just a little, mashing it well, and mixing it with a little breast milk. The baby has to learn how to digest new foods. If she starts with too much at one time, she may get diarrhea. **Do not stop giving breast milk suddenly. Start with other foods while the baby is still breast feeding.**
- Keep the baby clean—and in a clean place. Try to keep her from putting dirty things in her mouth.
- Do not give babies unnecessary medicines.

BREAST FEEDING HELPS PREVENT DIARRHEA.

Treatment of diarrhea:

For most cases of diarrhea no medicine is needed. If the diarrhea is severe, the biggest danger is **dehydration.** If the diarrhea lasts a long time, the biggest danger is **malnutrition.** So the most important part of treatment has to do with giving **enough liquids** and **enough food.** No matter what the cause of diarrhea, always take care with the following:

1. PREVENT OR CONTROL DEHYDRATION. A person with diarrhea must drink a lot of liquids. If diarrhea is severe or there are signs of dehydration, give him Rehydration Drink (p. 152). Even if he does not want to drink, gently insist that he do so. Have him take several swallows every few minutes.

2. MEET NUTRITIONAL NEEDS. **A person with diarrhea needs food as soon as he will eat.** This is especially important in small children or persons who are already poorly nourished. Also, when a person has diarrhea, food passes through the gut very quickly and is not all used. **So give the person food many times a day**—especially if he only takes a little at a time.

- A baby with diarrhea should **go on breast feeding.**
- An underweight child should get plenty of energy foods and some body-building foods (proteins) all the time he has diarrhea—and extra when he gets well. If he stops eating because he feels too sick or is vomiting, he should eat again as soon as he can. **Giving Rehydration Drink will help the child be able to eat.** Although giving food may cause more frequent stools at first, it can save his life.
- If a child who is underweight has diarrhea that lasts for many days or keeps coming back, give him more food more often—at least 5 or 6 meals each day. Often no other treatment is needed.

FOODS FOR A PERSON WITH DIARRHEA

When the person is vomiting or feels too sick to eat, he should drink:

watery mush or broth of rice, maize powder, or potato

rice water (with some mashed rice)

chicken, meat, egg, or bean broth

Kool-Aid or similar sweetened drinks

REHYDRATION DRINK

Breast milk

As soon as the person is able to eat, in addition to giving the drinks listed at the left, he should eat a balanced selection of the following foods or similar ones:

energy foods

ripe or cooked bananas
crackers
rice, oatmeal, or other well-cooked grain
fresh maize (well cooked and mashed)
potatoes
applesauce (cooked)
papaya

(It helps to add a little sugar or vegetable oil to the cereal foods.)

body-building foods

chicken (boiled or roasted)
eggs (boiled)
meat (well cooked, without much fat or grease)
beans, lentils, or peas (well cooked and mashed)
fish (well cooked)
milk (sometimes this causes problems, see the next page)

DO NOT EAT OR DRINK

fatty or greasy foods
most raw fruits
any kind of laxative or purge
highly seasoned food
alcoholic drinks

Diarrhea and milk:

Breast milk is the best food for babies. It helps prevent and combat diarrhea. **Keep giving breast milk when the baby has diarrhea.**

Cow's milk, powdered milk, or canned milk can be good sources of energy and protein. Keep on giving them to a child with diarrhea. In a very few children these milks may cause more diarrhea. If this happens, try giving less milk and mixing it with other foods. But remember: **a poorly nourished child with diarrhea must have enough energy foods and protein.** If less milk is given, well-cooked and mashed foods such as chicken, egg yolk, meat, fish, or beans should be added. Beans are easier to digest if their skins have been taken off and they are boiled and mashed.

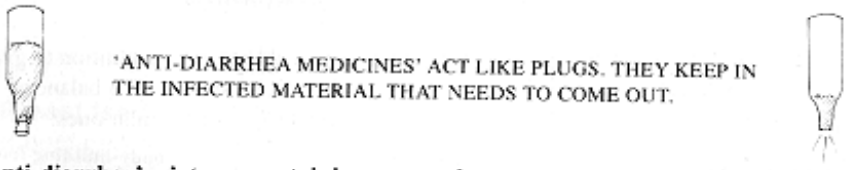
As the child gets better, he will usually be able to drink more milk without getting diarrhea.

Medicines for diarrhea:

For most cases of diarrhea no medicines are needed. But in certain cases, using the right medicine can be important. However, many of the medicines commonly used for diarrhea do little or no good. Some are actually harmful:

GENERALLY IT IS BETTER **NOT** TO USE THE FOLLOWING MEDICINES IN THE TREATMENT OF DIARRHEA:

'Anti-diarrhea' medicines with kaolin and pectin (such as *Kaopectate*, p. 384) make diarrhea thicker and less frequent. But they do not correct dehydration or control infection. Some anti-diarrhea medicines, like loperamide *(Imodium)* or diphenoxylate *(Lomotil)* may even cause harm or make infections last longer.



'ANTI-DIARRHEA MEDICINES' ACT LIKE PLUGS. THEY KEEP IN THE INFECTED MATERIAL THAT NEEDS TO COME OUT.

'Anti-diarrhea' mixtures containing neomycin or streptomycin should not be used. They irritate the gut and often do more harm than good.

Antibiotics like ampicillin and tetracycline are useful only in **some** cases of diarrhea (see p. 158). But they themselves sometimes cause diarrhea, especially in small children. If, after taking these antibiotics for more than 2 or 3 days, diarrhea gets worse rather than better, stop taking them—the antibiotics may be the cause.

Chloramphenicol has certain dangers in its use (see p. 357) and should never be used for mild diarrhea or given to babies less than 1 month old.

Laxatives and purges should never be given to persons with diarrhea. They will make it worse and increase the danger of dehydration.

Special treatment in different cases of diarrhea:

While most cases of diarrhea are best treated by giving plenty of **liquids** and **food,** and **no medicine,** sometimes special treatment is needed.

In considering treatment, keep in mind that some cases of diarrhea, especially in small children, are caused by **infections outside the gut.** Always check for **infections of the ears,** the **throat,** and the **urinary system.** If found, these infections should be treated. Also look for signs of **measles.**

If the child has mild diarrhea together with signs of a cold, the diarrhea is probably caused by a virus, or 'intestinal flu', and no special treatment is called for. Give lots of liquids and all the food the child will accept.

In certain difficult cases of diarrhea, analysis of the stools or other tests may be needed to know how to treat it correctly. But usually you can learn enough from asking specific questions, seeing the stools, and looking for certain signs Here are some guidelines for treatment according to signs.

1. **Sudden, mild diarrhea. No fever.** (Upset stomach? 'Intestinal flu'?)

- Drink lots of liquids. Usually no special treatment is needed. It is usually best not to use 'diarrhea plug' medicines such as kaolin with pectin (*Kaopectate,* p. 384) or diphenoxylate *(Lomotil).* They are never necessary and do not help either to correct dehydration or get rid of infection—so why waste money buying them? Never give them to persons who are very ill, or to small children.

2. **Diarrhea with vomiting.** (Many causes)

- If a person with diarrhea is also vomiting, the danger of dehydration is greater, especially in small children. It is very important to give the Rehydration Drink (p. 152), tea, soup, or whatever liquids he will take. **Keep giving the Drink, even if the person vomits it out again.** Some will stay inside. Give sips every 5 to 10 minutes. If vomiting does not stop soon, you can use medicines like promethazine (p. 386) or phenobarbital (p. 389).
- If you cannot control the vomiting or if the dehydration gets worse, seek medical help fast.

3. **Diarrhea with mucus and blood. Often chronic. No fever. There may be diarrhea some days and constipation other days.** (Possibly amebic dysentery. For more details, see page 144.)

- Use metronidazole (p. 369) or diloxanide furoate (p. 369). Take the medicine according to the recommended dose. If the diarrhea continues after treatment, seek medical advice.

4. **Severe diarrhea with blood, with fever.** (Bacterial dysentery—caused by Shigella?)

- Give co-trimoxazole (p. 358) or ampicillin (p. 353). Shigella is now often resistant to ampicillin, and sometimes to co-trimoxazole. If the first medicine you try does not bring improvement within 2 days, try another or seek medical help.

5. **Severe diarrhea with fever, usually no blood.**

- Fever may be partly caused by dehydration. Give lots of Rehydration Drink (p. 152). If the person is very ill and does not improve within 6 hours after beginning Rehydration Drink, seek medical help.
- Check for signs of typhoid fever. If present, treat for typhoid (see p. 188).
- In areas where *falciparum* malaria is common, it is a good idea to treat persons with diarrhea and fever for malaria (see p. 187), especially if they have a large spleen.

6. **Yellow, bad-smelling diarrhea with bubbles or froth, without blood or mucus.** Often a lot of gas in the belly, and burps that taste bad, like sulfur. (Giardia? See p. 145.)

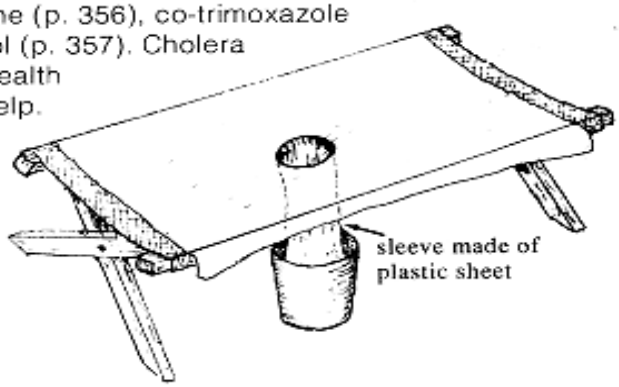
- This may be caused by microscopic parasites called giardia or perhaps by malnutrition. In either case, plenty of liquid, nutritious food, and rest are often the only treatment needed. Severe giardia infections can be treated with metronidazole (p. 369). Quinacrine *(Atabrine)* is cheaper, but has worse side effects (p. 370).

7. **Chronic diarrhea (diarrhea that lasts a long time or keeps coming back).**

- This can be in part caused by malnutrition, or by a chronic infection such as that caused by amebas or giardia. See that the child eats more nutritious food more times a day (p. 110). If the diarrhea still continues, seek medical help.

8. **Diarrhea like rice water.** (Cholera?)

- 'Rice water' stools in very large quantities may be a sign of cholera. In countries where this dangerous disease occurs, cholera often comes in *epidemics* (striking many people at once) and is usually worse in older children and adults. Severe dehydration can develop quickly, especially if there is vomiting also. Treat the dehydration continuously (see p. 152), and give tetracycline (p. 356), co-trimoxazole (p. 358), or chloramphenicol (p. 357). Cholera should be reported to the health authorities. Seek medical help.



A 'cholera bed' like this can be made for persons with very severe diarrhea. Watch how much liquid the person is losing and be sure he drinks larger amounts of Rehydration Drink. Give him the Drink almost continuously, and have him drink as much as he can.

Care of Babies with Diarrhea

Diarrhea is especially dangerous in babies and small children. Often no medicine is needed, but special care must be taken because a baby can die very quickly of dehydration.

GIVE HIM BREAST MILK

- **Continue breast feeding** and also give sips of **Rehydration Drink.**
- If vomiting is a problem, give breast milk often, but only a little at a time. Also give Rehydration Drink in small sips every 5 to 10 minutes (see Vomiting, p. 161).
- If there is no breast milk, try giving frequent small feedings of some other milk or milk substitute (like milk made from soybeans) **mixed to half normal strength with boiled water.** If milk seems to make the diarrhea worse, give some other protein (mashed chicken, eggs, lean meat, or skinned mashed beans, mixed with sugar or well-cooked rice or another carbohydrate, and boiled water).

AND ALSO
REHYDRATION DRINK

- If the child is younger than 1 month, try to find a health worker before giving any medicine. If there is no health worker and the child is very sick, give him an 'infant syrup' that contains ampicillin: half a teaspoon 4 times daily (see p. 353). It is better not to use other antibiotics.

When to Seek Medical Help in Cases of Diarrhea

Diarrhea and dysentery can be very dangerous—especially in small children. **In the following situations you should get medical help:**

- if diarrhea lasts more than 4 days and is not getting better—or more than 1 day in a small child with severe diarrhea
- if the person shows signs of dehydration and is getting worse
- if the child vomits everything he drinks, or drinks nothing, or if frequent vomiting continues for more than 3 hours after beginning Rehydration Drink
- if the child begins to have fits, or if the feet and face swell
- if the person was very sick, weak, or malnourished before the diarrhea began (especially a little child or a very old person)
- if there is much blood in the stools. This can be dangerous even if there is only very little diarrhea (see gut obstruction, p. 94).

UBLIC CLEANLINESS (SANITATION)

1. Keep wells and public water holes clean. Do not let animals go near here people get drinking water. If necessary, put a fence around the place to eep animals out.

Do not defecate (shit) or throw garbage near the water hole. Take special are to keep rivers and streams clean upstream from any place where drinking ater is taken.

2. Burn all garbage that can be burned. Garbage that cannot be burned hould be buried in a special pit or place far away from houses and the places here people get drinking water.

3. Build latrines (out-houses, toilets) so pigs and other animals cannot reach he human waste. A deep hole with a little house over it works well. The deeper he hole, the less problem there is with flies and smell.

Here is a drawing of a simple out-house that is easy to build.

It helps to throw a little lime, dirt, or ashes in the hole after each use to reduce the smell and keep flies away.

Out-houses should be built at least 20 meters from homes or the source of water.

If you do not have an out-house, go far away from where people bathe or get drinking water. Teach your children to do the same.

Use of latrines helps prevent many sicknesses.

Ideas for better latrines are found on the next pages. Also latrines can be built to produce good fertilizer for gardens.

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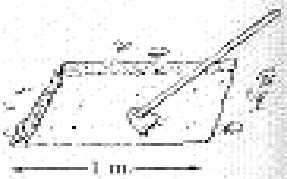
BETTER LATRINES

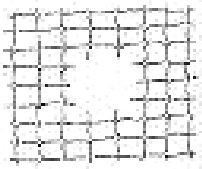
The latrine or cut-house shown on the previous page is very simple and costs almost nothing to make. But it is open at the top and lets in flies.

Closed latrines are better because the flies stay out and the smell stays in. A closed latrine has a platform or slab with a hole in it and a lid over the hole. The slab can be made of wood or cement. Cement is better because the slab fits more tightly and will not rot.

One way to make a cement slab:



1. Dig a shallow pit, about 1 meter square and 7 cm. deep. Be sure the bottom of the pit is level and smooth.



2. Make or cut a wire mesh or grid 1 meter square. The wires can be 1/4 to 1/2 cm. thick and about 10 cm. apart. Cut a hole about 25 cm. across in the middle of the grid.

3. Put the grid in the pit. Bend the ends of the wires, or put a small stone at each corner, so that the grid stands about 3 cm. off the ground.

4. Put an old bucket in the hole in the grid.

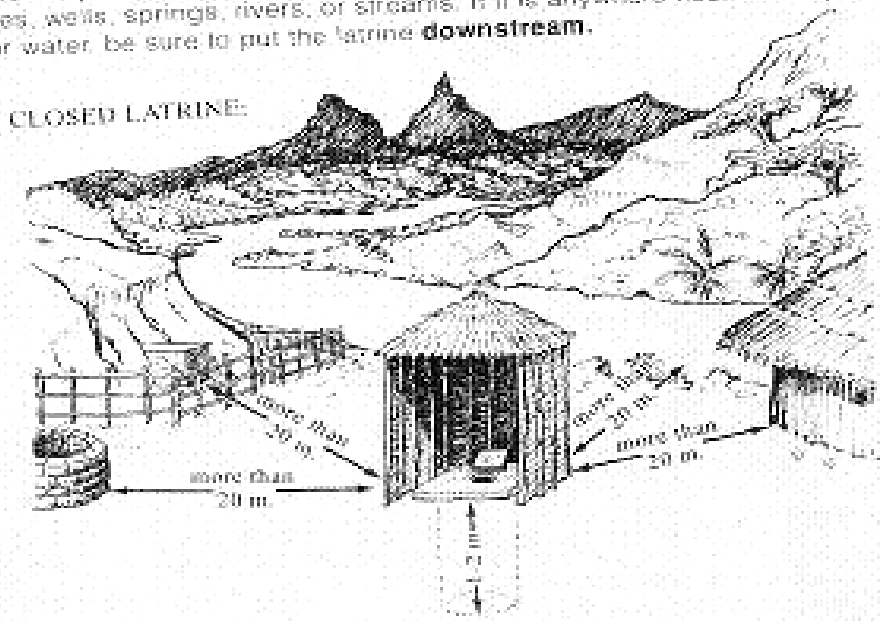
5. Mix cement with sand, gravel, and water and pour it until it is about 5 cm. thick. (With each shovel of cement mix 2 shovels of sand and 3 shovels of gravel.)

6. Remove the bucket when the cement is beginning to get hard (about 3 hours). Then cover the cement with damp cloths, sand, hay, or a sheet of plastic and keep it wet. Remove slab after 3 days.

If you prefer to sit when you use the latrine, make a cement seat like this: Make a mold, or you can use 2 buckets of different sizes, one inside the other.

To make the **closed latrine,** the slab should be placed over a round hole in the ground. Dig the hole a little less than 1 meter across and between 1 and 2 meters deep. To be safe, the latrine should be at least 20 meters from all houses, wells, springs, rivers, or streams. If it is anywhere near where people go for water, be sure to put the latrine **downstream.**

CLOSED LATRINE:

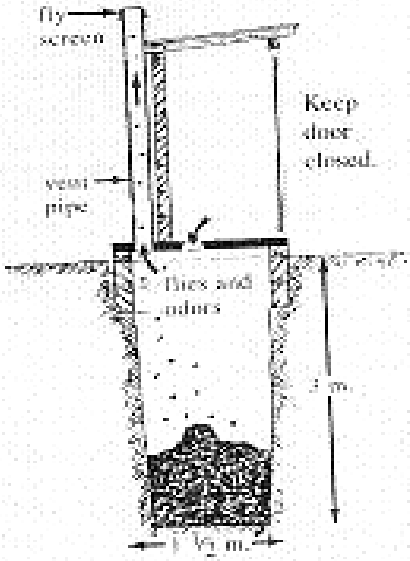


Keep your latrine clean. Wash the slab often. Be sure the hole in the slab has a cover and that the cover is kept in place. A simple cover can be made of wood.

THE FLY-TRAPPING VIP LATRINE:

To make the ventilated improved pit (VIP) latrine, make a larger slab (2 meters square) with 2 holes in it. Over one hole put a ventilation pipe, covered with fly screen (wire screen lasts longer). Over the other hole build an out-house, which must be kept dark inside. Leave this hole uncovered.

This latrine helps get rid of odors and flies: smells escape through the pipe, and flies get trapped there and die!



Common Non-infectious diseases

1. **Cardio** (heart) **vascular** (vessels) **diseases**

High blood pressure: Blood pressure is the force or pressure of the blood upon the walls of the blood vessels (arteries and veins); it varies with the age and health of the person. When the pressure exceeds what is considered within a normal medically acceptable range, it is considered high blood pressure. High blood pressure is sometimes called the "silent killer" because people who have it are often without any symptoms.[1] Two common diseases of the arteries (the blood vessels that carry oxygen and nutrients to the cells throughout the body) that contribute to high blood pressure are "hardening of the arteries", known as arteriosclerosis, and partial and complete blockages in the arteries due to a build up of fats, calcium, or parts of blood. In both cases, these directly affect blood pressure. The following factors may also contribute to high blood pressure:

Factors that contribute to high blood pressure:

-
-
-
-
-
-

Signs/Symptoms of dangerously high blood pressure:

-
-
-
-

[1] Smeltzer, Suzanne C. And Bare, Brenda G, Brunner and Suddarth's Textbook of Medical-Surgical Nursing, 9th edition , Copyright 2000 by Lippincott Williams and Wilkins. Pg 717

What to do to prevent or care for high blood pressure:

-
-
-
-

Diabetes: Persons with diabetes have too much sugar in their blood. This can start when a person is young (juvenile diabetes) or older (adult diabetes). It is usually more serious in young people, and they need special medicine (insulin) to control it. It is most common, however, in people over age 40 that eat too much and get fat.

Early signs of diabetes:	Later, more serious signs:
- Always thirsty	- itchy skin
- Urinates often and a lot	- periods of blurry eyesight
- Always tired	- some loss of feeling in hands or feet
- Always hungry	-frequent vaginal infections
- Weight loss	- sores on the feet that do not heal
	-loss of consciousness

All of these signs may be caused by other diseases. In order to find out whether a person has diabetes, they need to have their urine tested for sugar.

Important information: The following information covers basic First Aid. At all times, it is your responsibility to respond in a SAFE way, using methods that will help and not further injure the person who is in need. The intention of this course is to introduce you to safe practices and responses to situations that may require your assistance. You are encouraged to practice and study these skills, so that in the event you need to use them, you can be a safe first aider.

FIRST AID: What is First Aid?

Prevention is an important factor. It is always better to prevent than treat, and this goes along with preventing accidents from happening.

There are important steps to take in first aid. Let us look at these first steps that are to be considered before one gives first aid in any situation.

1. Is it **safe** to give first aid? Look around and ask: what happened? What is happening? Whether or not you witnessed an accident, injury, or perceived emergency, you need to assess the situation. This can be done within seconds by observation and asking questions (if there are people present to ask or the person needing help is able to provide answers.)

2. Ask: Is the person **unresponsive**? Are they **conscious**? (Awake or able to be made alert) If the person is unresponsive and or unconscious, they will require immediate medical attention as soon as possible.

3. Is the person conscious? Is air getting into their mouth or nose? Is the person breathing? Is the person's heart working? Is there bleeding? Is the person in shock? CHECK THE AIRWAY, BREATHING, CIRCULATION and care for any life-threatening problems immediately. (Not breathing and major bleeding are LIFE THREATENING) As well, some non-threatening problems can develop into life threatening ones if not properly treated.

4. Check vital signs, (breathing, pulse, and blood pressure) if you have the equipment and you know how to properly use it. Perform a head-to-toe survey. Look over the person from their head all the way to their toes to make sure you did not miss anything.

You will learn how to do these steps as we practice and learn some basic first aid. Remember, this is BASIC FIRST AID therefore if you have not been trained to do certain procedures, you could cause more harm than good. It would be better for you to call someone who has some knowledge and skill in first aid. If there is no one available, your help is better than no help, if done safely.

AIRWAY EMERGENCIES:

Causes of Airway obstruction:

- Tongue or swollen tissue of the mouth and throat block the airway. This may occur after an injury or because of a severe allergic reaction. The most common cause in an unconscious person is the tongue, which has dropped to the back of the throat and blocked the airway. A person cannot "swallow" the tongue.
- The airway can also be blocked by a foreign object, such as a piece of food; a small toy; or fluids like vomit, blood, mucus, or salvia. This is called **CHOKING**. The foreign object can be lodged in the airway at any point from the throat to the lungs.
- **Common causes of choking** include the following:
  - Trying to swallow large pieces of food without chewing them adequately.
  - Eating while talking excitedly or laughing, or eating too quickly.
  - Walking, playing, or running with food or objects in the mouth.

Prevention of Choking:

First Aid Response: as demonstrated in class by qualified instructor

BREATHING EMERGENCIES:

Causes: illness, pneumonia, asthma, severe allergic reaction (to food, or an insect sting/bite) electrocution, shock, drowning, heart attack or heart disease, poisoning, injury to the head, chest, or lungs, drugs, alcohol poisoning.)

Prevention of breathing emergencies:

- People with asthma should always have their medication with them or nearby in case of an attack.
- People who know they have severe allergies should be careful to avoid the substances or foods that cause the allergic reaction.
- Chest injuries and other injuries that lead to respiratory arrest can often be prevented by good safety practices in all areas of life. (example of driving and riding in motor vehicles.)
- Parents of infants and small children should take precautions to avoid anything that could cause suffocation.
- Store plastic bags and wrappings in garbage or away from small children.
- Remove doors from old refrigerators (not working) and similar containers where a child could be trapped if they were hiding.
- Prevent drowning by closely supervising children or those who don't know how to swim (Supervise children playing by sewers, large containers of water, etc.)
- Prevent strangulation by removing items that a young child could wrap around their neck.
- Snake bites: be aware of the possibility of snakes and take care.
- Properly handle electrical equipment and wires.

Since breathing emergencies also result from some illnesses, one should always seek treatment before an illness becomes an emergency.

Signs and Symptoms of Respiratory distress/problems

- The person may seem unable to catch his or her breath or may be gasping for air.
- Breathing may be faster or slower than normal.
- Breathing may be unusually deep or shallow.
- The person may make unusual noises, such as wheezing, gurgling, or high-pitched sounds like crowing.
- The person may feel dizzy or light-headed.

- The person may feel pain in the chest or tingling in the hands and feet.
- The person may appear apprehensive (nervous), fearful, or very anxious.

Emergency response: If a person is having difficulty breathing, transport to a medical facility as soon as possible. They may need special medicine and oxygen.

First Aid response: as demonstrated in class by a qualified instructor

CIRCULATION EMERGENCIES:

Causes for Circulation Problems: injuries that causes bleeding, either externally or internally, heart diseases, called Cardiovascular disease (heart attack, stroke), diabetes.

Prevention of Cardiovascular emergencies:

- Safety when using sharp tools
- Proper supervision of sharp tools
- Put sharp tools/instruments out of children's reach (i.e. Razor blades!)
- Healthy diets, low in fat (decrease amount of refined oils)--a diet high in fats and cholesterol or deep frying in oils are not healthy eating habits. Reduce the amount of oil and fat used in preparing food. Cooking food in water, or small amounts of oil is better than deep frying.
- Proper exercise
- Health weight: avoid obesity.
- Keep a healthy blood pressure (high blood pressure can damage blood vessels in the heart and other organs. You can often control high blood pressure by losing weight, changing your diet, and taking medications when prescribed.

Signs and Symptoms of a cardiovascular emergency

Heart attack:

- **Signs and symptoms**: chest pain, difficulty breathing, pulse too fast, too slow, or irregular. Pale skin, sweating, nausea and vomiting, sometimes pain in the neck and down into the left shoulder/arm.

- **Anatomy and Physiology of a Cardiac arrest/heart attack**—Occurs when the heart stops beating or beats too irregularly or too weakly to circulate blood effectively. Breathing soon stops. A heart attack is a life-threatening emergency because vital organs can live only a few minutes without oxygen-rich blood.
- **Causes**: cardiovascular disease is the most common cause of cardiac arrest.
    - Drowning, suffocation, and certain drugs can cause breathing to stop, which then causes the heart to stop. Severe chest injuries or severe blood loss can also cause the heart to beat ineffectively. Electrocution disrupts the heart's own electrical activity and causes the causes the heart to stop.
- **Signs and Symptoms:** unresponsive (unconsciousness), no movement by the person, absence of effective breathing, absence of a carotid pulse.

Stroke: A stroke, also called a cerebrovascular accident, (CVA) is a disruption of blood flow to a part of the brain that is serious enough to damage brain tissue.

- **Causes of Stroke**: Stroke is caused by a blood clot that lodges in the arteries in the brain. Other causes include an artery in the brain that ruptures, a head injury, or tumour.
- **Signs and Symptoms of Stoke**: Symptoms of stroke include sudden weakness and/or numbness of the face, arm, or leg, (usually only on one side of the body) difficulty talking or understanding

speech, sudden and severe headache, dizziness or confusion, unconsciousness and loss of bladder control.

- **First Aid**: Depending on the severity of the stroke and the cause, the person will need medical attention. Sometimes the blood pressure is very high and it needs to be reduced in a safe, monitored medical manner. Transport to a medical facility as soon as you can and make sure that someone stays with the person. Make sure that their airway and breathing are clear.

Bleeding: the escape of blood from arteries, veins, or capillaries
Internal bleeding stays inside the body and is often difficult to recognize. External bleeding outside the body is usually visible. Any uncontrolled bleeding is a life-threatening emergency.

External bleeding:

Causes: tear in the skin, scraps, injuries
Signs and symptoms**: Arterial bleeding** is often rapid and profuse and potentially life threatening. It is a bright red and often comes out spurting because it is under pressure. It is harder to stop.
Venous bleeding (bleeding from veins) is more common because veins are closer to the skin's surface. Because it is oxygen poor, venous blood is dark red. Venous blood flows steadily from a wound without spurting. Only damage to veins deep in the body causes profuse bleeding that can be hard to control.
Capillary bleeding, the most common type, is usually slow because vessels are small and the blood is under low pressure. Clotting occurs easily.

First Aid:

R._____ E. _____D._____

Internal bleeding: bleeding that happens inside the body.

First Aid:

Nose bleeds:

SHOCK- is usually caused by extensive internal or external bleeding, as the loss of blood leads to low blood volume and decreased oxygen supply to vital organs. Extensive burns and other large fluid losses, such as diarrhea and vomiting in children, can also cause shock.

- **Signs and Symptoms of Shock**:
  - Pale, cold, moist skin
  - Weakness
  - Anxiety
  - Confusion
  - Unconsciousness
  - Weak, rapid pulse

- **FIRST AID FOR SHOCK :**
  Help the person rest in the most comfortable position, and give reassurance. Encourage person to lie down and help maintain normal blood temperature by placing a cover over them if they are cool to touch.

FAINTING- is a form of shock in which the person has a partial or complete loss of consciousness. It is caused by a temporary reduction of blood flow to the brain. Fainting can be triggered by an emotional shock. It may be caused by pain, medical conditions such as heart disease, standing for long periods of time, or overexertion. Some people, such as pregnant women or the elderly, may faint because of a sudden change in position, such as moving from a sitting or lying down position to one of standing up.
Fainting may occur without any warning at all, or the person may first feel lightheaded, dizzy, nauseated, or sweaty.

FIRST AID FOR FAINTING:

- Do not assume the person merely fainted, since he or she may have become unconscious because of a life-threatening problem such as severe shock or cardiac arrest. Always check airway, breathing and circulation to ensure that no life-threatening problem exists. If there is any doubt about the cause of the fainting, take person to a doctor for a check up.
- Usually fainting resolves by itself and the person regains consciousness within a minute or two.

Nervous System (head/brain, spine, nerve) injuries/emergencies:

Causes of head/spine/nerve injuries: Motor vehicle crashes, falls, sports injuries, and violent acts can cause injury to the brain and spine. Those who survive head and spine injuries can have physical and mental difficulties, including paralysis, speech and memory problems, behavioral disorders or even permanent disability. First aid correctly given, can prevent some head and spine injuries from leading to death or disability. Head injuries may include concussion and injuries to the scalp, eye, or ear.

Prevention of head/spine/nerve injuries:

- If there is a seat beat in the vehicle, put it on.
- Have young children SIT in the backseat of a vehicle, and stay seated.
- Wear helmets, when riding a motor bike or bicycle.
- Wear protective eyewear with any work involving flying particles or chemicals.
- Prevent falls around the home, workplace, or outdoors by moving cords and things on the floor where one walks.
- Use safety harnesses/ropes when climbing heights.
- Wear hard helmets in construction areas, if available.
- Use proper, secure ladders or climbing devices.
- Always know the depth of water if one plans on diving in.
- Do not shake infants or young children aggressively.

Signs and Symptoms of Head and Spine injuries: (especially following an injury)

- Changes in level of consciousness (alert, confused, unconscious)
- Severe pain or pressure in the head, neck, or back
- Tingling or loss of feeling in the fingers and toes
- Loss of movement of any body part
- Unusual lumps on the head or spine
- Blood in the ears or nose
- Heavy bleeding of the head, neck, or back
- Convulsions/seizures
- Impaired breathing or vision
- Nausea or vomiting
- Persistent headache
- Loss of balance
- Bruising of the head, especially around the eyes and behind the ears

FIRST AID RESPONSE: to a suspected head/neck/spine injury

- Check for airway, breathing, circulation
- Help the person rest in the most comfortable position and give reassurance.
    - Head and spine injures can become life threatening.
- Keep the head and spine as still as possible
- Maintain an open airway
- Monitor consciousness and breathing
- Control any external bleeding
- Maintain normal body temperature

If a person has been in a car accident, and has hit their head, suspect head and neck injury. Steady the injured. Immobilize the head and neck in the position found and support them in that position. If the casualty is wearing a helmet, leave it on, until you can transport them to a medical facility. (Demonstrate how to immobilize.)

For a suspected neck or back injury, you need a hard, flat board to move the person, making sure that the head, neck, and spine are kept in line and little movement is made.

CONCUSSION- a concussion is usually a temporary injury (a fall or a hard hit on the head). In most cases, the person loses consciousness for only a few minutes and may say that he or she 'blacked out' or 'saw stars'. Unconsciousness sometimes lasts longer, or the person may be confused or have a memory loss. Anyone suspected of having a concussion should be seen by a doctor.

SCALP INJURY- scalp bleeding is usually controlled with direct pressure. Apply dressings and hold them in place with your hand. Be gentle, because in a hard fall or hit, the skull may be fractured. If you feel a depression, a soft area, or pieces of bone, do not put direct pressure on the wound, unless bleeding is severe.

EYE INJURY- Eye injuries can involve the bone and soft tissue surrounding the eye or the eyeball itself. A blunt object may injure the eye area, or an object may penetrate the eyeball. Never put direct pressure on the eyeball. If an object is impaled in the eye, DO NOT attempt to remove it. Place a bandage around the object and stop it from moving as best as you can. Take the person to a doctor immediately.

For foreign body in the eye, such as dirt, sand, or slivers of wood or metal, the person may feel severe pain and may have difficulty opening the eye. Give the following **first aid** for a foreign object or chemical in the eye:

- Try to remove the foreign object by having the person blink several times. The eye will produce tears that may wash out the object.
- Gently hold open the eyelids and have the person blink into a handful of clean water, or in a container with clean water.
- If chemicals were splashed into the eye, pour clean water over the eye.

EAR INJURY- If the outer part of the ear is injured and is bleeding, control the bleeding with direct pressure. Depending on the severity, assess whether stitches/sutures are needed. If the person has had a serious head or spine injury and blood or other fluid is in the ear canal

or draining from inside the ear: DO NOT attempt to stop this drainage with direct pressure. Cover the ear lightly with a clean (sterile, if possible) bandage. Take to a doctor immediately.
For a foreign object, such as dirt, an insect, or cotton lodged in the ear canal, give the following first aid: If you can see and grasp the object, remove it. Do not try to remove any object by using a pin, toothpick, or a similar sharp item. You could force the object farther back or puncture the eardrum. Try to remove the object by pulling down on the earlobe, tilting the head to the side, and shake or gently strike the head on the affected side. You can also try to pour clean, warm water into the affected ear, and then lie on that side to help drain the item out.

MOUTH AND JAW INJURIES- Your primary concern for any injury to the mouth or jaw is to ensure an open airway. For injuries that penetrate the lip, place a rolled bandage/dressing between the lip and the gum. You can place another dressing on the outer surface of the lip. If the tongue is bleeding, apply a dressing and direct pressure. Applying cold to the lips or tongue can help reduce swelling and ease pain. If the bleeding cannot be controlled, see a medical person.

MUSCLE AND BONE INJURIES: Causes and Types of Bone, Muscle, and Joint Injuries-- include falls, an awkward or sudden movement, or an automobile accident.

There are 4 basic types of injuries:

- Fracture (break) of bone
- Dislocation
- Sprain
- Strain

FRACTURE-- A fracture is a break, chip, or crack in a bone. With very young children, a bend (greenstick fracture) can also occur.
Fractures are usually caused by direct or indirect forces. Strong twisting forces and muscle contractions can also cause a fracture. An open fracture is one with an open wound. Open fractures often occur when

the limb is badly bent, causing bone ends to tear the skin or when an object pierces the skin and breaks the bone. Closed fractures, which leave the skin unbroken, are more common. Open fractures are more serious because of the risks of infection and blood loss. Fractures are not always obvious.

DISLOCATION--is a separation of a bone from its normal position at a joint. Dislocations are usually caused by strong forces. Some joints, such as the shoulder or fingers, dislocate relatively easily because their bones and ligaments provide less protection. When bone ends are forced far enough beyond their normal position, ligaments stretch and tear. The strong force causing a dislocation can also cause a fracture and can damage nearby nerves and blood vessels. Dislocations are generally obvious injuries because the joint appears deformed.

SPRAIN-- is the tearing of ligaments at a joint when the bones are forced beyond their normal range of motion. The sudden forcing of a joint can completely rupture ligaments and dislocate the bones. The bones may also fracture.
Mild Sprains which only stretch ligaments generally heal quickly. The person may feel pain for a short time and return to activity with little or no soreness. For this reason people often neglect sprains and the joint is often reinjured.
Severe sprains usually cause pain when the joint is moved or used. The joints of the ankle, knee, fingers, and wrist are most commonly sprained.

STRAIN-- is a stretching and tearing of a muscle or tendon. It is sometimes called a "muscle pull' or "tear." Strains often result from lifting something too heavy, working a muscle to hard, or moving suddenly or awkwardly. Strains are common in the neck or back, the front or back of the thigh, or the back of the lower leg. Neck and lower back strains can be very painful.

MUSCLE CRAMPS-- Are not an injury, but a type of pain that may occur after or during exercising or if the arm or leg is in the same position for a long time. Stretching and massaging the area, resting, and changing one's position are usually enough for the pain to stop. Heat cramps may feel like muscle cramps but occur when the muscles lose fluids after exercise.

SPECIFIC BONE, MUSCLE AND JOINT INJURIES--include shoulder, upper arm, forearm, wrist, hand injuries, pelvis, thigh and lower leg, knee injuries, ankle and foot injuries.
PREVENTION—Practice safety. Avoid jumping from heights and use caution around the home/workplace to prevent falls. Exercise regularly to strengthen the body.

SIGNS AND SYMPTOMS--

- Pain
- Tenderness
- Swelling
- Inability to use the injured part normally

The following may occur with more severe injuries:

- Discoloration of the skin
- Deformity
- External bleeding
- A feeling of bones grating or a feeling or sound of a snapping at the time of injury.

Pain, swelling, and tenderness often occur with any significant injury.

FIRST AID RESPONSE--General Care: The care for all bone, muscle, and joint injuries is similar. Avoid causing any more pain. Keep the person as comfortable as possible.

REST--Avoid any movements that cause pain. Help the person find the most comfortable position. If you suspect head, neck, or back injuries leave the person lying flat.

IMMOBILIZATION--If you suspect a serious injury, you must immobilize the injured part before giving additional care. The purposes of immobilizing an injury are to: lessen pain; prevent further damage; reduce the risk of further bleeding; reduce the possibility of loss of circulation to the injured part; prevent closed fractures from becoming open fractures.

You can immobilize an injured part with a splint, sling, or bandages to keep it from moving. A splint is a device that keeps an injured part in place. An effective splint must extend above and below the injury. To immobilize a bone, splint the joints above and below the fracture. To immobilize a joint, splint the bones above and below the injured joint.

When using a splint, follow these four basic rules:

- Splint only if you can do it without causing more pain.
- Splint an injury in the position you find it.
- Splint the injured area and the joints above and below the injury site.
- Check for proper circulation before and after splinting by asking the person if the fingers or toes feel numb and by checking whether the fingers or toes feel warm and have color in the nail-beds.

TYPES OF SPLINTS: There are 3 types of splints: soft, rigid, and anatomic. **Soft splints** include folded blankets, towels, pillows, and slings or bandages. A sling is a triangular bandage tied to support an arm, wrist, or hand. A wad of cloth or bandages can serve as effective splints for small body parts such as the hand or fingers. **Rigid splints** include boards, metal strips, and folded magazines or newspapers. **Anatomic splints** use the body itself as a splint. For example, an arm can be splinted to the chest.

Follow these general rules:

1. Support the injured part. If possible, have the person or someone else help you keep movement of the injured part to an absolute minimum.

2. Cover any open wounds with a dressing and bandage to help control bleeding and prevent infection.
3. If using a rigid splint, pad the splint so that it is shaped to the injured part.
4. Hold the splint in place with bandages.
5. Every 15 minutes, check to make sure that the splint is not too tight. Loosen the splint if the person complains of numbness.

COLD- With all injuries except open fractures, if possible, apply ice with a towel between the ice and skin. Cold helps ease the pain and reduce swelling by constricting the blood vessels. A general rule for cold application is 15 minutes every hour for the first 24-48 hours after the injury. If ice is not available, cool water compress may help.

(for sprains or strains: once the swelling has gone down-–usually takes 2-3 days after the injury-- heat may be applied to increase the blood flow and speed healing.

ELEVATION--elevating the injured area helps slow the flow of blood, reducing swelling. If possible, raise the injured area above the level of the heart. Do not try to evaluate a part you suspect is fractured until it is splinted or if raising the area causes additional pain or discomfort.

6. SOFT TISSUE INJURIES

a) Brief overview of anatomy and physiology of soft tissues--the soft tissues include the layers of skin, fat, and muscles that protect the underlying body structures. The skin is the body's largest single organ. It protects the body, helps control body temperature, and senses the environment through nerve endings. The skin has two layers. The outer layer, the epidermis, blocks germs that can cause infection. The deeper layer, the dermis, contains nerves, sweat and oil glands, and many blood vessels. Most soft tissue injuries are painful and are likely to bleed. Under the skin is a layer

of fat. This layer helps maintain body temperature. The muscles are under the fat layers.
Most soft tissue injuries involve the outer layers.

Causes and Types of Soft Tissue Injuries--called a wound. A wound is a closed wound when the soft tissue damage occurs under the skin. A wound is an open wound if there is a break in the skin's outer layer.

Closed Wounds: Bruises, also called a contusion. Bruises result when some force impacts the body, such as when you bump your leg on a table. This impact can damage to soft tissue layers and blood vessels beneath the skin, causing internal bleeding. When blood and other fluids seep into nearby tissues, the area discolors and swells.

Open Wounds: are injuries that break the skin. They can be as minor as a scrape or as severe as a deep penetrating wound. Any break in the skin can let in microbes (germs/bacteria/viruses)

There are 4 main types of open wounds:

- **Abrasions**-- the skin is rubbed or scraped away. This often occurs when a child falls and scrapes his or her hands or knees. The scraping exposes nerve endings and usually causes pain. Bleeding is light and easily controlled. Dirt and other matter can get into the skin, so it is very important to clean the wound and to remove all visible dirt.

- **Laceration**-- is a cut with jagged or smooth edges. This type is commonly caused by sharp-edged objects, such as knives, broken glass, etc. Deep lacerations can damage layer of fat and muscle. Lacerations usually bleed freely.

- **Avulsion**-- is a piece of skin and sometimes other soft tissue that is torn away. A partly avulsed piece of skin may remain attached like a flap. Bleeding is usually heavy if deeper soft tissue layers are involved.

- **Puncture**-- occurs when the skin is pierced with a pointed object such as a nail, piece of glass, splinter, etc. Because the skin usually closes, external bleeding is not heavy, but internal bleeding can be very serious, depending on the penetration depth and width.
  Objects going into the soft tissue carry germs (i.e. Tetanus). Tetanus produces a powerful poison that affects the nervous system and muscles.

PREVENTION of SOFT TISSUE INJURIES-- Safe use of sharp tools, safe storage of sharp tools away from young children, proper footwear, disposing garbage in proper places, (razors, nails) safety around fire. Supervise young children.

Preventing Infection--Wash the injured area with clean water. For wounds not bleeding heavily, wash the area with soap and clean water. Most soaps remove harmful bacteria. Gentian violet may be applied to minor wounds. Keep the injured area clean while it heals. Keep flies and dirt off. An antibiotic ointment may need to be applied to the wound. **Get an Immunization for Tetanus.**

Signs and Symptoms of SERIOUS soft tissue injures include:

- Heavy bleeding
- Damage to deep layers of body tissue
- Severe swelling or discoloration
- Severe pain or the inability to move a body part

  Signs of infection:
  - The area around the wound becomes swollen, darker, and warm.
  - The area may throb with pain.
  - Some wounds have a pus discharge. (yellowish discharge)
  - Serious infections may cause a person to develop a fever and feel ill.

FIRST AID RESPONSE-

- **Most minor closed wounds** do not require special medical care. Direct pressure on the area decreases bleeding. For soft tissue closed wounds that were caused by a hard fall/hit, watch out for signs of internal injuries.

- **Major Open Wounds**-- Rest, Elevation, Direct Pressure.
  If a body part has been completely cut off, try to find the body part. Apply direct pressure to stop bleeding. Wrap the body part in any clean material and place in a water-proof bag. If possible, keep the part cool by placing ice on it. Transport person and body part to the hospital as soon as possible.
    - **Impaled object** (depending on the size, and depth of penetration) in a wound that is **bleeding**: do not remove the object. Use bulky dressings to stabilize it. Control bleeding by bandaging the dressings in place around the object. Transport as soon as possible to medical facility.

BURNS-- most burns can be prevented. Take special care with children! Do not let small children or babies go near a fire. Keep lamps and matches out of reach of small children. Turn handles of pans so children cannot reach them.

Anatomy and Physiology of Burns: Burns are a soft tissue injury usually caused by heat but also by chemicals, electricity, or radiation such as with sunburn. Burns first destroy the top layer of skin, the epidermis. If the burn progresses, the dermis layer is also injured.

Causes and Types of Burns: Burns are classified by their causes and their deepness: First degree (superficial), second degree (partial thickness) and third degree (full thickness). The deeper the burn, the more severe it is.

First degree burns: minor burns which do not form blisters. Only the top layer of skin is damaged. The skin is darker and dry, and the burn is usually painful. The area may swell.

Second degree burns: damage to both layers of the skin—the epidermis and the dermis. Heat or very severe sunburn or chemical burns can cause second degree burns. The skin is darker, and has blisters that may open and leak clear fluid, making the skin appear wet. These burns are usually painful, and the area often swells. Scarring may occur.

Third degree burns (deep burns): destroys both layers of skin as well as any or all of the underlying structures—nerves, blood vessels, fat, muscles, and bones. Severe heat or fire and electrical burns or lightning can cause third degree burns. These burns can look either charred (very black) or waxy dark. Third degree burns can be life threatening if extensive burn has covered much of the body because of fluid loss that leads to shock. Infection also is likely. Scarring occurs and may be severe.

FIRST AID RESPONSE FOR BURNS

GROUP QUESTION: How have you seen burns treated?

These are the recommended ways to treat burns:

First degree burns: Wash it with soap and water and keep it clean. Keep the area cool with water.

Second degree burns: Do not break blisters. If the blisters are broken, wash gently with soap and clean water. Cool the burned area with clean water. You can put sterile Vaseline on the burn if you don't have any antibiotic ointment. Put sterile gauze on the burn. NEVER SMEAR ON GREASE OR BUTTER.

It is very important to keep the burn as clean as possible. Protect it from dirt, dust, and flies.
Third degree burns: Cool the burned area with clean water. Very special care is needed and it is recommended that a person with 3rd degree burns be seen by a medical doctor. They will most likely need antibiotics.
Chemical burns: Wash it off as soon as possible, under running water.
Electrical burns: *** make sure it is safe to approach someone who has an electrical burn that the power is properly turned off*** (if they are still near a live wire).

7) Other Conditions that may require First Aid.

Heat Emergencies: The body generally regulates its temperature very well. However, when the body cannot manage extreme heat, problems result. Extreme heat can occur both indoors and outdoors.

Prevention of heat emergencies: Avoid being outdoors in the hottest part of the day. If you have to be outside, be in the shade. Slow down your activities as it gets hotter, and work or exercise in brief periods. Dress appropriately. DRINK PLENTY OF fluids!

Signs and Symptoms of Heat Emergencies:

Heat Exhaustion:

- Normal or slightly elevated body temperature
- Cool, moist skin
- Headache
- Nausea
- Dizziness and weakness
- Exhaustion

Heat Stroke:

- High body temperature
- Hot, dry skin, especially in the elderly
- Irritable, bizarre, or combative behavior
- Progressive loss of consciousness

- Rapid, weak pulse becoming irregular
- Rapid, shallow breathing

FIRST AID: COOL THE BODY. Give fluids to drink if the person is conscious. Loosen any tight clothing and remove clothing soaked with perspiration. Put cool water on the skin and fan the person. Rest in a cool place, or get into the shade. Place a cool, wet cloth on the face and around the neck.

POISONING-- results when an external substance enters the body. The substance may be a drug or any chemical substance, taken intentionally or intentionally, or a poison or microbe that enters the body through a bite, sting, or puncture wound.
(You may not think of drugs, medications, and other substances people take on purpose as poisons, but they can have a toxic effect on the body if misused or abused.)

Causes of Poisonings: Four ways in which poison can enter the body

1. **Ingestion** – swallowed or come in contact with the mouth and lips (many substances not poisonous in small amounts are poisonous in larger amounts.) Any prescription or medication can be toxic if not used according to directions. Even herbs can be toxic if not used properly.
2. **Inhaled-** breathed into the lungs. These include gases and fumes such as carbon monoxide from a car exhaust.
3. **Absorbed**- enter the body through the skin. They include poisonous plants/leaves and chemicals.
4. **Injected**- enter the body through bites or stings of bees, wasps, insects, spiders, ticks, animals, and snakes, or as drugs injected with a needle.

Some common poisons to watch out for: rat poison, DDT, insecticides or plant poisons, medicine (any kind when much is swallowed), gentian violet, bleach, cigarettes, alcohol, poisonous leaves, seeds, berries or mushrooms; matches, kerosene, paint

thinner, gasoline, petrol, lighter fluid, lye or caustic soda, salt (if too much is given to babies and small children), spoiled food.

PREVENTION: Keep known poisons and medications out of reach of children. Teach children about plants, berries and seeds not to eat.

FIRST AID for ingested--
If you suspect poisoning, do the following immediately, for a **conscious (awake) person only.** Make the person vomit by putting your finger inside his throat (back of tongue, up top). Or give them a tablespoon of syrup of ipecac followed by 1 glass of water. Or make him drink water with salt in it. (6 teaspoons to 1 cup of water)
Of course, this will depend on the age of the person.
If you have it, give the person a cup of activated charcoal or a tablespoon of powdered charcoal mixed into a glass of water. For an adult, give 2 glasses of this mixture.

CAUTION: Do not make a person vomit if he has swallowed kerosene, gasoline (petrol), or strong acids or corrosive substances (lye), or if he is unconscious.

As well, it is **not safe** *to give a young child palm oil to drink in hopes that the child will vomit*. If the child aspirates (breathes in and chokes on his vomit, with the red oil, this can cause *serious damage* to the lungs and *possible death* to the child!

FIRST AID for inhaled (breathed in) poisons: Remove person from the fumes or gas if it is safe for you to do so. Get them to fresh air. For severe inhalation, take to a medical clinic as soon as possible. If person has stopped breathing, begin rescue breathing, making sure that it is safe to do so. (no poison on their mouth)

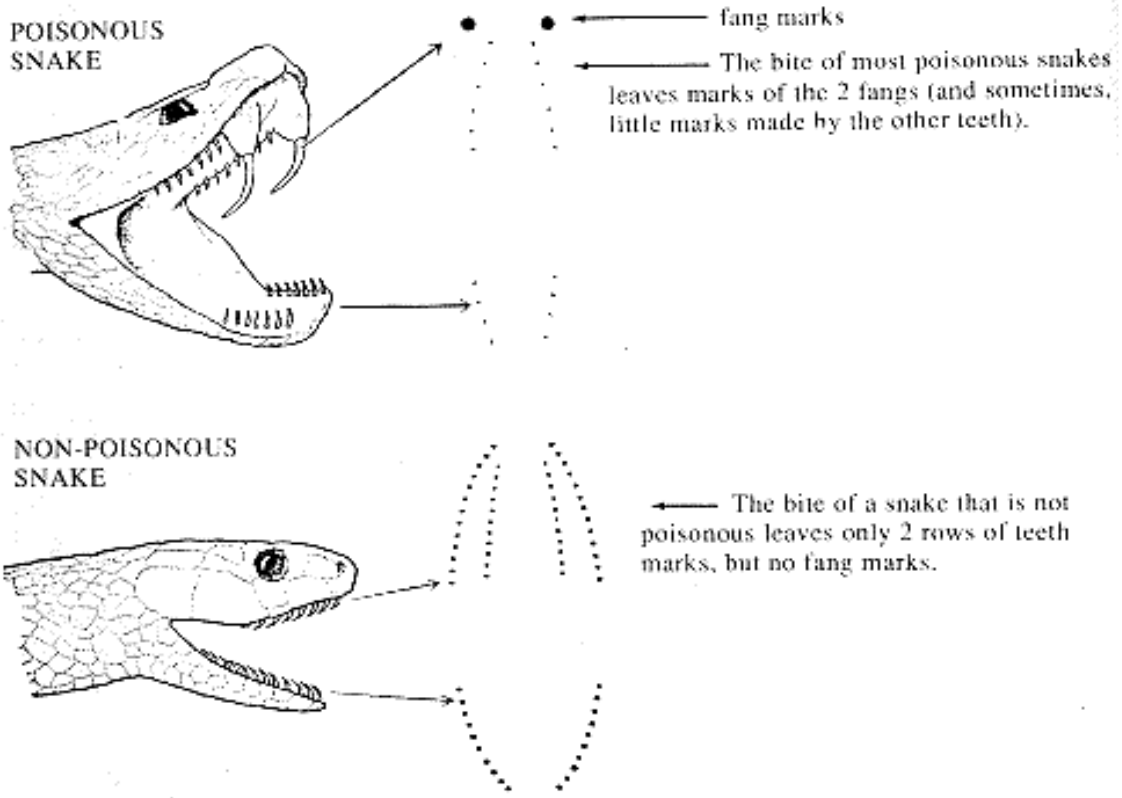
FIRST AID for absorbed poisons: Wash the affected area thoroughly with soap and water. Remove any contaminated

clothing and avoid contact with it until it has been properly laundered. If a rash or weeping lesion develops, apply a paste of bicarbonate soda and water to the area several times a day for comfort.

FIRST AID for injected poisons: (see below pgs. 104-105 of *Where There is No Doctor*.)

First Aid for injected poisons: snake bites

When someone has been bitten by a snake, try to find out if the snake was poisonous or harmless. Their bite marks are different:

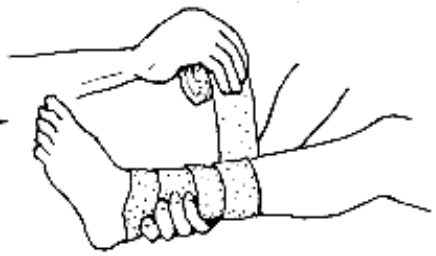


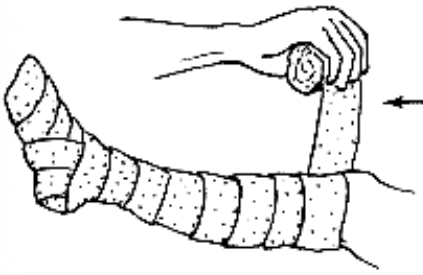
People often believe that certain harmless snakes are poisonous. Try to find out which of the snakes in your area are truly poisonous and which are not. Contrary to popular opinion, boa constrictors and pythons are not poisonous. Please do not kill non-poisonous snakes, because they do no harm. On the contrary, they kill mice and other pests that do lots of damage. Some even kill poisonous snakes.

Treatment for poisonous snakebite:

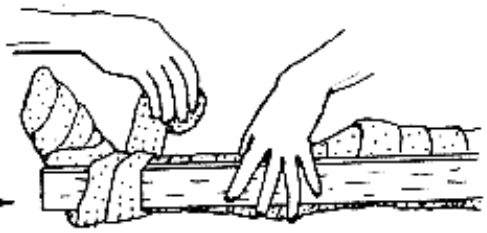
1. **Stay quiet; do not move the bitten part.** The more it is moved, the faster the poison will spread through the body. If the bite is on the foot, the person should not walk at all. **Send for medical help.**

2. Wrap the bitten area with a wide elastic bandage or clean cloth to slow the spread of poison. Keeping the arm or leg very still, wrap it tightly, but not so tight it stops the pulse at the wrist or on top of the foot. If you cannot feel the pulse, loosen the bandage a little.





3. Wind the bandage over the hand or foot, and up the whole arm or leg. Make sure you can still feel the pulse.



4. Then, put on a splint to prevent the limb from moving (see p. 14).

5. Carry the person, on a stretcher if possible, to the nearest health center. If you can, also take the snake, because different snakes may require different antivenoms (antitoxins, see p. 388). If an antivenom is needed, leave the bandage on until the injection is ready, and take all precautions for ALLERGIC SHOCK (see p. 70). If there is no antivenom, remove the bandage.

6. Give acetaminophen, not aspirin, for pain. If possible, give tetanus vaccine. If the bite becomes infected, give penicillin.

7. Also, **ice** helps to reduce pain and slow the poison. Wrap the arm or leg with a plastic sheet and a thick cloth. Then pack crushed ice around it. (*Caution:* Too much cold can damage skin and flesh. When it is getting too cold it begins to ache. So let the person decide when to remove the ice for a few minutes.)

Have antivenoms for snakes in your area ready and know how to use them—before someone is bitten!

Poisonous snakebite is dangerous. Send for medical help—but always do the things explained above **at once.**

Most folk remedies for snakebite do little if any good (see p. 3).

Never drink alcohol after a snakebite. It makes things worse!

CONVULSIONS: Sometimes when the brain is affected by injury, disease, fever, infection, or unknown reasons, its electrical activity becomes irregular. This condition can cause a loss of body control known as a convulsion.

Causes of Convulsions: Fever and certain illnesses and injuries may cause convulsions. A common cause is epilepsy. Convulsions in infants and young children may be caused by high fever. These are called **FEBRILE CONVULSIONS.**

Prevention: Treat fevers and the cause of the fever as soon as possible.
If the person is a known epileptic, make sure that they take the proper medication. The doctor may need to be notified to adjust the dosage of medication.

Signs and Symptoms of Convulsions: Before a convulsion occurs, the person may hallucinate and see, hear, taste, or smell something not there. If the person recognizes this feeling, he or she may have time to tell someone and sit down before the convulsion takes place.

FIRST AID: Do not try to stop the convulsion or restrain the person. The goal of first aid for convulsions is to protect the person from injury and make sure they have a clear airway. Move away nearby objects that might cause injury. Keep the person away from dangerous situations such as fire, heights, or water. Protect the person's head by placing a cushion or folded cloth beneath it. If there is salvia, blood, or vomit in the person's mouth, move him or her into the recovery position (side lying) so that it drains from the mouth. Do not try to place anything between the person's teeth; biting the tongue or cheek hard enough to cause much bleeding is rare.

After the convulsion the person will be drowsy and confused. Be reassuring and comforting. If the convulsion occurs in public, the person may be embarrassed.

Be sure to take to doctor if convulsion is of unknown reason. As well, seek medical care if:

- The convulsion last more than a few minutes
- The person has repeated convulsions
- The person appears to be injured
- You are uncertain about the cause of the convulsion
- The person is pregnant
- The person is a known diabetic
- The person is an infant or child
- The person fails to regain consciousness after the convulsion.

DIABETIC EMERGENCIES-- A diabetic emergency can happen only to someone who has diabetes. You may or may not know this information about the person who needs first aid.

Anatomy and Physiology of Diabetic Emergencies: To function, the body uses sugar as a source of energy. To use sugar, the body needs insulin, which the body normally makes itself. If the body does not make enough insulin or does not use it properly, the person has diabetes. The person is called a diabetic.

In one type of diabetes, the body produces little or no insulin. This type often begins in childhood and is called juvenile diabetes. Most insulin-dependent diabetics have to inject insulin into their bodies every day.

In the other type of diabetes, non-insulin-dependent, the body makes some insulin but not enough for the body's needs. This condition usually begins later in life.

Causes of Diabetic Emergencies: Too much or too little sugar in the body can cause a diabetic emergency. When the insulin level in the body is too low, the sugar level in the blood will become too high. This is called hyperglycemia. The body tries to get energy from stored food and energy sources such as fats, but this makes the blood more acid and causes the person to become extremely ill. Hyperglycemia can then lead to diabetic coma.

On the other hand, if the insulin is too high the person will develop a low sugar level. This condition is called hypoglycaemia. It is caused by taking too much insulin, failing to eat enough, or by over exercising and burning off sugar faster than normal. In hypoglycaemia, the small amount of sugar is used up rapidly, and there is not enough for the brain to work. This will cause the person to become unconscious.

Signs and Symptoms: The signs and symptoms of hyperglycemia and hypoglycaemia differ somewhat, but the major signs and symptoms are similar:

- Changes in the level of consciousness, including dizziness, drowsiness, and confusion, sometimes leading to coma.
- Rapid breathing
- Rapid pulse
- Feeling and looking ill

FIRST AID If the person is conscious and aware that they have diabetes, they probably will tell you. If the person can take food or fluids, give him or her something with sugar in it. Most candy, fruit juices, and minerals have sugar in it. If the person's problem is low sugar, the sugar you give will help quickly. If the person already has too much sugar, the extra sugar will not cause further harm over a short period of time. They will need insulin.

The following pages are for your reference and information with regards to when someone maybe suffering from an acute abdomen. The information is taken directly from *Where There is No Doctor: A village health care handbook* by David Werner, new revised edition, and is authorized for reproduction.

EMERGENCY PROBLEMS OF THE GUT (ACUTE ABDOMEN)

Acute abdomen is a name given to a number of sudden, severe conditions of the gut for which prompt surgery is often needed to prevent death. Appendicitis, peritonitis, and gut obstruction are examples (see following pages). In women, pelvic inflammatory disease, or an out-of-place pregnancy can also cause an acute abdomen. Often the exact cause of acute abdomen will be uncertain until a surgeon cuts open the belly and looks inside.

If a person has continuous severe gut pain with vomiting, but does not have diarrhea, suspect an acute abdomen.

ACUTE ABDOMEN:

Take to a hospital—surgery may be needed

- continuous severe pain that keeps getting worse
- constipation and vomiting
- belly swollen, hard, person protects it
- severely ill

LESS SERIOUS ILLNESS:

Probably can be treated in the home or health center

- pain that comes and goes (cramps)
- moderate or severe diarrhea
- sometimes signs of an infection, perhaps a cold or sore throat
- he has had pains like this before
- only moderately ill

If a person shows signs of acute abdomen, get him to a hospital as fast as you can.

Obstructed Gut

An acute abdomen may be caused by something that blocks or 'obstructs' a part of the gut, so that food and stools cannot pass. More common causes are:

- a ball or knot of roundworms (Ascaris, p. 140)
- a loop of gut that is pinched in a hernia (p. 177)
- a part of the gut that slips inside the part below it (intussusception)

Almost any kind of acute abdomen may show some signs of obstruction. Because it hurts the damaged gut to move, it stops moving.

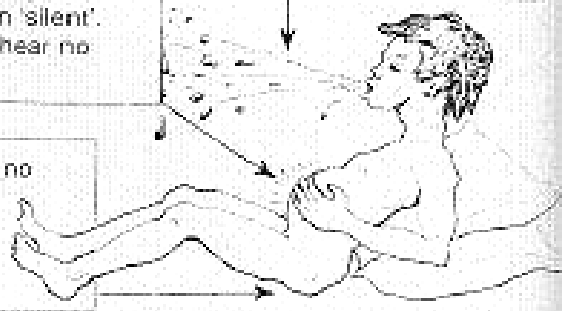
Signs of an obstructed gut:

Steady, severe pain in the belly.

This child's belly is swollen, hard, and very tender. It hurts more when you touch it. He tries to protect his belly and keeps his legs doubled up. His belly is often 'silent'. (When you put your ear to it, you hear no sound of normal gurgles.)

Sudden vomiting with great force! The vomit may shoot out a meter or more. It may have green bile in it or smell and look like feces.

He is usually constipated (little or no bowel movements). If there is diarrhea, it is only a little bit. Sometimes all that comes out is some bloody mucus.



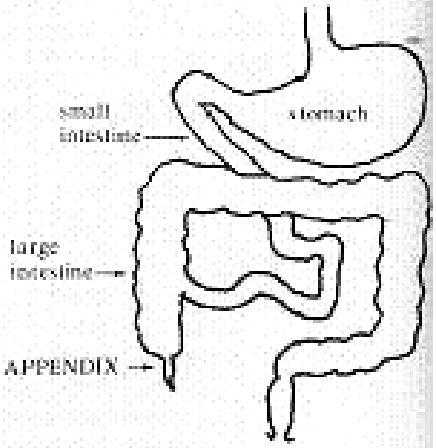
Get this person to a hospital **as fast as possible.** His life is in danger and surgery may be needed.

Appendicitis, Peritonitis

These dangerous conditions often require surgery. Seek medical help fast.

Appendicitis is an infection of the *appendix*, a finger-shaped sac attached to the large intestine in the lower right-hand part of the belly. An infected appendix sometimes bursts open, causing *peritonitis*.

Peritonitis is an acute, serious infection of the lining of the cavity or bag that holds the gut. It results when the appendix or another part of the gut bursts or is torn.

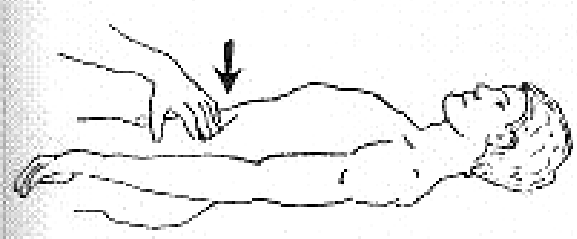


Signs of appendicitis:

- The main sign is a steady pain in the belly that gets worse and worse.
- The pain often begins around the navel ("bellybutton"),

  but it soon moves to the lower right side.
- There may be loss of appetite, vomiting, constipation, or a mild fever.

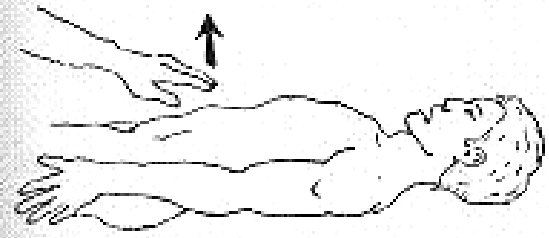
TESTS FOR APPENDICITIS OR PERITONITIS:



Have the person cough and see if this causes sharp pain in the belly.

Or, slowly but forcefully, press on the abdomen a little above the left groin until it hurts a little.

Then quickly remove the hand.



If a very sharp pain *(rebound pain)* occurs when the hand is removed, appendicitis or peritonitis is likely.

If no rebound pain occurs above the left groin, try the same test above the right groin.

IF IT SEEMS THAT A PERSON HAS APPENDICITIS OR PERITONITIS:

- **Seek medical help immediately.** If possible, take the person where he can have surgery.
- **Do not give anything by mouth** and do not give an enema. Only if the person begins to show signs of dehydration, give sips of water or Rehydration Drink (p. 152) made with sugar and salt—but nothing more.
- The person should rest very quietly in a half-sitting position.

Note: When peritonitis is advanced, the belly becomes hard like a board, and the person feels great pain when his belly is touched even lightly. His life is in danger. Take him to a medical center immediately and on the way give him the medicines indicated at the top of page 93.

Consult with qualified medical personnel for proper administration of any medications.