
IMMUNIZATION

PROTOTYPE

~~PROTYPE~~

SUPPORT MATERIALS

FOR

PRIMARY HEALTH CARE PROGRAMMES

DEVELOPED BY

THE HEALTH EDUCATION UNIT

MINISTRY OF HEALTH

AND

THE SIERRA LEONE HOME ECONOMICS ASSOCIATION

SUPPORTED BY PIACT/PATH

INTRODUCTION

This handbook has been developed by the Health Education Division, Ministry of Health and the Sierra Leone Home Economics Association, because there is need for the health and allied workers to equip themselves with first hand knowledge of the six major diseases of children - Measles, Whooping Cough, Diphtheria, Tuberculosis, Tetanus and Poliomyelitis.

The Health and allied workers will observe that this handbook contains a simple but useful information and illustrations relating to occurrence, reservoir of infection, modes of transmission, control and prevention and the importance of immunization.

The handbook provides guidelines for the health and allied workers to use in educating, encouraging and motivating mothers to protect their children by using the facilities provided by the Expanded Programme on Immunization.

THE IMMUNIZATION PROGRAMME OF SIERRA LEONE
(E.P.I.)

In Sierra Leone there is a joint World Health Organization, UNICEF and Sierra Leone Government Programme called 'Expanded Programme on Immunization'. This programme was first launched in the Bo District in 1978. In the following years similar programmes were extended to Kenema, Bombali Districts and the Western Area. The programme has been launched in Port Loko District, and plans are on foot to cover Kono District and the entire country.

The Expanded Programme on Immunization is free of charge. The most important thing is for the mothers to come forward with their children for immunization.

WHAT IS IMMUNIZATION ?

A child can be given special 'medicines' called vaccines, which prevent him from getting some diseases. This is called Immunization.

Immunization is a key component of Primary Health Care Programmes, it entails the stimulation of body's immune system to make protective antibodies against infectious diseases. The essential component of the programme include

* Availability of safe effective medicines
* Maintainance of the potency of the vaccines during distribution
* Correct administration and efficient management programme resources
* Maximum immunization coverage.

Immunity can be Passive or Active.

Passive Immunity:- This is attained either naturally by maternal transfer or artificially by innoculation of specific protective antibodies. It is a short duration i.e. from days to months.

Active Immunity:- This usually lasts for years and is attained either naturally by infection with or without clinical manifestation or artifically by innoculation of the agent itself in killed, modified or variant form, or of a fraction or product of the infectious agent.

It does not necessarily mean that immunizing a person against a disease will prevent the occurrence of the disease. It will, however, lessen the incidence and diminish the severity of the disease in those who come in contact with the disease.

IMMUNITY

a) Antibodies and Toxins

A child only gets Whooping Cough once. He does not get whooping cough again because he is immune to it. He becomes immune by making antibodies. Antibodies are special proteins in his blood. Antibodies 'fight' the organisms that cause diseases, or the toxins (poisons) that organisms make. Antibodies fix onto an organism and kill it. They can also fix onto toxins and stop them from causing harm. The antibodies which fight toxins are called antitoxins. So an antitoxin is a special kind of antibody. A different kind of antibody fights each organisms or toxin. For example, measles antibodies only fight the measles virus. They cannot fight malaria. Antitoxins against tetanus are not helpful in diphtheria. The white cells in the blood are also important for immunity, but antibodies will be mentioned.

While a child is ill with measles, his body begins to make the special antibody against the measles virus. He goes on making measles antibody for the rest of his life. He becomes immune, and never has measles again. When a child makes his own antibodies, he has an active immunity. He can become actively immune and never has measles again. When a child makes his own antibodies, he has an active immunity. He can become actively immune in two ways. He can become ill with the disease itself, or he can be given a vaccine. Harmful organisms are grown in a factory, killed, (dead vaccines), or made weak (live vaccines).

Because the organisms in a vaccine are weak or dead they cause no harm. When a child is given a vaccine, he makes antibodies against the dead or harmless organisms of the vaccine. He has no symptoms, or only mild symptom such as a mild fever. The antibodies which he makes can fight the harmful organisms of that disease, and so prevent him becoming ill. When a disease makes a child immune he has a natural active immunity. When he is given a vaccine to make him immune he has an artificial active immunity.

b) Natural, Active Immunity:- Active immunity is the best kind. But a child does not become immune until two weeks or more after he has been vaccinated. He may need immunity much sooner than this. If necessary, he could be made immune immediately, by giving him antibodies from another person, or from an animal.

c) Natural Passive Immunity:- This is acquired while the child is in the iterus. If the mother is immune to Tetanus, for example, she has a tetanus antitoxin (anti-tetanus anti-bodies) in her blood. Some of these antitoxins go from her blood into her child's blood before he is born, therefore, he is immune to tetanus. But these antibodies are slowly destroyed. They can only protect him for a few months after birth. However, they last enough to protect him from Tetanus of the newborn. Natural passive immunity explains why children do not usually have measles or malaria until they are about three months old. By this age, most of the antibodies that were passed from mother to child at birth have diminished.

d) Artificial Passive Immunity:- A child can acquire this immunity by having Antibodies injected into him from an immune person or animal. For example, tetanus antitoxin can be injected into an injured child who might have tetanus bacteria in his wound. The antitoxin will make him immune immediately, before he has had time to make his own antitoxin. The antibodies which are injected are soon destroyed. So an artificial passive immunity lasts a short time - usually about two weeks.

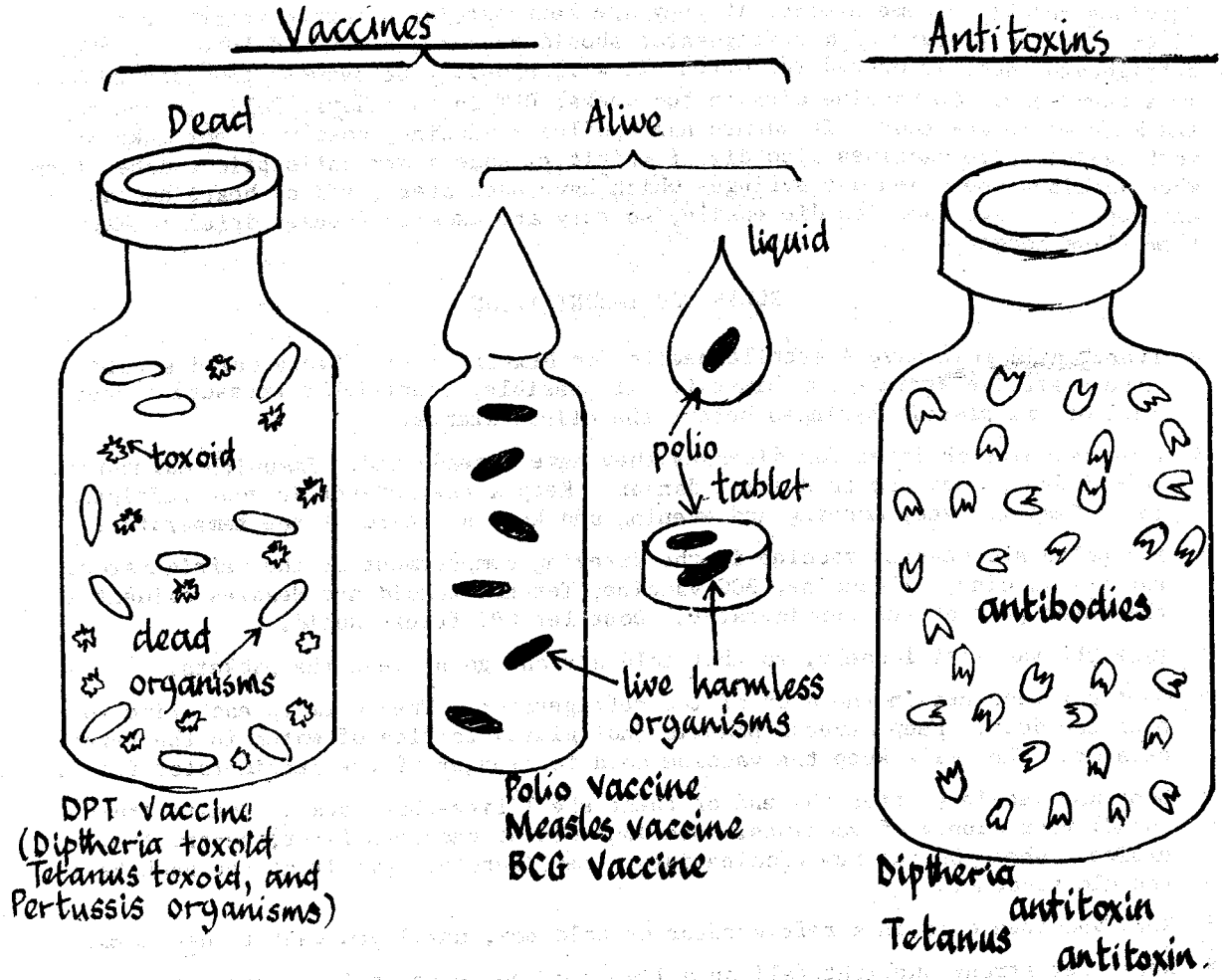
VACCINES

Vaccines are either live or dead. Live vaccines contain live organisms, which are so weak, that they cause no harm. The live vaccines are BCG (TB vaccine), polio vaccine and measles vaccine. The organisms in these live vaccines infect a child, grow in him, and cause him to make antibodies against them.

Dead vaccines contain dead organisms or toxoids. Toxoids are harmless substances which are made from the toxins (poisons) of bacteria. The vaccine against whooping cough (pertusis) contains dead bacteria.

Vaccines against Diphtheria and Tetanus contains toxoids. These dead bacteria and toxoids are mixed together to make DPT which is a vaccine against all three of these diseases (Diphtheria, Pertusis, Tetanus). Sometimes tetanus toxoid is given by itself.

There is an important difference between live and dead vaccines. The living organisms in live vaccines easily die if they are not stored under the right temperature and used carefully. Dead vaccines spoil less easily. If the organisms in a live vaccine have died they cannot infect a child and cause him to make antibodies. They are not harmful, but they are useless. Live vaccines die if they are not kept in a refrigerator, or if exposed to strong light, especially sunlight.


Vaccines
Antitoxins
Dead
Alive
toxoid
dead organisms
liquid
polio tablet
live harmless organisms
antibodies
DPT Vaccine
(Diptheria toxoid
Tetanus toxoid, and
Pertussis organisms)
Polio vaccine
Measles vaccine
BCG Vaccine
Diptheria antitoxin
Tetanus antitoxin.

Vaccines quickly become useless if they are left outside a refrigerator for too long. The temperature of a refrigerator should be between 2°C and 10°C. If the refrigerator door is opened too often, it will probably be between 15°C and 20°C. In a warm room, BCG vaccine dies in two weeks; DPT in four days; Polio in one day, and Measles in one hour. If warmth has spoiled a vaccine, cold will not make it work again. Live vaccines also die if spirit or some other antiseptic touches them. When vaccines are given use syringes which have been sterilized by heat, not an antiseptic. Live vaccines die easily, so they are usually freezed dried to keep them alive longer.

RULES FOR IMMUNIZATION

* Every child must have a sterile needle for himself only. Every child should have a sterile syringe for himself. If possible, sterilize a pressure cooker full of 2ml plastic syringes before the clinic starts.
* Dont imxunize children for diseases they have already had. Immunize malnourished children, they are in special danger. Keep a thermometer in your refrigerator. Read it every morning and evening and keep a record of the temperature.
* Put polio and measles vaccine in the freezing compartment of the refrigerator. Put DPT vaccine, DT vaccine, BCG vaccine, Tetanus toxoid and Measles diluent in the outer part of the refrigerator. Dont let DPT freeze solid.
* Pack the vaccines loosely, so that cold air can go between the packets.
* Dont put vaccines in the door of the refrigerator. They warm up each time you open the door. Keep several plastic (not glass) bottles of water in the refrigerator. They will keep the vaccine cold for longer if the refrigerator fails.
* Dont use vaccines after the end of their shell life-threw away. Rotate (turn-round) your supply of vaccines. Use your oldest vaccines first, before they expire. When you put new vaccine into a refrigerator, put it at the back behind the old vaccine.
* Keep vaccines cold in a refrigerator or cold box, until you want to use them.
* Never let strong sunlight fall on a live vaccine, especially measles vaccine or BCG, or the vaccine will die. If you are immunizing outside a building, shade the vaccine with a piece of paper, or a large card.

Dont keep open ampoules of live vaccine from one day to another. If you take vaccine out of a refrigerator use in a clinic, dont put it back.

Read the paper that comes with the vaccine. You may need to use vaccines from different makers in different ways.

Never give any live vaccine with a syringe that has been 'sterilized' in an antiseptic. Always sterilize your syringes by heat for the live vaccines.

Dont add 'water for injection' to vaccines. This sometimes contains antiseptic which kill vaccines.

Remember, the times at which vaccines become useless in a warm room ($37^{o}C$)are BCG two weeks, DPT four days, Polio one day, Measles one hour.

MEASLES

* Cause: Measles is a viral disease. It infects many parts of the body, especially the skin and the respiratory tract. When an infected child coughs, small droplets go into the air with measles virus in them. When another child breathes in these droplets, he may get measles one or two weeks later.

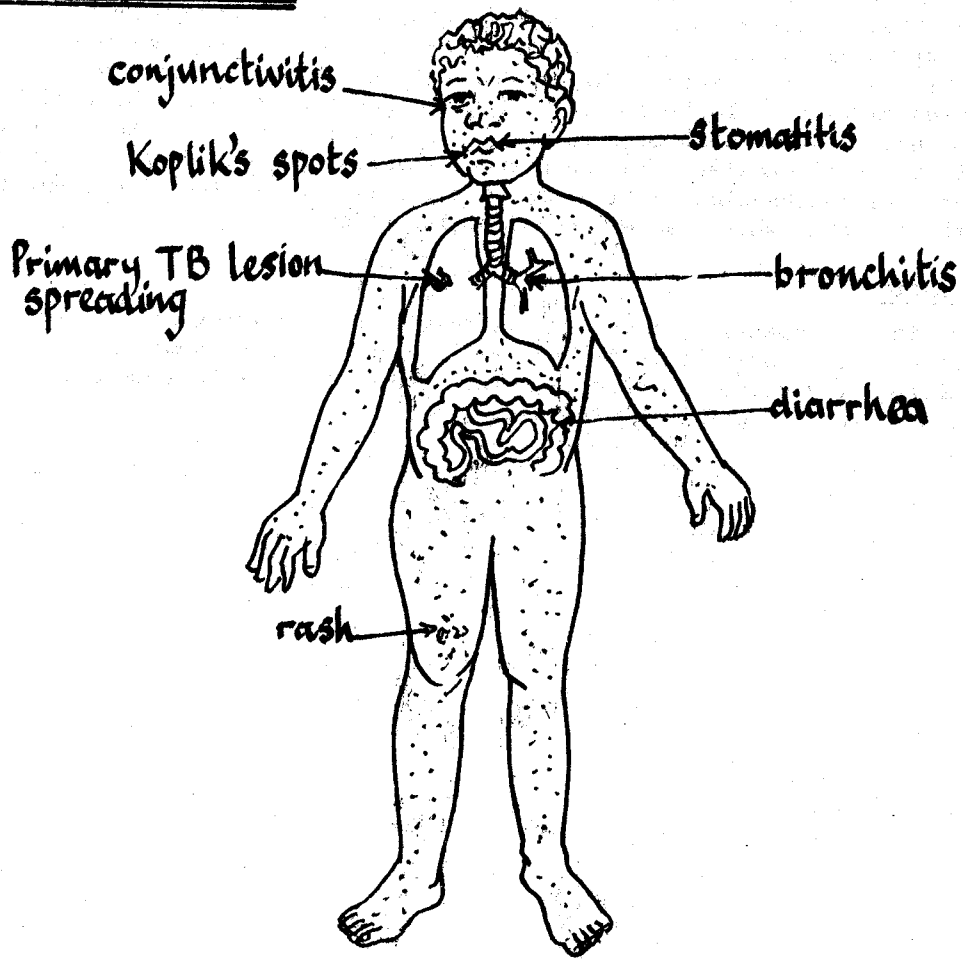
* Signs and Symptoms:- Measles starts with a fever, a discharge from the nose, cough, a sore mouth, and sore red eyes. The child becomes irritable and keeps his eyes closed. On the third day, his fever get worse. On about the fourth day the rash appears and he begins to recover. Measles is not easy to diagnose before the rash appears, but red watery eyes is a useful sign. More help can be got by looking inside the child's cheeks. The measles rash starts here two or three days before it appears on the skin. The rash inside the cheeks is called Koplik's spots. These look like small white pieces of salt on the red mucosa of the cheeks. Always look for koplik's spots if a child has measles or a cough. Koplik's spots tell you that the measles rash will manifest the following day or two. The measles rash is made of small red lesions. Some are flat (macules), and other are raised (papules) The rash first appears behind a child's ears. Then it appears on his neck, then on his face and body, and last on his arms and legs. It lasts abour four days. About a week later, thin pieces of skin peel off. About six days later the rash disappears and the skin peels off.

* Complications of Measles

Well-nourished children usually recover quickly. But in mal-nourished children the measles virus grows more easily and causes complications. The virus makes a 'rash' inside the gut and the respiratory system. Secondary bacterial infection makes some complications worse. If a child's symptoms might be a complication of measles, look for a peeling measled rash. Measles might have caused them. Secondary infection of the conjunctiva sometimes causes blindness, especially if a child lacks vitamin A. Many children with measles have stomatitis (sore mouth). Sometimes they get a secondary infection with thrush, especially if they have had a broad-spectrum antibiotic. Some children have stomatitis media (inflamation of the ear).

Measles can harm the respiratory system and cause laryngitis, bronchitis or pneumonia. Some children have severe diarrhoea with blood and mucus in their stools. Their diarrhoea may last for several weeks. For a short time they may have lactose intolerance.

SOME COMPLICATIONS OF SEVERE MEASLES



Most children with measles lose weight. Sometimes a child has a flat growth curve for several months and many infections of other kinds. If a child is already under -weight, he may get kwashiorkor. Measles can affect a child's nutritional status in several ways. His sore mouth prevents him from eating. His diarrhoea makes him absorb less food. Measles harms his gut, so that he loses protein from his gut. So a child with measles must eat plenty of protein food. He must eat while he is ill, and while he is recovering. Making him eat is difficult, but his mother must try. Measles makes a child less able to fight other infections. The bacilli in a primary TB lesion may be able to multiply and spread through him. So TB is a serious complication of measles. We can prevent measles by immunizing a child when he is about nine months old. Antibodies do not kill the measles virus, but they can kill the bacteria which causes secondary infection.

* Immunization

Measles vaccine is expensive, live and easily killed. Antiseptics in a syringe illl it, so a syringe sterilized by heat would be used. Any chemicals in the water used to dilute the vaccine can also kill it. The child must be immunized between 9 months and 1 year. 9 months is the best time.

TETANUS

* Cause

Tetanus is caused by bacteria which make a child's muscles contract. His jaw muscles contract so strongly that he cannot open his mouth and eat. Tetanus bacteria live in the gut of animals which eat grass. The bacteria are passed from the animals faeces into the ground. Tetanus bacteria can live for many years in the earth and dust. Tetanus bacteria grow slowly. In older children the diseases may not start for 20 days after bacteria have infected a cut. Tetanus bacteria stay and grow in the local lesion. They cause disease by making a toxin (poison) whic goes into a child's body. The toxin makes his muscles contract too much. At first his muscles are only stiff but painful. Later, he has a strong painful contraction (spasms).

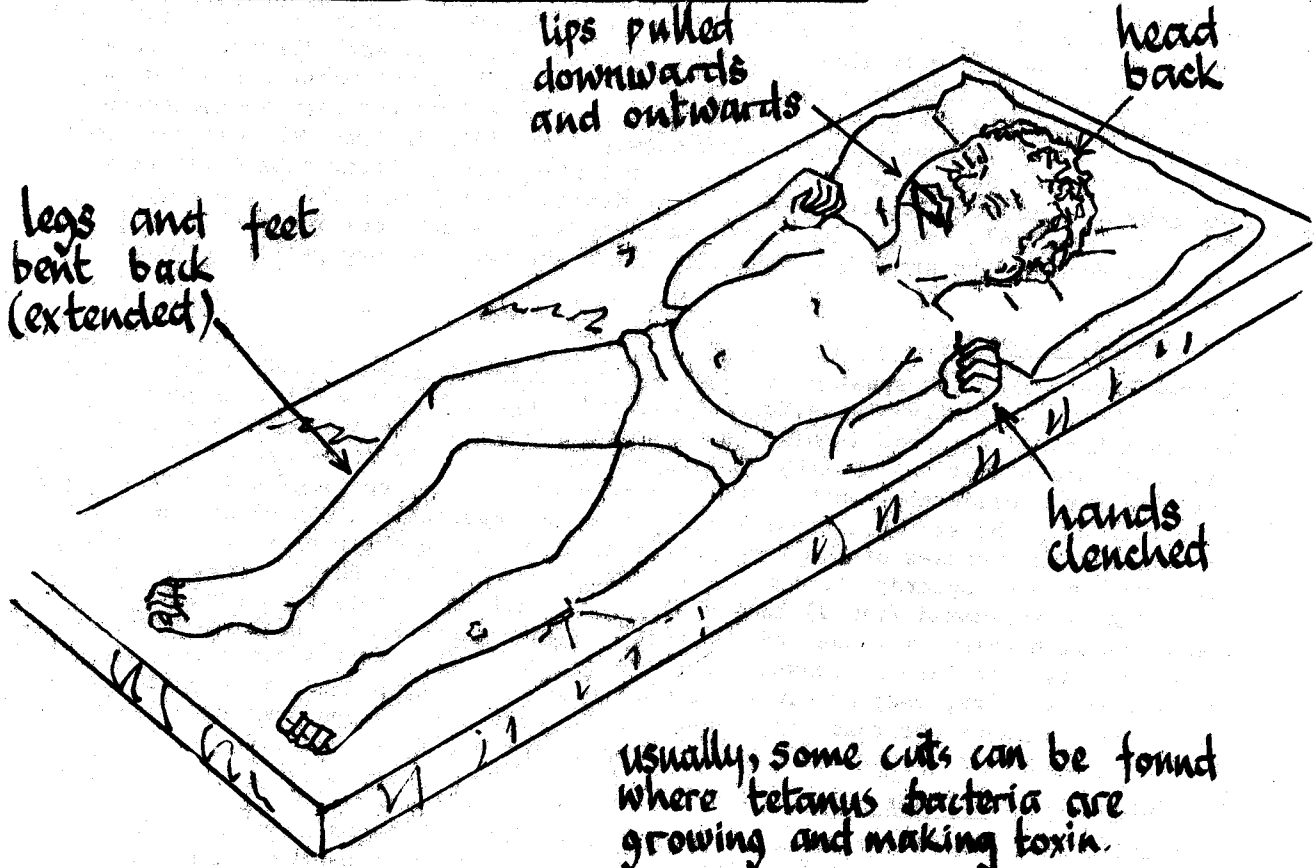
* Neo-Natal Tetanus

In new born babies the spasm of tetanus usually starts between 4 and 14 days after birth. Tetanus usually starts in the jaw, and a child cannot suck, because he cannot open his mouth. This is his presenting symptom. As the stiffness become worse, his mouth stays shut. A healthy child opens his mouth wide. One can easily insert three fingers inside the mouth. One is unable to place three fingers inside, he may have tetanus. The stiffness soon spreads to other muscles. His back and neck bends backwards. The muscles of his face contract, so that the outer ends of his mouth and eyebrows move upwards. Later all the stiff muscles contract in spasms. This makes him so exhausted (tired) that he dies. A child with tetanus stays conscious and cries with pain. Tetanus and meningitis both make a child bend backwards, but in meningitis there are no spasms. Tetanus bacteria can infect a small cut, but they infect a large, deep or dirty cut more easily. Dirt in a cut is especially dangerous. Tetanus antitoxin can cause serious side effects and sometimes death. so don't administer it for clean cuts. Keep it for the dirty cuts.

* Tetanus in the Older Child

If a child cuts himself, tetanus bacteria may go into the wound and grow. Sometimes a child has tetanus, but we cannot see a cut. Tetanus bacteria can also infect the umbilical cord, carious tooth, or a discharged ear.

Tetanus in older children



usually, some cuts can be found where tetanus bacteria are growing and making toxin.

Prevention

* Children - Tetanus can be prevented in children by giving them three injections of DPT vaccine at 3 months, 4 months and 5 months or a fourth dose before the child goes to school or at the age of 5.

* Child with a dirty cut - Look carefully at the immunization recorded on his weight charts. It he has had 3 D.P.T. injection, give him a booster of tetanus toxoid. If he has had any tetanus toxoid during the last year, this booster injection is not necessary. If he has not had 3 D.P.T. injection, give him 3000 units of tetanus anti-toxoid and tetanus toxoid. Also give him 1 injection of penicillin procaine. A month later give him another injection of tetanus toxoid.

* Child with a clean cut - Treat him in the same way as with a dirty cut. But do not give tetanus antitoxin.

* Mothers - Give a mother three injections of tetanus toxoid during her first pregnancy. She will make antibodies that go to her baby through his umbilical cord and give him a natural passive immunity to tetanus. Give her first dose as soon as she comes to the prenatal clinic. Give her second dose one month later. Give her third dose during the last month of pregnancy, at least two weeks before delivery. To get the strongest immunity there should be one month or more between each injection. Next time she is pregnant, give her one dose only.

Treatment

Tetanus is difficult to treat. Tetanus antitoxin is expensive and many children die even though they have been given it. The most important part of the treatment is giving him enough fluids and enough drugs to stop the spasms. Child with tetanus needs careful nursing therefore the mother should be encouraged to take the child to hospital.

Immunization (refer to D.P.T.)

DIPHTHERIA

* Cause

This dangerous diseases is caused by bacteria which grow in the pharynx and tonsils. It is spread by droplet infection.

* Signs and Symptoms

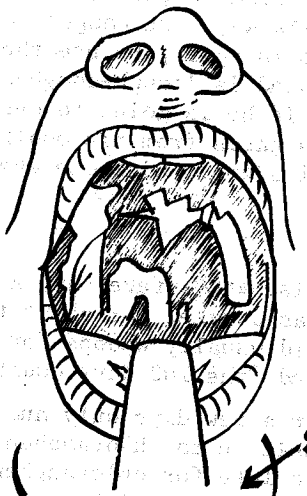
Diphtheria starts slowly and makes a child ill for a few days with fever and a cough. The fever is usually mild, but the child is more ill than would be expected from a mild fever. His throat is sore and he has difficulty swallowing. Sometimes, the infection makes his neck swell like a neck of a bull - "bull neck". His mouth smells bad, and grey lesions called diphtheriti membrane cover his tonsils. This membrane looks like pieces of dirty grey cloth stuck to the mucosa. Often, the membrane spreads outside his tonsils onto the mucosa of his pharynx. Occasionally, it causes obstructive laryngitis, so the child has difficulty breathing and speaking. Sometimes diphtheria caused ulcers on the skin. Rarely, it presents as a bloody discharge from the nose. The organisms which cause ordinary tonsillitis sometimes cause a purulent membrane to form in the throat. This may be difficult to diagnose from diphtheria. But other organisms seldom cause membrane spreading beyond the tonsils. Thrush does not make a child so ill. A child with diphtheria can die from the local lesion in his throat. He can also die because the bacteria in his throat have made a toxin (poison) which harms his heart. If his heart stops working, he dies suddenly. Sometimes the toxin paralyses his palate so that fluid comes out of his nose when he tries to swallow.

* Treatment

A child with diphtheria is very ill. He cannot be treated in a health centre, so he must be sent to a hospital. He needs careful nursing in bed, diphtheria antitoxin and perhaps a trachectomy. If it is necessary to treat at home, he should be given penicillin and treated for obstructive laryngitis. Diphtheria is contagious and spreads around in a family, so his brothers and sisters need antitoxin also.

* Immunization (refer to D.P.T.)

DIPHTHERIA



child very ill

swollen neck

membrane { grey
has spread outside the tonsils

WHOOPING COUGH

* Cause

Bacteria cause whooping cough. They grow in the bronchi, and spread by droplet infection. These bacteria cause the mucosa of the bronchi to make a very sticky mucosa. So a child coughs in a special way. He coughs out many times without breathing in. Then, when he breathes in again, he breathes so strongly that he makes a noise called a whoop. The sound is 'cough-cough-cough-cough- whoooooop....' He becomes cyanosed, and he looks as if he is going to choke to death. After whooping he vomits, and thick sticky mucus hands from his mouth. When he is not coughing he looks healthy, and has no abnormal signs. Diagnose whooping cough from the sound of the whoop - it is diagnostic.

* Signs and Symptoms

Whooping cough starts with a nasal discharge, fever and a cough. The cough gets worse for ten days. After a child has coughed for about ten days, she starts to whoop, and diagnosis is easy. A child usually whoops for another three months and then recovers. It is sometimes called 'the 100 days cough'.

A child with a mild attack coughs for a few days only and never whoops. The bacteria causing whooping cough are sensitive to chloramphenicol, but by the time a child has started to whoop, it is too late for chloramphenicol to be helpful. Sometimes a child who has recovered from whooping cough starts to whoop when he has another respiratory infection. This is not a second attack of whooping cough. If he needs an antibiotic, give him penicillin or sulphadimidine. He does not need chloramphenicol.

* Complications

Sometimes a piece of sticky mucus blocks one of a child's smaller bronchi and causes pneumonia. This may harm his lungs, so that he coughs for the rest of his life. A child who is having his primary TB infection sometimes gets whooping cough at the same time. Most children recover from their primary TB infection. But, if they have whooping cough at the same time, TB bacilli can cause more disease. So a child may start with whooping cough, and then go on coughing and losing weight for several months, because he now has TB.

If a child with whooping cough vomits, too much, he loses weight, even if he is eating well. If he was already underweight before he got whooping cough, he may become very malnourished. He may get marasmus or kwashiorkor. Sometimes he has

WHOOPING COUGH

1.

3.

2.

4.

oedema without the other signs of kwashiorkor. Sometimes, a child has a fit while he whoops. If this happens more than once, give him phenobarbitone. Occasionally, he bleeds from his nose. Sometimes he bleeds into his conjunctivae. This may cause a bright red lesion in his sclera. It is useful for diagnosis, but is not serious. His eyelids may swell. Sometimes he gets a sore tongue, because his tongue comes out over his lower teeth as he coughs. Lastly, he may cough so much that he gets an umbilical hernia.

* Whooping Cough in Babies

Babies less than a year old seldom whoop. Instead, they have spasms of coughing, stop breathing for a minute or two, become cyanosed, and then vomit mucus. Sometimes they die in one of these attacks. Whooping cough is especially dangerous in babies less than six months old. It is difficult to diagnose, because there is no whoop. If an older child has whooping cough his baby brother has nasal discharge he may be infected also. In these first few days of the illness, chloramphenicol can cure a child, and perhaps save his life. So give babies ampicillin, chloramphenicol or tetracycline if they are ill when their older brothers are whooping. Prevent whooping cough with D.P.T. Vaccine.

* Immunization (refer to D.P.T.)

D. P. T.

D.P.T. protects a child against Diphtheria, Whooping Cough and Tetanus. D.T. protects against Diphtheria and Tetanus. Tetanus toxoid protects against Tetanus alone. They are all turbid fluids, and are usually in 5 ml bottles with rubber caps.

Storage: Keep D.P.T., D.T. and Tetanus toxoid in a refrigerator at 2-8°C. Don't freeze them solid in the freezing part of the refrigerator. This destroys them.

Check: Shake the vaccine. Leave it for five minutes. If the liquid is clear, the vaccine is useless. Send it back to the stores.

Age. Immunize a child with D.P.T. at three months, six months, and nine months. Give him a dose of D.T. when he goes to school.

Immunization. Clean the outer side of his arm, buttock, or thigh with spirit. Fill a sterile syringe and needle with vaccine. Inject 0.5ml subcutaneously.

Explanation. Tell his mother why you are immunizing him. Has she any questions? Explain that he may have mild fever, which shows that the vaccine is working. The fever starts within 12 hours and stops within 24 hours of the injection. Give her some paracetamol for it. Tell her when to bring her child for his next dose.

TUBERCULOSIS

* Cause

Tuberculosis is an infectious disease caused by T.B. bacillis. These bacilli take weeks or months to make a child ill, or kill him. So TB is usually a chronic disease, except in babies who can die from TB very quickly. If a child is treated he recovers slowly. TB usually spreads from adult to children. Sometimes, cows are infected with TB which spreads to children in unboiled milk. TB can cause disease in any part of the body and TB most often harms the lungs. Sometimes, it harms the lymph nodes and the meninges (coverings of the brain), the bones and the kidneys. TB has four common presenting symptoms.

It can also present in several less common ways. Many other diseases can also cause these symptoms. T.B. causes few signs until a child is very ill. So TB is difficult to diagnose.

* A child with Tuberculosis

When an adult with infectious TB coughs, droplets of his sputum go into the air. These contain TB bacilli. If a child inhales TB bacilli they multiply slowly, and cause a lesion in his lungs. Some bacilli spread through the lymph vessels to the lymph nodes next to the bronchi. Here the bacilli grow and make the nodes enlarge. A small lesion in a lung with enlarge lymph nodes is called a primary TB lesion. If a child drinks unboiled milk from cow infected with TB, his primary infection is in the lymph nodes of the gut. Many children have a primary TB infection at sometime. In towns most children have a primary TB infection before they go to school. In Rural areas they are usually infected later. A child's immunity determines if he becomes ill or stays healthy.

* A child with strong and less Immunity

Most children have a strong immunity and soon kill the TB bacilli which infect them. They have a mild TB infection without symptoms. They are not ill. Their primary lesion soon heals. A few children have a short illness with fever and loss of weight, and then they recover by themselves.

TB bacilli spread in his body. The lesions in his lungs and lymph nodes become bigger and he becomes ill. When TB spread like this it causes symptoms and the child becomes sick. Sometimes an enlarged lymph nodes presses on a bronchus and obstructs it. This prevents air from going to part of a lung. Occasionally, an infected lymph nodes opens into a bronchus, and TB bacilli spread to all parts of a child's body and cause millions of small lesions. This makes the child very ill, and is called milliary TB. Or the bacilli may spread to part of his body only and cause TB lymph adenitis or TB meningitis or TB of the kidney, TB of the bones or joints. Some children are good at fighting TB bacilli that they never become ill because of the following reasons:

Age: Young children have less immunity to TB than other children.

Malnutrition: TB is more common in malnourished children. TB makes a child nutritional status worse, and is one cause of the 'vicious circles of malnutrition and infection'.

TB bacilli spread more easily in a child when his body has been weakened by whooping cough or measles or some other infection, such as malaria or chronic diarrhoea. If a child does not recover from any of these diseases, he may have TB.

* Spread of Tuberculosis from adults to children

A child with TB rarely infects other children, because TB bacilli are rarely able to get out of his body. An adult with TB is different. He can be very dangerous and easily infect children. He becomes infectious by coughing out the middle of his lung lesion. This makes a hole in his lung called cavity. TB bacilli grow in the walls of this cavity, and are coughed out in the sputum. A cavity sometimes bleeds. So blood in the sputum is an important sign of TB in an adult. Children who usually stay with a TB patient are prone to catch TB.

* Immunization - B.C.G.

This live vaccine prevents tuberculosis. It is usually freeze dried. The vaccine should not be given too high in the shoulder.

TEN WAYS IN WHICH T.B. PRESENTS

COMMON

less common

UNCOMMON

These symptoms last several weeks and there are usually several of them

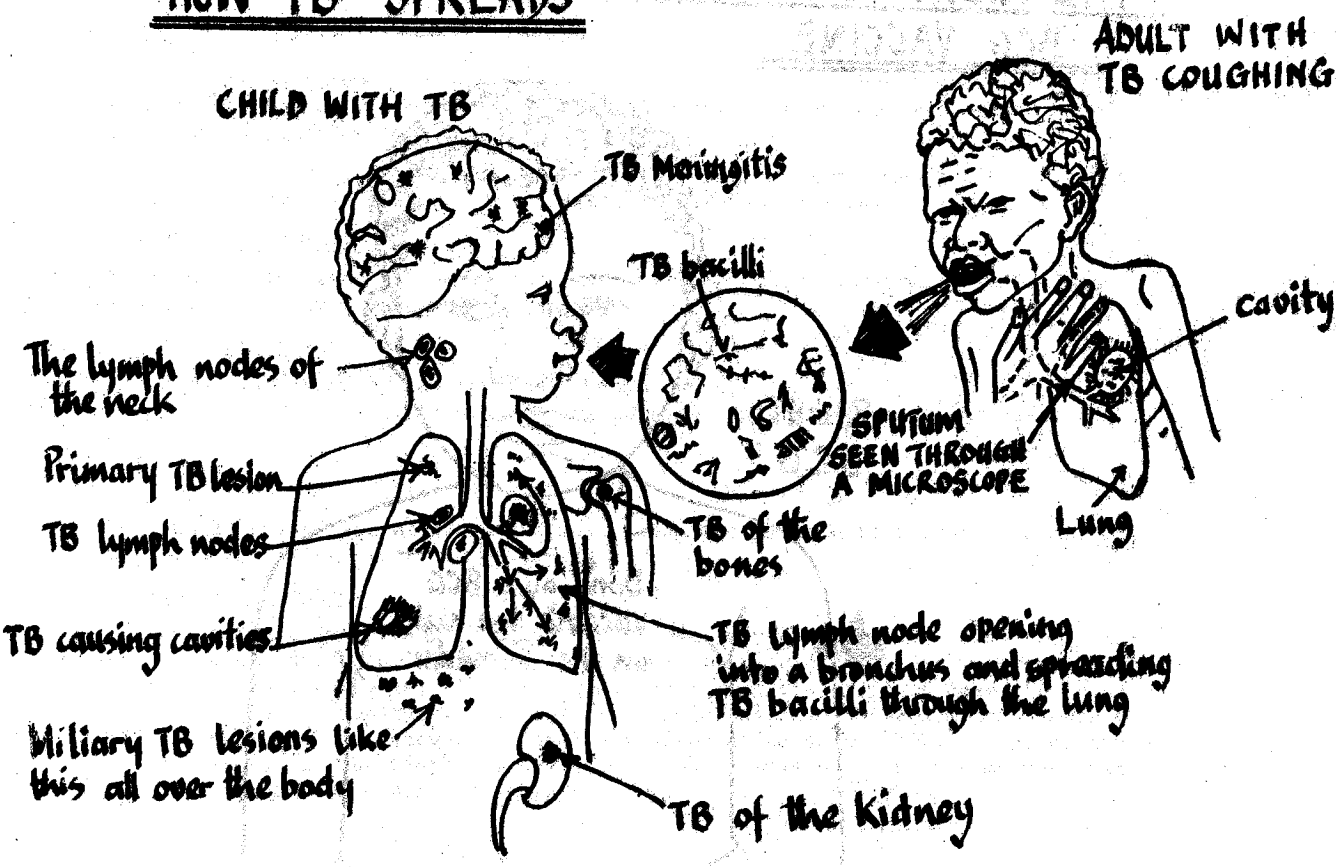
FOUR COMMON PRESENTING SYMPTOMS

1. Losing weight - A child with T.B. does not grow normally. Usually he loses weight, so that his growth curve falls. Sometimes he is so severely malnourished that he presents with marasmus of kwashiorkor.
2. The 'ill' child - He is irritable and 'not well'. He does not eat, or run about and play normally.
3. Cough or Wheezing - Coughs are common, and there is no need to think a child might have T.B. until he has been coughing for a month or more.
4. Fever - This is usually mild, and comes and goes.

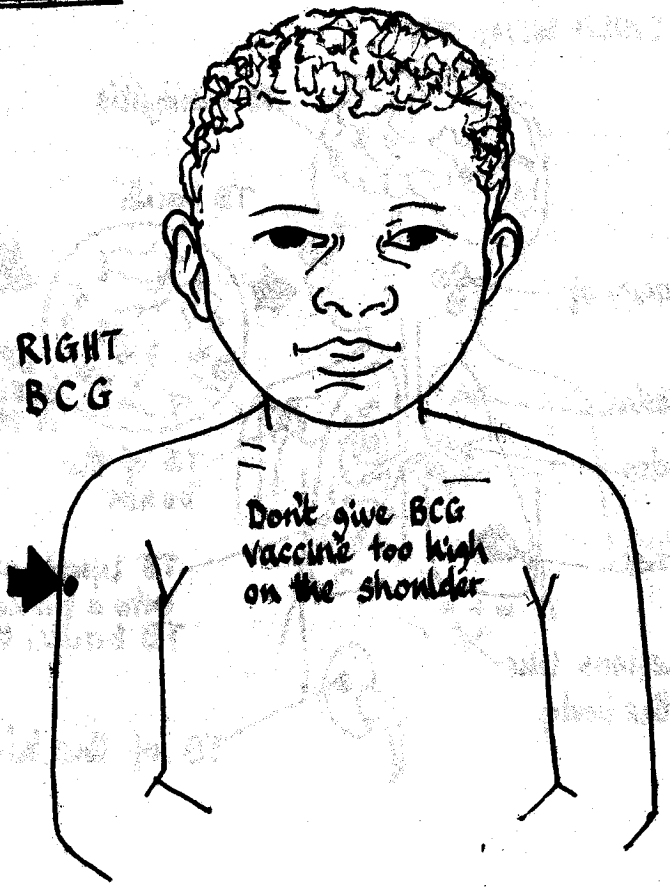
SIX LESS COMMON WAYS T.B. PRESENTS

1. Pneumonia which is not cured by sulphadimidine or antibiotics.
2. The child who does not recover after measles or whooping cough.
3. Painless (not tender) enlarged lymph nodes usually in the neck.
4. As phlyctenular conjunctivitis
5. With meningeal signs
6. Pain in the back or hip

HOW TB SPREADS



THE RIGHT PLACE FOR BCG VACCINE



POLIOMYELITIS

* Cause

Poliomyelitis is a common disease all over the tropics and causes much disability especially in Sierra Leone. It is responsible for most of the criples who have been disabled since childhood.

The disease affects mainly the spinal cord, the gut and sometimes the brain and is caused by poliomyelitis cirus which exists in various strains.

* Incubation Period

This is probably seven to twenty one days but the patient may remain infectious for six weeks or even longer.

* Method of Spread

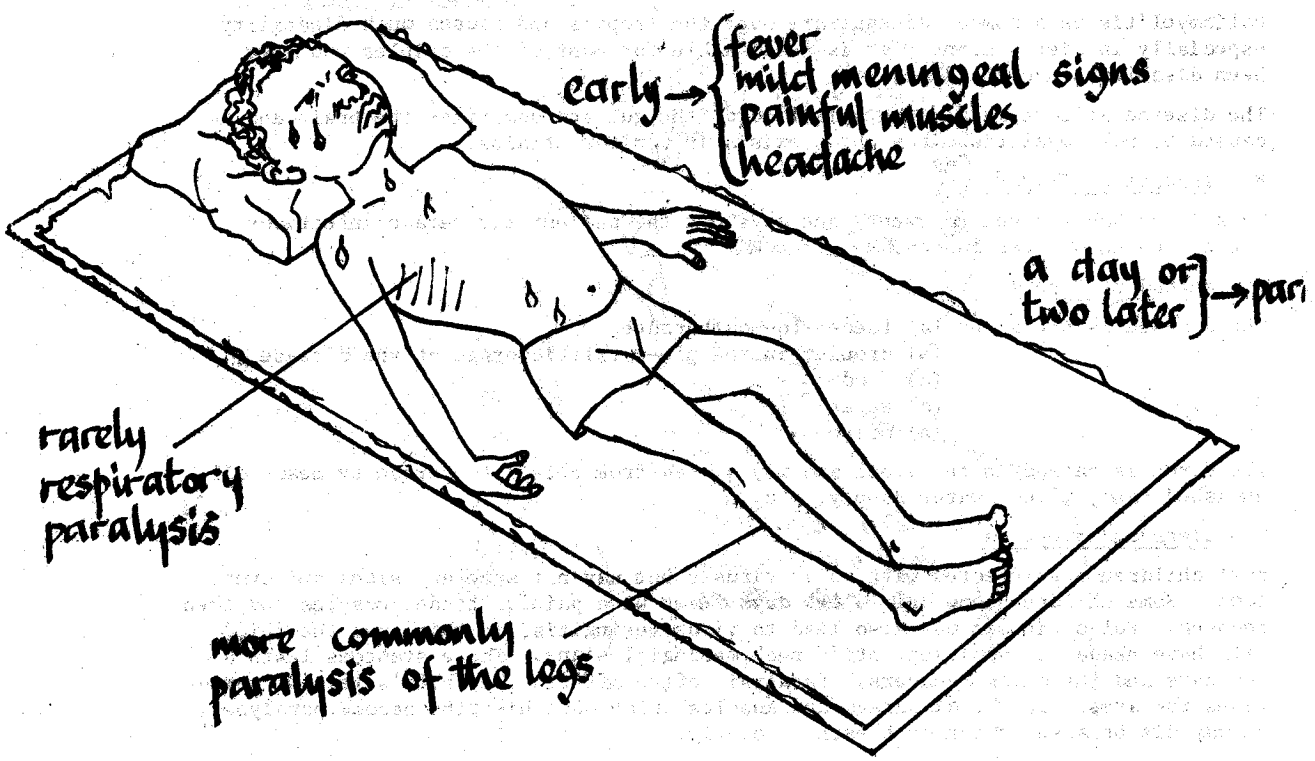
The disease is spread by (a) faeces-to-mouth route,
(b) droplet in the pre-paralytic stage of the disease
(c) food
(d) water
(e) milk

The virus is passed in the stool and may spread from person to person by means of unwashed hand, flies, water supply, etc.

* Signs and Symptoms

Most children are infected with polio viruses but may not show any signs and symptoms. Some children show only a few days fever with painful tender muscles and then recover. Polio viruses may also lead to virus meningitis, in this case the child will have headache, vomiting, stiff neck meningial signs. These symptoms lasts a few days and the child recovers. Paralysis often affects the child's legs or sometimes the arms. If the diaphragm and muscles which move his ribs become paralysed, he may die because he cannot breathe properly.

ACUTE POLIO


early →
fever
mild meningeal signs
painful muscles
headache
a day or two later →
rarely respiratory paralysis
more commonly paralysis of the legs

Stages of Polio

* Initial illness: there is a brief fever with general symptoms such as diarrhoea, vomiting or cough. Many children recover after this mild illness but they can spread the disease to others.

* The pre-paralytic stage: Fever returns lasting about two or more days. There is moderate fever with headache and sometimes neck stiffness, vomiting, and restlessness. These symptoms subside after forty eight hours and in most cases there is no further disease.

* The paralytic stage: In some cases two days after the child seems to have recovered from fever, paralysis develops with pain and muscle, tenderness and is more severe if the child has been active after recovery from the first stage or if the child has had an intramuscular injection.

* The recovery stage: During the first three months the patient usually improves and some muscle power returns, but other muscles may remain completely paralysed.

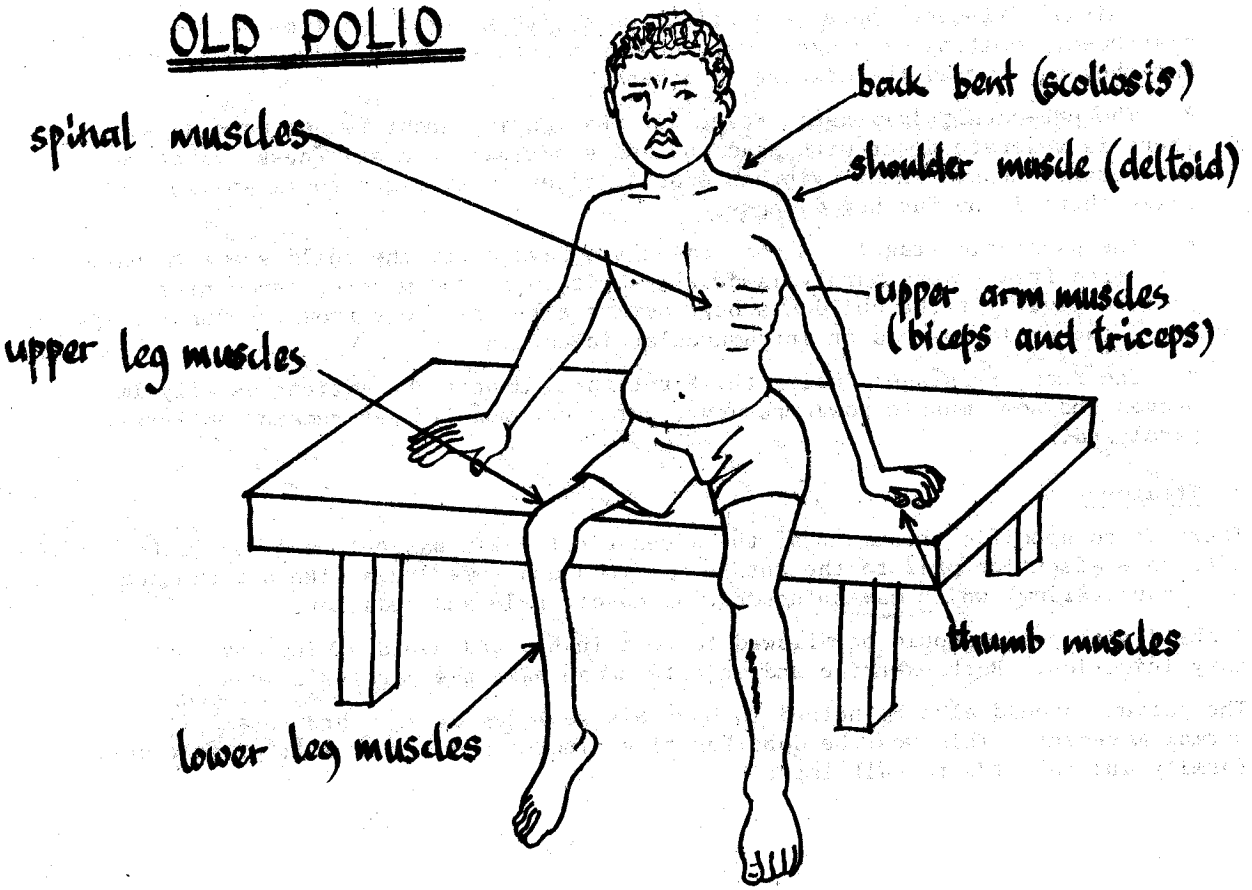
* Treatment

There is no specific treatment of the disease but polio patient need much care with more attention paid to the intake of fluid and some drugs like Aspirin and Diazapan (Valium) which may be needed for muscle pain and sedation.

A child with polio should be allowed to rest in bed and avoid giving any unnecessary injection. Both exercise and injection can make the paralysis worse.

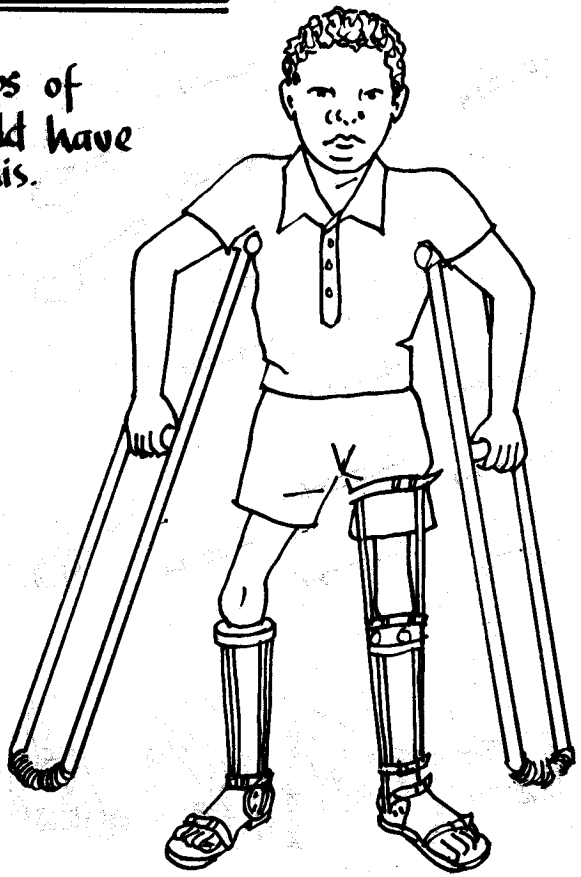
The patient should also be helped to move his weak leg or arm through all its normal movement. This must be done for five minutes a day. It will prevent deformity and help him to walk later.

OLD POLIO

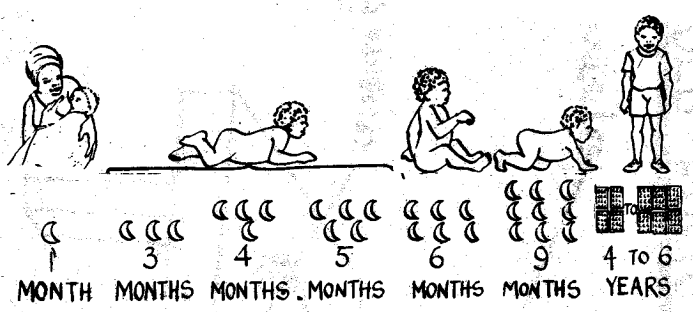

spinal muscles
back bent (scoliosis)
shoulder muscle (deltoid)
upper arm muscles (biceps and triceps)
upper leg muscles
thumb muscles
lower leg muscles

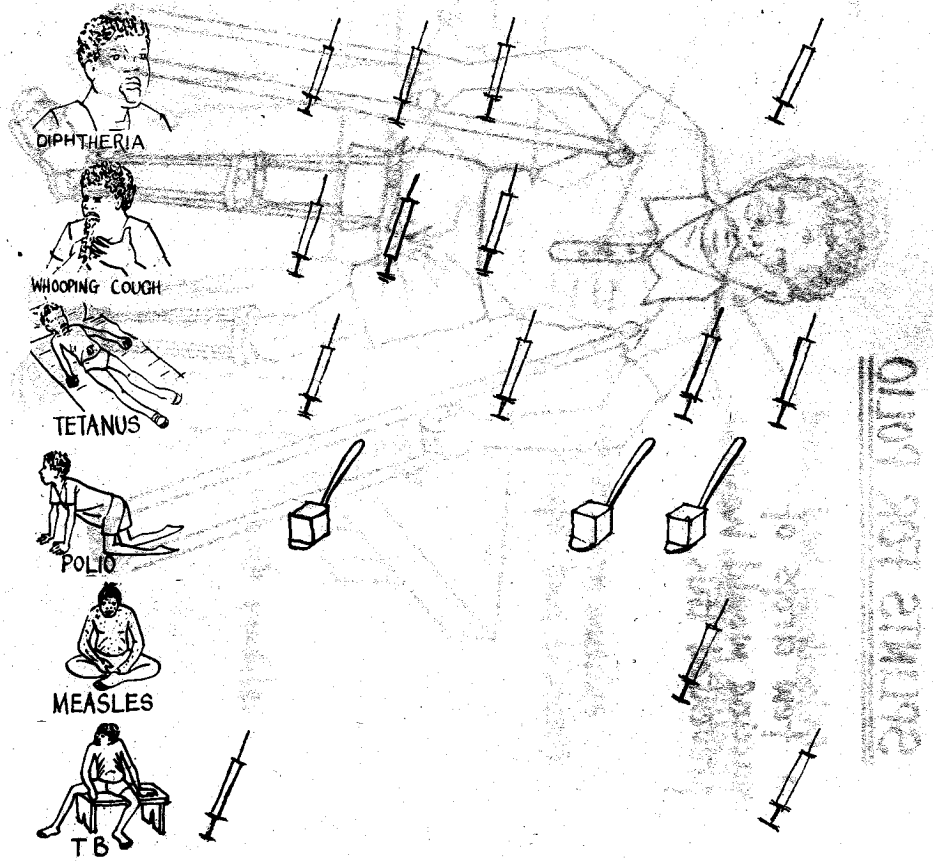
SPLINTS FOR POLIO

a few drops of vaccine would have prevented this.

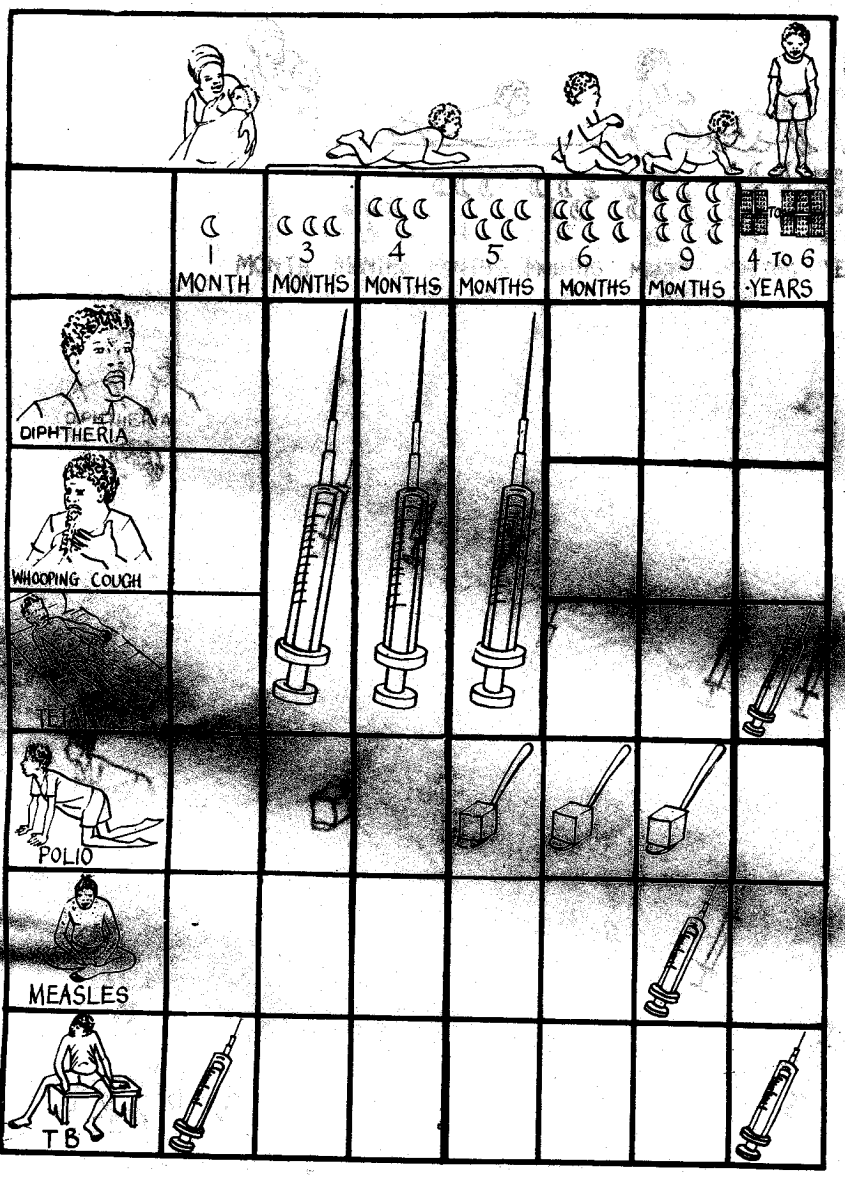


SUMMARY


1 MONTH
3 MONTHS
4 MONTHS
5 MONTHS
6 MONTHS
9 MONTHS
4 TO 6 YEARS


DIPHTHERIA
WHOOPING COUGH
TETANUS
POLIO
MEASLES
TB

IMMUNIZATION SCHEDULE



HOW TO USE THE IMMUNIZATION BOOKLET:
THESE ARE SOME IMPORTANT INFORMATION FOR HEALTH
AND ALLIED WORKERS IN THE USE OF THE IMMUNIZATION BOOKLET

1. Why were the Booklets prepared?

These simple booklets on immunization are to help non-readers know more about the causes, signs and symptoms, prevention and treatment of the six common childhood diseases.

2. When to use these Booklets?

These booklets are for Health and Allied Workers to use everytime to explain about the six common childhood diseases to non-readers. It is important that time is taken to explain the messages to them.

3. How were the Booklets prepared?

Every picture and message in this booklet has been pretested with non-readers. This was done to ensure that every recipient of the booklet will be able to understand the messages.

4. How to use the booklet to help explain the six common childhood diseases

Use the booklet to explain everytime you talk to any person about the six common childhood diseases. Show each illustration while you explain to the person the following:-

(a) What is Diphtheria, Whooping Cough, Tetanus, Polio, Measles & T.B.

(b) Signs and symptoms.

(c) How to prevent the six common childhood diseases.

(d) Immunization schedules.

During your explanation encourage the person to ask questions if there are points he or she does not understand.

When using the booklet, "GO THROUGH THE BOOKLET PAGE BY PAGE" with the person you are talking to. If the person does not understand any point, go over that point again until the person can understand.

5. Some points to emphasise during the explanation of the booklet
Carefully explain the following messages:-

6. Some additional information about the Immunization Booklet

(a) It is necessary to breast feed your child especially within the first 6 - 9 months. Breast milk provide immunity against many infections.

(b) It is important to immunize your child against measles to prevent complications like diarrhoea, pneumonia and brain damage.

(c) Immunization against whooping cough will improve your child's nutrition, protect his lungs and brains.

(d) Get your child immunized against T.B. to increase his energy and growth.

(e) Always immunize your child against diphtheria to protect his nerves and stop heart failure.

(f) All polio will cause wasted legs or drop foot on your child, always immunize your child against polio.

7. What are some of the advantages of using the booklets?

A. It guides Field Workers in giving out correct information about the six common childhood diseases.

B. It guides the recipient of the booklet to:-

(a) live a happy and healthier family life.

(b) reduce the occurence of the six common childhood diseases.

(c) understand the cause, signs and symptoms, prevention and cure of the six common childhood diseases.

(d) spread the messages of the six common childhood diseases to other people.

(e) live in a clean environment.

8. What should you do before you leave the person you have been talking to?

(a) ask the person if he/she has any question.

(b) ask the person to explain to you about the booklet

(c) make sure the person understands everything in the booklet.

(d) give the person a copy of the booklet.

(e) ask him/her to share the booklet with others.

SLHEA - HED HEALTH SUPPORT MATERIALS PROJECT-BOOKLET ON IMMUNIZATION
FOR NON-READERS-SIERRA LEONE-MESSAGES
THESE MESSAGES ARE TO BE USED WITH EXPLAINING THE IMMUNIZATION BOOKLET TO NON-READERS. PLEASE GO THROUGH PAGE BY PAGE WITH THE RECIPIENT.

PAGE 1. These are six happy mothers who have just had their babies Fatu, Yeanoh, Musu, Mameh, Nancy and Modu.

PAGE 2. As Fatu's child grew, he became ill with DIPHTHERIA - Fatu was concerned.

PAGE 3. His throat was inflammed and sore. He could not swallow food or drink liquids.

PAGE 4. His condition grew worse and he died.

PAGE 5. Yeanoh's son also fell ill with WHOOPING COUGH. She was also concerned.

PAGE 6. He started the illness with cold and running nose. He started coughing so badly that he made a whooping noise each time he coughed and sometimes vomited.

PAGE 7. Musu likewise had problems with her baby soon after birth. The baby has a septic cord and developed TETANUS. He could not take breast milk and after a short while developed spasms and died.

PAGE 8. Her older son had a cut on his foot which was not treated. He developed tetanus symptoms, and it was too late to save him, he too died.

PAGE 9. Mameh was also concerned about her baby.

PAGE 10. He began to show signs of POLIO by weakness in his leg. He had stiff neck and mild fever. He became paralized in one leg and as he grew he had to crawl along the floor.

PAGE 11. As an older boy he learnt to use the wheel chair and to walk with stilts.

PAGE 12. Nancy was no exception from the problem of child rearing. The child had an attack of MEASLES.

PAGE 13. The disease started with the child having a cough, running nose and fever. Then rash appeared inside his cheek and behind his ears. Later the rash spread to his neck, face and body.

PAGE 14. Later Balu's son had T.B. and she was as concerned as the others for her baby.

PAGE 15. The child began to lose weight and was irritable. He started coughing and he became so weak that he was all skin and bone.

PAGE 16. Balu took her son to hospital where he was admitted and received a long treatment for T.B.

PAGE 17. These six common diseases of children are diseases that could be prevented. Had these mothers gone to the under fives' clinic they would have received advice on how to prevent the six common childhood diseases from spreading.

PAGE 18. At the under fives clinic each baby is weighed, examined and immunized against these six common childhood diseases.

PAGE 19. Each child has a growth chart on which is recorded his monthly weight gain. Also a record of the immunization he receives is kept so that the mother watches the progress of her child up to the age of 5 years. Mothers are told when to bring their children for each immunization.

PAGE 20. This mother has got her card and she knows when to go to the clinic so that her child will be immunized against the six diseases.

PAGE 21. To prevent the child from getting T.B. the first dose of vaccination should be given at one month. Later when the child is five years old or going to school he should get a second dose.

PAGE 22. To prevent a child from getting Diphtheria, the child must be immunized at three months, four months and five months.

PAGE 23. To prevent a child from getting Whooping Cough the child may be immunized at three months, four months and five months.

PAGE 24. To prevent a child from getting Tetanus the child must be immunized at three months, four months and five months.

PAGE 25. When the child is five years old or when he starts school, he must be given another immunization against Tetanus.

PAGE 26. To prevent a child from getting Polio he must be immunized at five months, six months and nine months.

PAGE 27. Measles requires only one immunization, at the age of 9 months.

PAGE 28. This summary chart tells you when the child should receive immunization against the six diseases. At one month the child should receive his immunization against T.B. at three months he should receive his immunization against Diphtheria, Whooping Cough and Tetanus (D.P.T.) At four months the child should receive the second immunization for Diphtheria and Whooping Cough and Tetanus. At five months he should receive his 3rd immunization for Diphtheria, Whooping Cough, Tetanus and first immunization for Polio. At 6 months he should receive his second immunization against polio. At 9 months he should receive his 3rd immunization against Polio as well as receive his immunization against Measles. At the age of 5 years or when the child is going to school he should receive booster immunization for Tetanus and T.B.

PAGE 29. As the child is growing fast and receiving immunization against the six diseases he should be fed well with balanced meals. Food should be selected from the three food groups i.e. body building, energy giving and protective foods and babies must be breast fed for at least two years.

PAGE 30. All women of child bearing age must be immunized against Tetanus and T.B. so that they will be able to protect their babies when they become pregnant.

PAGE 31. Every pregnant mother should be immunized against Tetanus and T.B. so that the newborn will have adequate protection until it receives its own series of immunization.

PAGE 32. A pregnant woman must also eat a well balanced diet - selecting foods from the three food groups i.e. body building, energy giving and protective foods to feed herself and the growing baby inside her.

PAGE 33. All pregnant and nursing mothers should go to the MCH/Under-Fives clinic regularly for check up and to get immunization and advice.

PAGE 34. At the clinic mothers will be told how to care for their babies after delivery and all about immunization against the six children's diseases.

PAGE 35. When a child gets a cut at home the wound must be cleaned dressed immediately.

PAGE 36. It is important to attend adult education classes in your community so that you can learn about diseases and how to avoid or prevent and treat them.

PAGE 37. From time to time the mobile immunization team will visit your community. You must go with your family to get immunized, against diseases that spread quickly.

PAGE 38. The home and compound should be kept clean to prevent the spread of infectious diseases. All waste matter and garbage should be disposed of properly.

PAGE 39. If children are protected when they are young against the six diseases they will grow healthy and happy and live longer to take care of their parents when they are old.

PAGE 40. A family in good health is a happy one. The nation will be made up of healthy happy families if we protect our children and mothers from infectious diseases.

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