TECHNICAL ASSISTANCE MANAGEMENT AGENCY TO THE NATIONAL HEALTH AND POPULATION FACILITY, PAKISTAN

REFERENCE MANUAL FOR IMPLEMENTING PRIMARY HEALTH CARE STANDARDS IN NWFP

Volume 2: Standards for Service Provision

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Volume 2: Standards for Service Provision

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Dr. Shaheen Afridi
HSR Coordinator

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Acronyms

AFB	Acid Fast Bacilli
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immune Deficiency Syndrome
ANC-1	First Antenatal Care Visits
ARI	Acute Respiratory Infections
BHU	Basic Health Unit
BPCR	Birth Preparedness and Complication Readiness
CCHF	Crimean Congo Haemorrhagic Fever
CCM	Cold Chain Monitor
CSF	Cerebro Spiral Fluid
DEWS	Disease Early Warning System
DHDC	District Health Development Center
DHIS	District Health Information System
DHO/ADHO	District Health Officer / Additional District Health Officer
DHQ	District Head Quarter
DHQH	District Headquarter Hospital
DOH	Department of Health
DOTS	Directly Observed Treatment Short Course
DPT	Diphtheria, Pertusis, Tetanus
DPWO	District Population Welfare Office
DSV	District Supervisor
DT	Diphtheria Tetanus
EDO (H)	Executive District Officer (Health)
ENT	Ear Nose Throat
EPI	Expanded Program on Immunization
FHA	Filamentous Heamaglutinin Antigen
FHTs	Female Health Technicians
FPAP	Family Planning Association of Pakistan
FSMO	Field Supervisory Medical Officer
FSV	Field Supervisor
FSWs	Female Sex Workers
HBV	Hepatitis B Virus
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRA	Health Regulatory Authority
I/D	Intradermal
IHD	Ischemic Heart Diseases
ITNs	Insecticide Treated Nets
IUD	Intra Uterine Device
JICA	Japan International Cooperation Agency
LBW	Live Birth With
LFTs	Lever Function Tests
LHV	Lady Health Visitor
LHW	Lady Health Worker
LRBT	Layton Rehmatullah Benevolent Trust
MCHC	Maternal and Child Health Center

MO I/C	Medical Officer In charge
MP +ve	Malarial Parasite Positive
MSS	Marie Stopes Society
MSUs	Mobile Service Units
NGO	Non Governmental Organization
NWFP	North West Frontier Province
OPD	Out Patient Department
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PCMC	Primary Care Management Committee
PCR	Polymerase Chain Reaction
PHC	Primary Health Care
PPHCI	President's Primary Health Care Initiative
PT	Pertussis toxin
PTB	Pulmonary Tuberculosis
PWD	Population Welfare Department
RDS	Respiratory Distress Syndrome
RHC	Rural Health Care
RHS-A	Reproductive Health Services Center – A type
ROEC	Reed's Odourless Earth Closet
S/C	Subcutaneous
SARS	Severe Acute Respiratory Syndrome
SCM	Standard Case Management
SOP	Standard Operating Procedure
SRSP	Sindh Rural Support Programme
STIs	Sexually Transmitted Infections
TB	Tuberculosis
TBA	Traditional Birth Attendant
THQH	Tehsil Headquarters Hospital
TT	Tetanus Toxoid
UC	Union Council
UTI	Urinary Tract Infection
VIP	Ventilated Improved Pit
VVM	Vaccine Vial Monitor

INTRODUCTION

Standards for quality services in primary health care (PHC) facilities was developed under the auspices of the Health Regulatory Authority (HRA) in 2006 and were approved by the Department of Health (DoH) in April 2007. The HRA is designated by the Government of NWFP to function as the regulatory body for public and private health services in NWFP.

The standards not only provide a framework for the HRA to assess the quality of care provided in public and private health facilities, but also a framework for public and private health facilities to assess and improve quality in a structured manner. The Standards also provide guidance when problems and questions about quality arise in the daily work of the health staff. In this way, they are a useful management tool for managers and staff of PHC facilities to identify their strengths, gaps and areas for improvement and they provide a mechanism for the Government of NWFP to identify priority areas for overall improvements in the healthcare delivery system.

The PHC standards consist of two major sections:

- Section 1: Service Management
- Section 2: Service Provision

Each section consists of "standards" and "measurable criteria". Whereas "standards" are broad statements of the expected level of performance, the "measurable criteria" make the standards operational and provide details on structures and processes necessary to ensure high quality of care.

The rapid assessment survey and consultative workshops conducted for development of standards revealed that health providers are willing to improve their services and there is earnest desire for making such an effort. But, it was also evident that many primary health care facility managers, incharge and staff members will not be able to implement the standards as they lack relevant information even about the measurable criteria. It is evident that without a reference manual providing details about the measurable criteria; it will not be possible for the providers and managers of healthcare to implement services based on quality standards. This necessitated development of a comprehensive reference manual for describing and providing minimal necessary information about the primary care standards for quality health services that can be used by the staff at a primary health care facility and its supervisors and managers for maintaining and measuring the quality of services. The consultant hired by the Health Sector Reform Unit (HSRU) through TAMA for developing the Reference Manual was advised "not to reinvent the wheel" but to review and make appropriate use of the available published provincial, national or international documents, as feasible.

The Reference Manual: Primary Care Standards for Quality Health Services in NWFP has two volumes. Volume 1 deals with Standards of Service Management and information about their measurable criteria, while Volume 2 has Standards of Service Provision and descriptions about their measurable criteria.

This is Volume 2 of the Reference Manual.

Standards of Service Provision as Approved in April 2007

	Standard	Measurable Criteria
2.1 B	The facility and the services provided are easily accessible to the catchment area population	a. The facility is located within 5 km of the patient. b. Costs involved in using the services are addressed in the annual plan and steps are taken to minimize costs, such as fees, drugs, lost income, and transportation costs. c. Major obstacles affecting access for clients/patients to the facility and its services are addressed in the annual plan and steps are taken to minimize them, e.g. i. The attitude of employees working at the facility; ii. The perception of the need and utility of health care by the community; iii. Cultural constraints on clients about using the facility and its services.
2.2 A	A list of available services and applicable fees is posted where the clients/patients can see them.	a. A poster with listed services, opening times and emergency contacts during closing times is displayed in a prominent place where the clients/patients can see it. The text is in an understandable format, e.g. local or national language. b. A list with all fees and possible exemptions is displayed in a prominent area where the clients/patients can see it. The text is in an understandable format, e.g. local or national language.
2.3 B	Clients/Patients and their attendants are received in a friendly and respectful manner irrespective of their sex, age, race, religion or physical appearance	a. Clients/Patients are treated in a kind, patient and respectful manner at all stages from registration through to end of service. b. The healthcare provider uses open ended questions (why, who, what, when, how) to obtain information from clients/patients. c. The healthcare provider listens carefully to what the clients/patients say and does not jump to conclusions. d. The healthcare provider explains to the client/patient the diagnosis, care management, and follow-up. e. The healthcare provider takes feedback from the client/patient to ensure the client/ patient understands the message communicated.

	Standard	Measurable Criteria
2.4 A	Providers give priority to extremely sick clients/patients and those of extreme age (early newborns and elderly).	a. A system using the time of arrival recorded on the registration chit is used to prioritize clients/patients. b. The order prioritizes extremely sick clients/patients first, those of extreme ages (elderly and babies) second and then others. c. Extremely sick clients/patients are seen by the healthcare provider within five minutes, and those of extreme ages within 15 minutes.
2.5 A	Providers use a defined process for referring emergency cases.	a. SOPs exist for identification of types of clients/patients who need to be referred. b. A referral form provides sufficient information to allow continuity of care. c. When possible transportation to the referral facility is provided. d. In other cases, the Service provides some type of assistance for moving a sick client/patient to a referral facility such as communication to the next level, or arranging community transport. e. A copy of the referral form is kept at the facility.
2.6 B	Non-priority clients/patients wait no more than one hour after arrival at the facility before being seen by the provider.	a. A system is used to prioritize the order in which non-priority clients/patients are seen on a first-come first-serve basis. b. Waiting times are no more than one hour and are monitored. c. Waiting times are analyzed and results used to improve services.
2.7 A	The privacy of patients/clients is ensured during consultation and examination.	a. Consultations and examinations are held behind curtains/screens at all times. b. Healthcare providers ensure privacy at the time of consultation.
2.8 A	All clients/patients receive appropriate assessment, diagnosis, plan of care, treatment and care	a. The registration chit is completed promptly for all clients/patients. b. The time the client/patient arrives is documented on the registration chit and monitored

	Standard	Measurable Criteria
	management, and follow-up	c. Basic assessment is undertaken and includes temperature, blood pressure, and symptom identification. d. Basic assessment for children under five includes weight, immunization status, temperature, level of consciousness and symptom identification. e. A client/patient history is taken and documented. f. Treatment and care management is provided in accordance with the assessment, test results, diagnosis and care management guidelines. g. Referrals to other services are made when required. h. Appointments for future care are made. i. Results of previous care are used in follow-up visits.
2.9 B	National and Provincial Treatment guidelines are available and used for those services listed as offered.	a. Healthcare providers provide technically correct services according to guidelines for but not limited to the following areas: i. First Aid and Emergency care, Injury management, minor surgical procedures ii. IMCI, ANC, Delivery, PNC, Family planning iii. Malaria, TB & DOTS, HIV/ AIDS VCT, STD, Diarrhoea, Polio, Hepatitis, HIV/AIDS, Measles, ARI, Hypertension, Diabetes, Anaemia, Common skin problems, EPI iv. Dental care. b. Staff are trained to follow these guidelines. c. Justification is available for variations from the guidelines.
2.10 A	All children who visit the facility have their weight plotted correctly on their health card and have their	a. All under three children coming to the facility are weighed. b. Weight is accurately plotted on the child's health card and follow-up action taken based on the plot. c. Immunization status is checked and missing immunizations given

	Standard	Measurable Criteria
	immunization status checked.	d. Weight and vaccination information are given to the parent/carer.
2.11 B	Healthcare providers regularly educate their clients on health issues in a way that is easy to understand.	a. Healthcare providers conduct group health education sessions at least four times a month. b. Healthcare providers use the following materials during client/patient counselling/education sessions: posters, family planning material, brochures, leaflets, flipcharts and cue cards. c. Health education messages (posters and charts with pictures and minimal text) are visibly posted in prominent areas within the facility. d. Health education written material is available for clients/patients to read and take home.
2.12 B	Clients/Patients are given accurate information about their medication regime to enable them to manage it.	a. The healthcare provider/dispenser instructs clients/patients about the medication, the amount of medication to take, what time to the day it should be taken and for how long it should be taken. b. The healthcare provider/dispenser checks that the client/patient understands the instructions.
2.13 A	Staff follow correct aseptic techniques and wash their hands between clients/patients.	a. Health workers perform the following aseptic procedures in line with SOPs or guidelines: wound dressing, suturing, catheterization, injections, intravenous infusion and dental extraction. b. Soap (where possible liquid soap) and water or antiseptic gel are available at the washing point(s) in or near the consulting/examination room(s) and a clean hand towel or alternate is available. c. Hand washing instructions are posted above the washing point(s). d. Healthcare providers wash their hands between clients/patients and between procedures.
2.14 A	Rational prescribing is practised to minimize the risk of drug resistance, ensure appropriate treatment and enable cost-effective care.	a. An essential drug list is available and followed. b. Good prescribing practice guidelines for antibiotics are available and followed. c. The probable diagnosis is written on the prescription.

	Standard	Measurable Criteria
		d. If the diagnosis changes as a result of follow-up assessment or test results the prescription is reviewed.
2.15 A	Essential drugs and supplies are available at all times during open hours.	a. Stock cards are up to date and correspond to physical stock. b. There is a stock of the essential drugs. c. There is a process for checking date of expiry. d. No expired drugs are in stock.
2.16 A	The cold-chain for vaccines is maintained	a. A Cold Chain procedure for vaccines is used and includes clear directions on the following practices[1]: i. Vaccine stock management including vaccine storage, potency, stock quantities, stock records, and arrival report ii. Equipment for vaccine transport and storage iii. Maintenance of equipment iv. Control and monitoring of temperature v. Cold chain during immunization sessions vi. Syringes, needles and sterilization and vii. Breakdown of equipment and emergency actions to minimize risks.
2.17 A	Items for single use are not reused.	a. Disposal systems and processes for single-use items are available and used.
2.18 A	Sharps and needles are used and disposed of safely.	a. Labelled needle safety boxes are available in the examination, injection and dressing rooms. b. Staff safely dispose of sharp objects and needles in the containers provided.

Standard 2.1

The facility and service provided are easily accessible to the catchment area population.

2.1.a The facility is located within 5 kms of the patient

2.1.b Costs involved in using the services are addressed in the annual plan and steps are taken to minimize costs, such as fees, drugs, lost income, and transportation costs.

The incharge of a public sector primary health care facility has no control over the above two measurable criteria, but the private sector does, and should give required attention to these. Private sector would not construct a facility far from its clients, but they should consider factors for costs minimization, while keeping their interest in profits.

PCMC in public sector primary health care facility can play some role for both the criteria. For examples, it could work with the district government to plan a road that could decrease distance between the clients and the facility; and it could think of ways that minimizes lost income or decreases cost of transportation.

2.1.c Major obstacles affecting access for clients/patients to the facility and its services are addressed in the annual plan and steps are taken to minimize them.

i. The attitude of employees working at the facility

ii. The perception of the need and utility of health care by the community

iii Cultural constraints on clients about using the facility and its services

Attitudes of Employees: There is a widespread impression that the attitude of government health facility staff towards the patients/clients is often negative or unfriendly. This plays an important role in influencing access to a facility. Staff with pleasant and friendly attitude that is responsive to the needs of patients helps to establish confidence in and credibility of the facility. Receiving patients with a smile, listening to their concerns attentively, and sincerity in resolving their issues turns a facility into a user-friendly place. It encourages people to seek health care and openly discuss their problems with confidence. In contrast, arrogant or rude behaviour of staff, disrespect to clients, inattentive or unconcerned attitude towards patients and their attendants hinders in utilization of a facility. The community people bears ill health rather than face humiliation.

The incharge of the facility should be the role model for all other staff members. S/He should display behaviour of care and concern towards

patients/clients and also keep a vigilant eye on other that they also follow it to have a patient/client friendly environment. Primary Care Management Committee (PCMC – as described in Standard 1.1, Volume 1) should keep a vigilant eye on the behaviour of staff and guide them appropriately.

Perception of the need and utility of health care: Illiteracy and lack of access to information about health has a major role in determining perceptions of the community people about the needs of health care measures and their utilities. For examples, antenatal care is not sought as the benefits are not known or perceived by majority of the families; iodized salt is not used as consequences of its deficiencies and their prevalence is not known to them; postpartum care is given negligible importance and many conditions in this period are related to *nazar*. Therefore, a health facility has to play a proactive role in educating the community in catchment area about the needs and utilities

of different health care services. PCMC can play an effective role in improving the perception of community people in increasing the felt need and utility of health care. The better this role is played, the higher will be the utilization resulting in improved heath status.

Cultural constraints: A major constraint is gender imbalance in government health facilities where both managers and staff are predominantly male. This affects the rapport between the health staff and the females who form the major portion of patients/clients and are also the critical link for infant and child health. PCMC should work hard to improve the posting of female staff, such as Lady Medical Officer as incharge of BHU, LHVs, female health technicians (FHTs). This will be very helpful in decreasing the barrier and improve utilization.

Standard 2.2

A list of available services and applicable fees is posted where the clients/patients can see them.

2.2.a A poster with listed services, opening times and emergency contacts during closing times is displayed in a prominent place where the clients/patients can see it. The text is in an understandable format, e.g. local or national language.

2.2.b A list with all fees and possible exemptions is displayed in a prominent area where the clients/patients can see it. The text is in an understandable format, e.g. local or national language

Hand made posters or painted boards with above details should be made and displayed at a place where they can be easily seen by all visiting clients/patients. This could be inside the facility at the registration area or waiting area. Preferably, it can be displayed outside at the entrance of the facility, but then it should be a painted board to withstand dust and rains. An example is given below:

Standard 2.3

Clients/patients and their attendants are received in a friendly and respectful manner irrespective of their sex, age, race, religion or physical appearance

2.3.a Clients/Patients are treated in a kind, patient and respectful manner at all stages from registration through to an end of service.

This measurable criteria (2.3.a) has been dealt more or less in Standard 2.1. “measurable criteria (c) attitudes of staff”, hence does not need further elaboration, except to state that this courteous behaviour should be for all without any discrimination, and at all stages of service.

2.3.b Health care provider uses open ended questions (why, who, what, when, how) to obtain information from clients/patients.

2.3.c The healthcare provider listens carefully to what the clients patients say and does not jump to conclusions

Asking questions is a very important skill that a health care provider should develop. Questions asked in correct way help to obtain correct information. There are many ways to ask questions, but all questions fall into two main categories: (a) closed questions, and (b) open questions.

A close question is one that gets only “Yes” or “No” as the answer. Most closed questions begin with: Did you…….?, Do you…….?, Will……?, Has……..?. These provide very limited information. For example, the doctor may ask a mother “Do you know how to prepare ORS solution?” The mother may respond “Yes”, but it does not inform the doctor whether she is aware about the correct preparation method. Mother may not know the correct preparation method but may believe that she knows the correct method and give the “Yes” response, and the doctor will gather the incorrect information. If the doctor is not listening with attention or is not interested, s/he will not probe further and jump to a wrong conclusion.

In contrast, if the doctor asks "How do you prepare ORS solution" then the mother will describe the process and doctor could then infer whether the mother has the correct knowledge or not about preparation of ORS. This is an open question, in which the answer is described and is NOT in "Yes' or "No". Most open questions begins with What……?, How much……?, Why……..?, How…….? Who…….?.

Some examples of closed and open questions are given below:

Closed Questions	Open Questions
Do you know how to prepare ORS solution	How do you prepare ORS solution
Has your child been drinking fluids	What and how much has your child had to drink
Do you have a 1 litre container at home to measure water for mixing ORS	What containers do you have at home to measure water for mixing ORS
Will you feed your child when you get home	What kinds of food and how much will you feed your child when you get home
Do you know when to bring your child back	When will you bring your child back
Do you understand what you should do at home now	What will you do for your child at home now

One could begin by asking a close question, but then it should be followed with open question. For example, the doctor could ask "Has the child been drinking?". Depending on the answer "yes" or "no", it should be followed by "How much" or "Why not?".

Remember, a health care provider makes her/his judgement about the illness/problem from the answers s/he receives from the clients/patients. If the questions are not phrased properly then the chances are that answers will be received either partially or incorrectly. This could lead to incorrect diagnosis, incorrect treatment, and incorrect advice.

Asking right questions is not enough, it is also important that the health care provider also listens carefully and actively with concentration to what the clients/ patients are saying and not jump to conclusions. Unless this is done, wrong or insufficient conclusions could be made and the management of the case will be effected.

Listening is also important to find something good that the client/patient may have done, which helps to find some reason to praise, as the client/patient responds well to

praise. This will make them feel that the health care provider respects them, and are more likely to become motivated to follow the given advice. For example, if a mother says “My child vomits everything he tries to drink, so I have stopped giving him anything”. Though she has taken an incorrect action by stopping to offer drinks, but if the healthcare provider will show anger or admonish her on her ignorance, she will feel insulted and her mind may stop listening. Alternatively, if the health care provider says something to praise her and then guide her, she will listen to it happily and attentively. For example, the health care provider could say “It is good that you have been attempting to give your child things to drink, please continue even if he vomits, and I will explain you now why and how to continue”. This will encourage her to listen carefully and act accordingly, ultimately benefiting the child.

2.3.d The healthcare provider explains to the client/patient the diagnosis, care management and follow-up

2.3.e The health care provider takes feedback from the client/patient to ensure the client/patient understands the message communicated.

The health care provider should take time to explain the diagnosis/problem, management plan and about the follow up to the clients/patients. This should have sufficient information to help them understand the issue.

For example: A mother brings her 11-month old daughter Pashmina to a health care provider. Questioning, listening and examination reveal that there are no signs of dehydration in Pashmina, she is eating cereals and other foods, and mother has continued to breastfeed as well. In this situation, the health care provider should inform the mother that the child has diarrhoea but no dehydration, and explain the danger of getting dehydration. Then explain the three rules for home treatment:

a. Give more fluids than usual: Pashmina should be given 50-100 ml of ORS solution after each loose stool. Describe this amount using a local measure and should show the mother this amount in a cup or glass. Explain to the mother that the ORS solution will keep Pashmina strong during the diarrhoea. It will not stop diarrhoea, which will go away by itself in a few days.

b. Give plenty of food: Continue to breastfeed Pashmina and should also give her small amounts of cereal mixed and mashed with otherfoods at least 6 times a day. She should add 1-2 teaspoons of oil to each serving to add energy, give fresh fruit juices and bananas to provide potassium. The mother should continue to give Pashmina an extra meal each day for 2 weeks after the diarrhoea stops.

c. Bring back: Mother should bring back Pashmina if she is not better in 3 days or if she develops any of the following signs: many watery stools, eating or drinking poorly, repeated vomiting, fever, marked thirst, blood in the stool.

After giving information about diagnosis, management and follow-up, the health care provider should check to ensure that client/patient has understood the advice. Obtaining this feedback is vital to assess to what extent the instructions have been understood, Some health care providers may ask the mother “Have you understood what I have explained?”, and the mother may probably answer this with “Yes”. But, with this answer one cannot judge exactly what the mother has understood and what she has not. Therefore the feedback should not be taken through a closed question but through an open question. In the given situation, the healthcare provider should ask the mother “Tell me now how will you manage Pashmina’s diarrhoea at home and when will you come back”.

Treating clients/patients with respect, actively listening to them, asking relevant questions, praising, explaining diagnosis and management, describing follow-up plan, and taking feedback about their understanding of the given advice are all very important components of primary health care.

Standard 2.4

Providers give priority to extremely sick clients/patients and those of extreme age (early newborns and elderly)

2.4.a A system using the time of arrival recorded on the registration chit is used to prioritize clients/patients.

2.4.b The order prioritizes extremely sick clients/patients first, those of extreme ages (elderly and babies) second and then others.

2.4.c Extremely sick clients/patients are seen by the healthcare provider within five minutes, and those of extreme ages within 15 minutes.

All clients/patients should be seen on their turn rather than giving preference to some on the basis of their links with the staff, position in the community, economic status, etc. As there is no system for appointment at PHC facilities, a suggested way to implement the above is to record the time of arrival on the registration chit and then follow the principle of "first come, first served". However, exceptions are to be made for clients/patients who are extremely sick and those of extreme ages.

Extremely sick patients are to be given first priority over all others and should be seen within 5 minutes of arrival. These include patients who: are unconscious or semi-unconscious, have high grade fever (above 102 C), are bleeding profusely from cut wounds, have antenatal vaginal bleeding, met an accident, have difficult breathing, are vomiting, are severely dehydrated, have been bitten by snake etc. etc. Each facility incharge should develop a list to categorize extremely sick patients in consultation with the other medical officers and paramedics. The person at the registration should keep a copy of this list and be well-oriented with it. In case, a patient who is suspected to be extremely sick but does not fall in the categories listed, should immediately be reported to the medical officer incharge of the facility.

Clients/Patients who are of extreme ages (elderly above 65 and babies in neonatal period) should be given the next priority over other patients, and it should be attempted that they do not wait for more than 15 minutes to see the healthcare provider.

Priority to clients/ patients should be given on the basis of above defined system. Every staff of the facility should be oriented with these guidelines and instructed to implement it fairly, without being preferential to a selected few.

Standard 2.5

Providers use a defined process for referring emergency cases.

2.5.a SOPs exist for identification of types of clients/patients who need to be referred.

2.5.b A referral form provides sufficient information to allow continuity of care.

2.5.e A copy of the referral form is kept at the facility.

SOPs should exist in a primary health care facility for identification of types of clients/patients who need to be referred to a secondary or tertiary care. This should minimally specify: (a) list of emergencies by types of clients/patients, (b) place for referral, (c) transferring mechanism, and (d) information or form to accompany with the client/patient.

Incharge of the facility, in consultation with other medical and paramedical staff, should develop a list of all possible emergencies that need referral by type of clients. For example:

In children < 5:

a. Severely dehydrated
b. Severe pneumonia
c. Throat abscess
d. Diphtheria
e. Meningitis
f. Tetanus

In women during pregnancy and childbirth:

a. Antenatal vaginal bleeding
b. High fever
c. Swelling of hands and face
d. Active labour for more than 12 hours
e. Placenta retained for more than 1 hour
f. Seizures

In any individual of any age:

a. Cholera
b. Dengue fever
c. Complicated malaria
d. Sudden onset chest pain in over 40
e. Accidents needing higher level care
f. Haemorrhagic fever
g. Burns more than 15% in children and 20% in adults
h. Exposure to HIV (within 72 hours of exposure)
i. Snake bites

The above list is an example. It should be expanded according to the possible emergencies that are likely to be seen in the facility.

The place(s) for referring each type of emergency should be marked. Some can be handled at THQH, others may require referral to DHQH, a teaching hospital or a private hospital depending on the distance and availability of services. The incharge of the facility must be aware of the available facilities in the nearest hospitals for each type of emergency. S/he should clearly mark against each emergency the places where it can be referred. For example, if it identified that good facilities for managing antenatal vaginal bleeding are available at DHQH, at teaching hospital (almost equal distance to DHQH) and a at private hospital in the same vicinity, it would help the attendants of client/patient to make their own choice.

Some patients will need medical support during transportation. Hence SOPs should identify that which staff member will accompany the patient. For example, LHV will accompany the women with antenatal vaginal bleeding, medical technician will accompany the man with chest pain, etc. Furthermore, the medical support that should be provided during transportation should also be specified for each type of emergency.

A referral form should be filled and sent with the patient. The form should outline the treatment given at the primary health care facility to help in continuity of care. A sample form follows on the next page.

Keep a copy of the referral form at the facility in a separate file initiated for this purpose.

Do call the hospital where emergency is sent and inform the doctor on duty about the case to help him/her prepare beforehand to receive and respond to the case.

A Sample Emergency Referral Form

Emergency Patient Referral From

From: _____ To: _____

Date: _____ Time: _____ a.m./p.m

Patient Name: _____

Patient Age: _____ Days: _____ Months: _____ Years: _____

Reasons for Referral: _____

_____

_____

Treatment given: _____

_____

_____

Significant Past History, Allergies: _____

_____

Currently on any long term medications: _____

_____

Vital signs: Time _____ Temperature: _____

Pulse: _____ Respiratory Rate: _____ BP: _____

Last Tetanus Toxoid Injection: _____

NPO since: _____

Request:

1. Evaluate, treat and admit as needed
2. Inform, if admitted
3. Refer back on discharge with instructions for follow-up

Remember

Patients with lacerations, suspected fractures or surgical conditions should remain NPO

2.5.c When possible transportation to the referral facility is provided

2.5.d In other cases, the Service provides some type of assistance for moving a sick client/patient to a referral facility such as communication to the next level, or arranging community transport.

Emergency patient should be transported by the primary health care facility to the referred hospital if it has an ambulance or any other suitable transport. Charges could either be claimed from the patient's family or reimbursed through a fund created for this activity with the assistance of PCMC.

In case a primary health care facility has no transport, then it should make different arrangements for accessing transport immediately at the time of need. Possible examples are:

a. Establish Link with Edhi Ambulance Service: If Edhi Ambulance service is available; the facility staff should obtain its contact numbers and use it, whenever required.

b. Organize Community Based Private Emergency Transport System: Men with feasible transport in the community should be identified. All those should be listed who agree to drive a patient at any time of day or night to the nearest emergency care facility. A list of these men with their phone numbers or phone nearest to them should be kept at the facility. These contact numbers should also be provided to TBAs in the catchment area, as they are often the first contact, especially after working hours of the BHU. Rates for transportation to different facilities should also be agreed with them depending on the distance and time of service. The facility will insure that this payment is made to the transporters by the family of the patient or facility funds raised for the purpose within a specified time, if immediate payment is not possible.

c. Public-Private collaboration for Emergency Transportation: PCMC should contact different projects that are providing ambulance service. Arrangements could be made to avail services of project ambulances on payment of service fee.

d. Involve Union Council to Organize and Supervise Emergency Transport Center: Union Council Nazim should be motivated to organize and manage an Emergency Transport Center. This could be established through philanthropic collaboration.

Standard 2.6

Non-priority clients/patients wait no more than one hour after arrival at the facility before being seen by the provider.

2.6.a A system is used to prioritize the order in which non-priority clients/patients are seen on a first-come first-serve basis.

2.6.b Waiting times are no more than one hour and are monitored.

2.6.c Waiting times are analyzed and results used to improve services.

Part of these measurable criteria was discussed under 2.4.a and b. Recording of registration time could serve as the basis for setting the order in which non-priority clients/patients are seen on a first-come first-serve basis. Other alternative could be to give-out tokens with number at the registration and send the non-priority clients/patients to the health care provider on the basis of their turn.

It should be monitored that no client/patient has to wait for more than one hour. If the client/patient load is high and the waiting time exceeds one hour then PCMC should request the EDO(H) to increase the staff.

It is important to track client/patient flow from time to time in every facility. These could be done once a quarter. On a given day, a certain number of patients (about 10-15) are visually tagged by one of the staff member designated to carry out this task. The time spent is noted at each point till the patient exits. An example of tracking a patient is given below who enters the facility with a wound on leg.

Tracking of Patient Flow	
Time	Activity
10.35	Entered the facility
10.48	Reaches registration clerk
10:53	Leaves registration desk
10:54 till 11:28	Waits for turn in waiting area
11:29 till 11:34	Interaction with doctor
11:35 till 11:50	Wait for the MT
11:51 till 12:00	Cleaning and dressing of wound

12:01 till 12:14	Wait in queue for collecting medicines
12:15 till 12:18	Gets medicine and advice for use
12:20	Exits the facility

In this 1 hour and 45 minutes, the patient had interaction with doctor for 5 minutes, with MT for 10 minutes and with dispenser for 3 minutes (total 18 minutes), while the remaining was mostly waiting time for his turn.

The above example shows where delays are taking place. The facility staff should collectively review this data and identify ways by which they could decrease the waiting time or make it useful for the patient. Also, it points to weak areas in service, as in the above case only 3 minutes were spent with dispenser during which he not only read the prescription, took out medicines, and explained the patients "how to use them". Certainly this interaction is likely to be inadequate as he would not have had sufficient time to explain the use and also to check if the patient has correctly understood "how to use" as described in measurable criteria 2.12.a and b.

Tracking of a certain number of patients and then analyzing these flows help to pin point areas of weaknesses that needs to be redressed. Hence the results should be used to improve services.

Standard 2.7

The privacy of patients/clients is ensured during consultation and examination.

The health care provider and client/patient relationship must be built on the understanding and trust that discussed matters will remain a private issue until the client decides otherwise. In cases where possibility of stigmatization or discrimination against the client/patient exists, the provider should clearly brief the client/patient about the measures that will be taken to keep his/her status and linked information as a secret.

Both visual and verbal privacy of the clients/patients should be maintained at the facility. Conversation between the health care provider (such as doctor, LHV) and client/patient should not be audible to others, allowing the client/patient to express freely. Therefore, interaction between the provider and client/patient should be held in a separate room, with closed doors. In case, if the provider is a male and client/patient a female then a female attendant or staff should be present in the room. All examinations that require lifting or removal of clothes should be done either behind screen or closed door. This will not be applicable for infants, unless desired by the accompanying parent.

Standard 2.8

All clients/patients receive appropriate assessment, diagnosis, plan of care, treatment and care management, and follow-up.

2.8.a The registration chit is completed promptly for all clients/patients.

2.8.b The time the client/patient arrives is documented on the registration chit and monitored.

Registration of the clients/patients should be done without any delay by the designated person. S/he should be available at the specified desk during OPD hours to register the clients/patients as they arrive, using the priority system described in measurable criteria 2.4.a,b & c. The registration chit/OPD Ticket [DHIS – 02 (F)] should be issued to each patient and the time of registration should be noted.

2.8.c Basic assessment is undertaken and includes temperature, blood pressure, and symptom identification.

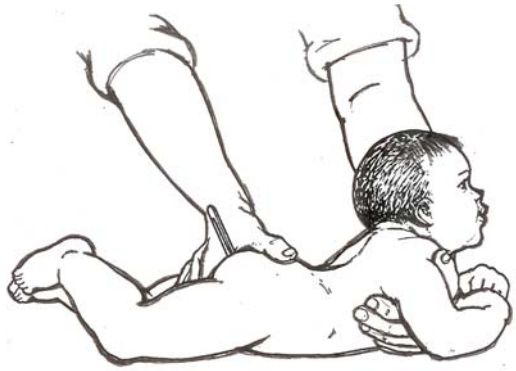
2.8.d Basic assessment for children under five includes weight, immunization status, temperature, level of consciousness and symptom identification.

Basic assessment of every client/patient should be done, which includes noting of the major symptoms or signs for which the client/patient is seeking help for herself/himself and recording temperature and blood pressure in adults. In children under five, their weight, immunization status, temperature, level of consciousness is recorded, besides the presenting symptoms. These should be recorded by a paramedic before the client/patient is seen by a medical officer. This will help in decreasing the workload on the medical officer and allow him/her to use time more efficiently with the client/patient.

Taking Temperature: The temperature of a client/patient could be recorded in three ways:(a) by placing the thermometer in the mouth; (b) placing the thermometer in the armpit; and (c) putting the thermometer in the anus.

Before placing thermometer in the mouth or the armpit, make sure that the column of mercury inside the thermometer is below 35° C. If it is not, shake the thermometer until it has gone down. Then place the small part of the thermometer under the tongue and ask the client/patient to keep the mouth closed; or place it in an armpit and hold the elbow against her/his body. Leave the thermometer in place for about 2 minutes and then take it out and read the figure in line with the top of the column of mercury inside the thermometer. If the figure is above 37.5° C the client/patient has fever. Clean the thermometer with some cotton wool and then thoroughly wash with soap and water. This washing is essential especially for preventing transmission of Hepatitis B & C.

A different type of thermometer is used for taking anal temperature that has a rounded tip. It is mostly used for infants or young children. Before placing the thermometer in anus, check that the line of mercury is below 35° C. Insert the small part of the thermometer in anus and leave it in place for 2 mins, while the child lie on his stomach and the paramedic should hold her/him to prevent from rolling over. Then remove the thermometer and read the temperature. Clean the thermometer with cotton and thoroughly wash with soap and water.



Measuring Weight & Recording Immunization Status of the Child < 5: This will be discussed under Standard 2.10.

Level of Consciousness of Child < 5: It should be noted whether the child is alert and well, is restless or irritable, is lethargic, is unconscious. A lethargic or unconscious child should be identified as an emergency, and the steps should be taken as those defined for emergencies in Standard 2.5.

2.8.e A client/patient history is taken and documented.

2.8.f Treatment and care management is provided in accordance with the assessment, test results, diagnosis and care management guidelines.

There are various prescribed ways of documenting history, assessment, diagnosis and management of clients/patients in a standardized way in outpatient services. The facility could choose any of these as considered feasible. One simple method is to record it under a formula called "SOAP", which has been used in primary health care setting:

- Subjective (S)
- Objective (O)
- Assessment (A)
- Prescription (P)

It is brief and concise but comprehensive method for documenting client/patient record. The SOAP documents the presenting complaints/subjective symptoms and other relevant history under subjective interpretations "S"; physical signs and laboratory findings are recorded in objective findings in "O"; provisional or final diagnosis is written under assessment "A"; while, prescription is recorded under "P"

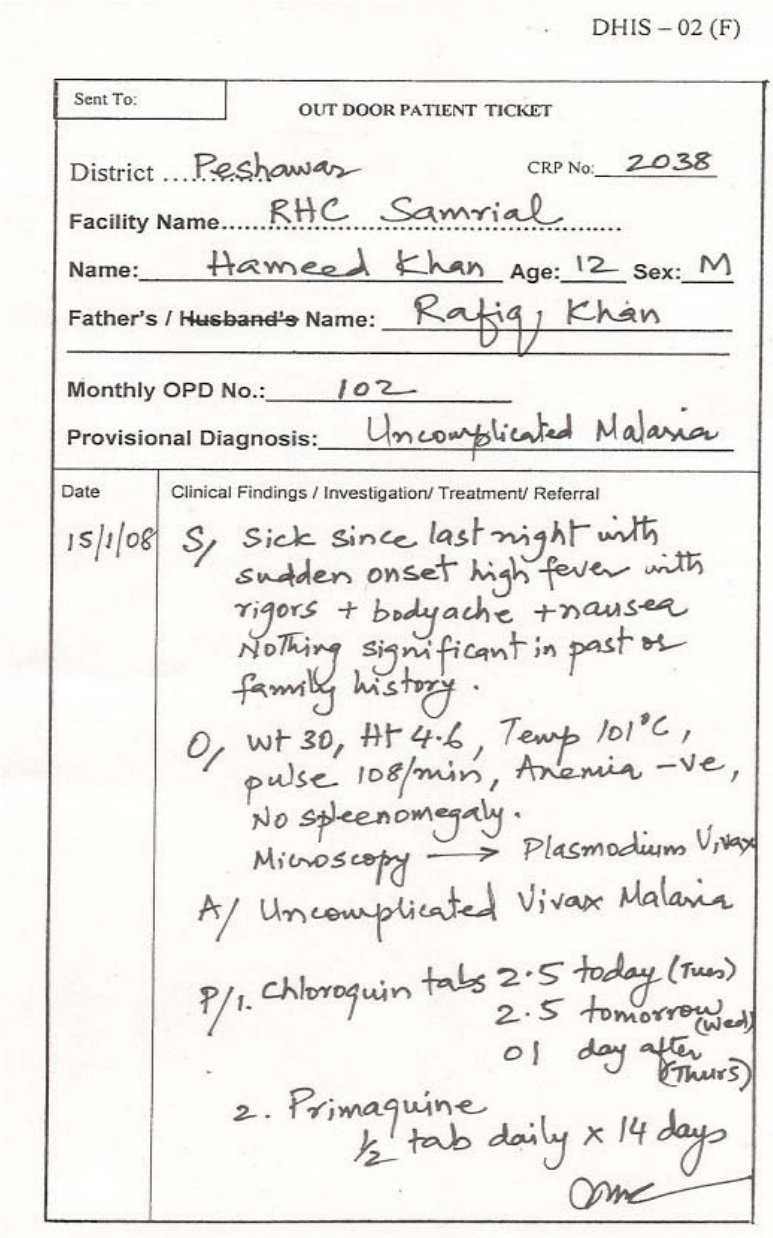
A sample of SOAP method is given below:

- S: Hameed, a 12 year old male, is sick since last night with sudden onset high grade fever with rigors, which decreased after 1 hour. Has bodyache and nausea. Nothing else significant in past history or family history.

- O: Weight 30kg, Height 4'-6 ", Temperature 101 oC, pulse 108/min anemia –ve, no spleenomegaly, no other significant finding, blood microscopy shows plasmodium vivax.

- A: Uncomplicated Vivax Malaria

- P: Tablet Chloroquin 2.5 tablets today (Tuesday) and tomorrow (Wednesday), and 1 tablet on Thursday. Primaquine 0.5 tablet per day for 14 days.



DHIS – 02 (F)

Sent To:

OUT DOOR PATIENT TICKET

District ...Peshawar CRP No: 2038

Facility Name.....RHC Samrial.....

Name: Hameed Khan Age: 12 Sex: M

Father's / ~~Husband's~~ Name: Rafiq Khan

Monthly OPD No.: 102

Provisional Diagnosis: Uncomplicated Malaria

Date	Clinical Findings / Investigation/ Treatment/ Referral
15/1/08	S/ Sick since last night with sudden onset high fever with rigors + bodyache + nausea. Nothing significant in past or family history. O/ Wt 30, Ht 4.6, Temp 101°C, pulse 108/min, Anemia –ve, No spleenomegaly. Microscopy → Plasmodium Vivax A/ Uncomplicated Vivax Malaria P/ 1. Chloroquin tabs 2·5 today (Tues) 2·5 tomorrow (Wed) 01 day after (Thurs) 2. Primaquine ½ tab daily x 14 days

It is important that the management is done strictly according to the national/provincial guideline for managing the condition/disease as given in Standard 2.9. For those conditions that are presented frequently, but the guidelines have not yet been developed either nationally or provincially, should be dealt according to the guidelines given in Standard 2.9, or the facility may develop its own guidelines, which should be scientific and meet minimal standards of care for that particular condition.

2.8.g Referrals to other services are made when required.

2.8.h Appointments for future care are made

2.8.i Results of previous care are used in follow- up visits

Clients/patients should be referred to higher level of health service whenever the needs are beyond the scope of available services at the primary health care facility. The needs could be for laboratory or radiological diagnostic services, for consultation with specialists, for surgery, for admission for illnesses that require hospitalization.

The patients should be sent with a referral form, whenever referred. This not only helps the health care providers at the referred facility but also encourages them to provide the feedback and advise follow-up actions at the primary health care level. A sample referral form is presented below:

A Sample Client/Patient Referral Form

Client/Patient Referral From

From: _____ To: _____

Date: _____ Time: _____ a.m./p.m

Patient Name: _____

Patient Age: _____ Days: _____ Months: _____ Years: _____

Reasons for Referral: _____

_____

_____

Treatment given: _____

_____

_____

Significant Past History, Allergies: _____

_____

Current long term medications: _____

_____

Request:

1. Conduct the laboratory/radiology tests
2. Evaluate and treat/admit as needed. Inform, if admitted
3. Admit and treat.
4. Refer back on discharge with instructions for follow-up

Clients/patients who require follow-up visit at the primary health care facility should be given appointment for the day and time; and in the follow-up visit the record of previous visit should be referred. Similarly, clients/patients with chronic illnesses/problems will return repeatedly with gaps of weeks or months. At each visits, the record of the previous care should be retrieved and reviewed. Therefore, a system for keeping records should be developed.

Standard 2.9

National and Provincial Treatment guidelines are available and used for those services listed as offered.

2.9.a Healthcare providers provide technically correct services according to guidelines for but not limited to the following areas:

i. First Aid and Emergency Care, Injury Management, minor surgical procedures.
ii. IMCI, ANC, Delivery, PNC, Family Planning
iii Malaria, TB & DOTS, HIV and AIDS VCT, STD, Diarrhoea, Polio, Hepatitis, HIV and AIDS, Measles, ARI, Hypertension, Diabetes, Anemia, Common Skin Problems, EPI.
iv Dental care

2.9.b Staff are trained to follow these guidelines

1. GUIDELINES FOR AIRWAY MANAGEMENT

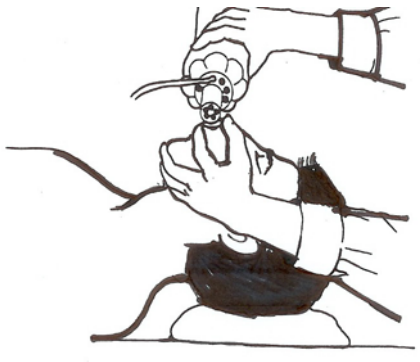
CONTROL OF AIRWAY WITH BAG AND MASK

Indications

Cardiopulmonary failure
Respiratory failure
Stridor or other partial obstruction of the upper respiratory tract

Position

The patient should be supine with the chin raised to ensure a clear airway. Further advancement of the mandible downward and outward, thus translocating the temporomandibular joint, may be required to move the tongue to a point where it no longer obstructs the natural airway. Turning the head to either side with the jaw advanced may provide further aid.



Procedure

1. Clear the way of dentures and debris.
2. Select the appropriate size of mask.
3. Position the head correctly.
4. Ventilate with the right hand at a rate of 10-15 / min.
5. Observe the motion of the chest and absence of motion of the stomach.
6. Repeat until adequate oxygenation is achieved.

ORAL AIRWAY INSERTION

Indications

Cardiorespiratory arrest
Partial or total upper airway obstruction with or without nasal trauma

Contraindications

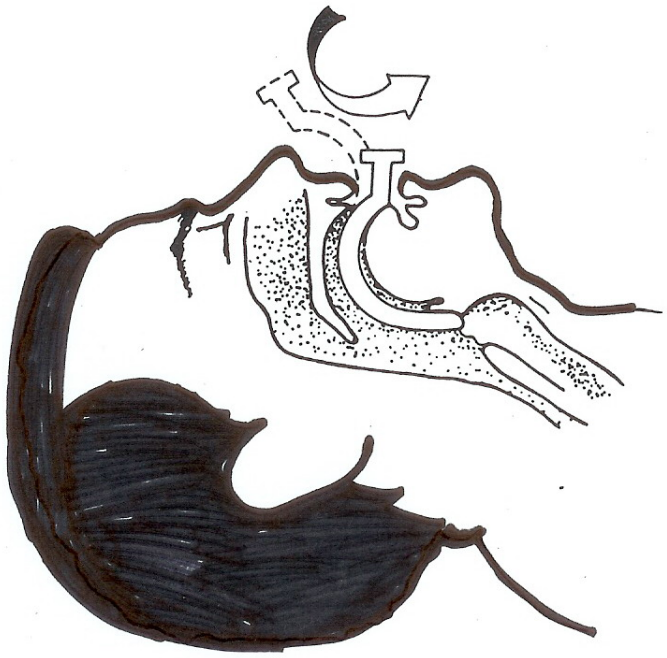
Oral trauma
Croup or other pharyngeal infection

Position

The patient should be supine with the chin raised, as for bag and mask ventilation.

Procedure

1. Open the patient's mouth by scissoring the jaw open with the thumb and forefinger of the right hand.
2. Remove dentures and clear the airway of debris.
3. Insert the airway so that concave portions face away from the tongue.
4. After insertion to the back of the pharynx, rotate the airway 180^{o} and slide it inward to its full extent.



NASAL AIRWAY INSERTION

Indications

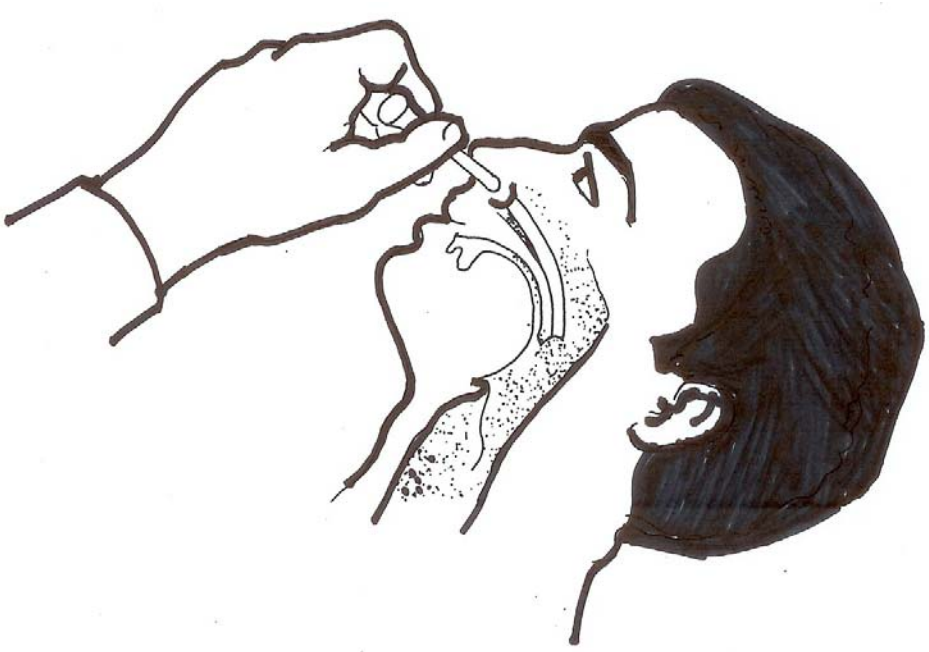
Cardiorespiratory arrest
Partial or complete upper respiratory obstruction with or without oral trauma

Contraindications

Nasal trauma
Croup or other infections of the nasopharynx
Enlarged adenoids

Procedure

1. Examine the nose for obstruction, foreign bodies or septal deviation.
2. Choose the nostril that seems to be the larger.
3. Clear the mouth and pharynx of dentures and debris.
4. Lubricate the anterior nostril and nasal airway with water-soluble lubricant.
5. Insert the lubricated airway with the convex surface facing the convexity of the nasopharynx .



2. PERIPHERAL CENTRAL LINE PLACEMENT

Indications
Central venous pressure monitoring
Swan-Ganz line placement
Hyperalimentation access

Contraindications
Patient with known superior vena cava syndrome

Position
The patient should be supine on a stretcher or bed, with the arm fully extended and abducted 90° from the shoulder in the same plane as the trunk in order to straighten the course of the axillary vein.

Procedure
VEIN SELECTION
The median vein or basilic vein distal to the antecubital fossa is selected, as its tributaries are in continuity with the great veins of the thorax. Apply a tourniquet to the upper arm.

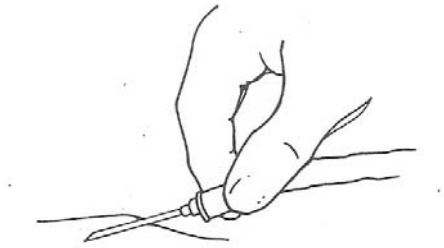
PREPARATION
Strict asepsis is mandatory. Thoroughly prepare a wide area of skin around the vein with povidone iodine. Use sterile towels or paper sheets. Wear sterile gloves. The needle holder, skin sutures and scissors should be arranged in a convenient position on the sterile field.

CATHETER SELECTION
Select a catheter-inside-needle unit of the appropriate size. An assistant will be necessary to remove the catheter from its non-sterile container and pass it to the operator in an aseptic fashion.

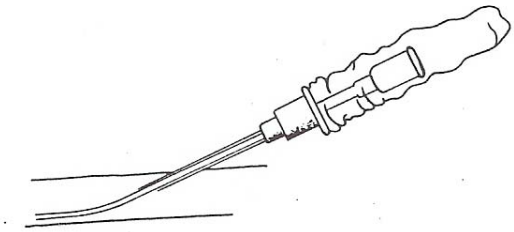
ANAESTHESIA
Using a 25 gauge needle, raise a small wheal of 1% lidocaine at the site of catheterization.

NEEDLE INTRODUCTION
1. Loosen the needle and then reattach it to the hub of the plastic sleeve that guards the catheter.
2. Hold the introducing needle between the thumb and forefinger.
3. Gently introduce the needle into the vein. Successful introduction will result in a return of blood along the entire length of the catheter.

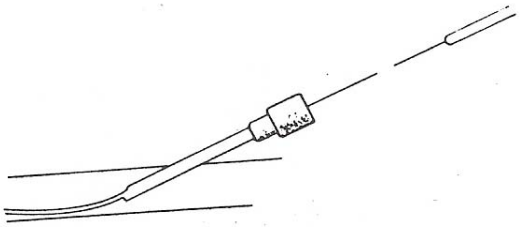
THREADING
1. Advance the introducing needle an additional 1-2 mm into the vein.



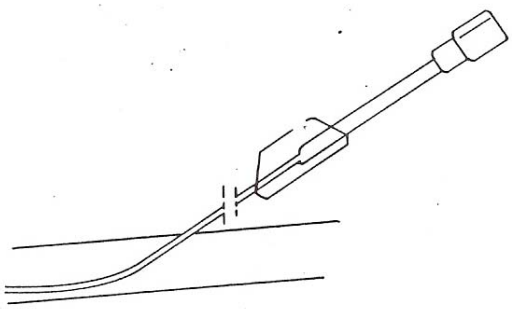
2. Stabilize the needle and, with the other hand, advance the plastic catheter through the needle into the vein.



3. Once the catheter is well into the vein, release the tourniquet.
4. Remove the needle from the vein and seat it firmly into the catheter hub.



5. Place a needle-guard over the junction of the needle tip and the catheter.
6. Connect the catheter to the intravenous solution, directly or with an intervening three-way stopcock.



7. Instil additional lidocaine and suture the needle-guard and the hub of the catheter to the skin.

CONFIRMING POSITION

The intravenous bottle should be lowered below the edge of the bed to check for blood return before infusion. Obtain a chest X-ray to verify location of the catheter.

DRESSING

Dress the catheter with iodophor ointment and cover it with 5 x 5 cm sterile gauze. Tape the catheter securely into place.

3. MANAGING EMERGENCIES AND RESUSCITATION

Initial management of an injured patient is usually provided by a physician, and much of the prognosis depends on this initial care.

GENERAL PRINCIPLE OF MANAGEMENT

Assess the degree of injury rapidly but thoroughly.

1. Treat life-threatening conditions immediately: respiratory distress, severe bleeding and shock.
2. Improvise dressings, splints and transportation.
3. Arrange for prompt definitive treatment.

Patient evaluation: Ascertain the degree and type of damage and any serious underlying medical problem, e.g. cardiac disease.

Respiratory Distress: Stridor and suprasternal or intercostals retraction indicate airway obstruction. Shortness of breath may be due to chest injury or shock. Respiratory depression may occur in head injury of severe shock. Cyanosis is always due to poor oxygenation, whatever the cause.

Shock: Typical signs are faintness, pallor, restlessness, cold clammy sweat, thirst, air-hunger, and a weak, usually rapid, pulse. Differentiate oligaemic from neurogenic shock.

Fractures And Dislocations: Palpate carefully from head to foot, move all joints cautiously and exert gentle pressure on the spine, chest and pelvis. Pain, swelling, ecchymosis, deformity and limited movement are classic signs; few or none of these may be apparent immediately after injury.

Brain And Spinal Cord Damage: Note the state of consciousness, gross skin sensation, and ability to move extremities actively.

Internal Injury: Overt localizing signs are often minimal. Hypovolaemic shock in the absence of overt bleeding or severe tissue damage suggests internal haemorrhage. Chest pain with respiratory distress and abdominal pain with signs of peritoneal irritation point to visceral injury.

LIFE-SAVING PROCEDURES

Evaluation and restoration of vital functions should be the first step in the care of an injured patient and should follow this sequence of priorities:

1. Maintain adequate respiration.
2. Support the circulation.
3. Treat shock, if present.
4. Stop bleeding.
5. Check the state of consciousness.

Respiration: Maintain a clear airway by: removing any foreign body present in the mouth (broken teeth, clots or food debris); make sure the tongue itself is not obstructing the airway; applying suction to remove secretions or blood; insertion of an oropharyngeal airway or an endotracheal tube in cases of facial fracture.

Start artificial respiration if there are no respiratory movements.

Circulation: Check blood pressure and pulse rate frequently. Establish an i.v. line, preferably by cut down. Lactated Ringer's or normal saline solution may be started, and the solution and rate of infusion may be changed according to the condition. At the same time, take blood samples for typing and crossmatching, complete blood count, glucose and electrolytes.

Shock: Shock should be anticipated in any patient with multiple or serious injuries, and should be treated accordingly.

Bleeding: Bleeding should be controlled by tourniquet or by compression using sterile gauze pressure bandaging.

State Of Consciousness: It is important to record the patient's level of consciousness at the time of arrival, for further evaluation.

MANAGEMENT

Wounds: Cover all Wounds with sterile dressing or towels. Cover exposed abdominal viscera with sterile saline dressing; make no attempt to return them to the peritoneal in the emergency room.

Medication: In case of severe pain, i.v. pethidine hydrochloride or morphine may be given initially; i.m. medications may be poorly absorbed during the period of shock.

Fractures: Splint any obvious or suspected fractures.

Refer: Refer to nearest hospital

SUMMARY

The management of an injured patient may be summarized as follows:

1. Establish and maintain a clear air way and effective respiration.
2. Provide circulatory support.
3. Repidly evaluate the patient's condition, including state of consciousness.
4. Do a thorough physical examination after understanding the patient.
5. Splint all obvious or suspected fractures immediately, and avoid injudicious movement of the patient.
6. Begin proper care of the wounds and administer appropriate pain medication as necessary.
7. Obtain blood and urine sample for appropriate tests, and order pertinent X-rays.
8. Obtain appropriate consultations.

TRANSPORTATON

Incorrect methods of moving patients can increase injuries. Where spinal injury is suspected, the use of a collar before moving the patient may be life-saving. Lift severely injured patients with care and improvise stretchers from blankets, boards and doors when necessary. Transport the following types of case in the recumbent position, on a stretcher, preferably in an ambulance: head and internal injuries; fractures of the spine, pelvis and long bones of the lower extremities; shock;; major wounds in general.

4. TREATMENT OF WOUNDS

A wound is a disruption of the continuity of the tissues to external violence.

CLOSED WOUNDS

Contusion: A contusion is an injury to the soft tissues while the skin remains intact. Damage to soft tissue is accompanied by blood vessel injuries and extravasation. The damage area becomes swollen, discoloured and tense. The colour of the area varies with the duration of time that has elapsed since the occurrence of the trauma, due to blood derangement. First, it is red (oxyhaemoglobin), then blue (reduced haemoglobin), latter greenish–yellow (haemosiderin), and finally the colour disappears and the area returns to normal. This condition is called a bruise or ecchymosis (e.g. black eye)

Multiple bruises: The presence of multiple bruises, ecchymoses or petechiae indicates a serious illness. Bruises or ecchymoses occur as a result of capillary bleeding into the tissues. They may be due to trauma or abnormal haematological states, such as platelet abnormality and deficiency of clotting factors. The common causes are:

- Trauma
- Bleeding disorders or haematological problems such as leukaemia,

TREATMENT OF CONTUSIONS AND MULTIPLE BRUISES

1. Sterilize the skin with an antiseptic to avoid infection, and apply a pressure bandage to control pain and swelling.
2. If there is any suspicion of child abuse, refer the child to appropriate place
3. Refer suspected cases of bleeding disorder to hospital.

OPEN WOUNDS

Incised wounds: An incised wound is a painful clean-cut wound which bleeds profusely; it is caused by sharp instruments. Deeper structures such as blood vessels may also be injured.

TREATMENT

1. Apply a sterile dressing over the wound.
2. Control external bleeding by applying a pressure bandage.
3. Transfer the patient to hospital.

Punctures and stab wounds: Punctures and stab wounds are to penetration by sharp instruments, such as a knife or a nail. Such wounds are characterized by:

- being small but deep
- possible severe damage to deeper structures
- the possible presence of an exit wound
- possible internal haemorrhage (in body cavities)
- possible retention of part of the broken instrument in the wound
- liability to infection, which is usually deep.

TREATMENT

Treatment is similar to that for an incised wound:

1. Clean the area.

2. Irrigate the wound with sterile saline.
3. With the patient under local anaesthesia, make a cruciate incision of the skin corners and probe to determine the depth of the wound and the presence of a foreign body.
4. Remove any foreign material and any devitalized tissue.
5. Where the extremities are involved, careful evaluation for neurovascular damage is necessary.
6. Elevate the involved part.
7. Give tetanus toxoid.

Lacerated Wounds: Lacerated wounds result from severe violence by a blunt instrument and from car accidents. They are usually associated with fractures and/or other injuries to the viscera, arteries and nerves. The wound is characterized as follows:

- The wound is irregular and the skin is lacerated.
- The surrounding tissues are swollen.
- The crushed tissues are insensitive.
- The blood vessels are torn across but their edges retract, therefore the amount of bleeding is usually small.
- Tissue destruction is great.
- Tearing of vessels may lead to sudden death of large masses of tissue (necrosis)
- Infection is very likely to occur.

TREATMENT

1. Remove any foreign bodies.
2. Apply a dry, sterile dressing and secure it in place.
3. Do not apply antiseptic solution or powder to the wound; it is not necessary to clean the skin around the wound with soap or antiseptic.
4. Arrange for the earliest possible cleaning and debridement, and closure under aseptic conditions.

TETANUS PROPHYLAXIS

Tetanus is absolutely preventable by prior active immunization. Prophylaxis against tetanus must b given to every patient suffering from a break in body's epithelial barrier (skin or mucous membranes), as follows:

- Previously immunized persons who received the last dose of tetanus toxoid within the last 10 years: give 0.5ml adsorbed tetanus toxoid for all wounds. This booster dose may be omitted if the wound is clean and superficial.
- Previously immunized persons who received the last dose of tetanus toxoid more than 10 years ago: give 0.5ml adsorbed tetanus toxoid for all wounds.
- Immunization status unknown: for clean superficial wounds (not tetanus-prone) give 0.5ml adsorbed tetanus toxoid. All other wounds (potentially tetanus-prone) give 0.5ml adsorbed tetanus toxoid plus 250 iu human tetanus immunoglobulin. (Hyper-Tet). These two steps constitute combined active and passive immunization.

At the same time as tetanus prophylaxis is given, penicillin should be given in large doses to prevent infection.

In addition, immediate meticulous care of the fresh wound is of prime importance. Removal of devitalized tisse, blood clots, foreign bodies, obliteration of dead space and prevention of tissue ischaemia in the wound are the objectives of the initial treatment. Wounds that are seen later or that are severely infected may be left unsutured after debridement, protected by sterile dressing for 3-5 days and then closed by delayed suture. Remember: Antitetanus serum (ATS) is no longer the standard treatment for tetanus prophylaxis. It can result in allergic reactions that may mount to anaphylaxis.

5. MANAGEMENT OF BURNS

Dupuytren graded burns accordingly to the degree of destruction n involved:

- First degree (50-60 ^{o}C): erythema of the skin (redness only)
- Second degree (60-100 ^{o}C): redness and vesicle formation
- Third degree: destruction of superficial layer of skin, with exposure of the nerve endings
- Fourth degree: complete destruction of the skin
- Fifth degree: complete destruction of the skin and muscles
- Sixth degree: complete destruction of the bone

Wallace classified burns into two types:

- Incomplete (including first, second and third degree) with partial skin loss
- Complete or deep (fourth, fifth and sixth degree)

Burns may be classified according to the percentage of the body surface area destroyed:

- Minor: less than 15-20% of the body surface area in adults, and 10-15% in children
- Major: more than 20% of the body surface area in adults, and more than 15% in children

The 'rule of nine' is used to determine the extent of damage to the body surface area:

Head and neck	9%
Each upper limb	9%
Each lower limb	18%
Front of trunk	18%
Back of trunk	18%
Perineum	1%

First aid for burns

1. Remove the victim from the site of the accident.
2. Roll the victim up in a thin blanket.
3. Apply cold water; this is sufficient to relieve pain in minor burn cases;
4. Do not apply oily substances to the skin.
5. Start fluid therapy burns with clean dry dressings and transfer the victim to hospital as quickly as possible.

THERMAL BURNS: The following cases constitute moderate and severe thermal burns:

- Burns to the head, neck, face, eyes, hands, genitalia, perineum or feet.
- Infants with a burn over more than 5% of the body surface.
- Second and third degree burns over more than 10% of the body surface.
- Children with chemical or electrical burns.
- Children with burns of the tracheobronchial tree.

TREATMENT

Cases of moderate or severe burns should be hospitalized.

CHEMICAL BURNS: Acids produce burns when they come into contact with tissues, depending on the concentration of the acid and the duration of exposure. The fumes of concentrated acids are extremely irritating to the respiratory tract.

Local burn

Wash thoroughly with water or weak alkalis such as sodium bicarbonate or lime water. Treat As for thermal burns.

Systemic burn

- Give milk, beaten eggs, or water
- Do not perform gastric lavage
- Give a sedative
- Begin supportive therapy
- Initiate steroid therapy
- Give a broad-spectrum antibiotic

Alkalis: Caustic alkalis produce severe corrosive burns, and their ingestion requires vigorous and immediate treatment. When alkalis come into contact with skin or mucous membrane they produce burns or perforations. These deep burns heal with scarring.

Local

For skin burns caused by an alkali, clean the skin with water or saline solution until the soapiness disappears.

For eye in juries, irrigate with water or saline solution for 5 minutes. Instill a local anaesthetic, and continue irrigation with water or normal saline solution for half an hour. Check for any injury to the cornea; if present, cover with an eye patch. Consult an opthalmologist for specific management.

Ingestion

If alkalis are ingested, hospitalize the patient at once.

ELECTRIC BURNS: The appearance of electrical burns may be deceptive: they may appear to be superficial, but may cause death because of the secondary necrosis of blood vessels and haemorrhage that usually occurs more distant to the apparent area of injury.

Electrical injury may be produced in two ways, either by arcing or a flash from short circuiting, or by direct current. If there is unusually secure ground contact and electric current is unusually secure prolonged, burns are produced at the site of contact. As the current passes through the body, various tissues or organs are affected:

- Blood vessels (thrombosis may occur)
- Brain (respiratory arrest may occur)
- Heart (ventricular fibrillation may occur)

General manifestations

- Immediately after a severe electric shock, patients are usually comatose, apnoeic and in circulatory collapse due to ventricular fibrillation or cardiac arrest.
- Hypovolaemic shock appears in cases of high-tension electrical injury.

- Bone fractures may occur, either due to falls at the time of the accident or from convulsive muscular contractures.

Local manifestations

- Thermal burn from arc or flash
- Coagulation, necrosis and haemorrhage
- Full-thinkness burn and/or deep-tissue injury along the path of conduction
- Ventricular fibrillation
- Cerebral oedema

Management

At the accident site, the electric current should be switched off and the patient removed from the site with a non-conducting material such as a wooden pole or a rubber sheet. Vital signs should be monitored and cardiopulmonary resuscitation performed if required.

Care of the wound

Small electrical burns of the extremities can be treated on an outpatient basis.

Mouth burns

- Provide adequate hydration.
- Give systemic antibiotics.
- Antimicrobial ointment may be applied locally.
- Arrange for feeding by nasogastric tube if necessary.

Major electrical burns

- Early debridement of non-viable tissue is essential.
- Use a tropical antibacterial ointment on the debrided area, and re-examine wounds daily for evidence of subsequent necrosis.
- Repeated debridement may be necessary to remove all necrotic tissue; the area is then covered by split-thickness or full-thickness grafts (tangential excision).

General management

- Give tetanus toxoid 0.5 ml i.m. to previously immunized patients and human tetanus immunoglobulin (Hyper-Tet), 100-250 iu i.m., to those who have not been immunized previously.
- Fluid and electrolyte losses are not significant in electrical burns. However, the patient must be monitored carefully for the development of shock, respiratory failure or cardiac arrest.
- In patients with major electrical burns, watch for the development of acute renal tubular necrosis; this occurs more frequently in electrical burns than thermal burns.

6. MANAGEMENT OF HYPERTENSIVE CRISIS

Hypertensive crises is characterized by:

- Severe progressive impairment of function in the kidneys, eyes, and brain.
- Sustained or sudden rise in diastolic pressure, usually to levels greater than 120 mmHg.

MANAGEMENT

Reduction of the diastolic arterial pressure to 100mmHg is all that should be attempted. The blood pressure may be lowered rapidly with one of the following:

- Sodium nitroprusside: freshly prepared 50 mg in 500 ml of dextrose 5% given as a continuous infusion. This is the most rapid means of lowering the blood pressure, but there is risk of cyanide poisoning, which is a rare complication and only occurs with overdosage.
- Hydralazine 10 mg IV to be repeated every 30 minutes as necessary.
- Diuretics: Frusemide 40-80 mg IV
- Beta-blockers: better reserved for patients who can take by mouth; nifedipine 10 mg given sublingually starts to lower the blood pressure within 10 minutes and can be repeated as required. Atenolol 100 mg is an alternative.

If the patient is comatose, transfer her/him to hospital. In the meantime, take the necessary measure for care of the comatosed patient.

7. MANAGEMENT OF COMPLETE AIRWAY OBSTRUCTION (SUFFOCATION)

Complete obstruction to the airway usually occurs during eating as a result of inhalation of food particles which obstruct the laryngeal opening or even the trachea. Suffocation may occur in infants and children when playing with small objects, e.g. marbles, buttons and uninflated balloons.

The condition is usually of sudden onset. The patient is unable to speak, cough or breathe, and usually puts a hand to the neck. The patient turns blue (cyanosis), and if not treated immediately will lose consciousness and the heart will stop.

Adult Conscious Patient: If possible, remove the obstruction by putting the finger into the mouth and then try slapping the patient forcibly between the shoulders several times (see figure a below). If this fails stand behind the patient with one foot between the patient's feet and apply the Heimlich technique or abdominal thrusts. Put your arms around the patient's waist in such a way that your fists lie on his or her stomach. Press inwards and upwards quickly and strongly 5-10 times, then relax (see figure below). This results in the escape of air from the lungs through the larynx, forcibly pushing the foreign body into the mouth. Repeat the process several times until the foreign body is ejected, or until the patient loses consciousness on his back and proceed as instructions given for unconscious patient, below.

Adult Unconscious Patient: With the patient lying on the back, try to clear the airway by hand and then by back blows (see figure below). If this is not possible, close the nose and start mouth-to-mouth artificial respiration. If this does not succeed in ventilating the patient and the airway is still obstructed, try the Heimlich technique. Kneeling beside the patient, place the heels of your hands one above the other on the patient's stomach, just below the sternum, and push forcibly and readily upwards and backwards several times (see figure below). If this manoeuvre succeeds, open the patient's mouth and extract the foreign body, then start mouth-to-mouth breathing. Check the patient's pulse. If it cannot be felt, start cardiopulmonary resuscitation.

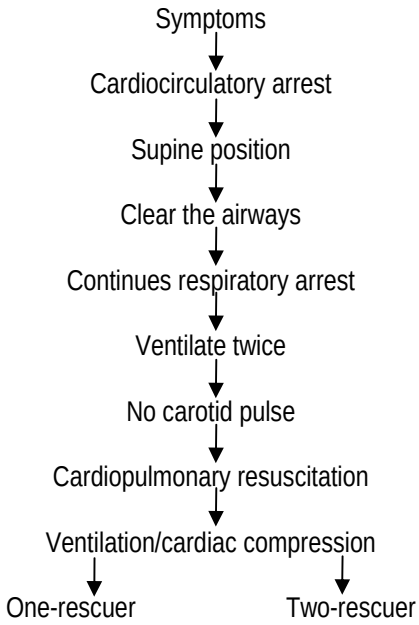
Infants: place the infant on his abdomen stretched on one of your arms so that his head is lower than his abdomen. Insert your index finger into the infant's mouth to keep it open. You can use your thigh to prevent the infant falling. With the heel of the other hand, slap the infant between the shoulders forcibly several times (see figure) repeat until the foreign body is ejected.

Mouth-to-mouth breathing should then be performed to ensure oxygenation. Check the pulse to ensure efficiency of the circulation. External cardiac massage may be indicated.

Children over 1 year of age: perform the Heimlich technique by abdominal thrusts as for adults.

8. MANAGEMENT OF CARDIAC ARREST

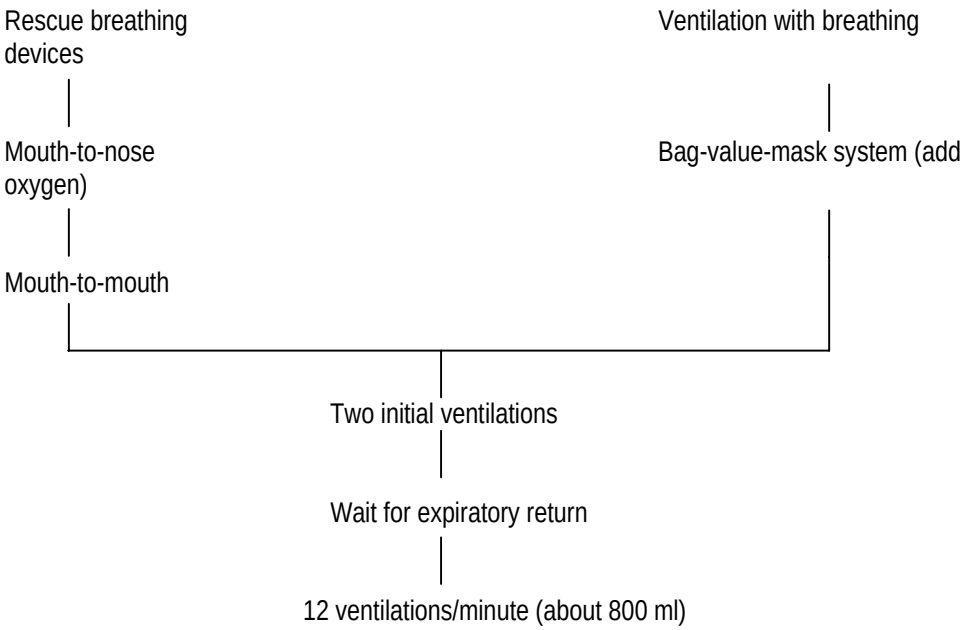
The brain can survive a lack of oxygen for 3-4 minutes only. Active energetic support of both ventilation and circulation must be started immediately, even if some doubts as to the condition exists. Following summarizes the steps to be taken in cardiac arrest.



The vital steps are: airway, breathing, circulation, in that order (figure). If help is available, attention should be given to ventilation and circulation at the same time. Otherwise, the first priority must be given to ventilatory support – airway any breathing. In other words adequate upper and lower airways must be established.

1. Clear the airway
   - Inspect the oropharynx
   - Remove foreign bodies
   - Tilt the head back
   - Pull chin forward
   - Heimlich manoeuvre for bolus obstruction

2. Maintain the airway
   - Nasopharyngeal airway
   - Oropharyngeal airway
   - Endotracheal intubation



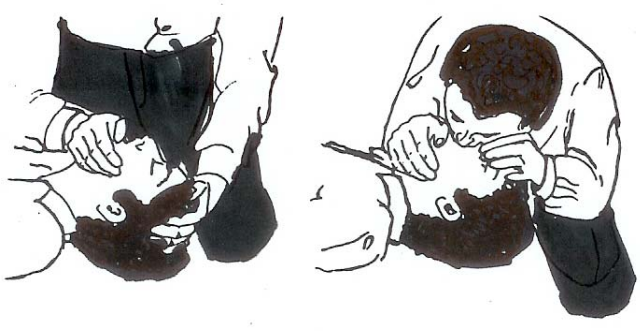
Check

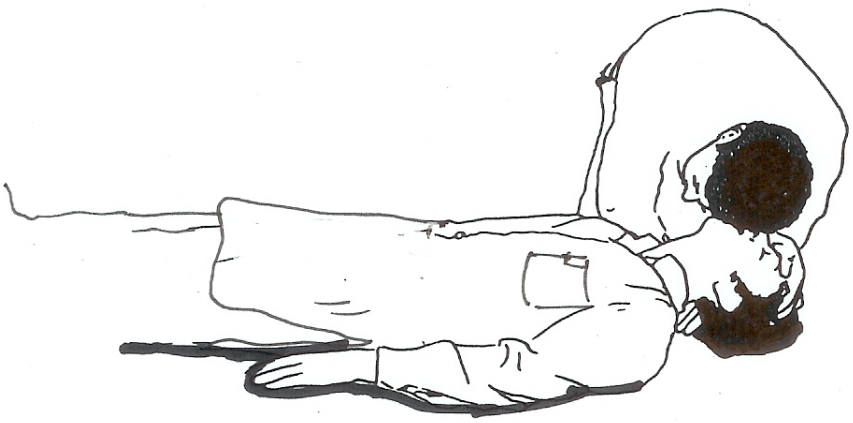
Control ventilation. Is it effective?
Do chest and abdomen rise and fall?
Is there an expiratory return of air?

Artificial respiration

In an emergency, once the upper airway is cleared, start mouth-to-mouth resuscitation as follows:

1. Hyperextend the patient's head (see figure a), pull the jaw forward and occlude the nostril with the fingers.
2. Cover the patient's open mouth with your own lips and exhale with a force and depth that will noticeably expand the patient's chest (see figure b).
3. Withdraw the mouth, allowing the patient's chest to contract. Repeat intermittently and regularly at a rate of 20 times per minute (see figure c).
4. in cases of severe maxillofacial injury initiate mouth-to-nose resuscitation (figure).

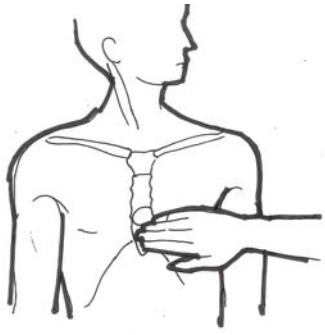




A self expanding Ambu bag, if available, is far superior to the mouth-to mouth or mouth-to-nose method.

Cardiac massage

Figures below show the location and execution of closed chest cardiac compression (massage).



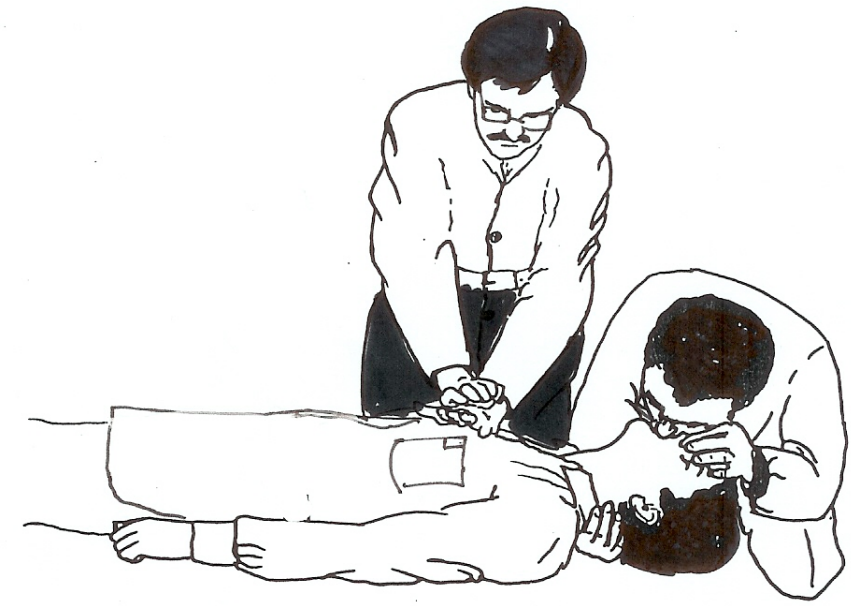
Procedure

1. Place the patient supine on a firm level surface.
2. The shoulders of the person applying pressure should be high, so that force can be applied with the arms straight and the elbows stiff.
3. Place the heel of one hand, with the other superimposed, on the lower third of the sternum.

Apply sharp downward force with the weight of the body, sufficient to depress the sternum 2.5-5 cm . release pressure promptly.

4. Repeat these short, sharp compressions rhythmically at a rate of 60-80/min.
5. After every three compressions, pause momentarily to permit mouth-to-mouth resuscitation and maximum lung expansion. If this is done properly a carotid or femoral pulse should return and blood pressure of at least 60-70 mmHg obtained.

Figures below show how to perform cardiopulmonary resuscitation, singly or in a pair.



Contraindications

- Certain chest injuries, such as a stab wound
- Wounds to the heart and major vessels, because bleeding and/or tamponade will be increased
- Tension pneumothorax
- Extensive traumatic diaphragmatic herniation
- Fractured ribs

9. FIRST AID FOR FRACTURES

1. Make the patient comfortable while waiting for the ambulance.
2. Ensure a clear airway.
3. Cover any wounds with clean dressings.
4. Immobilize any fractured limb or part.
5. Control any bleeding.

Immobilization relieves pain, prevents shock and avoids complications. When moving a patient with a fractured limb, pain is diminished if traction is applied to the limb while it is being moved. When a fracture of the spine is suspected special care is necessary to avoid injury to the spinal cord; the patient should be lifted bodily onto a firm surface, taking care to avoid both flexion and extension.

In the upper limbs support may be provided by bandaging the arm to the chest, or, in the case of forearm by improvising a sling. In the lower limbs temporary immobilization of the long bones is conveniently arranged by bandaging the two limbs together, so that the sound limbs forms a splint for the injured where available, otherwise make a wooden splint from sticks, boards etc. (see Splinting below.)

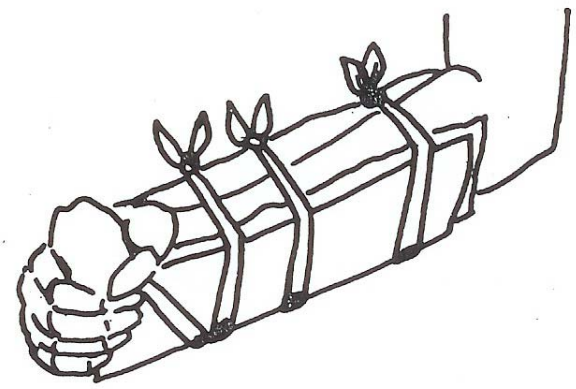
In compound fractures bleeding should be stopped and sterile dressings applied. Bones protruding through the skin should not be reduced at the site of accident; a sterile dressing should be applied to prevent contamination and infection.

Antishock measures should be taken, e.g. morphine, infusions, while the patient is being transferred to hospital for definitive treatment.

Splinting

Standard splints:

- A coaptation splint consists of a padded board or a rigid piece of material appropriately bandaged to the limb



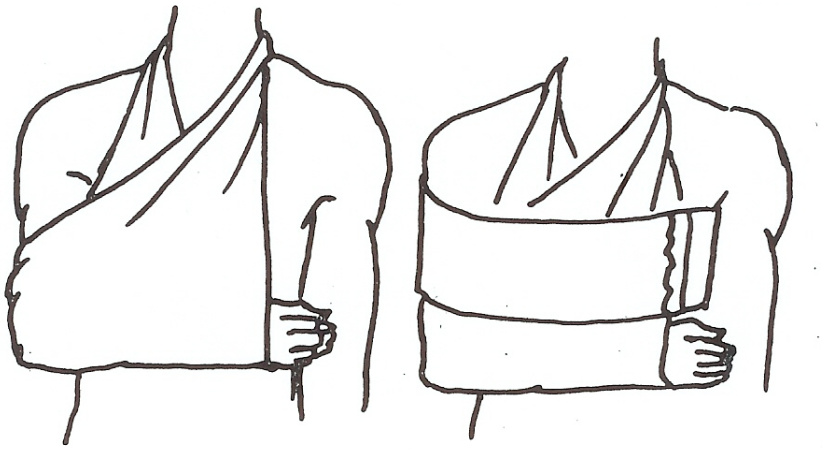
- A traction splint (Thomas splint) is a half-ring splint used to provide continuous traction to a broken lower limb
- An air splint is a form of coaptation splint and consists of a plastic, airtight cylindrical bag with an air intake valve. An air splint is closed over the limb by a zipper and inflated by blowing air through the mouth tube. The air valve is closed by twisting the tube. A mechanical pump should never be used to inflate the splint because of the danger of excessive inflation leading to circulatory constriction.

Improvised splints: In emergency situations, particularly outside the hospital where standard splints are not available, splints improvised from materials available should be used.

Shoulder, arm and elbow
Standard splinting: The arm should be held close to the chest with the elbow at a right angle and a sling should be applied (see figure a below). If the elbow has assumed a straight position because of an injury to the elbow, the entire limb (arm, elbow and forearm) should be bandaged to the body without disturbing the position of the elbow. If available, a short padded-board splint should be bandaged to the front and back of the arm.

If a wire ladder is available, it should be bent to match the angle at the elbow, forearm and hand with a bandage; the arm can then be placed in a sling or swathe.

Improvised splinting: A sling can be made by turning up the front portion of the patient's shirt or blouse and pinning it to itself. Bandaging the limb to the chest is more comfortable for the patient (see figure below)

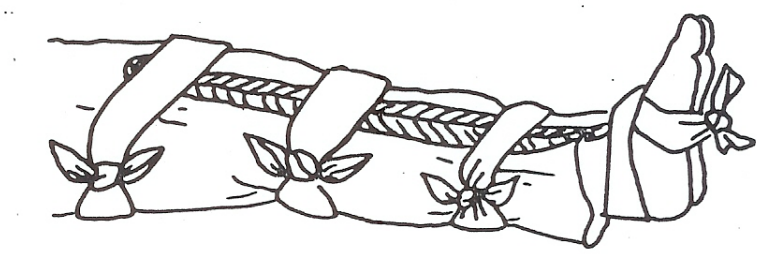


Forearm, wrist and hand
Standard splinting: The forearm is placed in a sling; the elbow should be kept at a right angle.

Improvised splinting: If boards of the proper length are not available, a magazine or heavy newspaper may be used around the forearm and hand and held in place with a bandage or adhesive tape. A sling used to hold the forearm.

Hip, thigh and knee
Standard splinting: A traction splint is the most effective.

Improvised splinting: Coaptation splints with padded boards can be used. A long board is placed on the lateral side of the injured limb and trunk, extending from the lower thorax to the foot. Shorter boards are placed on the inner and back sides of the limb. All three boards are then bandaged; the long board should also be bandaged to the trunk. If no kind of splint is available, the injured limb may be bandaged to the uninjured limb; folded towels or small blankets and sheets are placed between them at pressure points, such as knee and ankle. The feet should be secured with a bandage.



Leg

Standard splinting: A well-padded posterior gutter splint made of metal is useful for fractures of the leg. This should extend from the middle of the thigh to the ankle. The limb is held in the splint by bandages.

Improvised splinting: Padded- board splints are placed on each side of the limb and kept in place by bandages. When boards are unavailable a pillow splint is also highly effective, particularly for fractures of the lower third of the leg. The pillow should be long enough to extend from above the knee to a few inches beyond the heel. The pillow is bandaged to the limb and around the heel it is then turned upward and pinned to itself so that it provides some support to the foot. Again, if materials are not available at all, the injured limb may be bandaged to the uninjured limb.

Ankle and foot

Standard splinting: A well-padded short posterior gutter splint of aluminium is used for fractures of the ankle and foot.

Improvised splinting: A pillow splint is quite effective. It should extend from the upper portion of the calf to the heel. The pillow is bandaged to the leg, and the portion projecting beyond the foot is folded and pinned to itself so that it supports the foot in a position close to a right angle.

Open Fractures

An open fracture is usually associated with severe haemorrhage and shock. It is very important to control the haemorrhage, provide adequate breathing, and start management of shock before splinting or dressing the wound.

1. An open fracture should be covered with a sterile, saline-soaked dressing and a pressure bandage that should not be so tight that it acts as a tourniquet. The protruding fragment of bone should not be pushed back into the wound.

2. The fractured part may be splinted. An air splint is preferred to other splints where it is available.
3. Tetanus toxoid should be given, depending on the immunization status of the patient.
4. A patient with an open fracture should be treated with antibiotics prophylactically. Once a suspected fracture is confirmed, or vital signs have become stable in patients with an open fracture, an orthopaedic surgeon should be consulted for further management.

10. FIRST AID FOR DISLOCATIONS

A dislocation is the displacement of the joint; it may be complete or incomplete. Dislocation is caused by:

- Trauma
- Congenitally weak or deficient ligaments
- Neuromuscular disorder or weakness

Dislocation as a result of severe trauma is associated with haemorrhage and soft-tissue injury. Arterial or nerve injury may complicate dislocation of the joint.

Clinical picture

There is pain at the side of injury after a history of trauma, for example, a fall on the outstretched arm or a car accident. A child may sustain a dislocation if the arms are pulled rapidly. There may be a deformity in the affected joint, loss of function, and muscle spasm around the joint.

Management

1. Determine the status of the arterial pulsations and neurological deficit distal to the site of injury.
2. Splint the extremity in the position in which it is found, to protect it from further injury and to minimize the pain.
3. Refer to an orthopaedic surgeon.

11. ANTENATAL CARE

FIRST ANTENATAL VISIT

Guide for “top to toe” physical check up

Examine	Look for	Findings	Your Action
Head	Skin disease	Present	Need for Diagnosis and treatment**
	Lice, nits, dirt	Present, Points to the need for health education and check up of the children’s heads	Prescribe delousing treatment. Advise checking children’s head also and for personal hygiene.
Eyes	Infection	Present	Need for diagnosis and treatment**
	Anaemia	Present	If mild, give iron and folic acid supplement. If severe, then need for diagnosis and treatment**
	Jaundice	Present	**

Face	Pigmentation	Present (one of the presumptive signs of pregnancy.)	No action needed
	Oedema	Points to pre-eclampsia	Check blood pressure and urine for proteins. If B.P is high along with proteinuria, need for diagnosis and treatment**
Mouth	Dental decay	Present	**
Neck	Enlarged gland	Goiter/Lymph nodes	**
Nails	Colour	Pale or white---anaemia	**
	Shape	Arched---clubbing flat or spoon shaped---	**
Pulse	Rate and rhythm	Slow or weak and/or irregular pulse might indicate heart disease	**
Blood Pressure	Systolic/ Diastolic	If more than 140/90 mmHg	**
Weight	Unexpected change	Less of excessive gain	Need for advice and/or diagnosis and treatment**
Height	Less than 5 feet	Points to inadequate pelvis	Send for pelvic assessment
Breasts	Areola	Darkening: sign of early pregnancy (only in the primigravida)	No action needed
	Nipples (shape)	Depressed need correction in preparation for breast feeding	Give guidance
	Mass	Present	**
Respiration	Respiratory rate and type	Difficulty in breathing	**
Abdomen (Inspection, palpation)	Scars	If present: previous caesarean section or surgery	Get medical opinion for place of delivery
	Shape	Grossly enlarged	Need for medical opinion**
	Size (measure symphysio fundal height to determine weeks of gestation	Not corresponding to gestational age	Need for medical opinion**
	Lie & Presentation of the fetus	Abnormal lie or presentation after 36 weeks	**
	Presence of fetal heart sounds	If absent at or after 28 weeks of gestation	**
	Liver and spleen	Palpable / enlarged	**
	Mass other than pregnant uterus	Present	**
Legs	Varicose veins	Present	Need for advice
	Oedema	Present	Need for advice/treatment**

Inspection of Vulva	Vaginal discharge	Unusal Amount/colour/smell	Needs further Investigations
	Warts	Present: Indication of STI	**
General observation	Skin infection or disease	Might suggest infection of allergy or worm infestation	**
Urine (use multistick)	Albumin and sugar	If present	**

** Medical consultation needed whenever there is need for "Diagnosis and treatment" or need for "Medical opinion". Refer the mother to the doctor within your facility or the nearest appropriate facility.

CARE OF THE MOTHER IN ANTE-NATAL CLINIC SUBSEQUENT VISITS

1. Greet the woman and make her comfortable
2. Take information and record on Client's card
3. Enquire about complaints that might require medical attention and/or reassurance
4. Check reports of investigations ordered on first visit if unsatisfactory then refer for medical consultation
5. Check that is she following the advice given during first visit about:
   - Food habits and nutrition
   - Taking Iron, Folic acid, Calcium and Vitamins
   - Instructions/ advice given by doctor if already referred for medical consultation
6. Ask the woman to empty her urinary bladder
7. Carry out physical examination according to the needs identified in the first visit and record findings (see guide for "Examination of the women on subsequent antenatal visit)
8. Order laboratory test i.e. Urine Test and Hb% (according to the need of the woman)
9. Give tetanus toxoid (second dose according to the need of the woman)
10. Give/reinforce advice for breast feeding
11. Counsel woman and family to make a birth plan to include:
    - Decision for place of delivery (Instituition/home)
    - Selection of skilled birth attendant (Doctor/midwife)
    - Selection of a companion during labour and child birth
    - Savings (regularly every week/month as needed)
    - Two family members or friends willing to give blood
    - Arrangement for transport in normal or emergency situation

12. Refer to the next level of car/services if indicated (from the midwife to the doctor within your facility or to another facility)
13. Give appointment for the next visit

SUBSEQUENT ANTENATAL VISIT

Guide for Physical Examination

Examine/check	Look for	Findings	Your Action
Head	Skin disease	Present	Need for Diagnosis and treatment**
	Lice, nits, dirt	Present, Points to the need for health education and check up of the children's heads	Prescribe delousing treatment. Advise checking children's head also and for personal hygiene.
Eyes	Infection	Present	Need for diagnosis and treatment**
	Anaemia	Present	If mild, give iron and folic acid supplement. If severe, then need for diagnosis and treatment**
	Jaundice	Present	**
Face	Oedema	Points to pre-eclampsia	Check blood pressure and urine for proteins. If B.P is high along with proteinuria. Need for diagnosis and treatment**
Pulse	Rate and rhythm	Slow or weak and/or irregular pulse might indicate heart disease	**
Blood Pressure	Systolic/ Diastolic	If more than 140/90 mmHg	**
Weight	Unexpected change	Less of excessive gain	Need for advice and/or diagnosis and treatment**
Breasts If any special instructions given during first visit	Areola/ Nipples/ Mass		Encourage the woman to follow guidance/advice if given during first visit
Respiration	Respiratory Rate and type	Difficulty in breathing	**
Abdomen (Inspection, palpation)	Shape	Grossly enlarged	Need for medical opinion**
	Size (measure symphysio fundal height to determine weeks of gestation	Not corresponding to gestational age	Need for medical opinion**
	Lie & Presentation of the fetus	Abnormal lie or presentation after 36 weeks	**

	Presence of fetal heart sounds	If absent at or after 28 weeks of gestation	**
Legs	Varicose veins	Present	Need for advice
	Oedema	Present	Need for advice/treatment**
Inspection of Vulva	Vaginal discharge	Unusal Amount/colour/smell	Needs further Investigations
General observation	Skin infection or disease	Might suggest infection of allergy or worm infestation	**
Urine (use multistick)	Albumin and sugar	If present	**
Status of Tetanus Toxoid	-	-	Give the dose according to the need of the woman

** Medical consultation needed whenever there is need for “Diagnosis and treatment” or need for “Medical opinion”. Refer the mother to the doctor within your facility or the nearest appropriate facility.

12. PRINCIPLES FOR COUNSELING FOR FAMILY PLANNING

1. Treat each client well. Be polite, show respect for every client, and create a feeling of trust. Encourage the client that she or he can speak openly, even about sensitive matters. Speaks openly and answer questions patiently and fully. Also, assure the client that nothing she or he says will be discussed with others inside or outside the clinic.

2. Interact. Listens, learn, and responds to the client. Each client is a different person. A provider can help best by understanding that person's needs, concerns, and situation. Therefore encourage clients to talk and ask questions.

3. Tailor information to the client. Listening to the client, learn what information each client needs. Also, the stage of a person's life suggests what information may be most important. For example, a young newly married woman may want to know more about temporary methods of birth spacing. An older woman may want to know more about female sterilization and vasectomy. The provider gives the information accurately in language that the client understands.

Also help the client understand how information applies to his or her own personal situation and daily life. This personalizing of information bridges the gap between the provider's knowledge and the client's understanding.

4. Avoid too much information. Clients need information to make informed choices. But no client can use all information about every family planning method. Too much information makes it hard to remember really important information. This has been called "information overload." Also when the provider spends all the time giving information, little time is left for discussion or for the client's questions, concerns, and opinions.

5. Provide the method that the client wants. One important purpose of family planning counseling is to help the client make their own informed choices about reproductive health and family planning, and the provider respects those choices – even if a client decides against using family planning or puts of a decision.

"Informed" means that:

- Clients have the clear, accurate, and specific information that they need to make their own reproductive choices including a choice among family planning methods. Good-quality family planning programs can explain each family planning method as needed – without information overload – and can help clients use each method effectively and safely.
- Clients understand their own needs because they have thought about their situations. Through person-to-person discussions and counseling and through mass-media messages, good-quality family planning programs help clients match family planning methods with their needs.

"Choice" means that:

- Clients have a range of family planning methods to choose from. Good quality family planning services offer different methods to suit people's differing needs not just 1 or 2 methods .If programs cannot provide a method or service; they refer clients somewhere else for that method.

- Clients make their own decisions. Family planning providers help clients think through decisions, but they do not pressure clients to make a certain choice or to use a certain method.

Most new clients already have a family planning method in mind. Good counseling about method choice starts with that method. Then, in the course of counseling, the provider checks whether the clients has conditions that might make use of the method not medically appropriate as well as whether the clients understands the method and how it is used. Counseling also addresses advantages and disadvantages, health benefits, risks, and side effects. The provider also may help the client think about other, similar methods and compare them. In this way the provider makes sure that the client is making an informed choice. If there is no medical reason against it, clients should have the methods that they want. When clients get the methods they want, they use them longer and more effectively.

Different Methods of Family Planning are:

Contraceptive Methods	For Women	For Men
A. Clinical Methods	1. Oral Pills	
	2. Injections	
	3. Norplant	
	4. Intra-uterine devices (IUD)	
B. Conventional Methods	1. Foam tablets	1. Withdrawal or Azl
	2. Aerosol Foam	2. Condom
	3. Diaphragm	
	4. Cream and jelly	
C. Surgical Methods	1. Tubal ligation	1. Vasectomy
D. Physiological Methods	1. Safe period	1. Observe safe period
	2. Basal Body Temperature	
	3. Cervical Mucous Method	
	4. Lactational Amennorhoea Method (LAM)	

6. Help the clients understand and remember: The provider shows sample family planning materials, encourages the clients to handle them, and shows how they are used. Also, the provider shows and explains flip charts, posters, or simple pamphlets or printed pages with pictures. From time to time, the provider checks that the client understands. If the client can be given print materials to take home, they help remind clients what to do. They can be shared with others, too.

13. National Treatment Guidelines for TB

1. Start TB treatment after a firm diagnosis has been made DO NOT give chemotherapy for TB as trail.

2. For TB patient the requirements for adequate chemotherapy are:
   - An appropriate combination of anti tuberculosis medications to prevent the development of resistance to those medications
   - Prescribed in correct dosage
   - Taken regularly as prescribed
   - For prescribed period to prevent relapse of the disease after the completion of treatment.

Regular supervision is required to ensure that the patient actually takes all the drugs prescribed. Directly observed therapy (DOT) should be ensured.

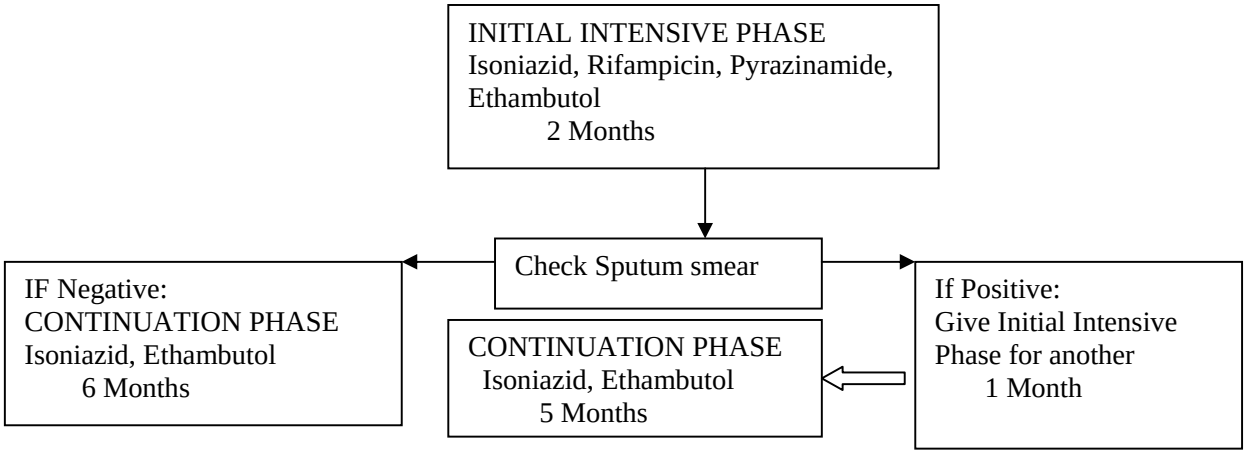
TB patients can be categorized into 2 major groups:

New cases: Patients who have never received treatment for tuberculosis, or taken it for less than 4 weeks. This group includes the following:

- Smear positive pulmonary tuberculosis: A patient with at least two sputum specimens positive for acid fast bacilli (AFB) by microscopy or radiographic abnormalities consistent with pulmonary tuberculosis with one sputum specimen positive for AFB.

- Smear negative pulmonary tuberculosis: A patient with clinical and radiographic abnormalities consistent with active pulmonary tuberculosis, but at least three sputum specimens negative for AFB by microscopy and no clinical response to a 7 day course of broad spectrum antibiotics.

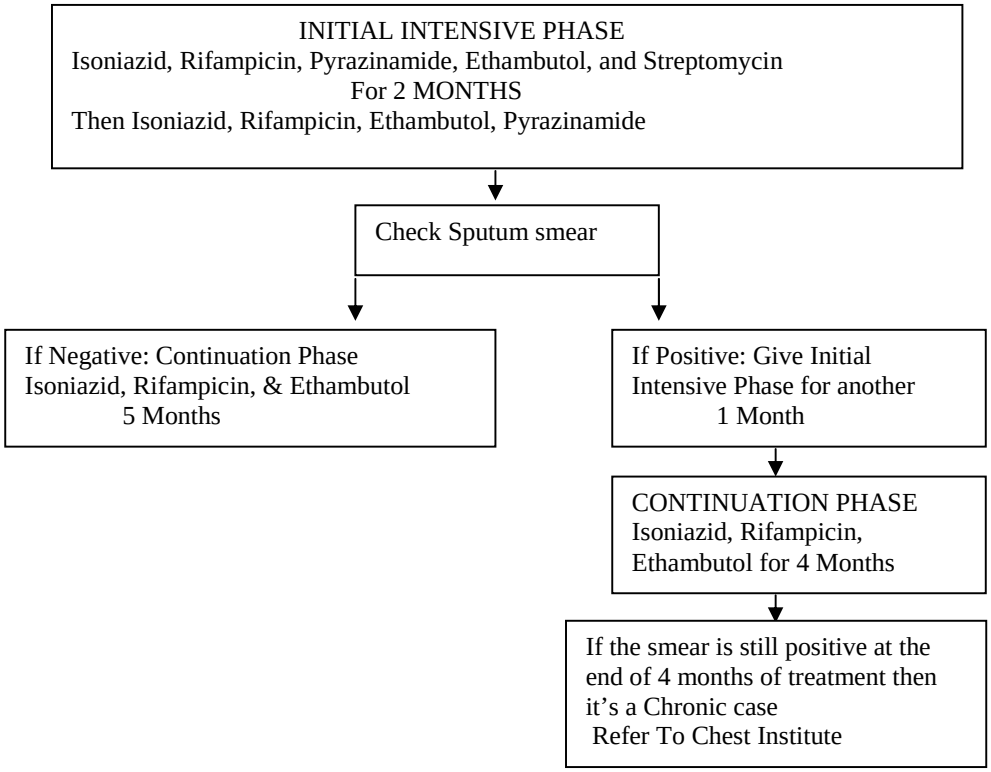
- Extra-pulmonary tuberculosis: A patient with one bacterial culture positive specimen from extra- pulmonary site or a patient with histological and / or clinical evidence consistent with active extra pulmonary tuberculosis.



Re-treatment Cases: Patients who have taken treatment in the past. This group includes the following:

- Relapses
- Treatment failures
- Return after default patients who have taken ATT for more than one month, before default
- Other (positive).

The treatment recommended for this group of patients is also 8 months short course chemotherapy (SCC).



Drugs: The first line of drugs used in the treatment of tuberculosis consists of Isoniazid (H), Rifampicin (R), Streptomycin (S) and Ethambutol (E).

Drugs	Dosage (mg/kg)
Isoniazid (H)	05(4-6)
Rifampicin (R)	10(8-12)
Ethambutol (E)	15(15-20)
Pyrazinamide (Z)	25(20-30)
Streptomycin (S)	15(12-18)

14. INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESSES (IMCI)

(see following pages)

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

SICK CHILD
AGE 2 MONTHS UP TO 5 YEARS

ASSESS AND CLASSIFY THE SICK CHILD

TREAT THE CHILD

TREAT THE CHILD, continued

COUNSEL THE MOTHER

Ministry of Health Pakistan | World Health Organization | UNICEF

SICK YOUNG INFANT
AGE LESS THEN 2 MONTHS

ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT

October 2005

ASSESS AND CLASSIFY THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

ASSESS

CLASSIFY

IDENTIFY TREATMENT

ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
  - if follow-up visit, use the follow-up instructions on *FOLLOW-UP* chart.
  - if initial visit, assess the child as follows:

USE ALL BOXES THAT MATCH THE CHILD'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

CHECK FOR GENERAL DANGER SIGNS

ASK:
- Is the child not able to drink or breastfeed?
- Does the child vomit everything?
- Has the child had convulsions?

LOOK:
- See if the child is lethargic or unconscious
- See if the child is convulsing now

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold and italic print.)
• Any general danger sign	VERY SEVERE DISEASE	▸ ***Treat convulsions if present now.*** ▸ ***Complete assessment immediately*** ▸ ***Give first dose of an appropriate antibiotic.*** ▸ ***Treat the child to prevent low blood sugar.*** ▸ ***Refer URGENTLY to hospital.***

THEN ASK ABOUT MAIN SYMPTOMS: Does the child have cough or difficult breathing?

IF YES, ASK:
- For how long?

LOOK, LISTEN:
- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor
- Look and listen for wheeze.

CHILD MUST BE CALM

Classify COUGH or DIFFICULT BREATHING

If the child is:	Fast breathing is:
2 months up to 12 months	50 breaths per minute or more
12 months up to 5 years	40 breaths per minute or more

SIGNS	CLASSIFY AS	TREATMENT
• Any general danger sign or • Stridor in calm child or • Chest indrawing (if wheeze go directly to treat wheezing)	SEVERE PNEUMONIA OR VERY SEVERE DISEASE	▸ ***Give first dose of an appropriate antibiotic.*** ▸ ***Treat wheezing if present*** ▸ ***Treat the child to prevent low blood sugar.*** ▸ ***Refer URGENTLY to hospital.****
• Fast breathing. (if wheeze go directly to treat wheezing)	PNEUMONIA	▸ ***Give an appropriate antibiotic for 5 days*** ▸ ***Treat wheezing if present.*** ▸ Soothe the throat and relieve the cough with a safe remedy ▸ Advise mother when to return immediately. ▸ Follow-up in 2 days.
• No signs of pneumonia or very severe disease. (if wheeze go directly to treat wheezing)	NO PNEUMONIA: COUGH OR COLD	▸ ***Treat wheezing if present.*** ▸ If coughing more than 30 days, refer for assessment. ▸ Soothe the throat and relieve the cough with a safe remedy. ▸ Advise mother when to return immediately. ▸ For wheezing now, follow-up in 2 days. ▸ Follow-up in 5 days if not improving.

Does the child have diarrhoea?

IF YES, ASK:	LOOK AND FEEL:
• For how long? • Is there blood in the stool?	• Look at the child's general condition. Is the child: Lethargic or unconscious? Restless and irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: Not able to drink or drinking poorly? Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?

Classify DIARRHOEA

for DEHYDRATION		
Two of the following signs: • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly.	**SEVERE DEHYDRATION**	▶ If child has no other severe classification: - Give fluid for severe dehydration (Plan C). OR ***If child also has another severe classification:*** ***- Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way. Advise the mother to continue breastfeeding.*** ▶ ***If child is 2 years or older and there is cholera in your area, give antibiotic for cholera.***
Two of the following signs: • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly.	**SOME DEHYDRATION**	▶ Give fluid and food for some dehydration (Plan B). ▶ ***If child also has a severe classification:*** ***- Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way. Advise the mother to continue breastfeeding.*** ▶ Advise mother when to return immediately. ▶ Follow-up in 2 days if not improving.
Not enough signs to classify as some or severe dehydration.	**NO DEHYDRATION**	▶ Give fluid and food to treat diarrhoea at home (Plan A). ▶ Advise mother when to return immediately. ▶ Follow-up in 2 days if not improving.
and if diarrhoea 14 days or more		
• Dehydration present.	**SEVERE PERSISTENT DIARRHOEA**	▶ Treat dehydration before referral unless the child has another severe classification. ▶ Refer to hospital.
• No dehydration.	**PERSISTENT DIARRHOEA**	▶ Advise the mother on feeding a child who has PERSISTENT DIARRHOEA. ▶ Give multivitamin, mineral supplement for two weeks ▶ Advise mother when to return immediately ▶ Follow-up in 5 days.
and if blood in stool		
• Blood in the stool.	**DYSENTERY**	▶ ***Treat for 5 days with an oral antibiotic recommended for Shigella.*** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days.

If referral is not possible, manage the child as described in **Integrated Management of Childhood Illness, Treat the Child, Annex: Where Referral Is Not Possible, and WHO guidelines for inpatient care.*

DANGER SIGNS, COUGH
DIARRHOEA

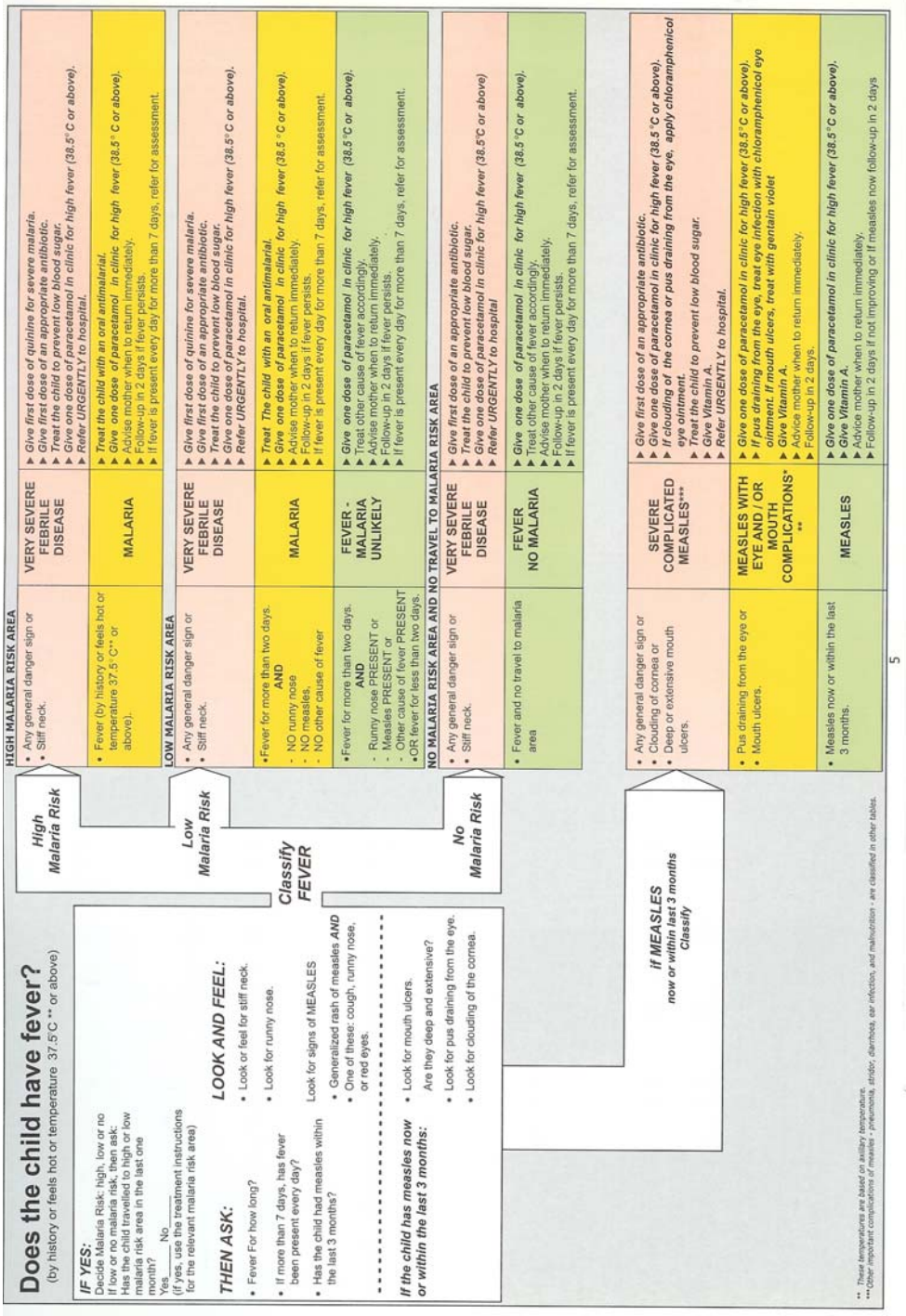
ASSESS AND CLASSIFY

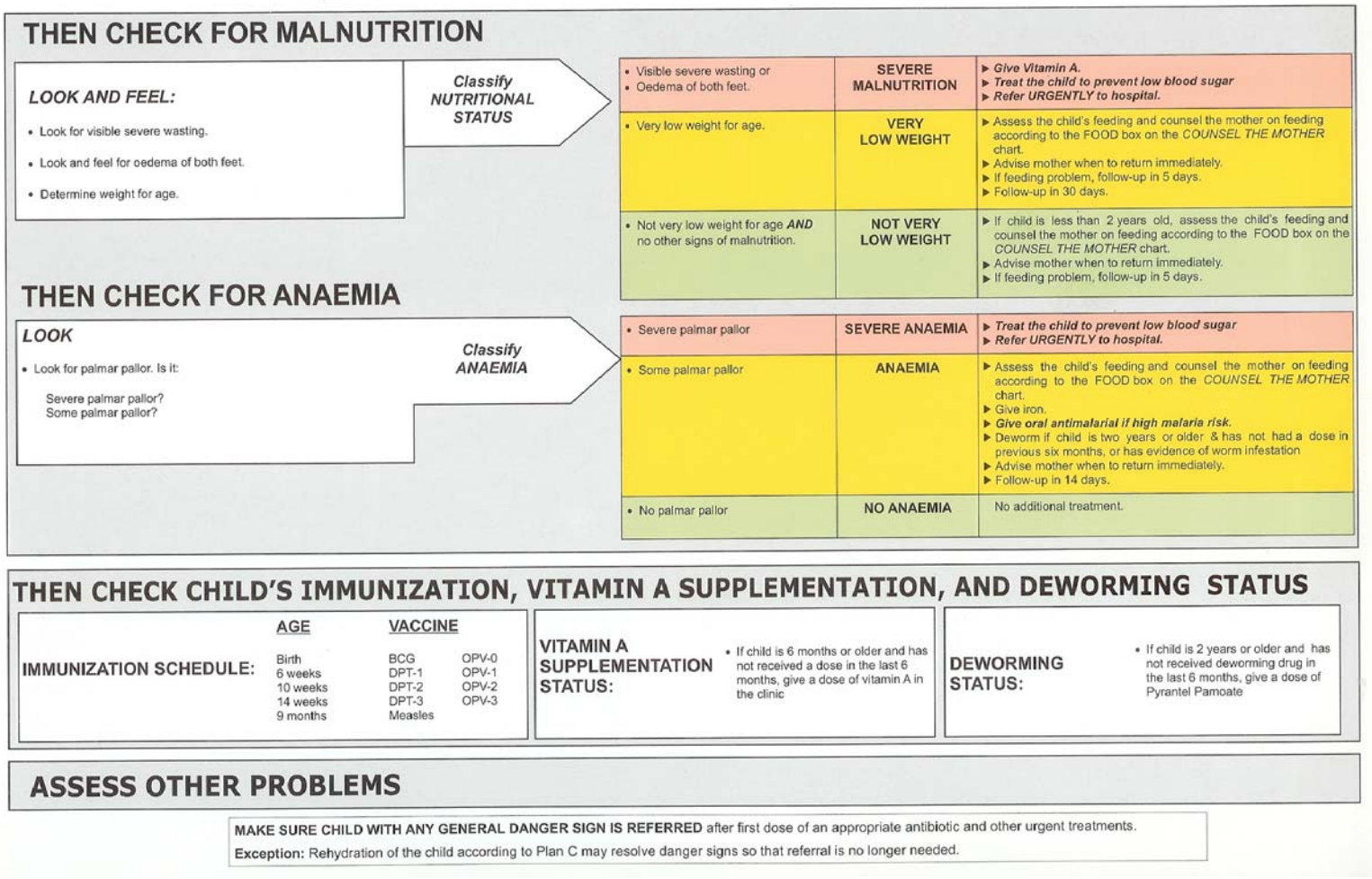
Does the child have throat problem:

IF YES, ASK:	LOOK AND FEEL:	Classify SORE THROAT		
• Does the child have sore throat? • Is the child not able to drink? • Does the child have fever?	• Fever (temperature 37.5°C or above). • Feel the front of the neck for tender enlarged lymph nodes. • Look for red, enlarged tonsils • Look for exudate on the throat.	• Sore throat **AND** not able to drink	THROAT ABSCESS	▶ ***Give first dose of an appropriate antibiotic.*** ▶ ***Treat the child to prevent low blood sugar.*** ▶ ***Give first dose of paracetamol for high fever or pain.*** ▶ ***Refer URGENTLY to hospital.***
		Fever and/ or sore throat **AND** at least two of the following signs. • Tender, enlarged lymph nodes on neck. • Red, enlarged tonsils. • White exudate on throat.	STREPTOCOCCAL SORE THROAT	▶ ***Give benzathine penicillin or Amoxycillin.*** ▶ Give paracetamol for high fever or pain. ▶ Give safe, soothing remedy for sore throat. ▶ Advice mother when to return immediately ▶ Follow-up in 5 days if not improving.
		• Not enough signs to classify as throat abscess or streptococcal sore throat.	VIRAL SORE THROAT	▶ Give safe, soothing remedy for sore throat. ▶ Give paracetamol for high fever or pain. ▶ Advice mother when to return immediately. ▶ Follow-up in 5 days, if not improving.
		• No signs present (with or without fever)	NO THROAT PROBLEMS	▶ No additional treatment.

Does the child have an ear problem?

IF YES, ASK:	LOOK AND FEEL:	Classify EAR PROBLEM		
• Is there severe ear pain? • Is there ear discharge? If yes, for how long?	• Look for pus draining from the ear. • Feel for tender swelling behind the ear.	• Tender swelling behind the ear.	MASTOIDITIS	▶ ***Give first dose of an appropriate antibiotic.*** ▶ ***Treat the child to prevent low blood sugar.*** ▶ ***Give first dose of paracetamol for high fever or pain.*** ▶ ***Refer URGENTLY to hospital.***
		• Pus is seen draining from the ear and/or discharge is reported for less than 14 days, **OR** • **Severe ear pain.**	ACUTE EAR INFECTION	▶ ***Give an antibiotic for 5 days.*** ▶ Give paracetamol for high fever or pain. ▶ Dry the ear by wicking. ▶ Advise mother when to return immediately. ▶ Follow-up in 5 days.
		• Discharge is reported for 14 or more days (pus is seen or not seen draining from the ear).	CHRONIC EAR INFECTION	▶ Dry the ear by wicking if pus seen draining from the ear ▶ Giver paracetamol for high fever or pain ▶ Refer to Ear Nose & Throat specialist. ▶ Follow-up in 5 days.
		• No ear pain and No pus draining from the ear.	NO EAR INFECTION	▶ If any other ear problem present give appropriate treatment for refer to Ear Nose & Throat specialist.


Does the child have fever?
(by history or feels hot or temperature 37.5°C ** or above)
IF YES:
Decide Malaria Risk: high, low or no
If low or no malaria risk, then ask:
Has the child travelled to high or low malaria risk area in the last one month?
Yes____ No____
(if yes, use the treatment instructions for the relevant malaria risk area)
THEN ASK:
• Fever For how long?
• If more than 7 days, has fever been present every day?
• Has the child had measles within the last 3 months?
LOOK AND FEEL:
• Look or feel for stiff neck.
• Look for runny nose.
Look for signs of MEASLES
• Generalized rash of measles AND
• One of these: cough, runny nose, or red eyes.
If the child has measles now or within the last 3 months:
• Look for mouth ulcers.
Are they deep and extensive?
• Look for pus draining from the eye.
• Look for clouding of the cornea.
Classify FEVER
High Malaria Risk
HIGH MALARIA RISK AREA
• Any general danger sign or
• Stiff neck.
• Fever (by history or feels hot or temperature 37.5°C** or above).
VERY SEVERE FEBRILE DISEASE
MALARIA
▶ Give first dose of quinine for severe malaria.
▶ Give first dose of an appropriate antibiotic.
▶ Treat the child to prevent low blood sugar.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Refer URGENTLY to hospital.
▶ Treat the child with an oral antimalarial.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Advise mother when to return immediately.
▶ Follow-up in 2 days if fever persists.
▶ If fever is present every day for more than 7 days, refer for assessment.
Low Malaria Risk
LOW MALARIA RISK AREA
• Any general danger sign or
• Stiff neck.
•Fever for more than two days.
AND
- NO runny nose
- NO measles,
- NO other cause of fever
•Fever for more than two days.
AND
- Runny nose PRESENT or
- Measles PRESENT or
- Other cause of fever PRESENT
•OR fever for less than two days.
VERY SEVERE FEBRILE DISEASE
MALARIA
FEVER - MALARIA UNLIKELY
▶ Give first dose of quinine for severe malaria.
▶ Give first dose of an appropriate antibiotic.
▶ Treat the child to prevent low blood sugar.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Refer URGENTLY to hospital.
▶ Treat The child with an oral antimalarial.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Advise mother when to return immediately.
▶ Follow-up in 2 days if fever persists.
▶ If fever is present every day for more than 7 days, refer for assessment.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Treat other cause of fever accordingly.
▶ Advise mother when to return immediately.
▶ Follow-up in 2 days if fever persists.
▶ If fever is present every day for more than 7 days. refer for assessment.
No Malaria Risk
NO MALARIA RISK AREA AND NO TRAVEL TO MALARIA RISK AREA
• Any general danger sign or
• Stiff neck.
• Fever and no travel to malaria area
VERY SEVERE FEBRILE DISEASE
FEVER NO MALARIA
▶ Give first dose of an appropriate antibiotic.
▶ Treat the child to prevent low blood sugar.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above)
▶ Refer URGENTLY to hospital
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Treat other cause of fever accordingly.
▶ Advise mother when to return immediately.
▶ Follow-up in 2 days if fever persists.
▶ If fever is present every day for more than 7 days, refer for assessment.
if MEASLES
now or within last 3 months
Classify
• Any general danger sign or
• Clouding of cornea or
• Deep or extensive mouth ulcers.
• Pus draining from the eye or
• Mouth ulcers.
• Measles now or within the last 3 months.
SEVERE COMPLICATED MEASLES***
MEASLES WITH EYE AND / OR MOUTH COMPLICATIONS** **
MEASLES
▶ Give first dose of an appropriate antibiotic.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ If clouding of the cornea or pus draining from the eye, apply chloramphenicol eye ointment.
▶ Treat the child to prevent low blood sugar.
▶ Give Vitamin A.
▶ Refer URGENTLY to hospital.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ If pus draining from the eye, treat eye infection with chloramphenicol eye ointment. If mouth ulcers, treat with gentain violet
▶ Give Vitamin A.
▶ Advice mother when to return immediately.
▶ Follow-up in 2 days.
▶ Give one dose of paracetamol in clinic for high fever (38.5°C or above).
▶ Give Vitamin A.
▶ Advice mother when to return immediately.
▶ Follow-up in 2 days if not improving or if measles now follow-up in 2 days
**. These temperatures are based on axillary temperature.
***Other important complications of measles - pneumonia, stridor, diarrhoea, ear infection, and malnutrition - are classified in other tables.
5



THEN CHECK FOR MALNUTRITION

LOOK AND FEEL:

- Look for visible severe wasting.
- Look and feel for oedema of both feet.
- Determine weight for age.

Classify NUTRITIONAL STATUS

• Visible severe wasting or • Oedema of both feet.	**SEVERE MALNUTRITION**	▶ ***Give Vitamin A.*** ▶ ***Treat the child to prevent low blood sugar*** ▶ ***Refer URGENTLY to hospital.***
• Very low weight for age.	**VERY LOW WEIGHT**	▶ Assess the child's feeding and counsel the mother on feeding according to the FOOD box on the *COUNSEL THE MOTHER* chart. ▶ Advise mother when to return immediately. ▶ If feeding problem, follow-up in 5 days. ▶ Follow-up in 30 days.
• Not very low weight for age ***AND*** no other signs of malnutrition.	**NOT VERY LOW WEIGHT**	▶ If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the FOOD box on the *COUNSEL THE MOTHER* chart. ▶ Advise mother when to return immediately. ▶ If feeding problem, follow-up in 5 days.

THEN CHECK FOR ANAEMIA

LOOK

- Look for palmar pallor. Is it:

  Severe palmar pallor?
  Some palmar pallor?

Classify ANAEMIA

• Severe palmar pallor	**SEVERE ANAEMIA**	▶ ***Treat the child to prevent low blood sugar*** ▶ ***Refer URGENTLY to hospital.***
• Some palmar pallor	**ANAEMIA**	▶ Assess the child's feeding and counsel the mother on feeding according to the FOOD box on the *COUNSEL THE MOTHER* chart. ▶ Give iron. ▶ ***Give oral antimalarial if high malaria risk.*** ▶ Deworm if child is two years or older & has not had a dose in previous six months, or has evidence of worm infestation ▶ Advise mother when to return immediately. ▶ Follow-up in 14 days.
• No palmar pallor	**NO ANAEMIA**	No additional treatment.

THEN CHECK CHILD'S IMMUNIZATION, VITAMIN A SUPPLEMENTATION, AND DEWORMING STATUS

IMMUNIZATION SCHEDULE:

AGE	VACCINE	
Birth	BCG	OPV-0
6 weeks	DPT-1	OPV-1
10 weeks	DPT-2	OPV-2
14 weeks	DPT-3	OPV-3
9 months	Measles	

VITAMIN A SUPPLEMENTATION STATUS:

- If child is 6 months or older and has not received a dose in the last 6 months, give a dose of vitamin A in the clinic

DEWORMING STATUS:

- If child is 2 years or older and has not received deworming drug in the last 6 months, give a dose of Pyrantel Pamoate

ASSESS OTHER PROBLEMS

MAKE SURE CHILD WITH ANY GENERAL DANGER SIGN IS REFERRED after first dose of an appropriate antibiotic and other urgent treatments.

Exception: Rehydration of the child according to Plan C may resolve danger signs so that referral is no longer needed.

TREAT THE CHILD

CARRY OUT THE TREATMENT STEPS IDENTIFIED ON THE *ASSESS AND CLASSIFY* CHART

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home. Also follow the instructions listed with each drug's dosage table.

- **Determine the appropriate drugs and dosage for the child's age or weight.**
- **Tell the mother the reason for giving the drug to the child.**
- **Demonstrate how to measure a dose.**
- **Watch the mother practice measuring a dose by herself.**
- **Ask the mother to give the first dose to her child.**
- **Explain carefully how to give the drug, then label and package the drug.**
- **If more than one drug will be given, collect, count and package each drug separately.**
- **Explain that all the oral drug tablets or syrups must be used to finish the course of treatment, even if the child gets better.**
- **Check the mother's understanding before she leaves the clinic.**

ANTIBIOTICS

7

▶ *Give an Appropriate Oral Antibiotic*

▶ **FOR PNEUMONIA, ACUTE EAR INFECTION:**

FIRST-LINE ANTIBIOTIC: COTRIMOXAZOLE
SECOND-LINE ANTIBIOTIC: AMOXYCILLIN

	COTRIMOXAZOLE (trimethoprim + sulphamethoxazole) ▶ Give two times daily for 5 days		AMOXYCILLIN ▶ Give three times daily for 5 days	
AGE or WEIGHT	ADULT TABLET 80 mg trimethoprim + 400 mg sulphamethoxazole	SYRUP 40 mg trimethoprim +200 mg sulphamethoxazole per 5 ml	SYRUP 125 mg per 5 ml	SYRUP 250 mg per 5 ml
2 months up to 12 months (4 - <10 kg)	1/2	5.0 ml	5 ml	2.5 ml
12 months up to 5 months (10 - 19 kg)	1	7.5 ml	10 ml	5 ml

▶ **FOR DYSENTERY:**
Give antibiotic recommended for 5 days.
FIRST-LINE ANTIBIOTIC: NALIDIXIC ACID
SECOND-LINE DRUG: METRONIDAZOLE (REFER TO FOLLOW UP BOX)

	NALIDIXIC ACID ▶ Give four times daily for 5 days		METRONIDAZOLE ▶ Give three times daily for 5 days	
AGE or WEIGHT	TABLET 500 mg	SYRUP 250 mg per 5 ml	TABLET 200 mg	SYRUP 200 mg per 5 ml
2 months up to 4 months (4 - <6 kg)	1/4	1.25 ml		
4 months up to 12 months (6 - <10 kg)	1/4	2.5ml		
12 months up to 3 years (10 - <14 kg)	1/2	5 ml	1/2	2.5 ml
3 years up to 5 years (14 - 19 kg)	1/2	5 ml	1	5 ml

▶ **FOR CHOLERA:**
Give antibiotic recommended for Cholera for 3 days.
FIRST-LINE ANTIBIOTIC FOR CHOLERA: NALIDIXIC ACID
SECOND-LINE ANTIBIOTIC FOR CHOLERA: CHLORAMPHENICOL INJECTION (for dosage, see "INTREAMUSCULAR ANTIBIOTIC")

	Nalidixic Acid ▶ Give four times daily for 3 days	
AGE or WEIGHT	TABLET 500 mg	SYRUP 250 mg per 5 ml
2 months up to 4 months (4 - <6 kg)		1.25 ml
4 months up to 12 months (6 - <10 kg)	1/4	2.5 ml
12 months up to 5 years (10 - 19 kg)	1/2	5 ml

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home.
Also follow the instructions listed with each drug's dosage table.

▶ Give an Oral Antimalarial

FIRST-LINE ANTIMALARIAL: **CHLOROQUINE**
SECOND-LINE ANTIMALARIAL: **SULFADOXINE PYRIMETHAMINE**

▶ **IF CHLOROQUINE:**
- Explain to the mother that she should watch her child carefully for 30 minutes after giving a dose of chloroquine. If the child vomits within 30 minutes, she should repeat the dose and return to the clinic for additional tablets.
- Explain that itching is a possible side effect of the drug, but is not dangerous.

▶ **IF SULFADOXINE + PYRIMETHAMINE:** Give single dose in clinic.

AGE or WEIGHT	CHLOROQUINE ➢ Give for 3 days									SULFADOXINE + PYRIMETHAMINE ➢ Give single dose in clinic
	TABLET (150 mg base)			TABLET (100 mg base)			SYRUP (50 mg base per 5 ml)			TABLET (500 mg sulfadoxine +25 mg pyrimethamine)
	DAY 1	DAY 2	DAY 3	DAY 1	DAY 2	DAY 3	DAY 1	DAY 2	DAY 3	
2 months up to 12 months (4 - <10 kg)	1/2	1/2	1/2	1	1	1/2	7.5 ml	7.5 ml	5.0 ml	1/2
12 months up to 3 years (10 - <14 kg)	1	1	1/2	1 1/2	1 1/2	1/2	15.0 ml	15.0 ml	5.0 ml	1
3 years up to 5 years (14 - 19 kg)	1 1/2	1 1/2	1/2	2	2	1				1

▶ Give Paracetamol for High Fever (≥ 38.5° C) or Sore Throat or Ear Pain

▶ Give paracetamol every 6 hours until high fever or sore throat or ear pain is gone.

	PARACETAMOL	
AGE or WEIGHT	TABLET (500 mg)	SYRUP (120 mg per 5 ml)
2 months up to 6 months (4- <7 kg)		2.5 ml
6 months up to 3 years (7- <14 kg)	1/4	5 ml
3 years up to 5 years (14 - 19 kg)	1/2	10 ml

▶ Give Multivitamin / Mineral Supplement

▶ For persistent diarrhoea, give 5 ml (one tea spoon) once daily of multivitamin minerals for 2 weeks

each 5 ml contains

Vitamin-A:	8000 IU (800 micrograms)
Folate:	100 micrograms
Magnesium:	150 mg
Iron:	20 mg
Zinc:	20 mg
Copper:	2 mg

▶ Give Vitamin A

▶ Give two doses.
- Give first dose in clinic.
- Give mother one dose to give at home the next day.

AGE	VITAMIN A CAPSULES	
	200 000 IU	100 000 IU
Up to 6 months		1/2 capsule
6 months up to 12 months	1/2 capsule	1 capsule
12 months up to 5 years	1 capsule	2 capsules

▶ Give Iron

▶ Give one dose daily for 14 days.

AGE or WEIGHT	IRON/FOLATE TABLET Ferrous sulfate 200 mg + 250 mcg Folate (60 mg elemental iron)	IRON SYRUP Ferrous Fumarate 100 mg per 5 ml (20 mg elemental iron per ml)
2 months up to 4 months (4 - <6 kg)		1.00 ml
4 months up to 12 months (6 - <10 kg)		1.25 ml
12 months up to 3 years (10 - <14 kg)	1/2	2.00 ml
3 years up to 5 years (14 - 19 kg)	1/2	2.5 ml

▶ Give Pyrantel Pamoate

▶ **FOR TREATMENTOF ANEMIA AND IF STOOLS POSITIVE FOR WORMS OR:**
If the child is 2 years or older and has not had a dose in the previous 6 months or
If child is 4 months of age or older and has evidence of worm infestation.

▶ **GIVE PYRANTEL PAMOATE AS A SINGLE DOSE IN CLINIC.**

AGE or WEIGHT	PYRANTEL PAMOATE TABLET (125 mg)	TABLET(220 mg)
4 months up to 9 months (6 - <8 kg)	1/2	1/4
9 months up to 1 year (8 - <10 kg)	3/4	1/2
1 year up to 3 years (10 - <14 kg)	1	1/2
3 years up to 5 years (14 - 19 kg)	1-1/2	3/4

GIVE THESE TREATMENTS IN CLINIC ONLY

- ▶Explain to the mother why the drug is given.
- ▶Determine the dose appropriate for the child's weight (or age).
- ▶Use a sterile needle and sterile syringe. Measure the dose accurately.
- ▶Give the drug as an Intramuscular injection.
- ▶If child cannot be referred, follow the instructions provided.

▶ *Treat the Convulsing Child with Diazepam*

Manage the Airway:
- Turn the child on the side to avoid aspiration
- ▶ Do not insert any thing in the mouth
- ▶ If lips and tongue are blue, open the mouth and make sure the airway is clear.
- ▶ If necessary remove secretions from the throat through a catheter inserted through the nose

Give Diazepam Rectally:
- ▶ Draw up the dose of diazepam into a small syringe
- ▶ Add 2-3 ml water Then remove the needle
- ▶ Attach a piece of nasogastric tube to the syringe if possible.
- ▶ Insert 4 to 5 cm of the tube or tip of the syringe into the rectum and inject the diazepam solution.
- ▶ Hold buttocks together for a few minutes

AGE or WEIGHT	Diazepam Given Rectally (10 mg= 2ml) Dose 0.5mg/kg
Less then 7 days (If weight < 2.5 kg)	0.25 ml
Less then 7 days (If weight > 2.5 kg)	0.5 ml
7 days up to 4 months (3 - < 6 kg)	0.5 ml
4 months up to 12 months (6- < 10 kg)	1 ml
12 months up to 3 years (10- < 14 kg)	1.25 ml
3 years up to 5 years (14 - 19 kg)	1.5 ml

If High Fever, Lower the Fever:
- ▶ Sponge the child with tap water
- ▶ Give antipyretic

Treat the child to prevent low blood suger.

▶ *Give An Intramuscular Antibiotic*

FOR CHILDREN BEING REFERRED URGENTLY:
- ▶ Give first dose of Intramuscular Chloramphenicol and refer child urgently to hospital.

IF REFERRAL IS NOT POSSIBLE:
- ▶ Repeat the Chloramphenicol injection every 12 hours for 5 days.
- ▶ Then change to an appropriate oral antibiotic to complete 10 days of treatment.

AGE or WEIGHT	CHLORAMPHENICOL Dose: 40 mg per Kg Add 5.0 ml sterile water to vial containing 1000 mg = 5.6 ml at 180 mg/ml
2 months up to 4 months (4 - < 6 kg)	1.0 ml = 180 mg
4 months up to 9 months (6 - < 8 kg)	1.5 ml = 270 mg
9 months up to 12 months (8 - < 10 kg)	2.0 ml = 360 mg
12 months up to 3 years (10 - < 14 kg)	2.5 ml = 450 mg
3 years up to 5 years (14 - 19 kg)	3.5 ml = 630 mg

▶ *Give Quinine for Severe Malaria*

FOR CHILDREN BEING REFERRED WITH VERY SEVERE FEBRILE DISEASE:
- ▶ Check which quinine formulation is available in your clinic.
- ▶ Give first dose of intramuscular quinine and refer child urgently to hospital.
- ▶ If low risk of malaria, do not give quinine to a child less than 4 months of age.

IF REFERRAL IS NOT POSSIBLE:
- ▶ Give first dose of intramuscular quinine.
- ▶ The child should remain lying down for one hour.
- ▶ Repeat the quinine injection at 4 and 8 hours later, and then every 12 hours until the child is able to take an oral antimalarial. Do not continue quinine injections for more than 1 week.
- ▶ If low risk of malaria, do not give quinine to a child less than 4 months of age.

AGE or WEIGHT	INTRAMUSCULAR QUININE (in 2 ml ampoules)					
	AMPOULES (150 mg/ml)			AMPOULES (300 mg/ml)		
	Draw up this dose of undiluted quinine in syringe	Add this amount of normal saline	Total diluted solution to administer (60 mg/ml)	Draw up this dose of undiluted quinine in syringe	Add this amount of normal saline	Total diluted solution to administer (60 mg/ml)
2 months up to 4 months (4 - < 6 kg)	0.4 ml	0.6 ml	1.0 ml	0.2 ml	0.8 ml	1.0 ml
4 months up to 12 months (6 - < 10 kg)	0.6 ml	0.9 ml	1.5 ml	0.3 ml	1.2 ml	1.5 ml
12 months up to 2 years (10 - < 12 kg)	0.8 ml	1.2 ml	2.0 ml	0.4 ml	1.6 ml	2.0 ml
2 years up to 3 years (12 - < 14 kg)	1.0 ml	1.5 ml	2.5 ml	0.5 ml	2.0 ml	2.5 ml
3 years up to 5 years (14 - 19 kg)	1.2 ml	1.8 ml	3.0 ml	0.6 ml	2.4 ml	3.0 ml

* *quinine salt*

Treat Wheezing:

- **CHILDREN WITH WHEEZING AND GENERAL DANGER SIGN OR STRIDOR**
  - *Give one dose of rapid acting bronchodilator and REFER immediately*
- **CHILDREN WITH WHEEZING AND CHEST INDRAWING AND/OR FAST BREATHING**
  - *Give a rapid acting bronchodilator and reassess the child 30 minutes later*

IF:	THEN:
CHEST INDRAWING PERSISTS	Treat for SEVERE PNEUMONIA or VERY SEVERE DISEASE ***(REFER)***
FAST BREATHING ALONE	Treat for PNEUMONIA Give oral salbutamol for 5 days.
NO FAST BREATHING	Treat for NO PNEUMONIA COUGH OR COLD Give oral salbutamol for 5 dats.

CHILDREN WITH WHEEZING AND NO DANGER SIGNS, NO STRIDOR,NO CHEST INDRAWING NO FAST BREATHING

- *Treat for no pneumonia: cough or cold*
- *Give oral salbutamol for 5 days*

RAPID ACTING BRONCHODILATOR

AGE or WEIGHT	Nebulized Salbutamol (5mg/ml)	Metered dose inhaler with spacer device (100mcg/dose)
2 months up to 6 months (4- <7 kg)	0.25 ml (plus 2.0 ml sterile water)	1 puff
6 months up to 12 months (7- <10 kg)	0.5 ml (plus 2.0 ml sterile water)	1 to 2 puffs
12 months up to 5 years (10- 19 kg)	0.5 ml (plus 2.0 ml sterile water)	2 to 3 puffs

ORAL SALBUTAMOL

- Three times daily for five days

AGE or WEIGHT	TABLETS (2 mg)	SYRUP (2 mg/5ml)
2 months up to 6 months (4- <7 kg)	1/4	1.25 ml
6 months up to 12 months (7- <10 kg)	1/2	2.5 ml
12 months up to 5 years (10-19 kg)	1	5 ml

Treat the Child to Prevent Low Blood Sugar

- ***If the child is able to breastfeed:***

  Ask the mother to breastfeed the child.

- ***If the child is not able to breastfeed but is able to swallow:***

  Give expressed breast milk or a breast milk substitute.
  If neither of these is available, give sugar water.
  Give 30-50 ml of milk or sugar water before departure.

  To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water.

- ***If the child is not able to swallow:***

  Give 50 ml of milk or sugar water by nasogastric tube.

Give An Antibiotic for Streptococcal Sore Throat

- ***Give a single dose of Intramuscular Benzathine Penicillin***

Age	**Benzathine Penicillin** (600,000 units add 5 ml sterile water)
< 5 years	600,000 unit

OR

- **Give Amoxycillin for 10 days (see "Appropriate Oral Antibiotic" box for dose of Amoxycillin)**

GIVE EXTRA FLUID FOR DIARRHOEA AND CONTINUE FEEDING

(See FOOD advice on COUNSEL THE MOTHER chart)

▶ Plan A: Treat Diarrhoea at Home

Counsel the mother on the 3 Rules of Home Treatment:
Give Extra Fluid, Continue Feeding, When to Return

1. ***GIVE EXTRA FLUID*** (as much as the child will take)

▶ **TELL THE MOTHER:**
- Breastfeed frequently and for longer at each feed.
- If the child is exclusively breastfed, give ORS or clean water in addition to breast milk
- If the child is not exclusively breastfed, give one or more of the following: ORS solution, food-based fluids (such as soup, rice water, and yoghurt drinks), or clean water.

It is especially important to give ORS at home when:
- *the child has been treated with Plan B or Plan C during this visit.*
- *the child cannot return to a clinic if the diarrhoea gets worse.*

▶ **TEACH THE MOTHER HOW TO MIX AND GIVE ORS. GIVE THE MOTHER 2 PACKETS OF ORS (1000 ml) TO USE AT HOME.**

▶ **SHOW THE MOTHER HOW MUCH FLUID TO GIVE IN ADDITION TO THE USUAL FLUID INTAKE:**

Up to 2 years	50 to 100 ml after each loose stool
2 years or more	100 to 200 ml after each loose stool

Tell the mother to:
- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue giving extra fluid until the diarrhoea stops.

1. ***GIVE EXTRA FLUID***
2. ***CONTINUE FEEDING***
3. **WHEN TO RETURN**

} See ***COUNSEL THE MOTHER*** chart

▶ Plan B: Treat Some Dehydration with ORS

Give in clinic recommended amount of ORS over 4-hour period

▶ **DETERMINE AMOUNT OF ORS TO GIVE DURING FIRST 4 HOURS.**

AGE*	Up to 4 months	4 months up to 12 months	12 months up to 2 years	2 years up to 5 years
WEIGHT	< 6 kg	6 - < 10 kg	10 - < 12 kg	12 - 19 kg
In ml	200 - 400	400 - 700	700 - 900	900 - 1400

** Use the child's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be caluclated by multiplying the child's weight (in kg) times 75.*

- If the child wants more ORS than shown, give more.
- For infants under 6 months who are not breastfed, also give 100-200 ml clean water during this period.

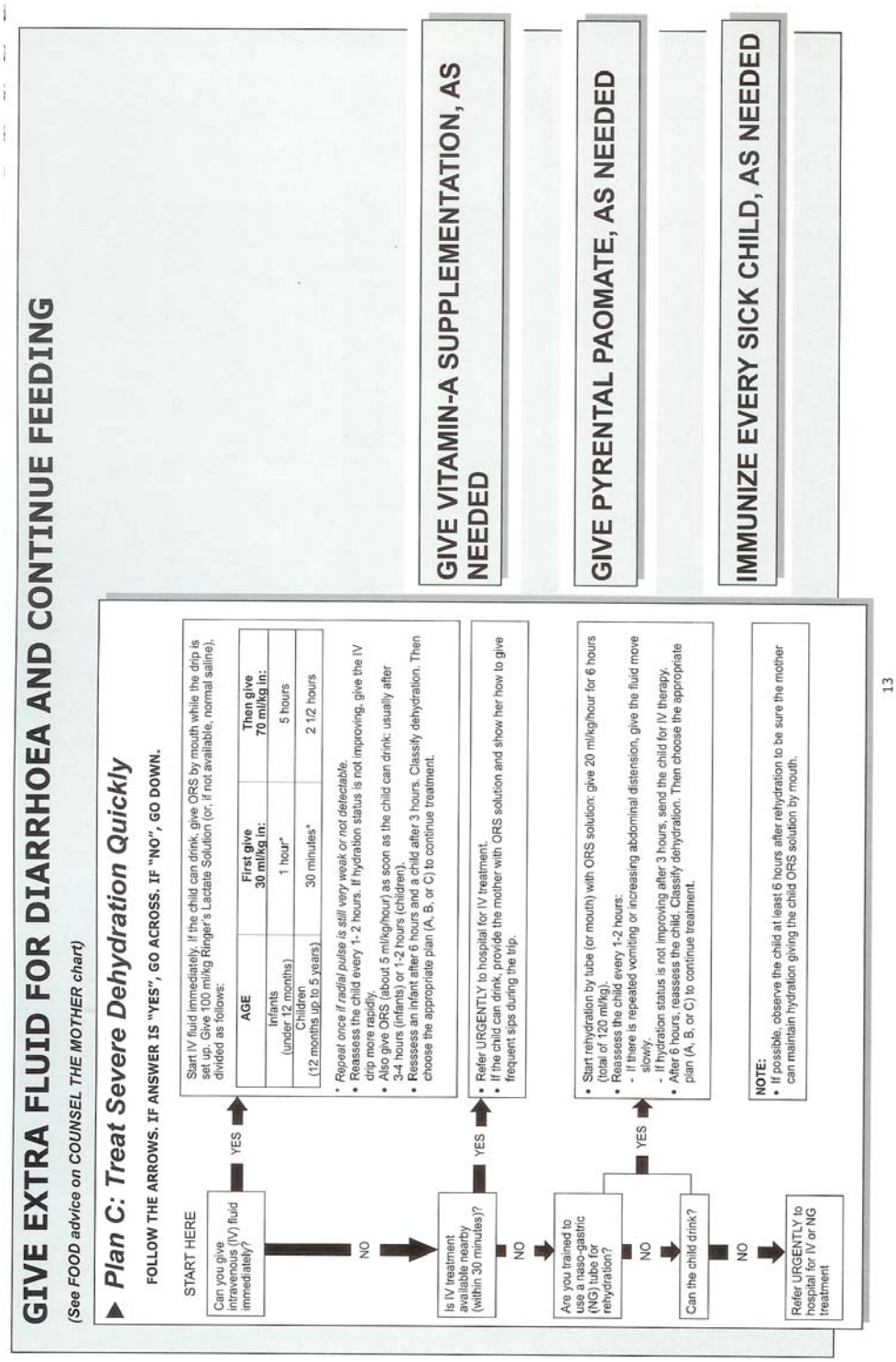
▶ **SHOW THE MOTHER HOW TO GIVE ORS SOLUTION.**
- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue breastfeeding whenever the child wants.

▶ **AFTER 4 HOURS:**
- Reassess the child and classify the child for dehydration.
- Select the appropriate plan to continue treatment.
- Begin feeding the child in clinic.

▶ **IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT:**
- Show her how to prepare ORS solution at home.
- Show her how much ORS to give to finish 4-hour treatment at home.
- Give her enough ORS packets to complete rehydration. Also give her 2 packets as recommended in Plan A.
- Explain the 3 Rules of Home Treatment:

1. ***GIVE EXTRA FLUID***
2. ***CONTINUE FEEDING***
3. **WHEN TO RETURN**

} **See Plan A for recommended fluids and See *COUNSEL THE MOTHER* chart**


GIVE EXTRA FLUID FOR DIARRHOEA AND CONTINUE FEEDING
(See FOOD advice on COUNSEL THE MOTHER chart)
Plan C: Treat Severe Dehydration Quickly
FOLLOW THE ARROWS. IF ANSWER IS "YES", GO ACROSS. IF "NO", GO DOWN.
START HERE
Can you give intravenous (IV) fluid immediately?
YES
Start IV fluid immediately. If the child can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer's Lactate Solution (or, if not available, normal saline), divided as follows:
AGE
First give 30 ml/kg in:
Then give 70 ml/kg in:
Infants (under 12 months)
1 hour*
5 hours
Children (12 months up to 5 years)
30 minutes*
2 1/2 hours
* Repeat once if radial pulse is still very weak or not detectable.
• Reassess the child every 1- 2 hours. If hydration status is not improving, give the IV drip more rapidly.
• Also give ORS (about 5 ml/kg/hour) as soon as the child can drink: usually after 3-4 hours (infants) or 1-2 hours (children).
• Resssess an infant after 6 hours and a child after 3 hours. Classify dehydration. Then choose the appropriate plan (A, B, or C) to continue treatment.
NO
Is IV treatment available nearby (within 30 minutes)?
YES
• Refer URGENTLY to hospital for IV treatment.
• If the child can drink, provide the mother with ORS solution and show her how to give frequent sips during the trip.
NO
Are you trained to use a naso-gastric (NG) tube for rehydration?
YES
• Start rehydration by tube (or mouth) with ORS solution: give 20 ml/kg/hour for 6 hours (total of 120 ml/kg).
• Reassess the child every 1-2 hours:
- If there is repeated vomiting or increasing abdominal distension, give the fluid more slowly.
- If hydration status is not improving after 3 hours, send the child for IV therapy.
• After 6 hours, reassess the child. Classify dehydration. Then choose the appropriate plan (A, B, or C) to continue treatment.
NO
Can the child drink?
YES
NOTE:
• If possible, observe the child at least 6 hours after rehydration to be sure the mother can maintain hydration giving the child ORS solution by mouth.
NO
Refer URGENTLY to hospital for IV or NG treatment
GIVE VITAMIN-A SUPPLEMENTATION, AS NEEDED
GIVE PYRENTAL PAOMATE, AS NEEDED
IMMUNIZE EVERY SICK CHILD, AS NEEDED
13

GIVE FOLLOW-UP CARE

- **Care for the child who returns for follow-up using all the boxes that match the child's previous classifications.**
- **If the child has any new problem, assess, classify and treat the new problem as on the *ASSESS AND CLASSIFY* chart.**

▶ PNEUMONIA

After 2 days:

Check the child for general danger signs.
Assess the child for cough or difficult breathing. } *See ASSESS & CLASSIFY chart.*
Ask:
- Is the child breathing slower?
- Is there less fever?
- Is the child eating better?
- Is the child wheezing?

Treatment:

- If ***child has a general danger sign or stridor or chest indrawing or has more fast breathing and with or without wheeze***, give a dose of intramuscular Chloramphenicol. If wheezing also give a dose of rapid acting bronchodilator, Then refer URGENTLY to hospital.
- If ***breathing rate, fever and eating are the same, with or without wheeze***, change to the second-line antibiotic and advise the mother to return in 2 days. If wheezing now or had wheezing on first visit give/continue oral salbutamol. (If this child had measles within the last 3 months, refer).
- If ***breathing rate slower, less fever, or eating better, with or without wheezing,*** complete the 5 days of antibiotic. If wheezing now or had wheezing on first visit give/continue oral salbutamol for five days.
- If ***child had no wheeze on the first visit but has wheeze now and has no general danger signs or stridor, or chest indrawing or fast breathing*** , treat as in "No Pneumonia: Cough or Cold - Wheeze" box.

▶ NO PNEUMONIA: COUGH OR COLD- WHEEZE

After 2 days:

Check the child for general danger signs.
Assess the child for cough or difficult breathing. } *See ASSESS & CLASSIFY chart.*

Treatment:
- If ***any general danger sign or stridor or chest indrawing-***, treat as SEVERE PNEUMONIA OR VERY SEVERE DISEASE, give a dose of pre-referral intramuscular antibiotic. If wheezing now, give one dose of rapid acting bronchodilator and refer URGENTLY to hospital.
- If ***fast breathing***, with wheeze also give a dose of rapid acting bronchodilator and reassess according to "treat wheezing" box.
- If ***child is wheezing but has no general danger signs, no stridor, no chest indrawing or no fast breathing***
  - if this is the first episode of wheezing or if the child had previous episodes but has not been referred, give salbutamol and refer for assessment.
  - If the child has already been referred for a previous episode of wheezing advise the mother to continue with treatment prescribed by the referral hospital. Advise the mother to return if the child's breathing becomes more difficult. If this child returns because condition has worsened, refer URGENTLY to hospital for further treatment.
- If had wheeze and now ***no wheezing-*** complete 5 days of oral salbutamol.

▶ DYSENTERY

After 2 days:

Assess the child for diarrhoea. > *See ASSESS & CLASSIFY chart.*
Ask:
- Are there fewer stools?
- Is there less blood in the stool?
- Is there less fever?
- Is there less abdominal pain?
- Is the child eating better?

Treatment:
- If the child is ***dehydrated,*** treat dehydration.
- If number of stools, amount of blood in stools, fever, abdominal pain, or eating is worse-refer to hospital.
- If ***number of stools, amount of blood in stools, fever, abdominal pain, or eating is the same:*** Add metronidazole. Give if for 5 days. Advise the mother to return in 2 days.

Exceptions - if the child:
- is less than 12 months old, or
- was dehydrated on the first visit, or
- had measles within the last 3 months

} Refer to hospital.

- If ***fewer stools, less blood in the stools, less fever, less abdominal pain, and eating better,*** continue giving the same antibiotic until finished.

GIVE FOLLOW-UP CARE

- **Care for the child who returns for follow-up using all the boxes that match the child's previous classifications.**
- **If the child has any new problem, assess, classify and treat the new problem as on the *ASSESS AND CLASSIFY* chart.**

▶ PERSISTENT DIARRHOEA

After 5 days:

Ask:
- Has the diarrhoea stopped?
- How many loose stools is the child having per day?

Treatment:
- If ***the diarrhoea has not stopped (child is still having 3 or more loose stools per day)***, do a full reassessment of the child. Give any treatment needed. Then refer to hospital.
- If ***the diarrhoea has stopped (child having less than 3 loose stools per day),*** tell the mother to follow the usual feeding recommendations for the child's age.
- Tell the mother to continue giving multivitamin minerals supplement for two weeks.

▶ EAR INFECTION

After 5 days:
Reassess for ear problem. > *See ASSESS & CLASSIFY chart.*
Measure the child's temperature.

Treatment:
- If there is ***tender swelling behind the ear or high fever (38.5°C or above)***, refer URGENTLY to hospital.
- ***Acute ear infection:*** if ***ear pain or discharge*** persists, treat with 5 more days of the same antibiotic. Continue wicking to dry the ear. Follow-up in 5 days.
- ***Chronic ear infection:*** Check that the mother is wicking the ear correctly, encourage her to continue. Check for compliance of treatment prescribed by the Ear Nose & Throat specialist
- If ***no ear pain or discharge***, praise the mother for her careful treatment. If she has not yet finished the 5 days of antibiotic, tell her to use all of it before stopping.

▶ MALARIA (Low or High Malaria Risk Area)

If fever persists after 2 days, or returns within 14 days:
Do a full reassessment of the child. Assess for other causes of fever. > *See ASSESS & CLASSIFY chart.*

Treatment:
- If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- If the child has any ***cause of fever other than malaria***, provide treatment.
- If ***malaria is the only apparent cause of fever:***
  - Treat with the second-line oral antimalarial. (If no second-line antimalarial is available, refer to hospital.) Advise the mother to return again in 2 days if the fever persi
  - If fever has been present for 7 days, refer for assessment.

▶ FEVER-MALARIA UNLIKELY (Low Malaria Risk Area)

If fever persists after 2 days:
Do a full reassessment of the child. Assess for other causes of fever. > *See ASSESS & CLASSIFY chart.*

Treatment:
- If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- If the child has any ***cause of fever other than malaria***, provide treatment.
- If ***malaria is the only apparent cause of fever:***
  - Treat with the first-line oral antimalarial. Advise the mother to return again in 2 days if the fever persists.
  - If fever has been present for 7 days, refer for assessment.

▶ FEVER-NO MALARIA (No Malaria Risk Area)

If fever persists after 2 days:
Do a full reassessment of the child. Assess for other causes of fever. > *See ASSESS & CLASSIFY chart.*

Treatment:
- If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- If the child has any ***other cause of fever*** provide treatment.
- Make sure that there has been no travel to malarious area. If this may have occurred treat with first line of oral anti-malarial. Advise mother to return if the fever persists.
- If fever has been present for 7 days, refer for assessment.
- If no apparent cause of fever, advise mother to return again in 2 days if fever persists. Make sure the child is given increased fluids and is eating.

GIVE FOLLOW-UP CARE

- **Care for the child who returns for follow-up using all the boxes that match the child's previous classifications.**
- **If the child has any new problem, assess, classify and treat the new problem as on the *ASSESS AND CLASSIFY* chart.**

▶ MEASLES WITH EYE OR MOUTH COMPLICATIONS

After 2 days:

Look for red eyes and pus draining from the eyes.
Look at mouth ulcers.
Smell the mouth.

Treatment for Eye Infection:

- If ***pus is draining from the eye***, ask the mother to describe how she has treated the eye infection.

  If treatment has been correct, refer to hospital. If treatment has not been correct, teach mother correct treatment.
- If ***the pus is gone but redness remains***, continue the treatment.
- If ***no pus or redness***, stop the treatment.

Treatment for Mouth Ulcers:

- If ***mouth ulcers are morse, or there is a very foul smell from the mouth***, refer to hospital.
- If ***mouth ulcers are the same or better***, continue using half-strength gentian violet (0.25 %) for a total of 5 days.

▶ MEASLES

After 2 days:

Do a full reassessment of the child. > See ASSESS & CLASSIFY chart.
Treatment:

- If ***general danger sign or clouding of the corrnea or deep extensive mouth ulcers or pneumonia,*** treat as SEVERE COMPLICATED MEASLES.
- If ***pus draining from the eye or mouth ulcers,*** treat as MEASLES WITH EYE OR MOUTH COMPLICATIONS.
- If ***none of the above signs,*** advise the mother when to return immediately.
- Follow up in two days if not improving.
  - If the child received already the dose of vitamin A in the previous visit, do not repeat.

▶ FEEDING PROBLEM

After 5 days:
Reassess feeding. > *See questions at the top of the COUNSEL chart*
Ask about any feeding problems found on the initial visit.

- Counsel the mother about any new or continuing feeding problems. If you counsel the mother to make significant changes in feeding, ask her to bring the child back again.
- If the child is very low weight for age, ask the mother to return 30 days after the initial visit to measure the child's weight gain.

▶ ANAEMIA

After 14 days:

- Give iron. Advise mother to return in 14 days for more iron.
- Continue giving iron every 14 days for 2 months.
- If the child has palmar pallor after 2 months, refer for assessment.

▶ VERY LOW WEIGHT

After 30 days:

Weigh the child and determine if the child is still very low weight for age.
Reassess feeding. > *See questions at the top of the COUNSEL chart*

Treatment:

- If the child is ***no longer very low weight for age,*** praise the mother and encourage her to continue.
- If the child is still ***very low weight for age***, counsel the mother about any feeding problem found. Ask the mother to return again in one mouth. Continue to see the child monthly until the child is feeding well and gaining weight regularly or is no longer very low weight for age.

  Exception:
  If you do not think that feeding will improve, or if the child has ***los tweight,*** refer the child.

IF ANY MORE FOLLOW-UP VISITS ARE NEEDED BASED ON THE INITIAL VISIT OR THIS VISIT, ADVISE THE MOTHER FOR THE **NEXT FOLLOW-UP VISIT**

ALSO, ADVISE THE MOTHER **WHEN TO RETURN IMMEDIATELY.**
(SEE COUNSEL CHART.)

COUNSEL THE MOTHER

FOOD

▶ *Assess the Child's Feeding*

Ask questions about the child's usual feeding and feeding during this illness. Compare the mother's answers to the ***Feeding Recommendations*** for the child's age in the box below.

ASK

- ▶ Do you breastfeed your child?
  - How many times during the day?
  - Do you also breastfeed during the night?
- ▶ Does the child take any other food or fluids?
  - What food or fluids?
  - How many times per day?
  - What do you use to feed the child?
  - If very low weight for age: How large are servings?
- ▶ During this illness, has the child's feeding changed? If yes, how?

▶ *Feeding Recommendations During Sickness and Health*

Up to 4 Months of Age

- Breast feed as often as the child wants, day and night, at least 8 times in 24 hours.
- Breast feed at least for 10 minutes on each breast every time
- Do not give other foods water.
- Do not use bottles or pacifiers

4 Months up to 6 Months

- Breastfeed as often as the child wants, day or night, at least 8 times in 24 hours.
- If the child:
  - appears hungry after breastfeeding, or
  - shows interest in semisolid foods, or
  - is not gaining weight adequately.
- Add complementary foods such as
  - Suji Ki Kheer, Suji ka Halwa, Khichri, Kheer, Sagodana, Mashed Potato with butter, Mashed banana with or without yoghurt, Biscuit or Rusk Soaked in Milk,
    (All food should be mashed, semi solid form and smooth in consistency)

Give these foods with cup/spoon, 1 or 2 times per day after breastfeeding.

6 Months up to 12 Months

- Breastfeed as often as the child wants.
- Give adequate servings of: Khichri*, Rice (Bhatt)* with seasonal vegetables (Carrot, Spinach, Potatoes etc.), or Minced Meat. Rice Kheer, Suji ka Halwa or Kheer*, Dalia*, Vermicelli's*, Choori*, Mashed Potato or vegetables*, Egg, Banana, Seasonal Fruit and any foods listed for 4 to 6 month child.
  (upto 9 months food should be mashed)
  - 3 times per day if breastfed;
  - 5 times per day if not breastfed.
  - Each serving should be equivalent to 1/2-3/4 of a cup.

12 Months up to 2 Years

- Breastfeed as often as the child wants.
- Give adequate servings of: Roti, Parattha, Khichri or Rice, Curry, Minced Meat, Chicken, Egg, Seasonal Vegetables, Choori, Vermicelli's, and/or any foods listed for 6-12 months child
- Give food at least 3 times per day

AND

- Give also snacks 2 times per day between meals such as seasonal fruit (Banana, Apple, Mango, Orange etc.) Biscuit, Rusk, Chips, Pakora or Samosa, Lassi, Yoghurt, Bread with Egg, Halwa etc.

OR

Family foods 5 times per day.

2 Years and Older

- Give family foods at 3 meals each day. Also, twice daily, give nutritious food between meals, such as:
- Seasonal fruit (Banana, Apple, Mango, Orange etc.) Biscuit, Rusk, Chips, Pakora, Samosa, Lassi, Yoghurt, Bread with Eggs, Halwa etc.

Wash your hands before preparing the child's food and use clean cooking utensils.

**A good daily diet should be adequate in quantity and include an energy-rich food (for example, thick cereal with added oil / Ghee / Butter); meat, fish, eggs, or pulses; and fruits and vegetables.*

Feeding Recommendations For a Child Who Has PERSISTENT DIARRHOEA

- If still breastfeeding, give more frequent, longer breastfeeds, day and night.
- If taking other milk:
  - replace with increased breastfeeding OR
  - replace with fermented milk products, such as yoghurt OR
  - replace half the milk with nutrient-rich semisolid food.
- For other foods, follow feeding recommendations for the child's age.

▶ *Counsel the Mother About Feeding Problems*

If the child is not being fed as described in the above recommendations, counsel the mother accordingly. In addition:

▶ **If the mother reports difficulty with breastfeeding, assess breastfeeding. (See *YOUNG INFANT chart.)***
As needed, show the mother correct positioning and attachment for breastfeeding.

▶ **If the child is less than 4 months old and is taking other milk or foods OR:**

▶ **If the mother thinks she does not have enough milk:**

- Build mother's confidence that she can produce all the breast milk that the child needs.
- Suggest giving more frequent, longer breastfeeds day or night, and gradually reducing other milk or foods.

If other milk needs to be continued, counsel the mother to:

- Breastfeed as much as possible, including at night.
- Make sure that other milk is a locally appropriate breast milk substitute.
- Make sure other milk is correctly and hygienically prepared and given in adequate amounts.
- Prepare only an amount of milk which child can consume within one hour. If their is some left over milk, discard.

▶ **If the mother is using a bottle to feed the child:**

- Recommend substituting a cup for bottle.
- Show the mother how to feed the child with a cup.

▶ **If the child is being fed too small amounts**

- Recommend increasing the frequency and portion size for each meal day by day, until recommended portion size achieved.
- Recommend that the mother encourages the child to eat more.

▶ **If the child is not being fed actively, counsel the mother to:**

- Sit with the child and encourage eating.
- Give the child an adequate serving in a separate plate or bowl.
- Observe what the child likes and consider these for preparing the food.(consider energy rich, high density food).

▶ **If the child is not feeding well during illness, counsel the mother to:**

- Breastfeed more frequently and for longer if possible.
- Use soft, varied, appetizing, favorite foods to encourage the child to eat as much as possible, and offer frequent small feedings.
- Add oil/ghee/butter to prepare foods. Also give green leafy and yellow vegetables and fruits to the child.
- Clear a blocked nose if it interferes with feeding.
- Expect that appetite will improve as child gets better.
- Give expressed breast milk if necessary.

▶ **Follow-up any feeding problem in 5 days.**

▶ **Advise mother not to give her child, harmful, contaminated and unhygienicaly prepared junk foods from vendors e.g. kulfi, ice cream, sodas/ sherbet/drinks etc., paparrs, pakoras, samosas, nimkos etc.**

FLUID AND FOOD

▶ *Advise the Mother to Increase Fluid and Continue Feeding During Illness*

FOR ANY SICK CHILD:

- ▶Breastfeed more frequently and for longer at each feed.
- ▶Increase fluid. For example, give soup, rice water, yoghurt drinks or clean water.
- ▶ Give small frequent meals of energy rich food.

FOR CHILD WITH DIARRHOEA:

- ▶ Giving extra fluid can be lifesaving. Give fluid according to Plan A or Plan B on *TREAT THE CHILD* chart.

WHEN TO RETURN

▶ *Advise the Mother When to Return to Health Worker*

FOLLOW-UP VISIT

Advise the mother to come for follow-up at the earliest time listed for he child's problems.

If the child has:	Return for follow-up in:
PNEUMONIA NO PNEUMONIA WITH WHEEZE DYSENTERY MALARIA, if fever persists FEVER-MALARIA UNLIKELY, if fever persists FEVER- NO MALARIA , if fever persists MEASLES WITH EYE OR MOUTH COMPLICATIONS MEASLES , if measles now	2 days
PERSISTENT DIARRHOEA ACUTE EAR INFECTION CHRONIC EAR INFECTION FEEDING PROBLEM ANY OTHER ILLNESS, if not improving	5 days
ANAEMIA	14 days
VERY LOW WEIGHT FOR AGE	30 days

VISIT NEXT WELL-CHILD

Advise mother when to return for next immunization according to immunization schedule.

WHEN TO RETURN IMMEDIATELY

Advise mother to return immediately if the child has any of these signs:	
Any sick child	• Not able to drink or breastfeed • Becomes sicker • Develops a fever
If child has NO PNEUMONIA: COUGH OR COLD, also return if:	• Fast breathing • Difficult breathing
If child has Diarrhoea, also return if:	• Blood in stool • Drinking poorly

▶ *Counsel the Mother About Her Own Health*

- If the mother is sick, provide care for her, or refer her for help.
- If she has a breast problem (such as engorgement, sore nipples, breast infection), provide care for her or refer for help.
- Advise her to eat well to keep up her own strength and health.
- Check the mother's immunization status and give her tetanus toxoid if needed.
- Make sure she has access to:
  - Family planning
  - Counseling on STD and AIDS prevention

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ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT AGE LESS THEN 2 MONTHS

ASSESS

ASK THE MOTHER WHAT THE YOUNG INFANT'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
  - if follow-up visit, use the follow-up instructions on the *FOLLOW-UP* chart.
  - if initial visit, assess the young infant as follows:

CLASSIFY

USE ALL BOXES THAT MATCH INFANT'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

IDENTIFY TREATMENT

CHECK FOR POSSIBLE INFECTION

ASK:

- Has the young infant had convulsions?
- Is the young infant vomiting everything?
- Is the young infant not able to feed

LOOK, LISTEN, FEEL:

- See if the infant is convulsing now
- Count the breaths in one minute. Repeat the count if elevated.
- Look for severe chest indrawing.
- Look for nasal flaring.
- Look and listen for grunting.

} YOUNG INFANT MUST BE CALM

- See if the young infant is lethargic or unconscious.
- Look at the young infant's movements. Are they less than normal?
- Look and feel for bulging fontanelle.
- Look for pus discharge.from eyes
- Look at the umbilicus. Is it red or draining pus? Does the redness extend to the skin?
- Look for skin pustules. Are there many or severe pustules?
- Look and feel for the muscular stiffness or spasm.
- Measure temperature (or feel for fever or low body temperature).

Classify ALL YOUNG INFANTS

THEN CHECK FOR JAUNDICE

ASK

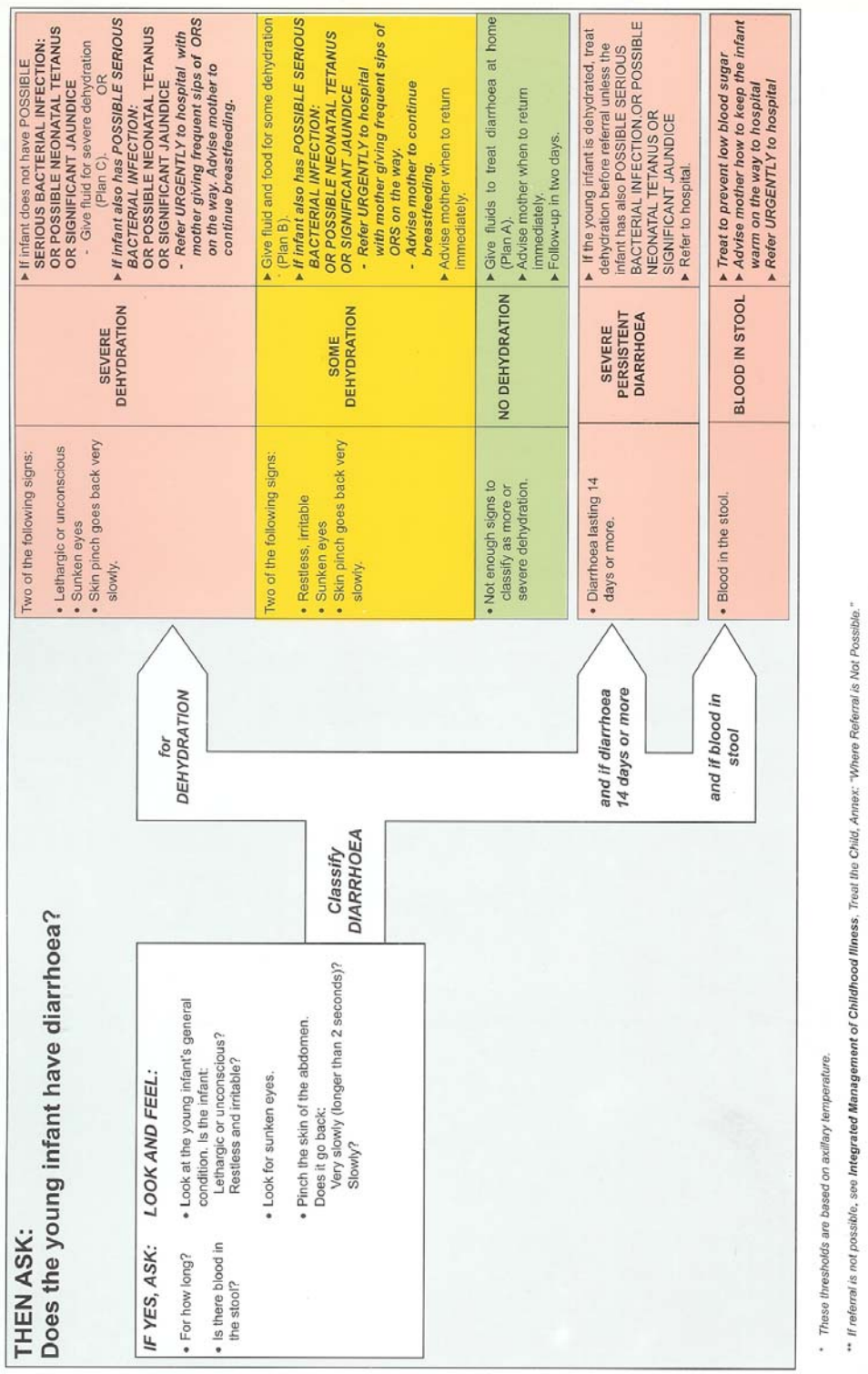
- Is there any jaundice :

LOOK

- Look for jaundice :
  - extending up to hands and feet?
  - extending up to arms and legs only?
  - jaundice but not extending up to arms and legs?
- Determine birth weight for baby less then 7 days

Classify JAUNDICE

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold)
• Convulsions or • Not able to feed or • Vomiting every thing or • Fast breathing (60 breaths per minute or more) or • Slow breathing or apnoea (20 breaths per minute or less) or • Severe chest indrawing or • Nasal flaring or • Grunting or • Lethargic or unconscious or • Less than normal movement.or • Bulging fontanelle or • Many or severe skin pustules or • Umbilical redness extending to the skin or • Fever (37.5°C* or above or feels hot) or low body temperature (less than 35.5°C*) or feels cold	**POSSIBLE SERIOUS BACTERIAL INFECTION AND / OR**	▸ ***Treat convulsions if present now.*** ▸ ***Give first dose of Intramuscular antibiotics.*** ▸ ***Treat to prevent low blood sugar.*** ▸ ***Advise mother how to keep the infant warm on the way to the hospital.*** ▸ ***Refer URGENTLY to hospital.*****
AND / OR • Muscular stiffness or spasm.	**POSSIBLE NEONATAL TETANUS**	▸ ***Give rectal Diazepam.*** ▸ ***Treat to prevent low blood sugar.*** ▸ ***Refer URGENTLY to hospital.*****
• Red umbilicus or draining pus or • Skin pustules or • Pus discharge.from the eyes	**LOCAL BACTERIAL INFECTION AND / OR EYE INFECTION**	▸ Give an appropriate local antibiotic for eye infection. ▸ Appropriate local antiseptic for skin infection. ▸ Teach the mother to treat local infections at home. ▸ Advise mother to give home care for the young infant. ▸ Follow-up in 2 days.
•None of the above mentioned signs present	**BACTERIAL INFECTION UNLIKELY**	▸ Advise mother to give home care for young infant.
• Birth weight < 1.5 kg and jaundice **OR** • Birth Weight 1.5 to <2.5 kg and jaundice extending up to arms and legs **OR** • Birth Weight ≥ 2.5 kg and jaundice extending up to hands and feet.	**SIGNIFICANT JAUNDICE**	▸ ***Treat to prevent low blood sugar.*** ▸ ***Advise the mother how to keep the young infant warm on the way to the hospital.*** ▸ ***Refer URGENTLY to hospital.***
• Jaundice not classified as significant jaundice.	**NOT SIGNIFICANT JAUNDICE**	▸ Advise the mother to breastfeed as often and for as long as the infant wants, day and night. ▸ Follow-up in 2 days, if not improving
• No jaundice present	**NO JAUNDICE**	▸ No additional treatment



* *These thresholds are based on axillary temperature.*

** *If referral is not possible, see* ***Integrated Management of Childhood Illness****. Treat the Child, Annex: "Where Referral is Not Possible."*

THEN CHECK FOR FEEDING PROBLEM OR LOW BIRTH WEIGHT OR LOW WEIGHT:

ASK:

- Is there any difficulty feeding?
- Is the infant breastfed? If yes, how many times in 24 hours?
- Does the infant usually receive any other foods or drinks? If yes, how often?
- What do you use to feed the infant?

LOOK, FEEL:

- Determine weight for age.
- For baby less then 7 days age determine birth weight

IF AN INFANT: **Has any difficulty feeding,**
Is breastfeeding less than 8 times in 24 hours,
Is taking any other foods or drinks, or
Is low weight for age,or
Is low birth weight
AND
Has no indications to refer urgently to hospital:

ASSESS BREASTFEEDING:

- Has the infant breastfed in the previous hour?

If the infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes. (If the infant was fed during the last hour, ask the mother if she can wait and tell you when the infant is willing to feed again.)

- Is the infant position correct?
  Poor positioning *good positioning*

TO CHECK POSITIONING, LOOK FOR:
- *Infant's head and body straight*
- *Infant facing the breast with his nose opposite the nipple*
- *Infant's body close to mother's body*
- *Infant's whole body supported not just neck and shoulders*

(All of these signs should be present if the positioning is good)

- Is the infant able to attach?
  no attachment at all *not well attached* *good attachment*

TO CHECK ATTACHMENT, LOOK FOR:
- *Chin touching breast*
- *Mouth wide open*
- *Lower lip turned outward*
- *More areola visible above than below the mouth*

(All of these signs should be present if the attachment is good.)

- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?
  not suckling at all *not suckling effectively* *suckling effectively*

Clear a blocked nose if it interferes with breastfeeding.

- Look for ulcers or white patches in the mouth. (thrush)

Classify FEEDING

• Not able to feed or • No attachment at all or • Not suckling at all.or • Birth weight <1.5 kg	**NOT ABLE TO FEED- POSSIBLE SERIOUS BACTERIAL INFECTION AND / OR VERY LOW BRITH WEIGHT**	▸ ***Give first dose of Intramuscular antibiotics.*** ▸ ***Treat to prevent low blood sugar.*** ▸ ***Advise the mother how to keep the young infant warm on the way to the hospital.*** ▸ ***Refer URGENTLY to hospital.***
• Poor positioning or • Not well attached to breast or • Not suckling effectively or • Less than 8 breastfeeds in 24 hours or • Receives other foods or drinks or • Low weight for age or • Birth weight 1.5 to < 2.5 kg or • Thrush (ulcers or white patches in mouth)	**FEEDING PROBLEM AND / OR LOW WEIGHT AND / OR LOW BIRTH WEIGHT AND / OR THRUSH**	▸ Advise the mother to breastfeed as often and for as long as the infant wants, day and night. • If not well attached or not suckling effectively, teach correct positioning and attachment. • If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding. ▸ If receiving other foods or drinks, counsel mother about breastfeeding more, reducing other foods or drinks, and using a cup. • If not breastfeeding at all: - Refer for breastfeeding counselling and possible relactation. - Advise about correctly preparing breast milk substitutes and using a cup. ▸ If thrush, teach the mother to treat thrush at home. ▸ Advise mother to give home care for the young infant. ▸ Follow-up any feeding problem or thrush in 2 days. ▸ Follow-up low weight for age or low birth weight in one week.
• Not low weight for age or no low birth weight and no other signs of inadequate feeding.	**NO FEEDING PROBLEM**	▸ Advise mother to give home care for the young infant. ▸ Praise the mother for feeding the infant well.

THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS:

IMMUNIZATION SCHEDULE:	AGE	VACCINE	
	Birth	BCG	OPV-0
	6 weeks	DPT-1	OPV-1
	10 weeks	DPT-2	OPV-2

ASSESS OTHER PROBLEMS

TREAT THE YOUNG INFANT AND COUNSEL THE MOTHER

▶ TO TREAT CONVULSIONS, SEE TREAT THE CHILD CHART

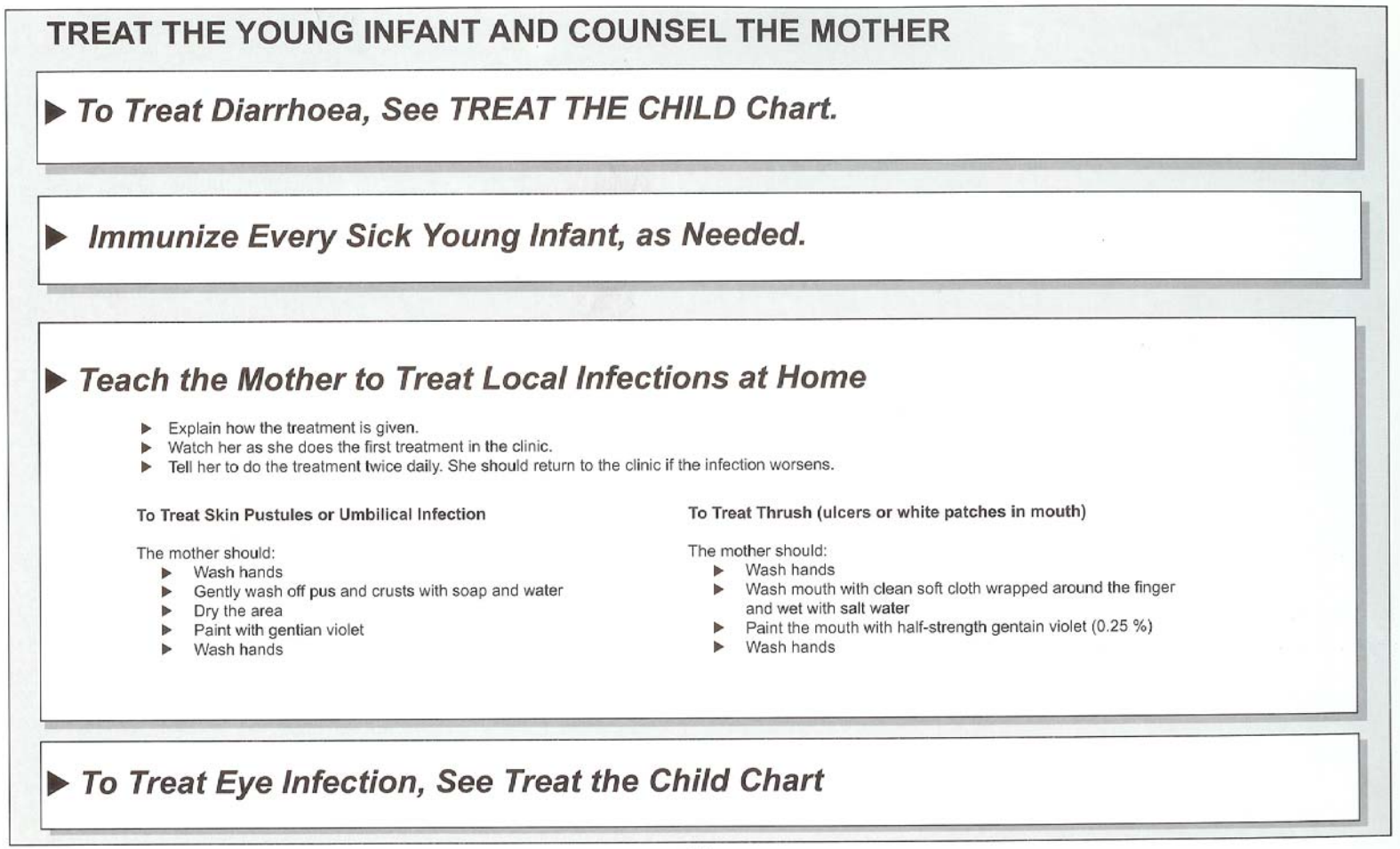
▶ *Give First Dose of Intramuscular Antibiotics*

- Give first dose of both benzylpenicillin and gentamicin Intramuscular.

WEIGHT	GENTAMICIN Dose: 2.5 mg per kg			BENZYLPENICILLIN Dose: 50 000 units per kg		
	Undiluted 2 ml vial containing 20 mg = 2 ml at 10 mg/ml	OR	Add 6 ml sterile water to 2 ml vial containing 80 mg* = 8 ml at 10 mg/ml	To a vial of 600 mg (1 000 000 units): Add 2.1 ml sterile water = 2.5 ml at 400 000 units/ml	OR	Add 3.6 ml sterile water = 4.0 ml at 250 000 units/ml
Up to 1 kg	0.25 ml*			0.1 ml		0.2 ml
>1-2 kg	0.50 ml*			0.2 ml		0.4 ml
>2-3 kg	0.75 ml*			0.4 ml		0.6 ml
>3-4 kg	1.00 ml*			0.5 ml		0.8 ml
>4-5 kg	1.25 ml*			0.6 ml		1.0 ml

** Avoid using undiluted 40 mg/ml gentamicin. The dose is 1/4 of that listed.*

- Referral is the best option for a young infant classified with POSSIBLE SERIOUS BACTERIAL INFECTION. If referral is not possible, give benzylpenicillin and gentamicin for at least 5 days. Give benzylpenicillin every 6 hours plus gentamicin every 8 hours. For infants in the first week of life, give gentamicin every 12 hours.



TREAT THE YOUNG INFANT AND COUNSEL THE MOTHER

▶ ***To Treat Diarrhoea, See TREAT THE CHILD Chart.***

▶ ***Immunize Every Sick Young Infant, as Needed.***

▶ ***Teach the Mother to Treat Local Infections at Home***

- ▶ Explain how the treatment is given.
- ▶ Watch her as she does the first treatment in the clinic.
- ▶ Tell her to do the treatment twice daily. She should return to the clinic if the infection worsens.

To Treat Skin Pustules or Umbilical Infection

The mother should:

- ▶ Wash hands
- ▶ Gently wash off pus and crusts with soap and water
- ▶ Dry the area
- ▶ Paint with gentian violet
- ▶ Wash hands

To Treat Thrush (ulcers or white patches in mouth)

The mother should:

- ▶ Wash hands
- ▶ Wash mouth with clean soft cloth wrapped around the finger and wet with salt water
- ▶ Paint the mouth with half-strength gentain violet (0.25 %)
- ▶ Wash hands

▶ ***To Treat Eye Infection, See Treat the Child Chart***

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TREAT THE YOUNG INFANT AND COUNSEL THE MOTHER

▶ *Teach Correct Positioning and Attachment for Breastfeeding*

- Show the mother how to hold her infant
  - with the infant's head and body straight
  - facing her breast, with infant's nose opposite her nipple
  - with infant's body close to her body
  - supporting infant's whole body, not just neck and shoulders.
- Show her how to help the infant to attach. She should:
  - touch her infant's lips with her nipple
  - wait until her infant's mouth is opening wide
  - move her infant quickly onto her breast, aiming the infant's lower lip well below the nipple.
- Look for signs of good attachment and effective suckling. If the attachment or suckling is not good, try again.

▶ *Advise Mother to Give Home Care for the Young Infant*

- FOOD
- FLUIDS

} Breastfeed frequently, as often and for as long as the infant wants, day or night, during sickness and health.

- WHEN TO RETURN

Follow-up Visit

If the infant has:	Return for follow-up in:
LOCAL BACTERIAL INFECTION DIARRHOEA ANY FEEDING PROBLEM THRUSH	2 days
LOW WEIGHT FOR AGE LOW BIRTH WEIGHT	1 week

When to Return Immediately:

Advise the mother to return immediately if the young infant has any of these signs:
Breastfeeding or drinking poorly Becomes sicker Develops a fever Fast breathing Difficult breathing Depressed breathing Blood in stool Jaundice Increasing Convulsions Not passing urine

- MAKE SURE THE YOUNG INFANT STAYS WARM AT ALL TIMES.
  - In cool weather, cover the infant's head and feed and dress the infant with extra clothing.

GIVE FOLLOW-UP CARE FOR THE SICK YOUNG INFANT

▶ *LOCAL BACTERIAL INFECTION*

After 2 days:
Look at the umbilicus. Is it red or draining pus? Does redness extend to the skin?
Look at the skin pustules. Are there many or severe pustules?
Look in the eyes for redness and purulent discharge

Treatment:

- If ***pus or redness remains or is worse***, refer to hospital.
- If ***pus and redness are improved***, tell the mother to continue giving the 5 days to local antibiotic or local antiseptic and continue treating the local infection at home.

▶ *DIARRHOEA*

After 2 days:
Assess the young infant for diarrhoea. > See "Does the Young Infant Have Diarrhoea?"
Ask:
- Are there fewer stools?
- Is there blood in the stool?
- Is the young infant feeding better?
- Has fever developed?

Treatment:

- If the child is ***dehydrated***, treat dehydration.
- If ***number of stools and feeding are the same or worse, or blood in stools or severe dehydration or fever develops***, refer to hospital. If fever, give first dose of Intramuscular antibiotics before referral.
- If ***fewer stools, no blood in the stools, no dehydration and feeding better,*** continue giving the same management until better.

GIVE FOLLOW-UP CARE FOR THE SICK YOUNG INFANT

▲ *FEEDING PROBLEM*

After 2 days:
Reassess feeding. > See "Then Check for Feeding Problem or low birth weight or Low Weight" above.
Ask about any feeding problems found on the initial visit.

- Counsel the mother about any new or continuing feeding problems. If you counsel the mother to make significant changes in feeding, ask her to bring the young infant back again.
- If the young infant is low weight for age, or low birth weight or ask the mother to return in one week after the initial visit to measure the young infant's weight gain.

Exception:
if you do not think that feeding will improve, or if the young infant has ***lost weight***, refer the child.

▲ *LOW WEIGHT , LOW BIRTH WEIGHT*

After 1 week:
Weigh the young infant and determine if the infant is still low weight for age.
Reassess feeding. > See "Then Check for Feeding Problem or low birth weight or Low Weight" above.

- If the infant is ***no longer low weight for age***, praise the mother and encourage her to continue.
- If the infant is ***still low weight for age, but is feeding well,*** praise the mother. Ask her to have her infant weighed again within a month or when she returns for immunization.
- If the infant is ***still low weight for age and still has a feeding problem,*** counsel the mother about the feeding problem. Ask the mother to return again in one week (or when she returns for immunization, if this is within 1 week). Continue to see the young infant every few weeks until the infant is feeding well and gaining weight regularly or is no longer low weight for age.

Exception:
if you do not think that feeding will improve, or if the young infant has ***lost weight***, refer to hospital.

▲ *THRUSH*

After 2 days:
Look for ulcers or white patches in the mouth (thrush).
Reassess feeding. > See "Then Check for Feeding Problem or low birth weight or Low Weight" above.

- If ***thrush is worse***, or the infant has ***problems with attachment or suckling***, refer to hospital.
- If ***thrush is the same or better***, and if the infant is ***feeding well***, continue half-strength gentian violet for a total of 5 days.

I.D-No_____.

MANAGEMENT OF THE SICK YOUNG INFANT AGE LESS THEN 2 MONTHS

Name: _____ Age: _____days Present weight:_____kg Birth weight_____ kg (for baby less then 7 days, if birth weight not know use present weight as birth weight)

Temperature: _____°C _____°F

ASK: What are the infant's problems?_____ Initial visit?____ Follow-up Visit?___

CHECK FOR POSSIBLE INFECTION • Has the infant had convulsions? • Is the young infant vomiting every thing? • Is the young infant not able to feed?	• Convulsing now • Count the breaths in one minute._____ breaths per minute Repeat if 60 or more_____ Fast breathing? Slow breathing? Apnoea? • Look for severe chest indrawing. • Look for nasal flaring. • Look and listen for grunting. • See if young infant is lethargic or unconscious. • Look at young infant's movements. Less than normal? • Look for pus discharge from eyes • Look at umbilicus. Is it red or draining pus? • Does the redness extend to the skin? • Look for skin pustules. Are there many or severe pustules? • Look and feel for bulging fontanelle. • Look and feel for muscular stiffness or spasm • Fever (temperature 37.5 C or feels hot) or low body temperature (below 35.5 C or feels cool)		
CHECK FOR JAUNDICE • Does the young infant has Jaundice	• See if the jaundice is extended to hands and feet • See if the jaundice is extended to arms and legs only • See if young infant has jaundice but not extended to arms and legs		
DOES THE YOUNG INFANT HAVE DIARRHOEA? Yes_____ No_____ • For how long?_____Days • Is there blood in the stools?	• Look at the young infant's general condition. Is the infant: Lethargic or unconscious? Restless or irritable? • Look for sunken eyes. • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?		

THEN CHECK FOR FEEDING PROBLEM, LOW WEIGHT, LOW BIRTH WEIGHT

- Is there any difficulty feeding? Yes _____ No _____
- Is the infant breastfed? Yes _____ No _____ If Yes, how many times in 24 hours? _____ times
- Does the infant usually receive any other foods or drinks? Yes _____ No _____ If Yes, how often?
- What do you use to feed the child?
- Reduced feeding during illness Yes _____ No _____

- Determine weight for age. Low _____ Not Low _____
- Determine birth weight (if less then 7 days old) very Low _____ (<1.5 kg.) Low _____ (1.5 to <2.5 lg) not low _____ (2.5 kg or more)

If the infant has any difficulty feeding.
Is feeding less than 8 times in 24 hours.
Is taking any other food or drinks, or
Is low weight for age, or
Low birth weight (1.5 < 2.5 kg), or less then 7 days
AND
Has no indications to refer urgently to hospital: assess breastfeeding

.....

ASSESS BREASTFEEDING:

- Has the infant breastfed in the previous hour?

If infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes.

- Is infant's **position** correct? look for :
  - Infant's head and body straight Yes ___ No ___
  - Infant facing the breast with his nose opposite the nipple Yes ___ No ___
  - Infant's body close to mother's body Yes ___ No ___
  - infant's whole body supported Yes ___ No ___

Poor positioning *Good positioning*

- Is the infant able to **attach**? To check attachment, look for:
  - Chin touching breast Yes ___ No ___
  - Mouth wide open Yes ___ No ___
  - Lower lip turned outward Yes ___ No ___
  - More areola above than below the mouth Yes ___ No ___

not attached at all *not well attached* *good attachment*

- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?

not suckling at all *not suckling effectively* *suckling effectively*

- Look for ulcers or white patches in the mouth (thrush).

CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS Circle immunizations needed today.

BCG DPT1 DPT2
OPV 0 OPV 1 OPV 2

Return for next immunization on: _____ (Date)

Immunization to given today _____

ASSESS OTHER PROBLEMS

Advice mother when to return immediately

I.D-NO_____.

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Name:_____ Age: _____ months Weight: _____kg Temperature:_____°C _____°F

ASK: What are the child's problems? _____ Initial visit?____Follow-up Visit?____

ASSESS (Circle all signs present)		**CLASSIFY**	**TREAT**
CHECK FOR GENERAL DANGER SIGNS • NOT ABLE TO DRINK OR BREASTFEED • VOMITS EVERYTHING • CONVULSIONS	• LETHARGIC OR UNCONSCIOUS • CONVULSING NOW **ANY DANGER SIGN PRESENT** Yes ____ No ____		
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? • For how long? ____ Days	Yes ____ No ____ • Count the breaths in one minute. (child must be calm) _____ breaths per minute. Fast breathing? • Look for chest indrawing. • Look and listen for stridor. • Look and listen for wheeze		
DOES THE CHILD HAVE DIARRHOEA? • For how long? _____ Days • Is there blood in the stools?	Yes ____ No ____ • Look at the child's general condition.Is the child: Lethargic or unconscious? Restless or irritable? • Look for sunken eyes. • Offer the child fluid. Is the child: Not able to drink or drinking poorly? Drinking eargerly, thirsty? • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?	....	
DOES THE CHILD HAVE THROAT PROBLEM: • Does the child have sore throat? • Is the child not able to drink? • Does the child have fever?	Yes ___ No___ • Fever (temperature 37.5°C or above). • Feel for tender enlarged lymph nodes on the neck. • Look for red, enlarged tonsils. • Look for white exudate on the throat.		
DOES THE CHILD HAVE AN EAR PROBLEM? - Is there severe ear pain? - Is there ear discharge? If Yes, for how long? ___ Days	Yes ___ No___ • Look for pus draining from the ear. • Feel for tender swelling behind the ear.		
DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37.5°C or above) Decide Malaria Risk: High, Low, or No Malaria Risk **If low or no then ask:** • Has the child trevelled to high or low malaria risk area in the last one month Yes No (if yes: use relevent malaria risk area) • Fever for how long? _____ Days • If more than 7 days, has fever been present every day? • Has child had measles within the last three months? .... **If the child has measles now or within the last 3 months:**	Yes ___ No___ • • Look for signs of MEASLES: • Generalized rash of measles **AND** • One of these: cough, runny nose, or red eyes. .... • Look for mouth ulcers. If Yes, are they deep and extensive? • Look for pus draining from the eye. • Look for clouding of the cornea.	....	

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ASSESS (Circle all signs present)	CLASSIFY	TREAT
THEN CHECK FOR MALNUTRITION • Look for visible severe wasting. • Look and feel for oedema of both feet. • Determine weight for age. Very Low ___ Not Very Low ___		
THEN CHECK FOR ANAEMIA • Look for palmar pallor Severe palmar pallor? Some palmar pallor?		
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today. BCG DPT1 DPT2 DPT3 OPV 0 OPV 1 OPV 2 OPV 3 Measles	Return for next immunization on: (Date)	Immunization to be given today?
FOR CHILDREN 6 MONTHS OR ABOVE **CHECK THE CHILD'S VITAMIN A SUPPLEMENTATION STATUS** Has the child received vitamin A in the last 6 months Yes___ No ___	Vitamin-A needed Yes____ No ____	Vitamin-A to be given today? Yes____ No ____
FOR CHILDREN 2 YEARS OR ABOVE **CHECK THE CHILD'S DEWORMING STATUS** Has the child received pyrantel pamoate in the last 6 months Yes___ No ___	Pyrental Pamoate needed Yes____ No ____	Pyrental Pamoate to be given today? Yes____ No ____
ASSESS CHILD'S FEEDING if child has ANAEMIA OR VERY LOW WEIGHT or is less than 2 years old. • Do you breastfeed your child? Yes____ No ____ If Yes, how many times in 24 hours? ___ times. Do you breastfeed during the night? Yes____ No ____ • Does the child take any other food or fluids? Yes____ No ____ If Yes, what food or fluids? _____ How many times per day? ___ times. What do you use to feed the child? _____ • If very low weght for age: How large are servings? _____ Does the child receive his/her own servings?____ Who feeds the child and how? _____ • During the illness, has the child's feeding changed? Yes____ No ____ If Yes, how? _____	FEEDING PROBLEMS	FEEDING ADVICE
ASSESS OTHER PROBLEMS		

Malaria Risk Areas *(Districts)*

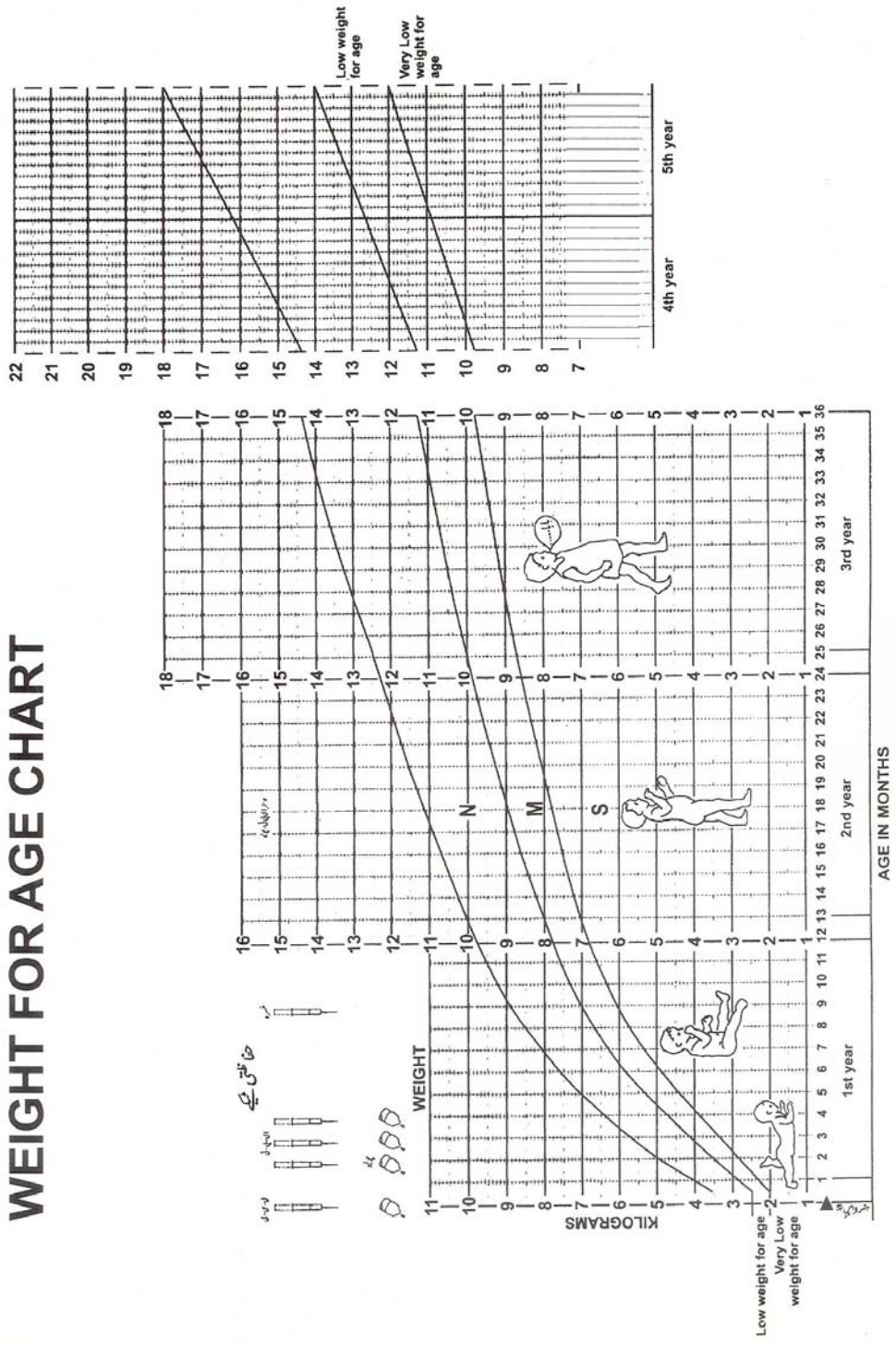
High Malaria Risk	Low Malaria Risk	No Malaria Risk

NOTES

35

Temperature Conversion Table °C / °F

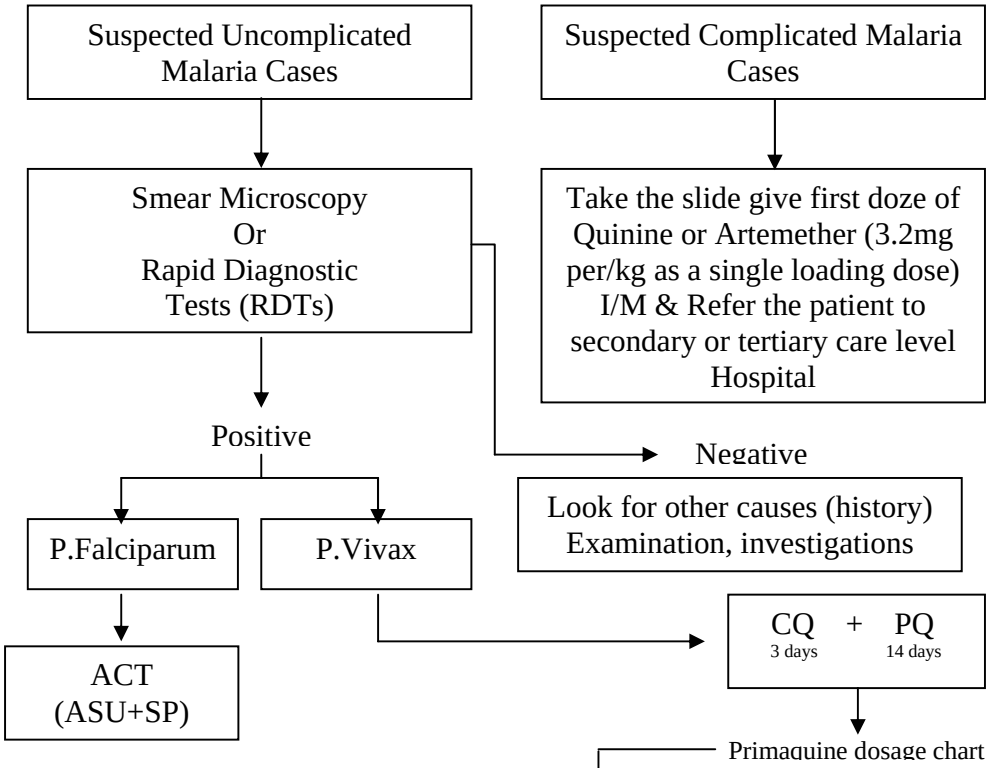
°F	to	°C
0	=	-17.7
95	=	35.0
97	=	36.1
98	=	36.6
98.6	=	37.0
99	=	37.2
100	=	37.7
101	=	38.3
102	=	38.8
103	=	39.4
104	=	40.0
105	=	40.5
106	=	41.1


WEIGHT FOR AGE CHART
Low weight for age
Very Low weight for age
4th year
5th year
WEIGHT
KILOGRAMS
N
M
S
1st year
2nd year
3rd year
AGE IN MONTHS
Low weight for age
Very Low weight for age

15. GUIDELINES FOR MALARIA

Uncomplicated Malaria: *P. falciparum* malaria is very variable and mimics that of many other diseases. Although fever is common, it is absent in some cases. The fever is initially persistent rather than tertian (spikes of fever on alternate days). The expectation that *P. falciparum* malaria should have a tertian fever pattern may lead to the diagnosis of malaria being missed with a consequent delay in treatment. The fever may or may not be accompanied by rigors. True rigors are relatively unusual in acute falciparum malaria.

Complicated Malaria: Severe malaria is caused by *Plasmodium falciparum* infection and usually occurs as a result of delay in treating an uncomplicated attack of falciparum malaria. Sometimes, however, especially in children, severe malaria may develop very rapidly. Recognizing and promptly treating uncomplicated *P. falciparum* malaria is therefore of vital importance.



Radical treatment for FALCIPARUM malaria

AGE	Day1		Day2	Day3
	Fansidar (500+25 mg tablets)	Artesunate (500 mg tablets)	Artesunate (500 mg tablets)	Artesunate (500 mg tablets)
<1	½	½	½	½
1-2	1	1	1	1
3-4	1	2	2	2
5-11	2	3	3	3
12+	3	4	4	4

Pregnancy Smear Positive			
Trimester	Vivax	Falciparum	With Complications
1st	Chloroquine	Quinine	REFER TO HOSPITAL
2nd / 3rd	Chloroquine	SP.AS	

Chloroquine dosage chart

AGE	Day1	Day2	Day3
	Choloroquine (150 mg base tablets)	Choloroquine (150 mg base tablets)	Choloroquine (150 mg base tablets)
1-11 months	½	½	½
12-24 months	1	1	½
3-4 years	1 ½	1 ½	1 ½
5-6 years	2	2	1
7-14 years	3	3	2
15+	4	4	2

Primaquine dosage chart

PRIMAQUINE – 15mg/7.5mg Tablets, (0.25 mg base/kg bwt. /day)	
Weight – kg (AGE)	Dose No. of Tablets
5-8 kg 0-4 years	Do not give Primaquine
12-24 months	1
3-4 years	1 ½
5-6 years	2
7-14 years	3
15+	4

PLEASE BE INFORMED

1. Only treat confirmed malaria cases through microscopy or RDT except children <5 and suspected severe malaria if lab is not available.
2. Give 1st dose of antimalarial treatment in your presence and ensure patient takes the full dose and completes the treatment.
3. Follow up the patient on the day 3,7,14,21 and 28 days if possible to ensure clinical and parasite clearance.
4. Refer all the suspected severe and complicated malaria cases after I/M Quinine Or Artmether.
5. Avoid using CQ injections or halofantrine.
6. Never prescribe Artemesinine compounds as monotherapies.
7. Do not give Primaquine to pregnant women and children <4 years.
8. Avoid using ACT and Fansidar (SP) during first trimester or pregnancy.

Follow up positive cases
2nd LINE TREATMENT & for PF cases in 1st TRIMESTER PREGNANCY
Quinine dosage=10 mg/kg, 8 hourly for 7 days

AGE	Weight	No. of Tablets
		Quinine (300 mg tablets, 3 times a day for 7 days)
<1 year	5-6 kg	¼
1-4 years	11-14 kg	½
5-7 years	19-24 kg	1
8-10 years	25-35 kg	1 ¼
11-15 years	37-50 kg	1 ½
above 15	> 50 kg	2

16. Guidelines for the Treatment of Common Skin Diseases

Scabies

1. Treatment is aimed at killing scabies mites through any of the following applications:
    a. Benzyl benzoate lotion 25% to 35% applied from the neck down on the entire body and left overnight. Two treatments are required 1 week apart. Patients will continue to itch for several days or weeks after treatment. Chlorpheneramine maleate tablets or triamcinolone 0.1% cream will help.

    b. Crotamiton cream or lotion is applied as above, but is used nightly for 5 nights.

    c. Permethrin 5% dermal cream is highly effective and needs only single application. It is treatment of choice in children.

    d. Gamma benzene hexachloride 1% cream or lotion may be used in adults but is potentially neurotoxic. Its use is discouraged in infants, pregnant women, any patient with wide spread excoriations and open skin, as well as over use in adults.

2. If secondary pyoderma is present, treat with systemic and topical antibiotics

3. Bedding and clothing should be laundered, or ironed, or exposed to sunlight, or set aside for 4 days

4. Aim treatment at all infected persons in a family or institution, otherwise reinfestation will probably occur

Tinea Capitis

1. Local Measures: use selenium 2.5% shampoo twice weekly

2. Systemic Therapy: Griseofulvin 15mg/kg/day orally. May need to increase the dose to 20-25 mg/kg/day. Response is slow and therapy is required for 3 or more months.

Tinea Corporis or Tinea Circinata (Body Ringworm)

1. Local Measures: The following applied topically are effective other than nails:
    - Gention Violet 1% solution
    - Miconazole 2% cream
    - Clotrimazole 1% solution, cream or lotion
    - Ketoconazole 2% cream
    - Econazole 1% cream or lotion
    - Sulconazole 1%cream
    - Oxiconazole 1%cream
    - Ciclopirox 1% cream
    - Naftifine 1% cream or gel

- Terbinafine 1% cream

2. Systemic Measures: Griseofulvin for 2-4 weeks at 15mg/kg/day for children and 250-500mg twice daily for adults

Tinea Cruris (Jock Itch)

1. General Measures: Drying powder (eg, miconazole nitrate) should be dusted into the involved area in patients with excessive perspiration or occlusion of skin due to obesity. Avoid over bathing. Underwear should be loose fitting.
2. Local Measures: Any of the preparations listed for Tinea Corporis may be used.
3. Systemic Measure: Griseofulvin is used only in severe cases.

Tinea Pedis (Athlete's Foot)

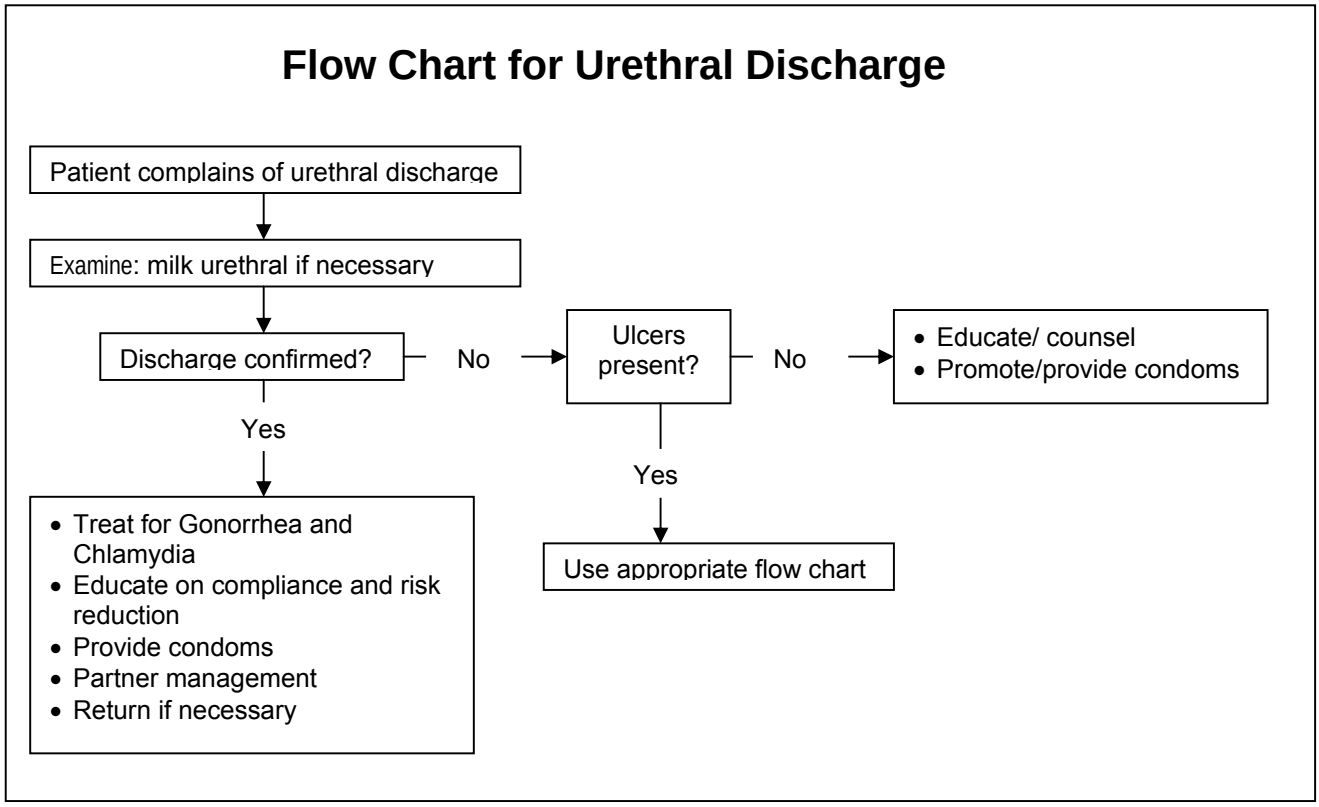
1. Local Measures: Do not over treat.
    a. Macerated stage: treat with aluminium subacetate solution soaks for 20 minutes 2-3 times daily. It may respond better to 30% aluminium chloride or to carbofuchsin paint or gentian violet solution than to antifungal agents. Broad spectrum antifungal creams and solutions alone may be adequate therapy.
    b. Dry and scaly stage: use any of the agents listed for Tinea Corporis.

2. Systemic Measures: Griseofulvin should be used only for severe cases or those recalcitrant to topical therapy.

Tinea Versicoler

Topical treatment include selerium sulfide lotion, which may be applied from neck to waist daily and left on for 5-15 minutes for 7 days. This treatment is repeated weekly for a month and then monthly for maintenance.

17. NATIONAL STD CASE MANAGEMENT GUIDELINES

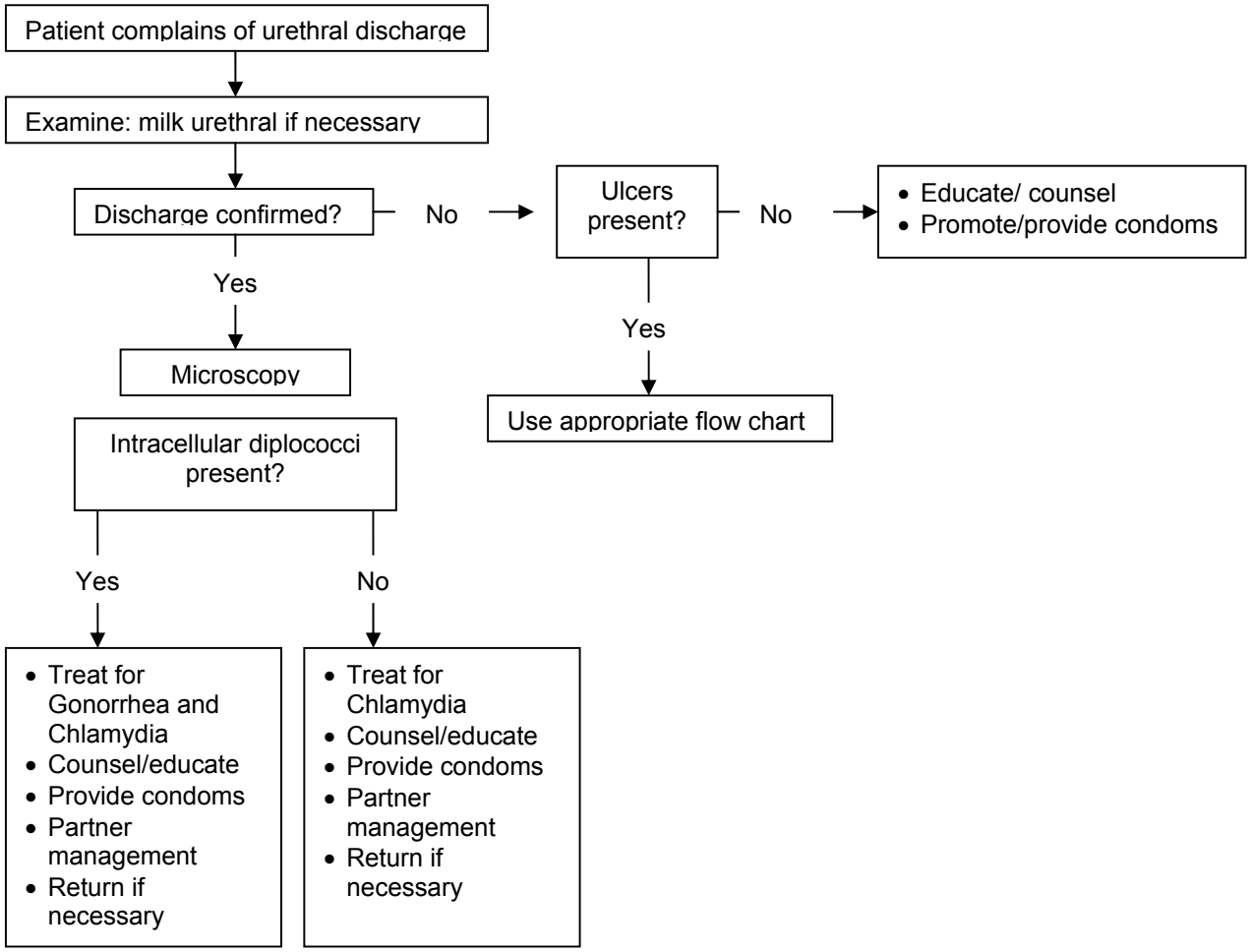


Syndromic Treatment of Urethral Discharge:

Ciproflxacin, 500 mg as a single oral dose or Amoxycillin, 3.0 gms + probenecid 1 gm single dose orally

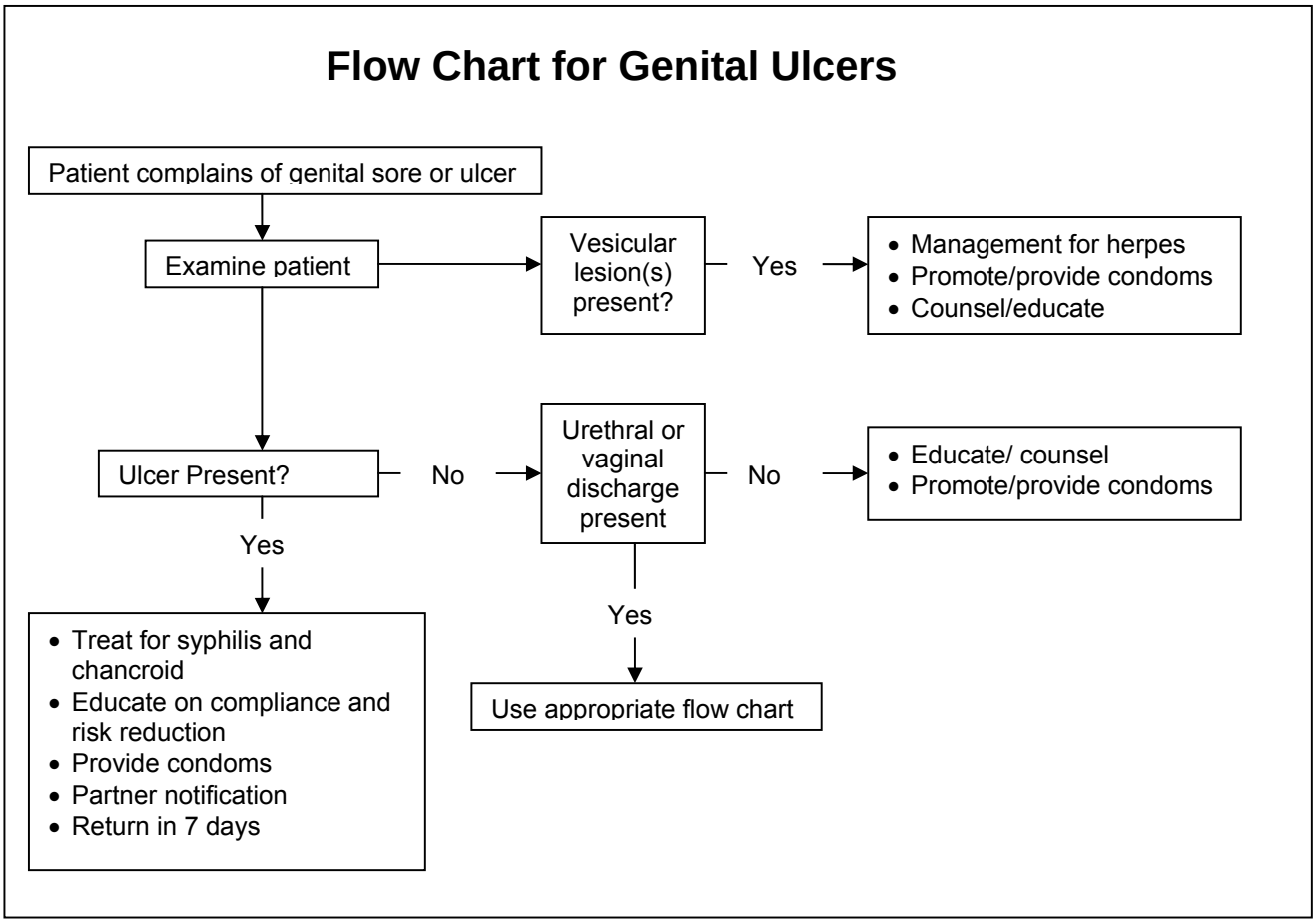
Plus Doxycycline 100mg orally twice daily for 7 days.

Flow Chart for Urethral Discharge with microscope



Treatment for Gonorrhoea: Ciproflxacin, 500 mg as a single oral dose or Amoxycillin, 3.0 gms + probenecid 1 gm single dose orally

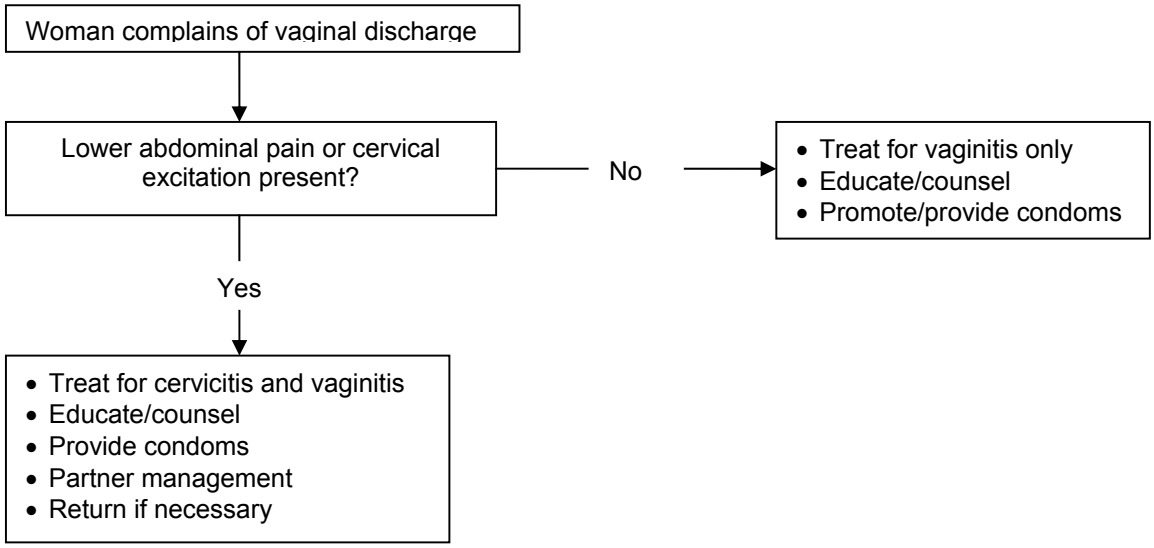
Treatment for Chlamydia: Doxycycline 100mg orally twice daily for 7 days.



Syndromic Treatment of Genital Ulcer

Benzathine Penicillin, 2.4 million unit by intramuscular injections in a single session. PLUS Erythromycin, 500 mg three times daily for 7 days.

Flow Chart for Vaginal Discharge



Treatment of Cervicitis

Ciproflxacin*, 500 mg as a single oral dose or Amoxycillin, 3.0 gms + probenecid 1 mg single dose orally

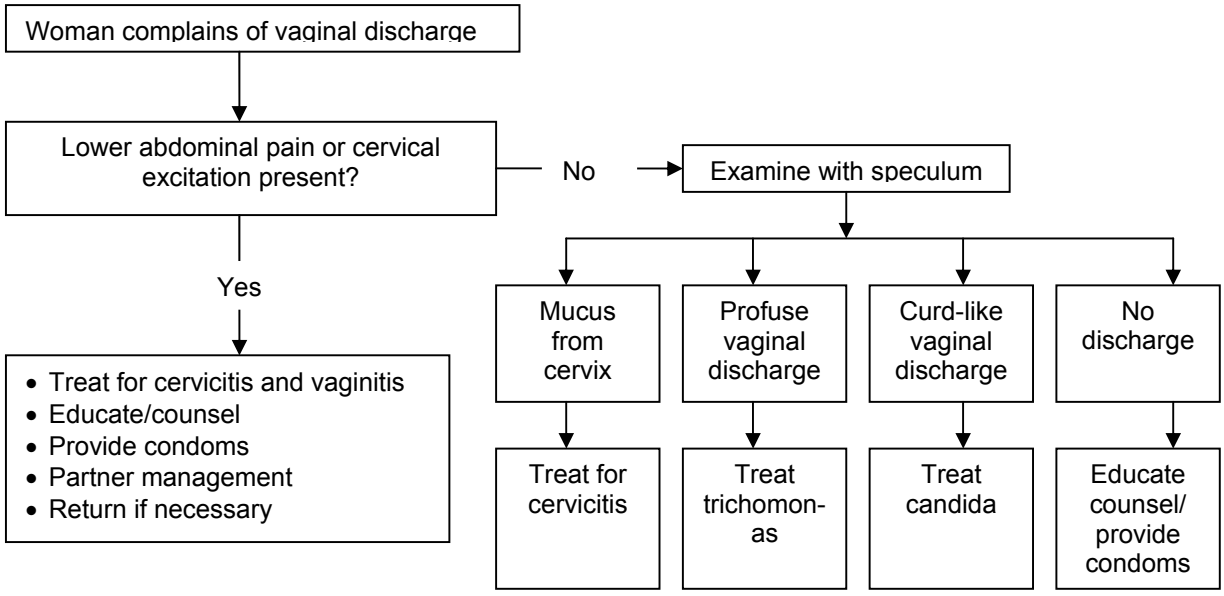
Plus Doxycycline* 100mg orally twice daily for 7 days or in pregnant women erythromycin, 500 mg orally 4 times daily for 7 days.

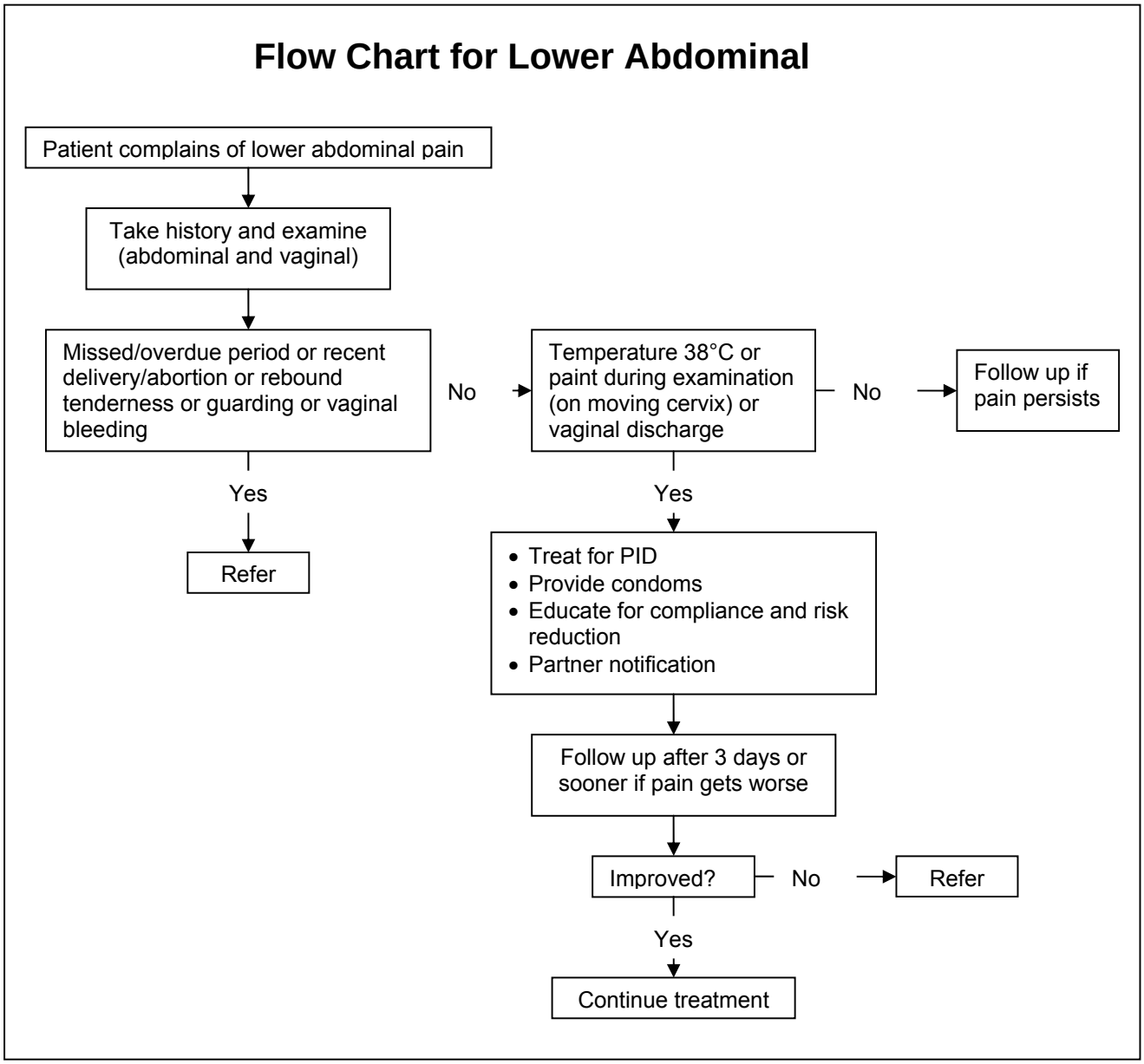
* contraindicated in pregnancy

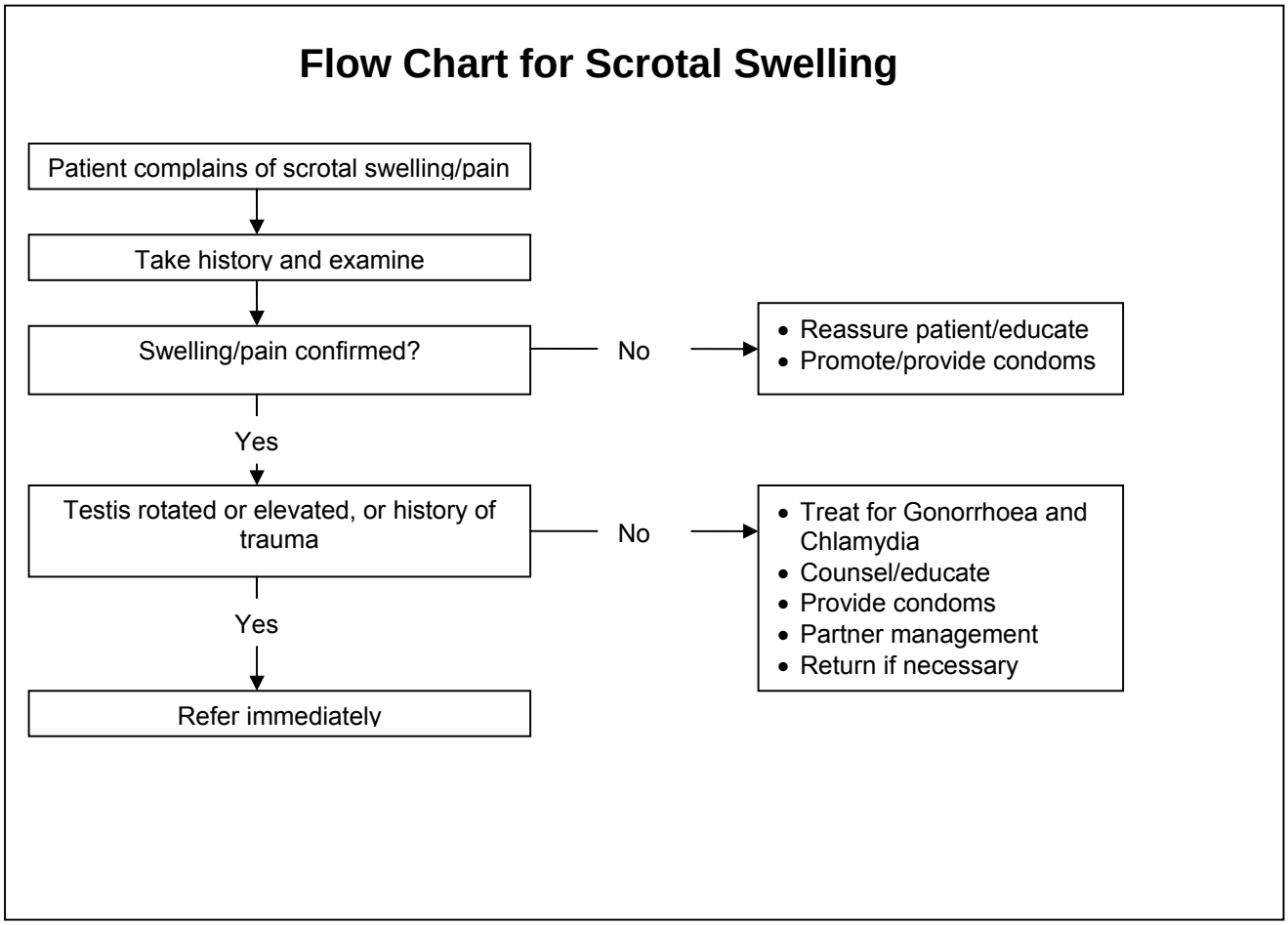
Treatment of Vaginitis

Metronidazole, 2.0 gms single dose. PLUS Cotimazole, 200mg intravaginally daily for 3 days
Or
Nystatin, 100,000 units intravaginally daily for 14 days

Flow Chart for Vaginal Discharge with speculum




Flow Chart for Lower Abdominal
Patient complains of lower abdominal pain
Take history and examine (abdominal and vaginal)
Missed/overdue period or recent delivery/abortion or rebound tenderness or guarding or vaginal bleeding
No
Temperature 38°C or paint during examination (on moving cervix) or vaginal discharge
No
Follow up if pain persists
Yes
Refer
Yes
• Treat for PID
• Provide condoms
• Educate for compliance and risk reduction
• Partner notification
Follow up after 3 days or sooner if pain gets worse
Improved?
No
Refer
Yes
Continue treatment

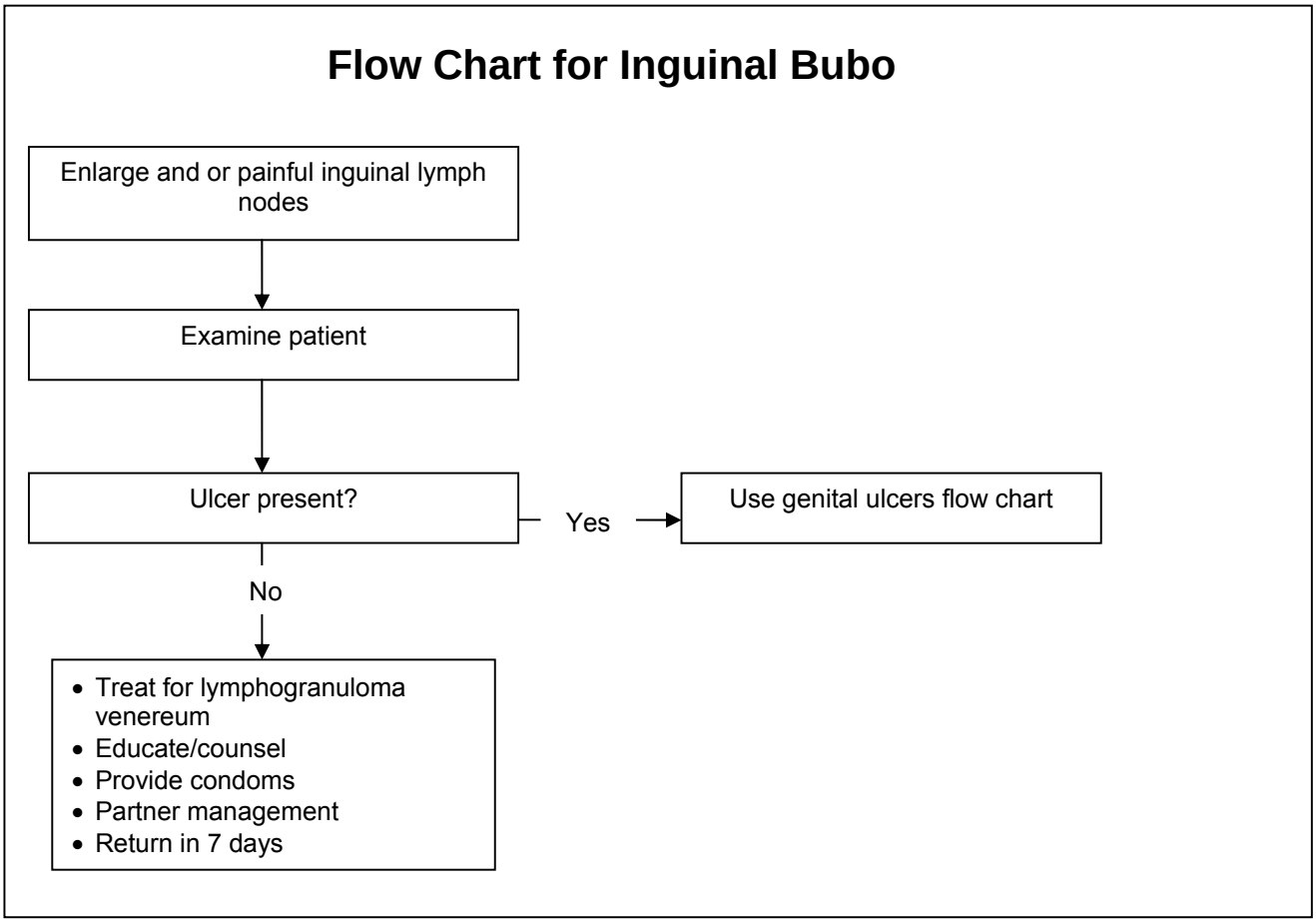


Syndromic Treatment of Scrotal Swelling:

Treat for Gonorrhoea and Chlamydia

Ciproflxacin, 500 mg as a single oral dose or Amoxycillin, 3.0 gms + probenecid 1 gm single dose orally

Plus Doxycycline 100mg orally twice daily for 7 days.



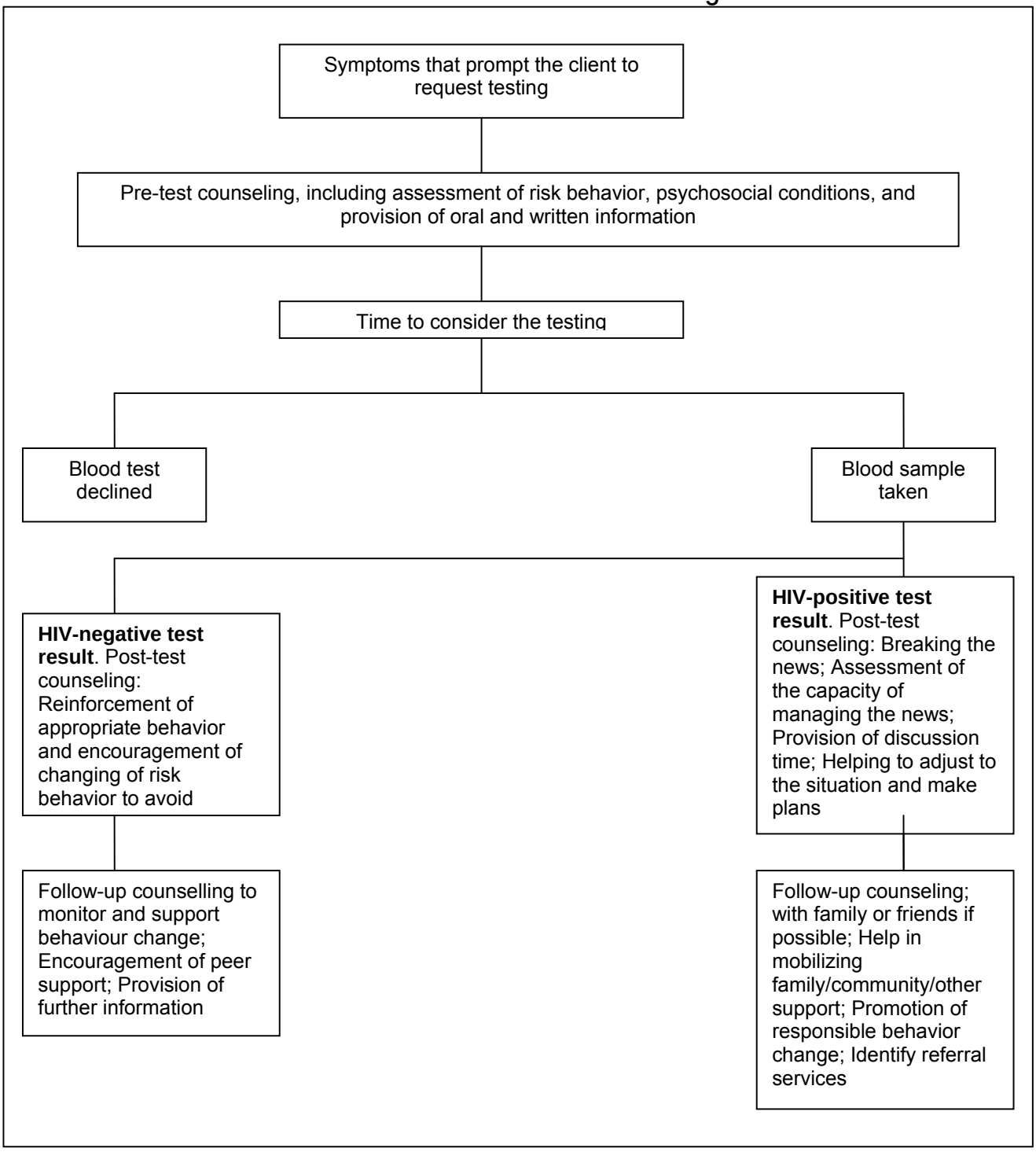
Syndromic Treatment of Inguinal Bubo:

Doxycycline, 100 mg orally twice daily for 14 days OR tetracycline, 500 mg orally four times daily for 14 days.

Alternative Regime: Erythromycin, 500 mg orally four times daily for 14 days or Sulphadiazine, 1 gm orally four times daily for 14 days.

18. GUIDELINES FOR VOLUNTARY COUNSELING AND TESTING (VCT)

The Process for Counseling



19. Guidelines for the Counselor for a Successful VCT session:

Introduction:

- Greet the patient
- Introduce yourself
- Emphasize confidentiality
- Emphasize anonymity
- Explain the counseling procedure

Assessment:

- Ask the client about his concerns
- Ask the client about his knowledge of the disease, and its risks
- Ask the client about possible risk behavior
- Ask the client about possible support
- Ask the client about his possible reaction to the result

Intervention:

- Identify first and later priorities
- Identify options for the immediate management of test results
- Emphasize prevention
- Identify other appropriate support
- Encourage the client to take charge

Summary:

- Summarize what has happened and what still needs to be done
- Check that the client has understood the topics discussed

Standard 2.10

All children who visit the facility have their weight plotted correctly on their card and have their immunization status checked.

2.10.a All under three children coming to the facility are weighed.

2.10.b Weight is accurately plotted on the child's health card and follow-up action taken based on the plot.

Weighing children under five is a very useful measure for their growth monitoring and its cost-benefit value is very high. Weight-for-Age is the most sensitive indicator of growth, and an objective assessment that detects even minor changes in the rate of growth. It does not distinguish between acute or current malnutrition (wasting) and chronic or previous malnutrition (stunting), but is a composite of both of these conditions. Monitoring growth has great value in promoting health and preventing malnutrition by catching and addressing problems early. When correctly used, it can be a simple but powerful tool for the nutrition education of mothers and families.

Increase in weight with age is more important than weight on any one occasion. Normal healthy children should be weighed at the times of their immunizations, at three months intervals up to one year of age, and then six month intervals up to three years of age. At the health facility, all children under three years should be weighed who come to the center.

Weighing Equipment

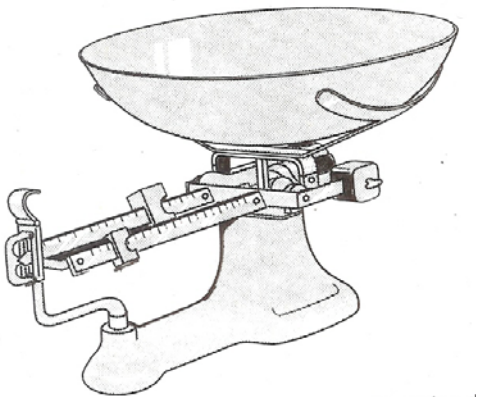
Weighing can be done by using: (a) hanging scale, (b) beam balance, (c) adult scale with toddler bar, and (d) bathroom scale.

Hanging Scale: This scale consists of a spring which stretches when weight is hung on it and the extension of the spring moves a needle in the dial. They can be used for children up to 25 kg, hence, are suitable for children between ages zero and five years: To weigh a child:

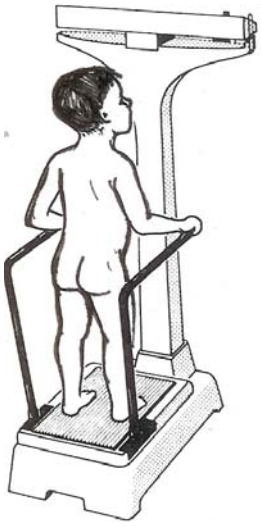
- Make sure that the scale is hanging securely with the dial at eye level
- Adjust the scale to zero with empty weighing pants
- Ask the mother to undress the child
- Put the weighing pants on the child
- Attach the strap of the pants to the hook of the scale. DO NOT CARRY THE CHILD BY THE STRAP ONLY. Gently lower the child and allow him to hang freely.
- Read the weight to the nearest 0.1 kg when the scale needle is stationary.
- Lift the child gently by the body. DO NOT LIFT THE CHILD BY THE STRAP OF THE WEIGHING PANTS.
- Record the weight and plot it on the chart, explaining the meaning to the child's mother.

Beam Balance: The scale is illustrated in figure below and is especially suited to weighing infant. The major drawbacks are: (a) its high purchase price, (b) difficulty of weighing older children and the problem of holding children still and preventing them from trying to get off the scale while the weights are balanced, (c) the method of reading the result is more complicated than reading a revolving needle on a circular scale. When weighing a child:

- Make sure that the scale is on a stable, level surface as a beam balance scale weighs accurately only if it is positioned on a firm, level base.
- Adjust the scale to zero
- Ask the mother to undress the child and place her/him on the balance
- Use the 5 kg. weight on the hook at the end of the beam if necessary
- Adjust the sliding poise until the beam is "floating" and the pointer at the end of the beam points at zero.



- Read the weight from the position of the poise plus the 5 kg. weight, if used, and record it.
- DO NOT walk away from a child sitting or lying on the scale, as it is possible for the child to fall.



Adult Scales With Toddler Bar: The scale is illustrated below and is suitable for children above one year. The small movements of the platform of an adult scale can frighten the child, and to overcome this toddler bars are attached. The child holds the bar while being weighed and feels more secure.

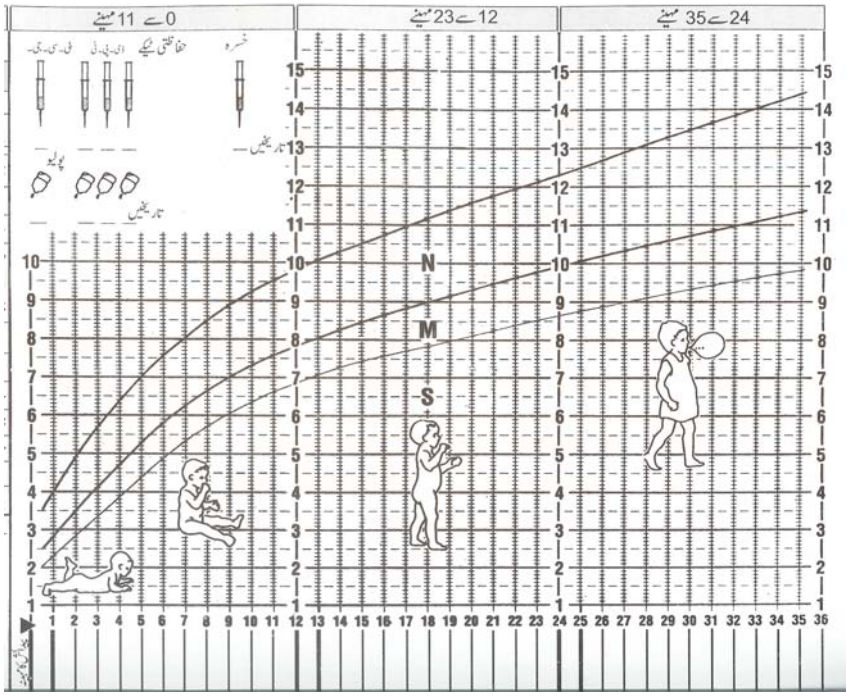
Bathroom Scales: This is primarily for adults but can be used for children if the above scales are not available at the health facility.

- Place scale on the ground and adjust to zero.
- Ask the mother to undress the child (who can walk) and maker her/him stand on the weighing platform.
- For small babies, first weigh the mother and then weigh the mother with the baby (without clothes) being held in her arms. The weight of the child is the difference between the successive weighings.

In some places, mothers prefer not to undress their children completely. Babies' clothes in hot climates weigh very little, and will not change significantly between weighings, but in winter they are heavy and would make substantial difference. Therefore, it is important that mothers are convinced with dialogue to take the clothes off and the weighing place is kept warm in winters.

Plotting Weight on Health Card

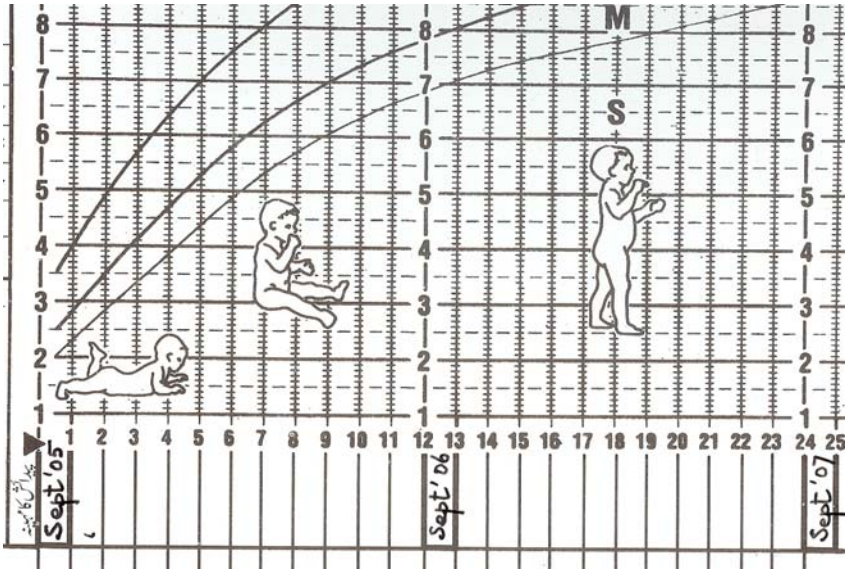
It is not only important to weigh the child correctly but also to enter correctly the information in the growth chart on the health card.



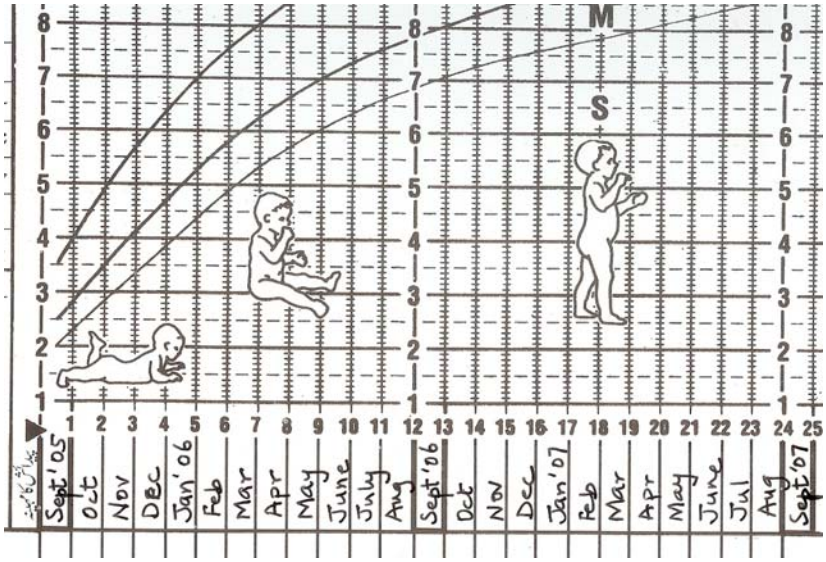
- At the first weighing, find out the month and year of birth of the child. Often, mothers do not remember the birth date of her child. In such circumstances, age can be estimated using a local events calendar. The health facility staff should develop a local events calendar. For this first identify special local or national events that occurred only in one particular year, i.e. an election, a fire or flood, a special occasion such as an important marriage, building of a road, etc. These events should distinguish one year from another, and there should be at least one per year and are

significant that everyone in the community is likely to remember them. Following this, fill in monthly events that happen every year, such as religious occasions, festivals, seasons, etc. These events are used to estimate the month of birth and there should be at least one significant event per month. Use this calendar for estimating month and year of birth.

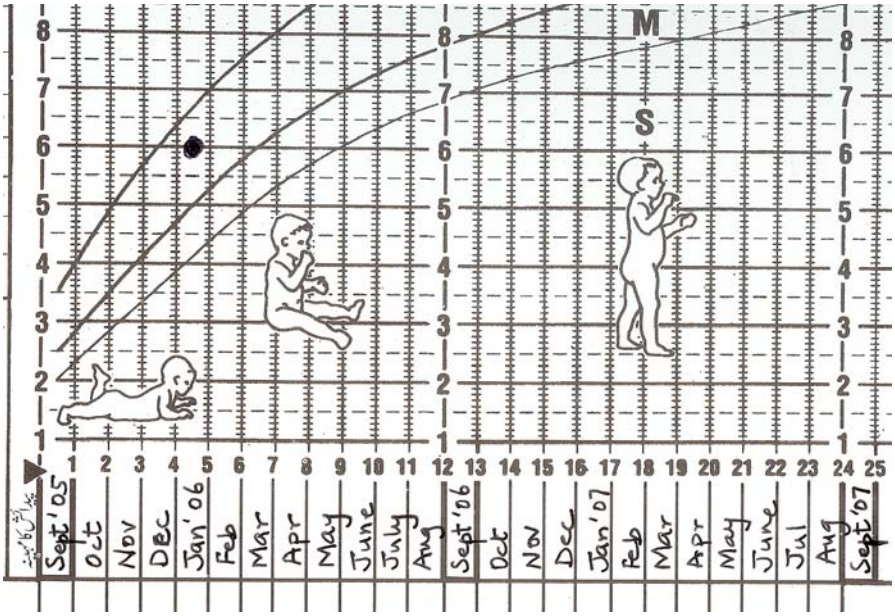
- Write the month and year of birth on the weight chart. For example, suppose the child was born in September 2005. Note this month and year in the first box on the extreme left-hand side.



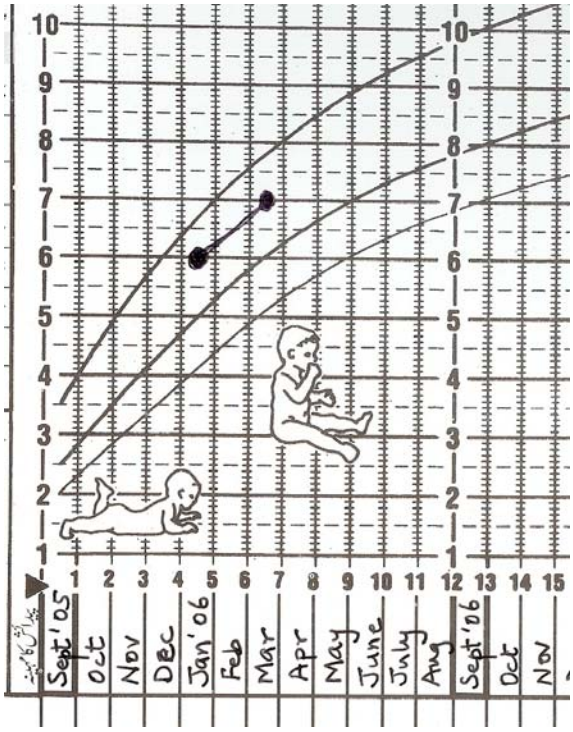
- There are 12 months in each panel, hence, one panel is for a full year. This means that the first box in every panel, which has a darker line around it, always has the birth month written in it. Then write down the months in between. When you come to January, put the next year (2006) against this, and subsequent years in each January.



- Weigh the child and put a large dot on the graph corresponding to the weight of the child and the month in which weighing took place. For this, the dot must be on the same level as the weight – on the same horizontal line; and it must be directly above the month date – on the same vertical line as the date of weighing.



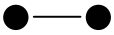
- Follow the same instructions for weighing and plotting the weight on the growth chart in later weighings. Join together the dots for the two weighings.



Interpretation of Weight Curve and Follow-up Action

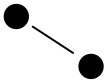
When the plotted weight dots on the growth chart are joined together by a line, the child's growth line is created. Note the change in weight between the two weighings. If the weight has increased, *it is a good sign*. Tell the mother that her child is growing well. If the weight has stayed the same or gone down, *this is not good.* Give or repeat nutrition counseling and help mother understand the steps she must take for the child to gain weight. Advise her to return back next month. If the child is severely malnourished, the child should be seen by the doctor.

Good
Child is growing well



Danger Sign
suggest feeding the child

at least 5 times each day



Very dangerous
should be seen by doctor

2.10.c Immunization status is checked and missing immunizations given.

2.10.d Weight and vaccination information are given to the parent/care taker

EPI Program focuses on immunizing children under one year of age and women of child bearing age, however, it does not reject eligible children of age up to 5 years if they have not been vaccinated earlier. All staff at a primary health care facility should be familiar with the National Immunization Schedule given in Standard 2.9.

All children under five coming to a primary health care facility for any care should be screened for their immunization status. Those who have not receive adequate immunization should be given the required immunization during their visit to the facility.

Giving of information to the mother or care taker of the child about weight was explained above. Similarly, information about the immunization status should also be given. The importance for completing immunization should be emphasized through appropriate health education techniques using appropriate materials as described in measurable criteria 2.11.b.

Standard 2.11

Healthcare providers regularly educate their clients on health issues in a way that is easy to understand

The effectiveness of health promotion and disease prevention services is ultimately determined by whether the community people bring positive behavior changes related to health or not. For people to adopt positive behaviors for health, healthcare providers must know how to communicate with them and provide them with necessary knowledge and skills. This requires that the healthcare providers themselves have good communication skills for health education to a group and to individual clients/patients.

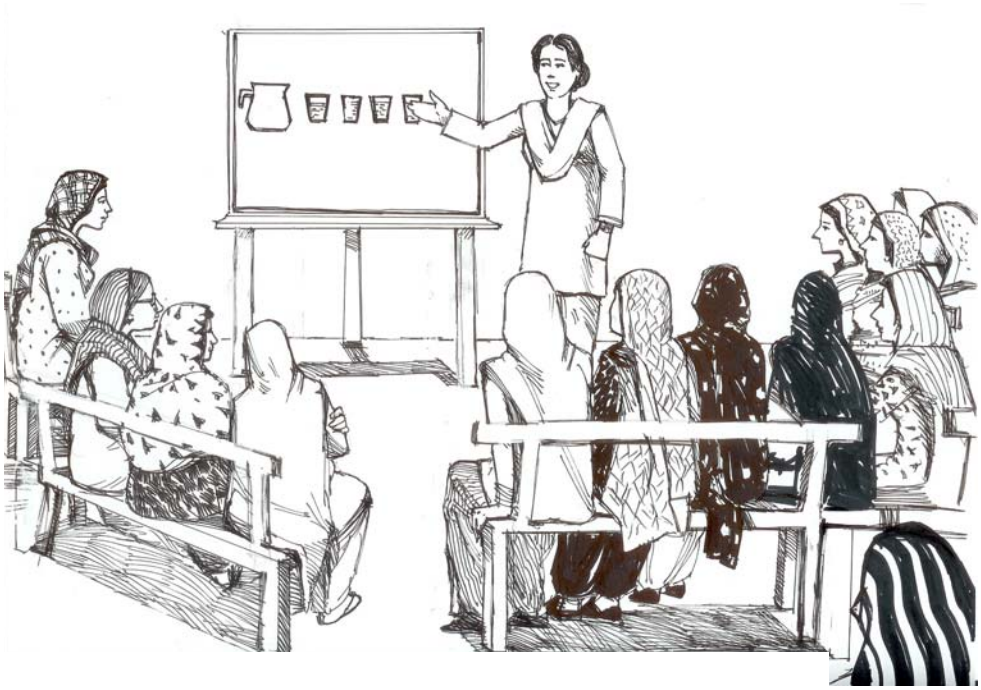
2.11.a Healthcare providers conduct group health education sessions at least four times a month.

2.11.b Healthcare providers use the following materials during client/patient counseling/education sessions: posters, family planning materials, brochures, leaflets, flipcharts and cue cards

The facility staff should identify the priority topics for health education for a year and schedule weekly health education sessions either at the facility or at designated places in the community. While conducting the session following points should be considered.

- Place should be such that there are no distractions and disturbances
- Seating arrangement should allow 15-20 people to sit conveniently either on chairs or *dari* on floor.
- Preferably, participants should sit in a circle to face each other rather than a classroom style
- Didactic lecture should NOT be given, but various important points should be discussed in an interactive way with the participants.
- One topic should be discussed in one session
- Participants should not be overloaded with information
- All messages should be given in simple language using local terminologies
- No unscientific or incorrect information should be given nor should any necessary information should be withheld (such as side effects of hormonal contraceptives).
- Participants should be encouraged to ask questions

- Checking questions should be repeatedly asked to ensure that participants are able to comprehend the messages.



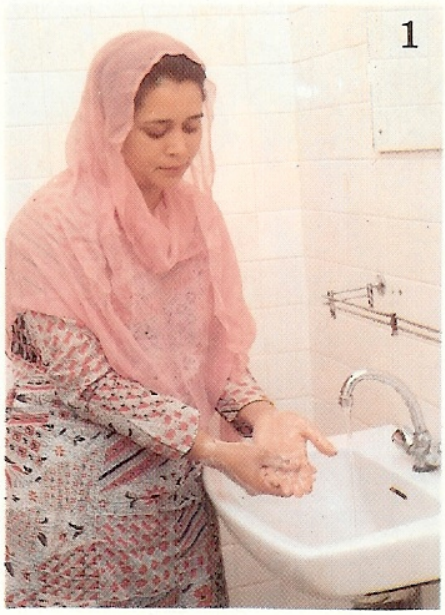
While conducting the health education sessions, health education materials (such as posters, brochures, leaflets, flip charts, cue cards, audio cassettes, models, dummies) should be used. Various national and provincial health programmes have produced health education materials and should be acquired from them through EDO(H) Office.

2.11.c Health education messages (posters and charts with pictures and minimal text) are visibly posted in prominent areas within the facility.

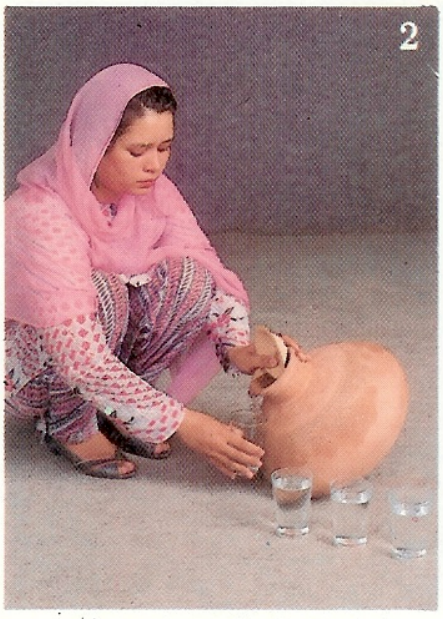
2.11.d Health education written material is available for clients/patients to read and take home.

Attractive posters and charts carrying health education messages should be displayed at prominent places in the facility. These should have meaningful pictures with minimal text and be able to convey the message clearly. Again, these can be acquired from various national and provincial programmes through EDO(H) Office or the staff could develop their own in collaboration of the community people, such as an art teacher in the nearby school.

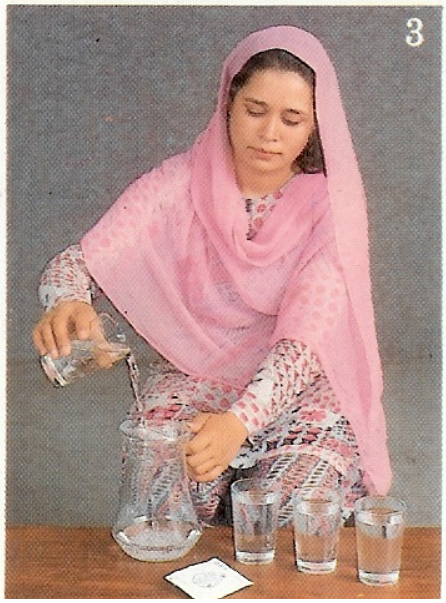
Besides messages on the walls, health education written material should also be available for the clients/patients to read at the facility and for taking it back home. An example of such a material prepared by the Control of Diarrheal Diseases Programme is attached as an example.

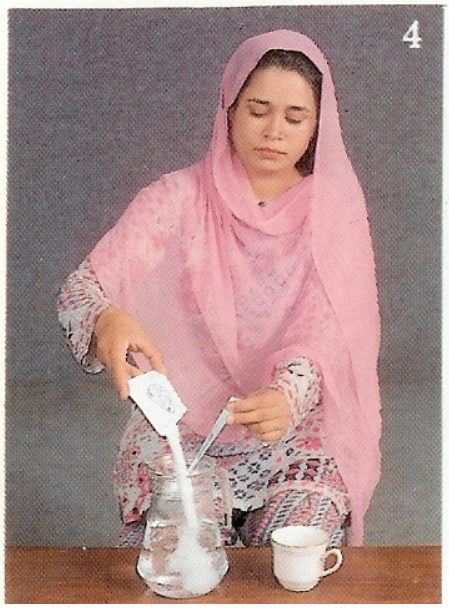


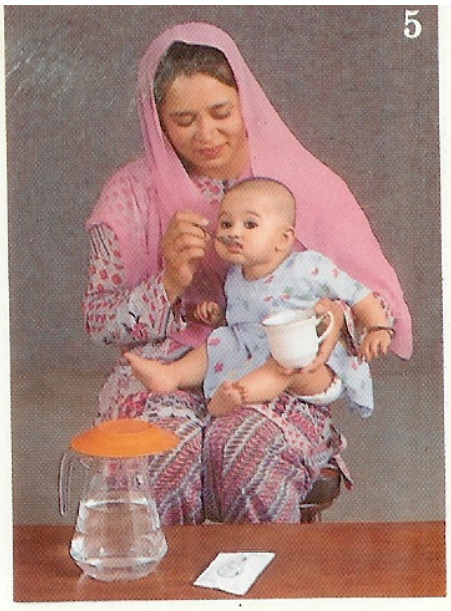
او۔ آر۔ ایس ملا پانی بنانے، کھانا پکانے، بچے کو کھانا کھلانے اور دودھ پلانے سے پہلے اپنے ہاتھ صابن سے اچھی طرح دھو لیں۔



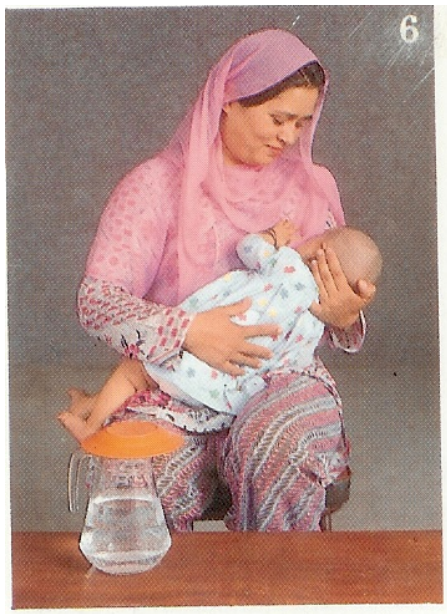
ایک لیٹر (پاؤ بھر کے ۴ گلاس) پینے کا صاف پانی لیں۔



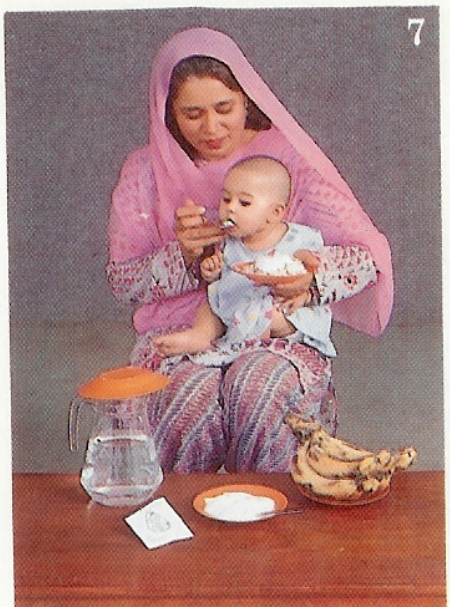


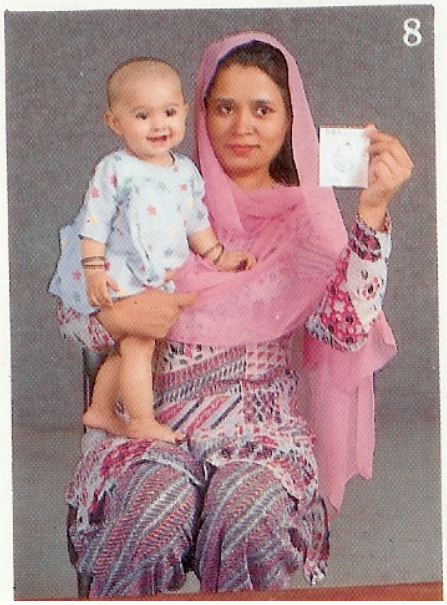


بچے کو ہر دست کے بعد تقریباً ایک پیالی یا بچہ جتنا پی سکے او۔ آر۔ ایس ملا پانی پلائیں۔ جب تک دست بالکل ختم نہ ہو جائیں اس وقت تک بچے کو او۔ آر۔ ایس ملا پانی پلاتی رہیں۔



دست کی بیماری کے دوران بچے کو ماں کا دودھ زیادہ مرتبہ پلائیں۔ اگر بچے کی عمر ۴ ماہ سے زیادہ ہے تو ماں کے دودھ کے ساتھ ساتھ اسے پینے کے لیئے دوسری چیزیں جو گھر میں موجود ہیں مثلاً چاول کا پانی بھی دے سکتے ہیں۔





Standard 2.12

Clients/patients are given accurate information about their medication regime to enable them to manage it.

2.12.a The healthcare provider/dispenser instructs clients/patients about the medication, the amount of medication to take, what time of the day it should be taken and for how long it should be taken.

2.12.b The healthcare provider/dispenser checks that the client/patient understand the instructions.

Medicines are most effective when they are used correctly and could prove to be harmful if taken in excessive dose. Therefore, it is very important for the healthcare provider/dispenser to give very clear instructions to clients/patients about each given medicine the amount in which it should be taken, what time(s) of the day it should be taken and for how long it should be continued.

Once the information about medication is conveyed, the healthcare provider/dispenser should ask checking questions to confirm that the client/patient has understood the instructions given by him/her. Unfortunately, many healthcare providers/dispensers ascertain this by asking the clients/patients “Have you understood?” or “Do you understand?”. Most clients/patients answer such a question with “Yes” thinking that they have understood, but from this answer it cannot be judged whether they have understood or not. The way to inquire is by asking a checking question. A good checking question is an open question phrased in a way that the client/patient must answer more than “Yes’ or “No” (checking questions were described in detail while discussing measurable criterion 2.3.b).

For instance, if preparation of ORS solution was explained to a mother, the healthcare provider/dispenser might ask the mother, “How will you prepare the ORS solution at Home?”. Even this checking open question could get an incomplete answer, for example, mother may respond “I will mix the packet in water”. In such circumstances, follow-on checking question should be asked to see if the client/patient has really understood what has been explained. The follow-on question in above example will be “How much water will you use and how will you measure it?”

Sometimes, the healthcare provider/dispenser may have to demonstrate giving the correct dosage. For example, demonstrate crushing an antibiotic tablet for giving it to a child.

Standard 2.13

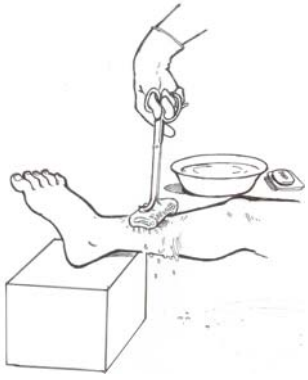
Staff follow correct aseptic techniques and wash their hands between clients/patients.

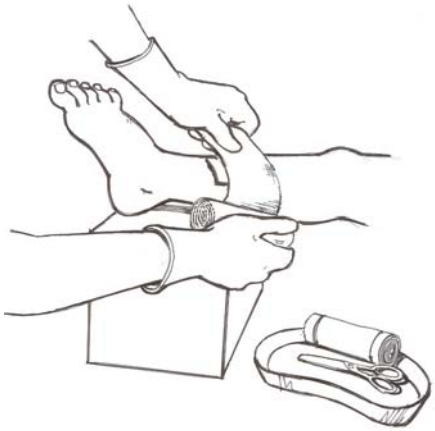
2.13.a Health workers perform the following aseptic procedures in line with SOPs or guidelines: wound dressing, suturing, catheterization, injections, intravenous infusion and dental extraction.

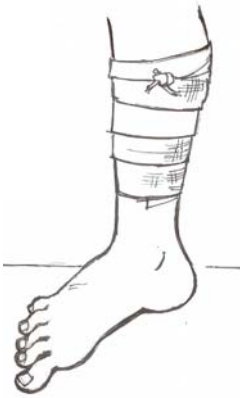
All health workers should perform the above mentioned procedures aseptically in accordance with the SOPs or guidelines given to them by the EDO(H) Office. If these have not been provided then should use the guidelines given below:

Wound Dressing: General approach for aseptic wound dressing is as follows:

- First, health worker should wash her/his hands thoroughly with soap and water and wear sterile gloves.
- Wash the wound with soap and clean water with the using sterile cotton or gauze and then dry it with a sterile gauze.
- Make sure that all dirt is cleaned and then shave off hair around the wound.
- Apply iodine or any other bactericidal lotion/ointment on the wound and all around it.
- Cover the wound completely with a sterile gauze piece and fasten it with sticking plaster.
- Change the dressing daily







Guidelines for treatment of different types of wounds are given in Standard 2.9.

Suturing:

Catheterization: Principles for inserting urinary catheter using an aseptic technique in order to prevent urinary tract infections are as follows:

- Ideally, patient must perform a genital toilet with soap and water. If the patient is unable to, wear non sterile gloves and do it for him/her.
- Place the patient in supine with the thighs partially abducted. The female patient should draw up her knees into a frog-leg position.
- Perform antiseptic handwashing with 2% chlorhexidine-cetrimide solution (if not available, then wash hands well with soap and clean water).
- Open the urinary catheter package and the pack of sterile compresses.
- Pour 10% PVI onto sterile compresses
- Put on sterile gloves

MALE

- Apply a sterile drape around the penile shaft.
- Thoroughly clean the glans and meatus with sterile compresses soaked with 10% PVI
- Lubricate the catheter tip generously.
- Advance the catheter up to the balloon sidearm. With the penis pulled taut and almost horizontal, the catheter glides easily with only slight resistance and some discomfort just as the catheter traverses the external sphincter. Never force a catheter in attempting to bypass an obstruction.
- Inflate the retaining balloon with sterile saline (usually 5 ml). If there is pain, the catheter may be in the prostatic urethra; deflate the balloon and reposition the catheter.
- Withdraw the catheter gently to seat the balloon against the bladder neck.

- Connect the catheter to a drainage urine bag.
- Secure the drainage tubing with tape to the medial thigh to prevent accidental dislodgement.

FEMALE

- Thoroughly clean the perineum and vaginal introitus with sterile compresses soaked with 10% PVI.
- Expose the urethral meatus by spreading the labia.
- Lubricate the catheter tip generously.
- Introduce the catheter into the meatus.
- Advance the catheter about half-way.
- Obtain urine specimen. Gentle irrigation with sterile saline will help ascertain proper positioning within the bladder.
- Inflate the retaining balloon with 5 ml sterile.
- Withdraw the catheter gently to position it against the bladder neck.
- Connect it to a drainage urine bag.
- Secure the drainage tubing with tape to the medial thigh to prevent accidental dislodgement.

IN BOTH

- Avoid raising the bag above the level of the bladder or laying it on the floor.
- Discard soiled items (compresses, syringe) and gloves in a soft waste container
- Wash hands with soap

Removal of Urinary Catheter

- Wash hands with soap and clean water
- Put on non-sterile gloves
- Remove the water from the catheter ballon with a sterile syringe. Empty the water into a kidney dish and/or in a sink.
- Disinfect the uro-genital area with sterile compresses soaked with 10% PVI
- Slowly remove the urinary catheter (not necessary to disconnect bag)
- Discard soiled items (compresses, syringe, urinary catheter, bag) and gloves in a “soft” waste container. Empty the remaining urine from the bag into sanitary facility.
- Wash hands with soap and clean water.
- Monitor patient’s micturition.

Injections: Guidelines for giving injections are as follows:

- Health worker should first verify the prescription corresponds to the product and the patient.
- Check the label (expiry date, name) and the external appearance (color, precipitates, etc.) of the drug.
- Wash hands with soap and water
- Open a disposable syringe with needle from its wrapper and remove the plastic cover over the needle. DO NOT touch the needle
- For ampoules: snap off the top with a compress/cotton and fill the syringe using a 19G needle. Discard the ampoule in a sharps container.
- For vials: disinfect the rubber lid of the vial with a swab wetted with disinfectant such as 10% PVI. Push the needle of the syringe about 1 centimeter into upside-down vial of medicine. Draw the required quantity of medicine into the syringe by slowly pulling back the plunger. Pull the syringe out of the bottle holding the needle at its base.

- Explain the procedure to the patient and rational
- Select the injection site according to the type of injection
- Put on non-sterile gloves
- Widely disinfect the injection site with a compress soaked with 10% PVI and allow the skin to dry.
- Perform the injection using the correct technique according to the type of injection (SC, IM or intradermal). For intramuscular injection, push the needle into the muscles at the chosen spot (hip or arm). The needle should go at least 2 centimeters. Press the plunger slowly until all medicine has gone in. Take the syringe out quickly, holding the needle at its base.
- Discard the needle in a sharps container after the injection.
- Discard syringe, compress and gloves in a "soft" waste container.
- Wash hands with soap and water.

Intravenous Infusion: Guidelines for inserting a peripheral venous line under aseptic conditions thereby preventing intravascular infections:

- Explain the procedure to the patient and rational
- Check the IV solution (expiry date, integrity of primary and secondary packaging of IV solution, appearance of the product) and label the IV bag (date, time, drugs added)
- Wash hands with soap and water
- Insert infusion set into bag of IV solution without touching either the connection site of the IV bag or the perforator of the infusion set and purge the infusion tube. If drugs need to be added, prior the administration disinfect the port of the IV pouch and tap the vial with 10% PVI.
- If the skin insertion site is dirty, wash it with soap and clean water.
- Disinfect the insertion site widely with 10% PVI
- Apply the tourniquet
- Put on gloves
- Insert the needle (without touching the insertion site) and ensure that it is in the vein by check for blood return
- Release the tourniquet and adjust the flow rate
- Secure the needle and tubing with tape
- Discard soiled items (compresses, tape, etc.) and gloves in a "soft" waste container
- Wash hands with soap and clean water

2.13.b Soap (where possible liquid soap) and water or antiseptic gel are available at the washing point(s) and a clean hand towel or alternate is available.

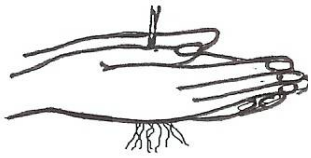
2.13.c Hand washing instructions are posted above the washing point(s).

2.13.d Healthcare providers wash their hands between clients/patients and between procedures.

Hand washing is the single most efficient action that can be taken to prevent the spread of infection and hand decontamination is therefore the single most important measure in reducing the spread of disease. Hands are a recognized principle route of cross infection. Hand washing is an infection control practice with a clearly demonstrated efficacy, and remains the cornerstone of efforts to reduce the spread of infection, but studies have shown that it is rarely carried out in a satisfactory manner. This reluctance to wash hands has become a major concern. The ability of transient micro organisms to transfer to, and from, hands with ease results in hands being extremely efficient vectors of infection. Thorough hand washing will reduce the risk of cross infection immediately.

Hand washing is not an innate skill. There is a wide-spread but incorrect belief that we know how to do it. Furthermore, it is believed that hand decontamination is such a simple activity that no conscious thought to the process is needed. Although, washing hands is propagated from a very early age but very few have been actually shown "how" to do it. Effective hand decontamination can only be achieved when hands are washed following the 8 stages as illustrated below. Each step consists of five strokes backwards and forwards:

1. Wet hands under running water. Administer a squirt of soap.



2. Work into hands, palm to palm

3. Right hand over back of left & vice versa.

4. Rub palm to palm, fingers interlaced.

5. Back of left fingers to right palms, fingers interlocked & vice versa.

6. Rotational rubbing of right thumb clasped in left hand & vice versa.

7. Rub left palm with clasped fingers of right hand & vice versa.

8. Left wrist with right hand and vice versa.

Rinse hands under running water & dry thoroughly

Hand decontamination can take place with a number of different decontamination agents:

- Soap, preferably liquid soap dispensed from a clean wall mounted or free standing pump action dispenser.
- Anti-microbial action hand wash solutions i.e. Hibiscrub (only required prior to a minor surgery procedure).
- Alcohol hand rubs can only be used if there is no visible soiling on the hands and that the potential organism involved with the action prior to hand decontamination is not a spore forming pathogen.
- Biocide hand wipes can be used on soiled hands, as there is a detergent ingredient that will remove soiling and still disinfect the hands.

There is no set frequency for washing hands; it is determined by actions – those completed and those about to be performed. Examples of some of the reasons are outlined below.

- Prior to and on completion of duty.
- Between any patient contact.
- Before and after all aseptic/invasive procedures.
- After removal of gloves.
- Before handling food.
- After any contact with blood/body fluids.

- Before entering and after leaving any source isolation facility.
- Before leaving work place, ward, clinic or patients home.
- After removal of personal protective clothing/equipment.
- After toilet use.

Routine washing

- Before preparing, eating, drinking or handling food
- Before and after smoking
- After visiting the toilet
- Before starting work (remove jewellery e.g. rings) and after leaving
- Before and after physical contact with each client in clinical situations e.g. bathing, assisting to move, toileting
- After handling contaminated items such as dressings, bedpans, urinals, urine drainage bags and nappies
- Before putting on sterile gloves
- Before and after removing any protective clothing this includes sterile and non-sterile gloves
- After blowing your nose, covering a sneeze
- Whenever hands become visibly soiled
- After handling contaminated laundry and waste

The areas most commonly missed are thumbs, backs of hands, between fingers and fingertips.

Soap or Antiseptic Solution?: Liquid Soap - Liquid soap is the preferred option. Soap physically removes micro-organisms from the skin. It is all that is necessary to remove the transient organisms acquired from contact with patients. Disposable cartridge type liquid soap dispensers are preferable to the refillable models. This is because refillable containers have a greater risk of contamination by Gram-negative bacteria; they can multiply in the liquid soap. Bar soap can become contaminated with skin bacteria and Gram-negative bacilli and should, therefore, be avoided when possible.

Antiseptic Solution - These are soap solutions with an antiseptic added. They will significantly reduce the microorganisms that normally live on the skin as well as completely remove the transient ones. Antiseptic soap is only necessary prior to invasive procedures or after handling infectious material. The user must make the decision on which variety to choose after taking all aspects of the procedure into consideration.

Hand Drying: Thorough hand drying is an essential part of successful hand decontamination. Good quality soft paper towels with effective drying properties will work well in this role and also improve compliance to the washing of hands. Communal towels must not be used; they are a cross infection hazard. Evidence about the use and efficacy of warm air hand dryers is conflicting but they are noisy, can only be used by one person at a time and it takes longer to dry hands.

Alcohol Rubs, Gels and Wipes (including Biocidal Hand Rubs): Alcohol-based/biocide products contain emollients but may, or may not, contain antiseptics. Alcohol is an effective alternative when water and towels are not available such as when in the community. It is also useful when there is a need for rapid hand disinfection. Alcohol is more effective than aqueous antiseptic solutions but a preliminary wash is always needed for physically soiled hands. Alcohol solutions are not effective against some viruses as there is insufficient contact time.

- Dispense the required amount of solution onto the hands
- Ensure solution covers all hand surfaces
- Rub vigorously, using handwashing technique, until dry.

Key Points:

- A designated hand washbasin complete with mixer taps, soap and paper towels should be available in all patient care/clinical areas, decontamination areas and kitchens.
- Alcohol hand rub is an excellent rapid skin disinfectant (beware spore forming pathogens) and can be placed on case note trolleys, and should be available in all clinical areas.
- Alcohol hand rub solution/gel rubbed until fully evaporated after routine washing will remove up to 99% of transient micro-organisms.
- Alcohol can be used as an alternative to soap and water on visibly/physically clean hands.
- All community practitioners should have access to hand washing equipment, e.g. alcohol hand rub, soap wipes and paper towels.
- Hands should be dried thoroughly using disposable paper towels.
- The use of gloves should not be regarded as a substitute for hand washing. Hands must be washed on removal of gloves.
- Any cuts and abrasions should be completely covered with a waterproof occlusive dressing.

- Stoned rings and wrist watches should not be worn when attending to patients.
- False or decorated nails allow pathogens to adhere to the nail surface and under the false nail. There has been a significant increase in fungal nail infections in health care workers who practice/provide care.
- A soft nailbrush should not be used routinely, except may be prior to the first operation of the day.
- Liquid soap and water is normally effective for routine hand washing and will remove 90-95% of transient micro-organisms acquired during normal patient contact.

Soap (preferably liquid soap) and water or antiseptic gel should be available at the washing points and hand washing instructions with 8 illustrations should be posted above the washing point. It is important that healthcare providers must develop the habit of washing their hands between clients/patients and between procedures.

Standard 2.14

Rational prescribing is practiced to minimize the risk of drug resistance, ensure appropriate treatment and enable cost effective care.

2.14.a An essential drug list is available and followed.

In 2003, Ministry of Health, published the "National Essential Drugs List of Pakistan". It has listed drugs that should be available at different levels of facilities, including primary health care facilities. Based on this, EDO(H) Office prepares a list of medicines that should be supplied to different levels of primary health care facilities, such as RHC, BHU, MCHC, Dispensary. The incharge of health facility should obtain the list relevant to his/her facility and ensure that the order for medicines from EDO(H) should be made from the listed medicine.

2.14.b Good prescribing practice guidelines for antibiotics are available and followed.

The inappropriate use of antibiotics, overuse and misuse, is a major problem in Pakistan. Their irrational utilization exposes the patients to adverse effects of inappropriate therapy and also promotes the emergence of resistant bacterial strains. Therefore, it is important to have good prescribing practice guidelines for safe and effective use of antimicrobials. The general principles and considerations for antimicrobial therapy should include:

Diagnosis: Accurate diagnosis of the underlying cause of infection determines the choice of antibiotic, its dosage and the duration of the therapy. Sometimes, clinical diagnosis may enable suitable choice as in cases of tonsillitis, syphilis, where the causative organism is known and its susceptibility predictable. However, whenever possible, bacteriological identification and susceptibility tests should be performed. When this is not possible, the rational choice for the therapy should be based on:

- the knowledge of the most likely organism(s) to cause infection in a specific site
- familiarity with susceptible pattern of organisms in a community
- knowledge of bacterial activity of drugs.

Site of Infection: A drug must attain adequate concentrations at the site of infection to be effective, hence the site of infection may determine its choice. For example, cephalosporins (except third generation members), aminoglycosides, clindamycin, lincomycin and amphotericin B do not reach the CSF in sufficient amount to counter infection in the brain or meninges. Erythromycin is only partly secreted in urine and is therefore unsuitable for the treatment of UTIs, while Nitrofurantoin attains therapeutic levels only in the urine and should not be used in any other infection than UTI.

Adverse Effects: Less toxic drugs should be used when the choice exist. Antimicrobials may induce:

- hypersensitivity reactions (these are not dose related)
- toxic and irritative effects (these are dose related)
- superinfections

Interactions: Possibilities of adverse drug interactions should always be considered, which results in toxicity like nephrotoxicity, ototoxicity, skeletal muscle paralysis, hepatitis, etc.

Incompatibilities: Antibiotics may interact physically or react chemically with other drugs when mixed in the same syringe, leading to their precipitation or inactivation. Examples are too many, hence, it is better to avoid mixing drugs in the same syringe.

Age: The capacity for drug excretion is poor during the first four weeks of life and the rate of renal elimination is reduced in patients over 50 years even if blood urea and creatinine concentrations are normal. Therefore, the dose of drugs is to be reduced.

Renal Function: Drugs which are eliminated mainly by the renal route should be given less frequently in the presence of renal impairment, as monitored by creatinine levels.

Hepatic Function: Antimicrobials that are eliminated in bile or inactivated in the liver can cause abnormal response when given to patients with hepatic disease. Thus the doses of erythromycin, chloramphenicol, metronidazole, rifampicin, lincomycin should be reduced in hepatic failure.

Genetic Factors: The rate at which isoniazid is acetylated in the liver is genetically determined, and slow metabolizers are prone to develop peripheral neuritis and other toxic effects. Sulphonamides, chloramphenicol, and nitrofurantoin can cause hemolysis in patients deficient in G-6-PD enzyme.

Pregnancy: Penicillins, cephalosporins, spectinomycin and erythromycin (other than estolate) are probably safe during pregnancy; others are either contraindicated or may be prescribed with caution.

Cost: New and expensive antibiotics should not be prescribed if older ones are cheaper and effective.

WHO has developed “Guide to chemotherapy and chemoprophylaxis in bacterial infections” that outlines drugs and their dosages for various common illnesses based on the above guidelines for using antibiotics. These or any other international guidelines should be acquired for the facility through EDO(H) Office.

2.14.c The probable diagnosis is written on the prescription.

2.14.c If the diagnosis changes as a result of follow-up assessment or test results the prescription is reviewed.

The healthcare provider should always write the probable diagnosis on the prescription, and if the diagnosis changes as a result of either follow-up assessment or tests results then the prescription should be reviewed. It may have to be changed in light of new evidence, or may be continued if the probable diagnosis and susceptibility of infective organisms is confirmed.

Standard 2.15

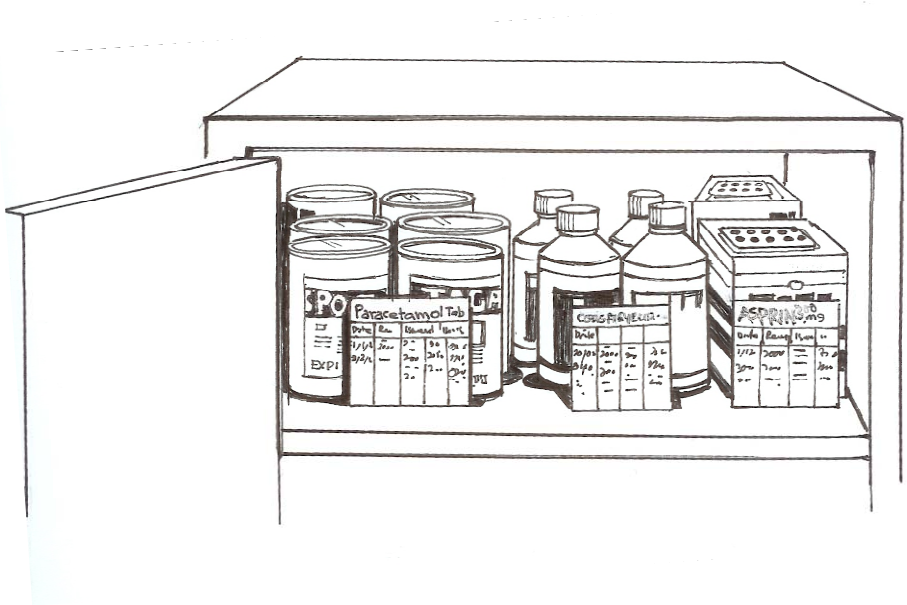
Essential drugs and supplies are available at all times during open hours.

2.15.a Stock cards are up to date and correspond to physical stock.

2.15.b There is stock of the essential drugs.

Stock card is a loose card made for each medicine and supply and is kept with the stock. It works in the same way as stock ledger in the main store of the facility, i.e. a balance is kept by adding items received and subtracting those issued. These should always be kept up to date corresponding with the physical stock. The card relating to each particular item can be pinned with support on the shelf next to the drug stock to which it refers. This is a convenient method for observing current stock at any time.

When the level of any medicine or supply reaches the minimum reserve level in the main store, it should immediately be notified to the facility incharge and the order for the item be placed with the EDO(H). This would help to prevent stock-outs of essential drugs, which should be available at all times during open hours.



2.15.c There is a process for checking date of expiry.

2.15.d No expired drugs are in stock

A process should be defined for checking date of expiry. For example, expiry dates of all drugs must be checked in the first week of every quarter, and all those that are expiring in next 3 months should be marked with a red star on all bottles or tins. Once a drug is expired, it should not be stored with stock and returned to EDO(H) Office.

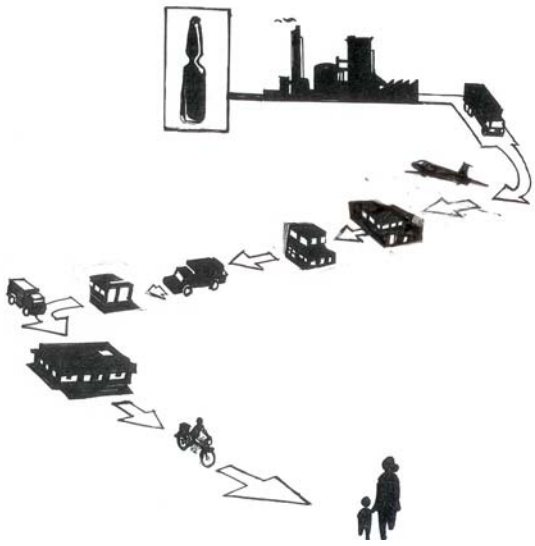
Standard 2.16

The cold chain for vaccines is maintained

2.16. a A Cold Chain procedure for vaccines is used and includes clear directions on the following practices:

i. Vaccine stock management including vaccine storage, potency, stock quantities, stock records, and arrival report.
ii. Equipment for vaccine transport and storage.
iii. Maintenance of equipment
iv. Control and monitoring of temperature
v. Cold chain during immunization sessions
vi. Syringes and needles
vii. Breakdown of equipment and emergency actions to minimize risks

The cold chain system ensures the required temperature to maintain the potency of vaccines during transportation and storing from the manufacturer to the person being immunized. This is a very important component of an immunization program, since all vaccines lose potency if exposed to temperatures beyond the prescribed limits. Injecting impotent vaccines can result in medical emergencies thus attention to maintaining correct temperatures during storage and transport of vaccine is a very important task.



i) Vaccine Stock Management

The health facility incharge should ensure that the vaccinator maintains the cold chain from the receipt of vaccines till they are injected to the child or woman being immunized. Besides this, it is also to be ensured that stock-outs do not occur at the facility for which proper stock records should be maintained. All this is termed as vaccine stock management.

Vaccine Storage: All vaccines kept at a primary health care facility level must be maintained at a temperature between 0°C to +8°C. If Polio and Measles vaccines need to be stored over a period of 3 months then they should be kept at -20°C to -25°C. The vaccinator must check the vaccine expiry dates at arrival and ensure that they will not expire during the storage period; also s/he should not keep any vaccine if the expiry date cannot be determined. Vaccines should be distributed on a "First come First out basis" i.e. the vaccines that are received first should be used or distributed first; or if the color change has been noted in Vaccine Vial Monitor (VVM) within permissible limit then it should be used first regardless of the expiry date.

Vaccine Potency: Vaccines have high tendency to lose some or all of its potency due to exposure to temperatures beyond prescribed limits, however, its outward appearance may remain unchanged. Although all vaccines are heat-sensitive but the degree of sensitivity varies from vaccine to vaccine. Diluents for frozen vaccines must never be frozen or else they lose potency. All vaccines loose their potency with the period of time even at the prescribed temperatures so the expiry dates are crucial to remember. The vaccines should also be protected from strong exposure to light as BCG and measles vaccines losses potency if exposed under strong light. Once vaccine losses potency the loss is permanent and it cannot be revised. There are several devices which are used to determine the potency level. These are elaborated later under "Control and Monitoring of Temperature".

Vaccine Stock Quantities: It is important for the correct quantity of vaccine stock to be kept at the primary health care facility. If too little vaccine is kept, the health facility may run out of stock and the immunization program will be interrupted. On the other hand, if too much vaccine is stored, they may expire before they can be used. The health facility should keep 20-25 % reserve stock balance in order to meet the needs in an epidemic situation. For effective stock management following factors should be considered:

- the number of children in the area to be immunized during the next 1 month.
- the number of doses needed per child for each vaccine;
- the estimated index of vaccine use (also called wastage factor) for each vaccine
- the number of vaccine deliveries planned during the next planned period (usually one month in a PHC facility)

Vaccine Stock Records: The vaccinator must keep a complete and updated stock record book. Minimum information to be recorded for each vaccine should include:

- Name of vaccine, batch number & expiry date, vial size
- Quantity received and sources of supply, (in doses)
- Quantity issued and to whom (in doses)
- For BCG, measles, and mumps: quantities of diluents received and issued
- Balance in stock after each transaction, (in doses)
- Date of each transaction
- Physical stock check at the end of each page. (In doses).

The record should be kept by the vaccinator and must be updated every time vaccine enters or is issued from the store. A record, which is not, kept up to date can also lead to over or under-stocking of the store. The stock record must also be checked regularly for accuracy. This can be done by making a physical count of the actual quantities of vaccine in stock, and comparing this to the amount shown in the stock record book.

Vaccine Arrival Report: Vaccine arrival report keeps a record of the details and arrival conditions of all vaccine deliveries received at the health facility. This is done using a special document known as a Vaccine Arrival Report, which is required in addition to the normal receipt issued whenever supplies are delivered.

ii) Equipment for Vaccine Transport and Storage

During the transportation of vaccines the cold chain process must be maintained in order to protect vaccines from heat and sunlight. However, in some areas where the atmospheric temperature falls below 0º C, measures needs to be taken as to prevent vaccines from becoming too cold. Cold boxes and vaccine carriers are designed to give the required protection. For the transportation of DPT, DT, TT and Hepatitis B vaccines, special precaution needs to be taken as these vaccines lose potency below the freezing point.

Cold Boxes: A cold box is an insulated container with a tight fitting insulated lid and the temperature inside the box is maintained by icepacks. They are mainly used for:

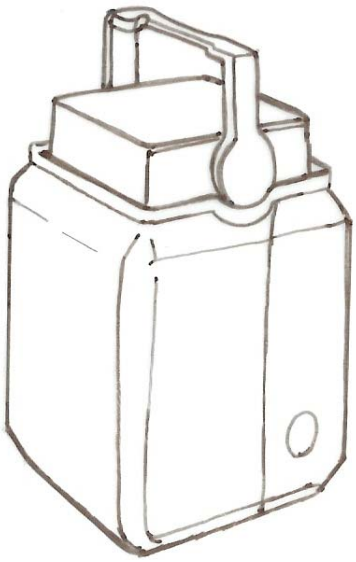
- Collection and transport of large quantities of vaccine at temperatures between 0º to +8º C.
- Storage of vaccine during maintenance periods, e.g. when cleaning or defrosting a refrigerator or freezer.
- Emergency storage of vaccine, e.g., during breakdowns of cold chain equipment, power failures, and similar situations.

The “Cold life” is the number of hours a cold box will maintain the temperature below +10°C after it has been loaded with the ice packs. The duration of “Cold life” is dependent on various factors such as the insulation material and thickness of cold box, the mass and initial temperature of icepacks, and how often the cold box is opened as frequent openings will result in rapid loss of temperature and the temperature of the surroundings can affect the “Cold life”.

Similarly in winter seasons the temperature may fall extremely low and the transportation of DPT, DT, TT, and Hepatitis B is very crucial as these vaccines have the tendency of losing potency if the temperature falls below the freezing point, here the cold box provides the vaccines a “Warm life”. The following measures can prolong the “warm life”:

- Fill the icepacks with water, but DO NOT freeze them.
- Keep DPT, DT, TT and Hepatitis vaccine in the center of cold box and away from the icepacks.

- Avoid leaving the cold box outdoors or in very cold rooms for a long period of time.



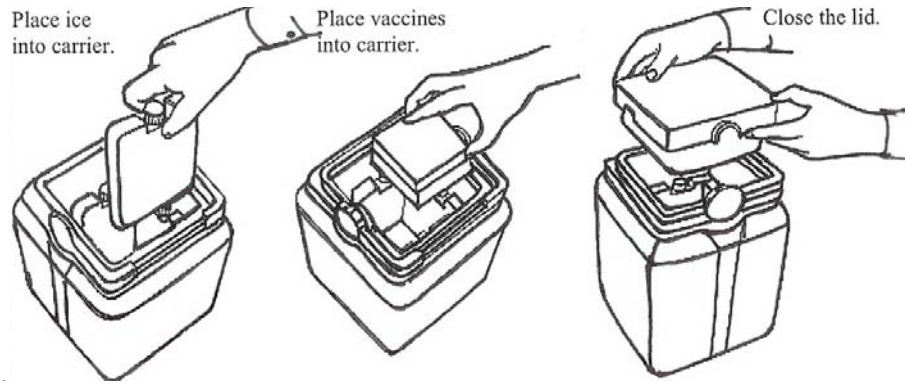
Loading of a Cold Box:

- Take out the required amount of icepacks from the freezer and wait for a few minutes until water droplets appear on the surface.
- For DPT, TT, DT and Hepatitis B vaccine place a layer of plastic foam or a similar material to act as an insulator.
- Wipe the icepacks dry and place them in the cold box as such that the bottom and the internal walls are covered.
- Place OPV, measles, BCG vaccines in the bottom and closer to the ice packs; whereas place DPT, TT,DT and Hepatitis vaccines in the center and away from the icepacks.
- Close the lid firmly.
- DO NOT put diluents for the freeze-dried vaccines in the cold box.

Loading of Vaccine Carrier: Instructions for loading a vaccine carrier are same as for the cold box with the exception that the diluents for freeze-dried vaccine must be packed with other vaccines.

Vaccine Carrier: A vaccine carrier is an insulated box with a tight fitting insulated lid. The temperature in the vaccine carrier is maintained by icepacks. The vaccine carrier is designed for:

- Transportation of small quantities of vaccine at a temperature between 0º and 8º C within one working day.
- Storage of small quantities of vaccine needed for immunization during the working day in order to avoid frequent opening of the refrigerator
- Storage of small quantities of vaccine in emergency situations, e.g., during breakdowns of cold chain equipment, power failures, and similar situations.



Icepacks: Icepacks are rectangular plastic containers to be filled with plain water. They come in many different sizes, although WHO recommends only two sizes:

- 0.4 liter to be used with vaccine carriers.
- 0.6 liter to be used with cold boxes.

Equipment for Vaccine Storage

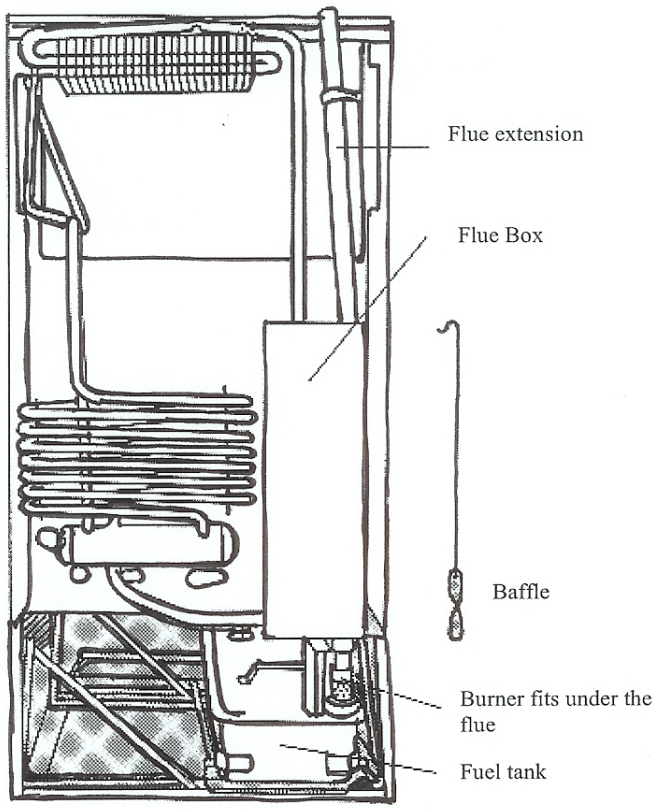
The cold chain equipment for vaccines storage has to meet two major requirements:

- It must ensure the optimum temperature conditions through out the year.
- It must be large enough to hold the maximum vaccine stock to be stored at the health facility.

At the primary health care facility household refrigerators are used for the storage of the vaccine.

Household Refrigerators: The household refrigerator is not specifically designed for the purpose of cold chain; however this type of refrigerator is often used for storage of vaccines as they are generally much cheaper to buy than purpose-made vaccine storage refrigerators. Various models of refrigerator are used, some having small freezing compartments located in the upper part of the main cabinet, and others having a separate freezer compartment. Household refrigerators are produced with 2 main cooling systems; absorption and compression types.

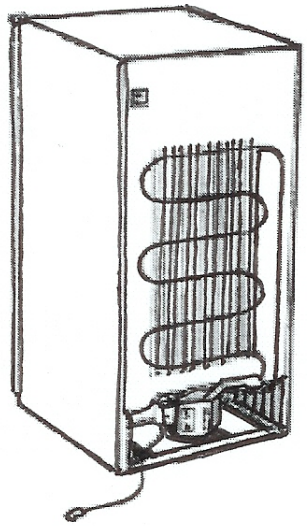
A compression refrigerator is cheaper to buy and operate, but more expensive to maintain and repair. It cools faster and more efficiently than an absorption refrigerator, especially in very hot weather, but can only run on electricity. An absorption refrigerator is more expensive to buy and much more expensive to operate, but may be cheaper to maintain and repair because it has few moving parts. It cools more slowly and cannot cool as well as a compression refrigerator in very hot weather. However it can operate on any type of energy, including gas or kerosene as well as electricity.



Installation and use of

Household Refrigerators:

- The freezer compartment should only be used for freezing icepacks.
- A thermometer must be kept inside the refrigerator at all times, and temperature should be recorded twice daily



- Polio, measles and mumps vaccines should be stored closer to the evaporator and the rest should be kept away from the evaporator so that they might not freeze
- DO NOT store vaccines in the door shelves or at the bottom of the refrigerator.
- Store vaccines boxes with spaces so there is proper air circulation.

iii) Maintenance of Cold Chain Equipment

An interruption of cold chain severely damages the potency of the vaccines; therefore, for an uninterrupted cold chain mechanism the maintenance of cold chain equipment is crucial. The maintenance procedures would incorporate the proper installation, defrosting and cleaning of the cold chain equipment.

Installation: The procedures for proper installment of the equipment are:

- Selection of a suitable location for equipment is important; it should have good ventilation and proper air circulation and must not be exposed to direct heat or sunlight. In hot climates the room should have an air conditioner or a fan. In very cold climates, the room might need to be heated in certain conditions.
- The refrigerator should be placed at least 20cm from the wall and at least 30 cm away from any other refrigerator or freezer. Make sure that nothing blocks the cover of the motor compartment, normally located at the back or the side of the equipment.
- Place all equipment on level wooden blocks or a base at least 10cm high, and make sure each item is secure and will not move or shake when in use.

Defrosting: Frost and ice slowly builds up on the surface of the freezing compartment while it is working. If this layer becomes too thick, it will prevent from efficient cooling of the refrigerator compartment. To avoid such a situation defrosting of the refrigerator is advisable.

- For all equipment, defrost when the frost layer reaches 5 mm thick.
- If defrosting is required to be done more than once a month, the door seal may be faulty or the door is being opened too frequently.
- Remove the vaccine and store it in another working refrigerator or cold box with icepacks.
- Switch off the refrigerator and pull out the plug. Open the refrigerator and freezer doors. Remove all icepacks from the freezer and put a bowl or tray in front or

underneath to collect the ice and water remove loose ice by hand only no tools or sharp instruments to be used; the melting time can be reduced by putting a container with warm water.

- Wipe the refrigerator dry and clean thoroughly, re-connect the power and turn the refrigerator on and wait until the refrigerator is again running at the correct temperature, and then replace the vaccines.

Cleaning: Once a month, remove dirt and dust from the condenser on the back of the refrigerator cabinet and from the motor, using a soft brush or a cloth. For vaccine carriers and cold boxes, clean the inner surfaces after each working session and leave them open to dry. Inspect the inner and outer surface for cracks. If these are found they should be mended immediately.

iv) Control and Monitoring of Temperatures

Maintaining correct temperatures during storage and transport of vaccines is a critical task. Temperatures must be regularly measured and recorded in order to ensure storage of all vaccines at the correct temperature conditions, and ensure the correct operation of the cold chain equipment. Monitoring of temperatures should be a routine activity, and a task that is carried out at the start and end of each working day.

روزانہ چارٹ برائے اندراج ویکسین اور درجہ حرارت

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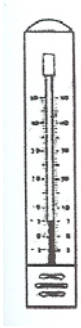
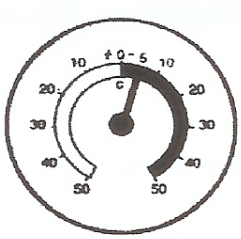
There are a number of different types of monitoring devices to help measure, control and record storage temperatures.

Mercury thermometer: It shows precise temperatures in the immediate area of the sensing bulb. This is the recommended type for use with refrigerators or freezers.



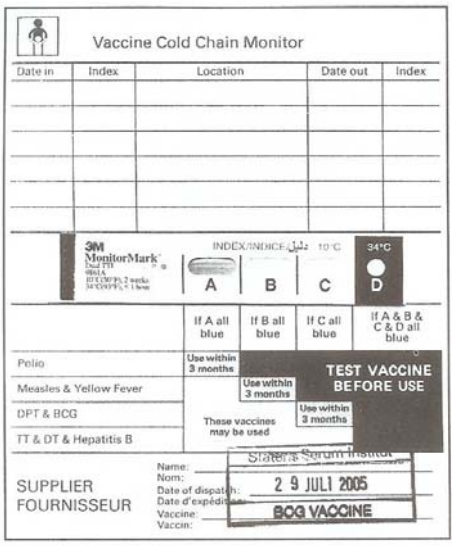


Dial thermometer: It shows the current temperature; a max/min version also shows the maximum and minimum temperatures since the previous resetting of the hands.

Paper thermometer: It comprises a row of temperature-sensitive indicator spots; the spot corresponding to the current temperature changes to a bright green colour. This type of thermometer is suitable only for indicating the temperatures in cold boxes but is not for use in refrigerators.

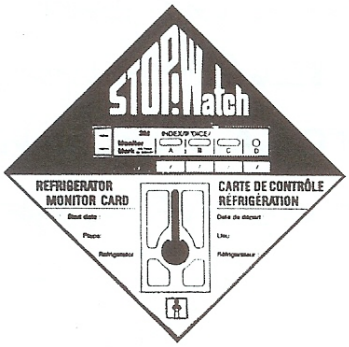
Cold Chain Monitor Card: A cold chain monitor card (CCM) is designed to follow the vaccines from the point of manufacturer to the end user. Throughout the journey the CCM monitors the temperature and will keep a record of vaccine exposures that have been experienced. The CCM has a temperature-sensitive indicator comprising of 4 "windows" labeled A, B, C and D.

- If “A” turns blue then use the polio vaccine for the next 3 months and other vaccines can be used up till the expiry date.
- If “B” turns blue then immediately STOP using the polio vaccine and use the Measles vaccine for 3 month and use the rest and other vaccines up till the expiry date.
- If “C” turns blue then STOP using Measles and Polio but DPT, Hepatitis B, TT and BCG vaccine can be used for 3 months and the rest of the vaccines are safe to use till the expiry date.
- If “D” turns blue then DO NOT USE ANY VACCINE.

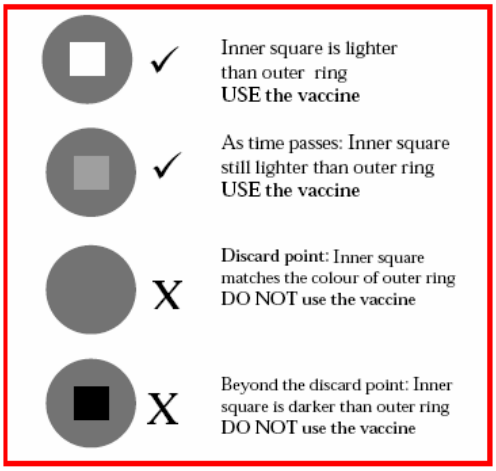


Freezer Watch Indicator: The Freezer Watch indicator is an irreversible temperature indicator vial which is filled with red liquid. If the indicator is exposed to temperatures below 0ºC for more than one hour, the vial will burst and release the red liquid. In such a situation all Hepatitis B, DPT, DT and TT vaccines must be discarded.

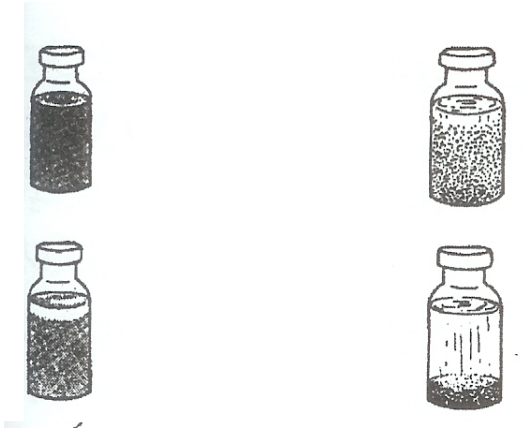
Stop Watch Refrigerator Watch: This monitor consists of two indicators one of which will indicate if the vaccine has been exposed to more then +10°C and the other will indicate if the temperature falls less the -4°C.



Vaccine Vial Monitor: VVM consists of a square label which turns color due to heat. This vial is present on all polio vaccines and is being upgraded on all EPI vaccines.



Vaccine shake test: This test is designed to determine whether adsorbed vaccines (DPT, DT, TT or hepatitis B) have been frozen. After freezing, the vaccine is no longer a uniform cloudy liquid, but tends to form flakes. Sedimentation occurs faster in a vaccine vial which has been frozen than in a vaccine vial from the same manufacturer which was never frozen. The shake test is most easily demonstrated using a vaccine vial that the vaccinator personally freezes and does not intend to use for immunization. This vial can be used as a "frozen control sample" to be compared with suspect vaccines. If the control vial shows much faster sedimentation than in the vial being tested, the vaccine in question is *probably* potent and may be used. If, however, the sedimentation rate is similar and contains flakes, the vial under test should not be used. It is important that the shake test is done using both "tested' and "control" vaccine vials produced by the same manufacturer.



v) Cold Chain during Immunization Sessions

Maintaining the cold chain during immunization sessions is a vital step to ensure that potent vaccine reaches its destination. Vaccines during the immunization sessions have a high risk of losing potency as all vials have to be opened. Following steps can ensure an effective immunization session:

At the beginning of the working day

- Check the attendance register and estimate how many vials of each vaccine will be needed during the planned immunization session
- Prepare a vaccine carrier for this number of vials, and add icepacks sufficient to last throughout the planned session.
- Take the required quantity of vaccine and diluent from the refrigerator and place in the vaccine carrier, making sure that the diluent exactly matches the vaccine it came with (same manufacturer and delivery). If you cannot read the details of the diluent, do not use it.

During immunization sessions at fixed health facilities

- Take vials from the vaccine carrier and open or re-constitute them ONLY after calling the first child for immunization

- Take a fresh vial out of the vaccine carrier only when the previous one is empty; administer the vaccine and put vials with the remaining vaccine back into the vaccine carrier as QUICKLY as possible
- Vials containing absorbed vaccines (DPT, DT and TT) must be shaken well before use.
- For measles and BCG vaccines, using the ENTIRE volume of the cooled diluents supplied when re-constituting; use ONLY the diluents supplied by the vaccine manufacturer for use with that vaccine, and ensure that it is as cool as the vaccine.

During Outreach Immunization Sessions

- Plan the session carefully, and especially check that you take a sufficient stock of vaccine and diluent. You cannot easily return for more if you run out;
- During outreach sessions, take sufficient icepacks, as it may be difficult to find extra ice while working in the outreach area.
- For long outreach sessions in which travel for several days is required in areas where there is no electric power supply or refrigerator, take an extra cold box containing extra icepacks. Those in the vaccine carrier can then be replaced if they begin to melt, and safety of the vaccine can be assured.
- If outreach immunization sessions have to be conducted outdoors, choose a cool site, shaded from the sun throughout the day wherever possible.
- Opened vials of OPV, DPT, DT, TT and hepatitis B should be returned to the refrigerator for use during the next session. However Opened vials of measles and BCG, must be discarded.
- Any reconstituted vaccine must be discarded after 6 hours.
- All used syringes and needles must be disposed of safely.

vi) Syringes and Needles

There are two types of syringes used in the EPI program. One is the standard disposable syringe which is disposed off after a single use whereas the other is the Auto Disable Syringe which is same as the disposable syringe but it can not be used again as its plunger is disabled after a single use.

Sizes of syringes and needles used during immunization

Use	Size of the Syringe	Size of the needle
For BCG vaccine	0.05 ml	Width 26 or 27 gauge and length 3/8 inches
Other vaccines	0.5 ml	Width 23 or 24 gauge and length 3/4 inches
To inject the diluents in the vaccine	5.0 ml	Width 22 or 18 gauge

VII) Breakdown of equipment and emergency actions to minimize risks

Any interruption to the normal functioning of cold chain equipment must be considered an emergency. As the vaccine has a high risk of losing potency and if quick action is not take it can result in complete loss of the vaccine stock. Emergencies in the cold chain occur mainly due to technical faults in the refrigerator, cracks in vaccines carries or to power failures, but

they can seriously disrupt planned immunization activities. These risks can be minimized however, if emergencies are anticipated and backup plans prepared in advance.

Technical faults in the refrigerator: There are 4 major symptoms of a fault:

- the refrigerator will not start, and there is no cooling at all; or
- the vaccine storage temperature is too high (above +8 degrees C); or
- the vaccine storage temperature is too low (below 0 degrees C); or
- The refrigerator is working, but is making excessive noises.

I) if the refrigerator does not start and there is no cooling at all then:

CHECK	DO
1. Is the refrigerator plugged in? YES	If NO: Plug refrigerator in.
2. Is thermostat set in operative position? YES	If NO: Set thermostat in operative position.
3. Do other electrical appliances work if connected to the refigerator's socket? YES	If NO: Check wiring and socket; if possible, plug refrigerator in at another socket.
4. Has plug been fitted correctly? YES	If NO: Correct plug fault.
5. Is there a 'click' when thermostat is set in operative position? YES	If NO: Check thermostat.
6. Call in mechanic; refrigerator in serious trouble.	

ii) If the vaccine storage temperature is too high (above +8 degrees C)

CHECK	DO
1) Is control set at correct temperature? YES	If NO: Set thermostat control at cooler temperature.
2) Are evaporator walls free from snow layer? YES	If NO: Turn off refrigerator and defrost.
3) Is refrigerator door tightly closed? YES	If NO: Check seal, adjust hinges and lock.
4) Is air circulating freely inside and outside refrigerator? YES	If NO: Install and load refrigerator properly.
5) Is condenser clean? YES	If NO: Clean condenser using brush or vacuum.
6. Is thermostat working properly? YES	If NO: Close circuit without using thermostat.
7. Call in mechanic.	

iii) If the vaccine storage temperature is too low (below 0 degrees C)

CHECK	DO
1. Has thermostat control been set at correct temperature? YES	If NO: Set thermostat control at warmer temperature.
2. Call in mechanic.	

iv) IF the refrigerator is working, but is making excessive noises: If such a situation arises call in the mechanic as soon as possible.

Cold Chain During Power Failures:

- Keep all refrigerators, freezers and cold boxes CLOSED and only open them when it is absolutely essential.
- Vaccines can be stored in domestic refrigerators without power for approximately 2 hours, provided that the doors are kept closed.
- Vaccines in freezers are normally safe for up to 24 hours.
- If a power failure lasts longer than 2 hours, the vaccine should be transferred from domestic refrigerators to a cold box with adequate icepacks. Upon resumption of power supply, vaccines should not be stored in the refrigerator until proper storage temperatures are restored.
- In case of severe power failure the generator should be switched on. An adequate amount of fuel must be kept at the health facility to run the generator.

Standard 2.17

Items for single-use are not reused.

2.17.a Disposal systems and processes for single-use items are available and used.

There are several items that are used only once as an infection control measure. These may include syringes and needles, blades, infusion sets, used bandages, used swabs, used vaccine or injection vials, used disposable gloves, etc. These are component of medical waste and their poor management can cause serious disease to health-care personnel, to waste workers, patients and to the general public. The greatest risk posed by infectious waste are accidental needle stick injuries, which can cause hepatitis B and hepatitis C and HIV infection. There are however numerous other diseases which could be transmitted by contact with infectious health-care wastes.

Arrangements for the handling, collection, and disposal of single-use waste items and other medical waste should be made and comply with good practice, especially regarding the health and safety of patients, staff and others and protection of the environment. The disposal of medical waste is discussed in detail in Standard 1.8 in Volume 1.

Standard 2.18

Sharps and needles are used and disposed of safely

Medical Infectious wastes include infectious sharps and infectious non-sharp materials. Infectious *Sharps* consist of syringe or other needles, blades, infusion sets, broken glass or other items that can cause direct injury. Sharps or needlestick injuries include any type of injury caused by implements contaminated with blood or body fluids in the course of clinical activity. Needlestick injuries can result in exposure to blood-borne viruses such as hepatitis B and C and HIV, as well as other pathogens. Sharps injuries do not, however, only occur to staff. Poor practice in sharps handling and disposal can lead to risk of injury to patients and other members of the public, especially children.

2.18.a Labeled needle safety boxes are available in the examination, injection and dressing rooms.

2.18.b staff safely disposes of sharp objects and needles in the containers provided.

Labelled needle safety boxes should be made available in the examination, injection and dressing room.

Needle stick injuries occur mostly due to poor handling and disposal or in instances where patients move unexpectedly. During the handling of syringe-needles or other sharps, injuries occur when they have not been collected in rigid puncture proof containers. Best practices in health care recommend the segregation of sharps at the point of use. Injuries could occur if sharps bins, with incorrectly assembled containers are used and bins allowed to become over full. Healthcare providers using a room should always check that sharps containers are correctly assembled and not full before starting a clinic. Children are present in primary health care facilities and sharps containers should never be left on the floor or otherwise in their reach. Use of 'sharps trays' which have separate sections for sharps containers and injection material is helpful.

In some countries, needle cutters are used to separate the needle from the syringe. The reuse of infectious syringes represents a major threat to public health. WHO estimated that, in 2000, worldwide, injections undertaken with contaminated syringes caused about 23 million infections of Hepatitis B and Hepatitis C and HIV. Such situations are very likely to happen when health-care waste is dumped on un-controlled sites where it can be easily accessed by the public: children are particularly at risk to come in contact with infectious wastes.

Staff should be reminded through education sessions to ensure great care is taken when handling sharps and to ensure where possible, sharps bins are wall mounted and safe systems are in place for the transportation of sharps in community settings.

Bibliography

Arjumand And Associates & National AIDS Control Programme. 2003. *Identification And Mapping Of High Risk Groups In 10 Cities.* Islamabad.

Basic Health Services Cell, Government of Pakistan. 1992. *Nutrition Training for Primary Health Care Workers.* Pakistan Child Survival Project. Islamabad.

Children's Hospital & Research Center Oakland. *Emergency Department Patient Referral Form*. California.

David Morley & Margaret Woodland. 1979. *See How They Grow*. The Macmillan Press Ltd. London.

David Werner. 1985. *Where There Is No Doctor*. The Hesperian Foundation. California.

Directorate of Clinical Training, Ministry of Population. *Trainer's Guide – FWW Basic Training Course.* Islamabad.

Directorate of Malaria Control, Ministry of Health, Pakistan. *Malaria Case Management Training Manual*. Islamabad.

Expanded Programme on Immunization, National Institute of Health, Ministry of Health, Government of Pakistan. 2005. *Hifazati Teeka jaat – Amli Tameen: Vaccine Dainay Walay Karkonaney Sehat Kay liay Aik Rahnuma Kitabcha.* Islamabad

GTZ, Health Regulatory Authority – NWFP, DoH – NWFP, EPOS Health Consultants. 2007. *Primary Health Care Standards in NWFP*. Peshawar.

http://www.wwfpak.org/factsheets_hwf.php

http://www.arthurrankhouse.nhs.uk

http://www.theportlandhospital.com

http://www.legco.gov.hk

http://www.apait.org/apait/resources/riskmanagement/cinf.htm

http://www.sandiego.gov/fireandems/safety/justkids.shtml

http://www.oregon.gov/DHS/ph/safekids/firesafety.shtml

http://www.theannals.com/cgi/content/full/38/7/1310

http://patientfeedback.hfea.gov.uk/feedback

http://dmu.trc.upenn.edu/patientfeedback/Handouts_Resources/Manuals/PF%20Manual_1.0.pdf

http://www.bhs.umn.edu/feedback/patientfeedback.htm
http://www.usfca.edu/hr/pdf/Supervisor-Staff%20Guidelines.pdf

http://www.worcestershirehealth.nhs.uk/RBPCT_Library/Carol_Powell/Evaluation%20for%2006-07.xls

http://www.princeton.edu/hr/policies/conditions/perfappc.doc

Imtiaz Kamal. 2007. *Top to Toe Examination – First Antenatal Care Visit.* PAIMAN Project. Islamabad.

Jack Reynolds et al. 1994. *Primary Health Care Management Advancement Programme – Better Management 100 Tips – Managers Guide*. The Aga Khan University, Aga Khan Foundation, Aga Khan Health Services, University Reseaerch Corporation-Center for Human Services.

Lawrence M. Tierney, Stephen J. McPhee & Maxine A. Papadakis. 1997. Current Medical Diagnosis and Treatment. Appleton & Lange. Connecticut.

Ministry of Health, Government of Pakistan. 2003. *National Essential Drugs List of Pakistan*. Islamabad.

Ministry of Health, Government of Pakistan. *Standard Treatment Guidelines for Diarrhoea.* Islamabad

National AIDS Control Programme & UNAIDS. *HIV Voluntary Counselling And Testing (VCT) – Guidelines For Pakistan*. Islamabad.

National AIDS Control Programme, Ministry of Health – Pakistan, World Health Organization, NORAD. *Prevention and Control of Sexually Transmitted Diseases – National STD Case Management Guidelines Pakistan.* Islamabad.

National Institute of Health, Ministry of Health, Government of Pakistan. 2006. *Disease Early Warning System (DEWS). Case Definitions, Management & Prevention of Infectious Diseases.* Islamabad.

National Tuberculosis Control Programme, Ministry of Health, Government of Pakistan. 2003. *National Guidelines for Tuberculosis Control in Pakistan*. Islamabad.

National Tuberculosis Control Programme, Ministry of Health, Government of Pakistan. *Guidelines for Diagnosis & Management Of Tuberculosis – for Physicians & General Practitioners*. Islamabad.

Robert A. Hatcher et al. 2001. *The Essentials of Contraceptive Technology – A Handbook for Clinic Staff.* Population Information Program, Center for Communication Programs, The Johns Hopkins University School of Public Health. Baltimore.

Syed Mohammad Israr. 1994. *Village Health Committees in Family Health Project*. Department of Community Health Sciences, Aga Khan University, Karachi.

The Nemours Foundation. 2007. *What To Do In A Fire.*

World Health Organization. 1980. *On Being In Charge – A guide for middle-level management in primary health care*. Geneva.

World Health Organization. 1987. *The Community Health Worker- Guidelines for training, Guidelines for adaptation*. Geneva.

World Health Organization. 1989. *Preventing And Controlling Iron Defeciency Anemia Through Primary Health Care – A Guide For Health Administrators and Programme Managers.* Geneva.

World Health Organization. 1992. *Diarrhoea Management Training Course - Participant Manual*. Programme for the Control of Acute Respiratory Infections. Geneva.

World Health Organization. 1992. *Outpatient Management of Young Children with ARI: A Four-Day Clinical Course. Participant Manual*. Programme for Control of Diarrhoeal Diseases. Geneva.

World Health Organization. 1993. *Advising Mothers on Management of Diarrhoea In The Home – A Guide For Health Workers*. Diarrhoeal Disease Control (CDD) Programme. Geneva.

World Health Organization. 1993. *Guide to Chemotherapy and Chemoprophylaxis In Bacterial Infections*. Regional Office for the Eastern Mediterranean. Alexandria.

World Health Organization, Eastern Mediterranean Regional Office. 1993. *Guidelines on Sanitation for Small Communities – Appropriate Technologies for Use by Middle-level Technicians In Countries Of The Eastern Mediterranean Region Of World Health Organization.* Center for Environmental health Activities, Amman.

World Health Organization, Eastern Mediterranean Regional Office. 1993. *Guidelines on Technologies For Water Supply In Small Communities.* Center for Environmental health Activities, Amman.

World Health Organization, Eastern Mediterranean Regional Office. 1993. *The Management of Emergencies by the Primary Health Care Physician.* Chapman & Hall. London.

World Health Organization. 1998. *Safe vaccine handling, cold chain and immunizations.* A manual for the Newly Independent States. Global Programme for Vaccines and Immunization, Expanded Programme on Immunization. Produced in collaboration with Basics, USAID and UNICEF. Geneva.

World Health Organization. 2004. *Fact Sheet No 281- Health-care waste management: To reduce the burden of disease, health-care waste needs sound management, including alternatives to incineration.* Geneva.

World Health Organization. 2005. *Management of Solid Health Care Waste at Primary Health Care Centers – A decision Making Guide.* Geneva.

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