

SEA/AIDS/101

CLINICAL MANAGEMENT OF  
HIV/AIDS AT DISTRICT AND PHC LEVELS



World Health Organization  
Regional Office for South-East Asia  
New Delhi

Clinical Management of HIV and AIDS  
at District Level

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## PREFACE

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THE number of people infected with the human immunodeficiency virus (HIV) continues to increase rapidly. The World Health Organization (WHO) estimates that 3.5 million adults in the South-East Asia region have already become infected and thousands of children have been born with the infection.

Most, of those infected with the virus are ultimately expected to develop AIDS – more than 200,000 cases of AIDS are estimated to have already occurred since the beginning of the pandemic. Progression from HIV infection to AIDS takes an average of 7-10 years, so that AIDS cases will continue to develop from the existing pool of infected people for some time to come, no matter how successful our efforts are to curb the further spread of HIV. Evidence from African countries shows that progression rates may be as short as 3 - 5 years. Rates in Asia may be similar but in the absence of long term prospective cohort studies in the region this cannot be conclusive.

Infections and tumors are the paramount clinical problems confronting health care providers caring for patients with HIV-related disease. Treatment of these infections and tumors is of great importance as it decreases suffering and prolongs life in the absence of effective and non-toxic antiretroviral drugs or immunotherapy against HIV itself. However, clear treatment guidelines are lacking in many parts of the region and health care workers have

often not received training in the management of HIV-related disease.

To respond to this situation, the WHO South-East Asia Regional Office has developed guidelines for the clinical management of HIV infection in adults. There are wide variations among member countries in the presentation of HIV-related diseases, availability of resources and health infrastructures. It is hoped that these guidelines will provide a model to assist countries in the region to formulate national guidelines in accordance with their own particular needs and resources. Adaptation of these guidelines should take place through national/institutional workshops.

The guidelines represent the consensus of a number of clinical experts working in this area, and will be revised from time to time in the light of experience. Comments are welcome and should be sent to the World Health Organization, STD/AIDS Unit, Indraprastha Estate, Ring Road, New Delhi – 110002, India.

## INTRODUCTION

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THE HIV/AIDS epidemic in South-East Asia has reached a stage where there are an increasing number of health care workers who are treating individuals with symptomatic HIV infection and AIDS. However despite this increase, not all health workers are knowledgeable about the clinical diagnosis and management of patients with AIDS. This is particularly so because the epidemic is still new and many physicians and nurses have not had the requisite experience to properly manage patients. The lack of clear guidelines for the clinical management may lead to inaccurate clinical diagnosis, inappropriate treatment and unsuitable resource planning. A link has been recently established between the experience of physicians in treating HIV infection and the survival of their patients. The more experienced the physician the longer the patient is likely to survive. It is hoped that these guidelines will play a role in developing these skills for the benefit of patients living with HIV/AIDS in the region.

To meet this need, the WHO HQ clinical management guidelines have been adapted to the Region for standard clinical management practice. The application of the guidelines is at the level of the district within the constraints of existing health and social services. This approach recognizes the need to provide comprehensive care across a continuum to the benefit of as many patients

as possible. To achieve this a low cost approach to treatments and clinical tests is emphasized as the more expensive ones are often not available at the district level. These guidelines do not cover the use of new antiviral drugs like zidovudine or protease inhibitors.

The guidelines presented here are intended to serve the following purposes:

- to assist health care personnel in the diagnosis and clinical management of people living with HIV;
- to assist health care personnel in the provision of counselling services;
- to aid health professionals in discharge planning and referral of patients;
- to reduce the economic burden of HIV infection by preventing excessive use of diagnostic tests and inappropriate treatment;
- to assist in assessing resource requirements for the HIV epidemic; and
- to aid health professionals in the teaching and learning process.

## HOW TO USE THE GUIDELINES

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**T**HE guidelines are mainly concerned with symptoms and diseases that can be easily identified clinically. They are intended to complement and not to replace the health care workers' own clinical judgement. They are structured so as to apply to the district hospital and health centre levels based on diagnostic capabilities:

**Level A:** No laboratory or X-ray available, e.g. dispensary or primary health centers;

**Level B:** Small laboratory available, chest X-ray and microscopy may be possible, e.g. district hospital;

Where appropriate the guidelines are presented in the form of flow-chart algorithms or decision maps, which read from top to bottom and from left to right. They contain square shaped boxes, which may contain one of the following types of information:

- (1) Clinical state or problem
- (2) Decisions that need to be taken
- (3) An action to be taken.

Small letters in square brackets (e.g. [a]) within a box refer to the annotations or comments printed on the facing

page. These are an essential part of the algorithm, since not all the information needed to use it can be provided in graphic form or within the boxes. The boxes are also numbered for easy reference.

Each clinical algorithm starts with a clinical box describing the symptoms or problem for which the algorithm is appropriate. In chapters 3-9, this box is followed by initial steps which lead to a branching point. At this point the reader has to choose the appropriate level of care, A or B. For each level the required facilities, indicated by the algorithm, are briefly described and illustrated by small pictures (icons). The choice of level then guides the reader to the corresponding page, where the algorithm continues.

The reader is advised to make use of the following techniques in studying the algorithms.

- (1) Read the algorithm through without reading the annotations, in order to understand the logical flow. A clinician experienced in managing HIV infection should not expect to agree with everything in the algorithm, as there are often more ways than one in which it can be written.
- (2) Read the algorithm again slowly, paying careful attention both to the annotations and the end-point of each branch. Do not hesitate to pencil in comments as you read, since it has been shown that one of the best ways to understand an algorithm is to rewrite it.
- (3) Imagine using the algorithm to manage several patients presenting with symptomatic HIV

infection. The application of an algorithm to clinical data is a good way of testing it and of learning how it works.

A careful history should be taken and a physical examination always carried out before an algorithm is applied.

## COMPREHENSIVE HIV/AIDS CARE ACROSS A CONTINUUM

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**T**HE **Clinical management** of HIV infection and AIDS is a part of comprehensive care for individuals affected by the disease. In order to meet the total needs of persons affected by the infection there are other facets of care like nursing care, counselling and social support that have to be taken into consideration. To help meet these varied needs the concept of comprehensive HIV/AIDS care across a continuum is advocated. This is the pooling together of medical and social services within the community, and the creation of linkages between the community care initiatives and all levels of the health care system. These other aspects of comprehensive care help meet the needs in the following way;

- (1) **Nursing care:** To promote and maintain hygiene and nutrition, provide palliative care, educate individuals and families on AIDS prevention and care. The practice of infection control in health facilities and in the home by observing universal precautions.
- (2) **Counselling:** Psychological support, including stress and anxiety reduction, promoting positive living and helping individuals to make informed decisions about HIV testing. Planning for the

future impact on family members and behaviour change aimed at preventing HIV transmission to sexual partners,

- (3) **Social support:** Information about referral to support groups, welfare, legal and financial services for individuals and families including orphans and widows.

## Making comprehensive HIV/AIDS care services more accessible

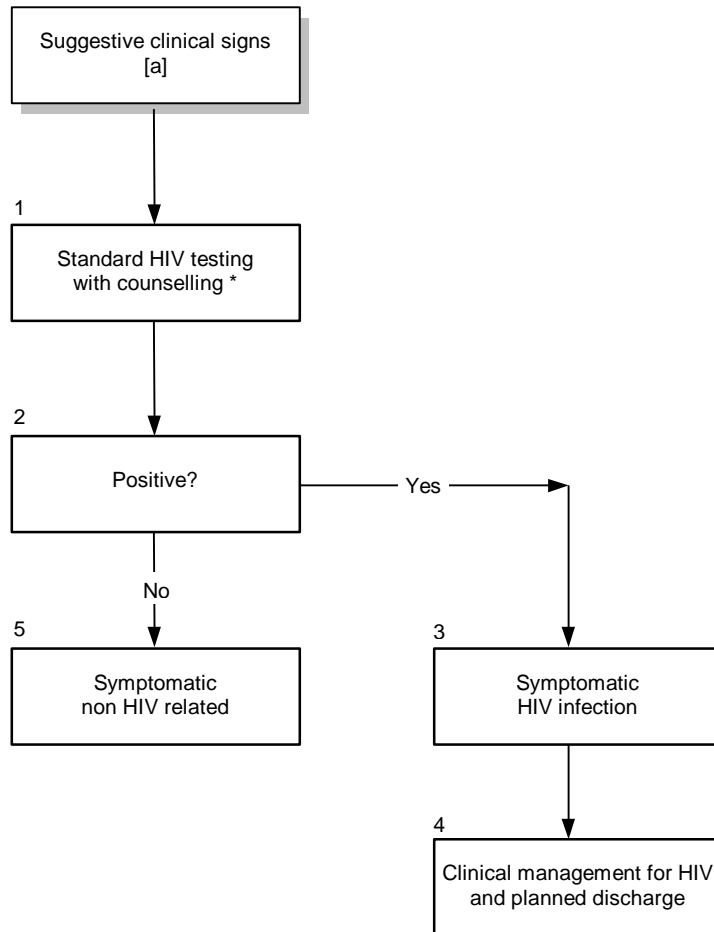
FOR services to be more accessible to the patient with HIV infection, there is a need for the reorientation of health services, social services and other groups responsible for providing social and community support at the district level. The commencement of planning for this can be at the initiative of any interested party however, the health sector is well placed to do this by virtue of its direct contact with those who are ill. The important issues to keep in mind are as follows;

- (1) Planning for the involvement of indigenous forms of care with, Non Governmental Organizations (NGOs), Community-based Organizations (CBOs) and the private sector should be based on the results of an assessment of the needs of people living with HIV and the available resources in the community. The health management teams at district level should be strengthened with the tools to make these decisions and plan for collaborative activities.

- (2) Integration of HIV/AIDS services at district level should begin to help different programmes share resources and the burden of caring. Clinical competence, counselling skills, positive attitudes and management skills need reinforcement through in-service training. The supply of essential requisites needed to provide care including drugs, disinfectants, condoms, etc. should be guaranteed to ensure confidence in the system.
- (3) The supervision of existing staff by appropriate personnel at higher levels will be enhanced by a clear definition of the roles at each participating level. This coupled with procedures for referral between hospitals, health centers, social services and the home will facilitate collaboration and coordination of these services between government, NGOs and other Community-based organizations.
- (4) Care services are an important channel for prevention activities targeting people living with AIDS their families and communities. Care aspects built into prevention programmes add credibility and effectiveness to them.

CHAPTER 1

RECOGNITION OF SYMPTOMATIC  
HIV INFECTION



\* Pre- and post- test counselling

## Annotations

The aim of this Chapter is to help the health care provider recognize the patient with symptomatic HIV infection, as an aid to clinical management.

Although symptomatic HIV infection can be recognized without laboratory testing, wherever HIV testing is available and affordable it can be used to substantiate the clinical suspicion (see Chapter 2).

- (1) Suggestive clinical findings:
  - (a) Fever for more than one month's duration
  - (b) Weight loss of more than 10%
  - (c) Diarrhoea of more than one months duration
  - (d) Mucocutaneous manifestations
  - (e) Generalized lymphadenopathy ( extra inguinal)
    - Infections severe or recurrent
      - past or present multidermatomal herpes zoster
      - hairy leukoplakia
      - warts
      - molluscum contagiosum
      - oral thrush
      - papulonecrotic lesions

- folliculitis
- vulvovaginitis
- others
  - severe recurrent seborrhoeic dermatitis
  - chronic prurigo
  - Reiters syndrome
  - Kaposi's sarcoma
- (f) Unexplained neurological manifestations e.g. seizures, motor or sensory deficits, dementia and progressive headache
- (g) Chronic cough of more than one months duration or unexplained respiratory distress.
- (h) Cytomegalovirus retinitis
- (i) Extrapulmonary or disseminated and extensive pulmonary Tuberculosis
- (j) Recurrent pneumonia
- (k) Invasive cervical carcinoma

## WHO Clinical Case Definition for AIDS in South-East Asia

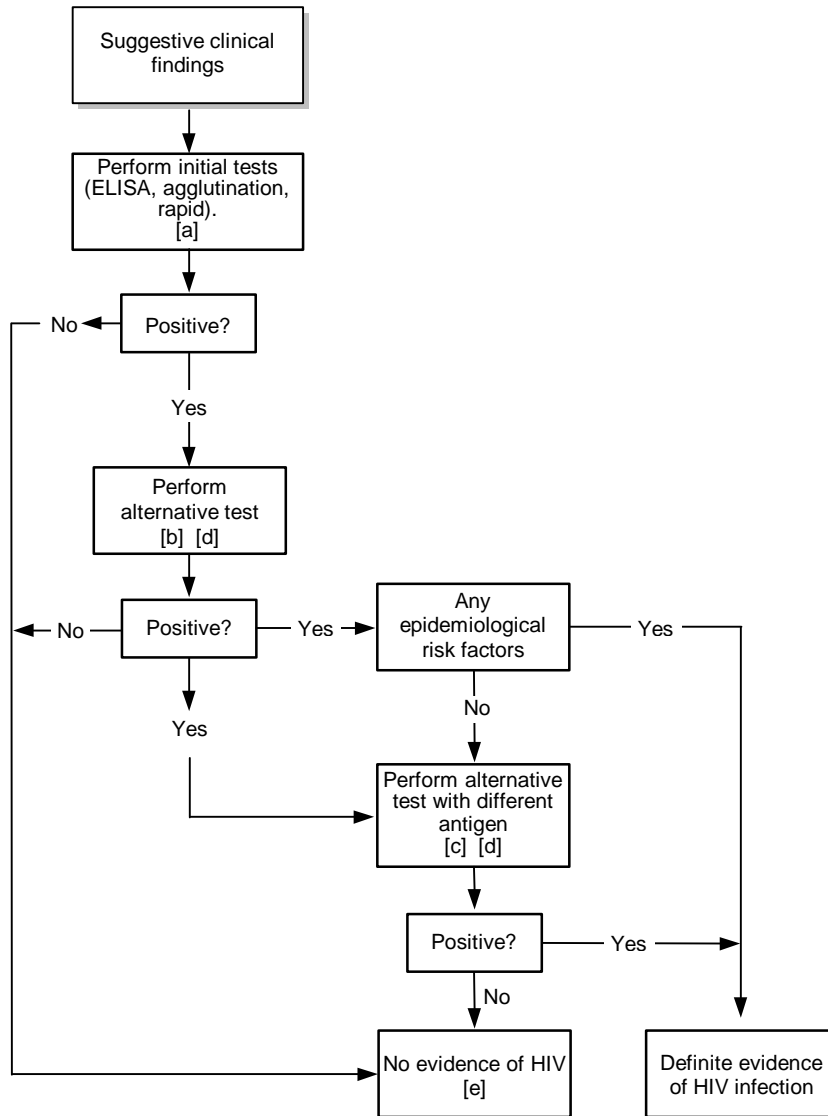
Clinical AIDS in an adult is defined as an individual who has been identified as meeting the two criteria A and B below.

- A. Positive test for HIV infection by two tests based on preferably two different antigens.
- B. Any one of the following criteria
  - (1) – Weight loss of 10% body weight or cachexia, not known to be due to a condition unrelated to HIV infection.
    - Chronic diarrhoea of one months duration, intermittent or constant.
  - (2) Disseminated, miliary or extrapulmonary tuberculosis.
  - (3) Candidiasis of the oesophagus diagnosable as dysphagia odynophagia and oral candidiasis.
  - (4) Neurological impairment restricting daily activities, not known to be due to a condition unrelated to HIV, (e.g. trauma).
  - (5) Kaposi sarcoma.



CHAPTER 2

LABORATORY EVIDENCE OF  
HIV INFECTION



## Annotations

The following are conditions under which an individual can be tested for HIV in the clinical setting.

- for the purpose of screening blood and blood products, and of serum from donors of tissues, organs, sperm or ova. This is done to ensure that blood, organs or tissues are free from HIV infection before being transfused or donated,
- for the purpose of making a diagnosis of HIV infection. Voluntary testing of serum from asymptomatic persons or from persons with clinical signs and symptoms suggestive of HIV infection or AIDS.
- for voluntary testing of serum from persons participating in clinical research.

Before a test is taken an opportunity to pretest counsel the individual should be taken. See chapter 3 on counselling.

The strategy for detecting antibodies to HIV is to undertake initial tests (sometimes referred to as screening tests) on a specimen of serum or plasma followed by alternative tests (which have also been called confirmatory tests). Both tests and testing strategies should be evaluated under field conditions and in the countries where they are to be used prior to implementation.

It is important to take into consideration relevant clinical and epidemiological information when reporting laboratory results.

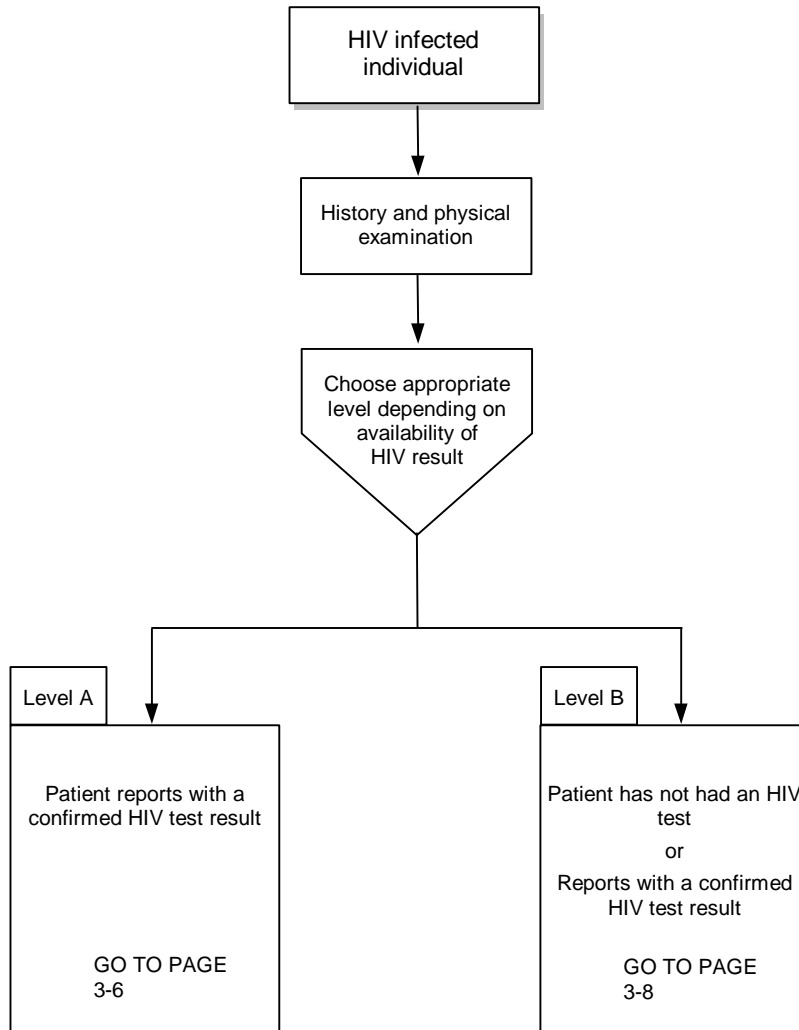
- (a) Enzyme-linked immunosorbent assays (ELISAs) and particle agglutination are widely used as initial tests. Currently available test kits are highly sensitive and specific, and identify specimens with reactive antibodies. Specimens must be shown to be repeatedly reactive before they are considered positive in the initial test.
- (b) A second test, using a different method or antigen system to that used in (a) above, should be conducted before the result is reported. Government policy on reporting this results varies within the region as follows:
- (i) In some countries epidemiological risk factors should be considered before reporting definite evidence of HIV infection. If no such factors exist then the a third test is recommended. Epidemiological risk factors include:
- Present or past high-risk behaviour:
    - drug injecting
    - multiple sex partners
    - sex partner(s) with known HIV infection or AIDS
    - sex partner(s) with known epidemiological risk factor
    - males having penetrative sexual intercourse with males.
  - Recent history of genital ulcer disease.

- History of transfusion after 1985 of unscreened blood, plasma or clotting factor;
  - History of scarification, tattooing, ear piercing or circumcision using non-sterile instruments.
- (ii) In other countries the policy is to proceed to a third test (c) if the second is positive. This takes into account the low prevalence of HIV in the region at the present time.
- (c) The third alternative test should preferably be of a different type (indirect rather than competitive) and use different antigen preparations (viral lysate versus recombinant polypeptides or synthetic polypeptides) to the initial test in order to minimize the occurrence of false positive results.
- (d) If alternative tests are not available a second specimen should be obtained 2 weeks after the first and referred to a reference laboratory.



CHAPTER 3

COUNSELLING IN  
HIV/AIDS MANAGEMENT



## Counselling as Part of Clinical Management

### Definition of HIV/AIDS Counselling

The provision of support and strength to individuals, couples, families or groups by, competent persons, to help them cope with the knowledge that they are infected or affected by HIV. It is an ongoing process that allows the individuals to develop a sense of responsibility in meeting challenges posed by their infection. Counselling should also be given to HIV negative individuals to promote behaviour change and condom use.

The individual suspected of having HIV infection should be referred to the appropriate level for counselling depending on the availability of the HIV test result. If it is available then counselling can be given at level A, if not then referral to a testing facility at level B is recommended.

### Criteria for HIV Testing

HIV testing is conducted for various purposes which include the following:<sup>1</sup>

- (1) screening blood and blood products, and of serum from donors of tissues, organs, sperm or ova. This is done to ensure that blood, organs or tissues are free

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<sup>1</sup> HIV testing done for the purposes of sentinel surveillance should not be confused with testing in the clinical setting.

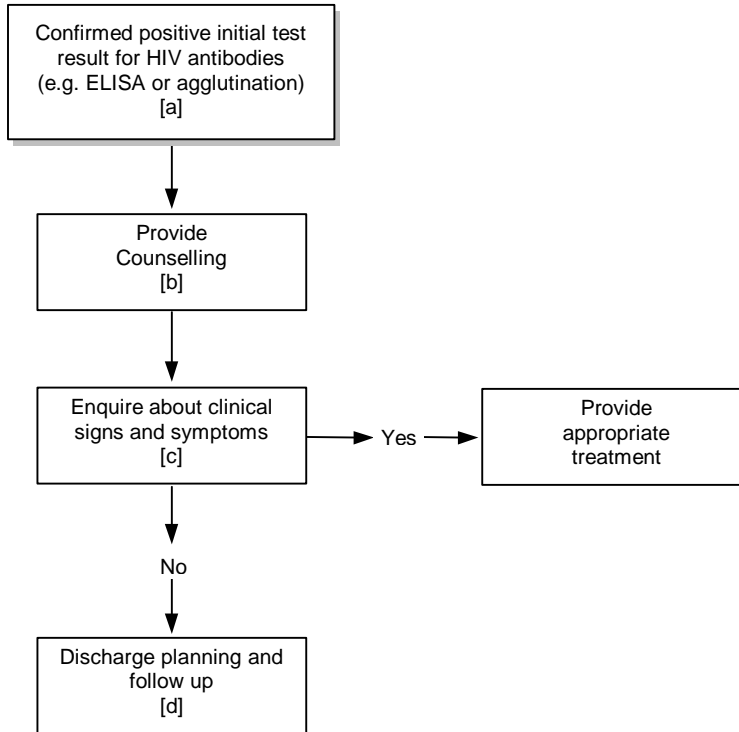
from HIV infection before being transfused or donated,

- (2) making a diagnosis of HIV infection. Voluntary testing of serum from asymptomatic persons or from persons with clinical signs and symptoms suggestive of HIV infection or AIDS.
- (3) sentinel surveillance.

***When testing is conducted for making a diagnosis of HIV infection, this should be accompanied by both pre and post test counselling.***

For more details on counselling please refer to appropriate documents, for example, An Orientation to HIV/AIDS Counselling - A Guide for Trainers, SEARO, 1994. Source Book for HIV/AIDS Counselling Training, Geneva, WHO, 1994.

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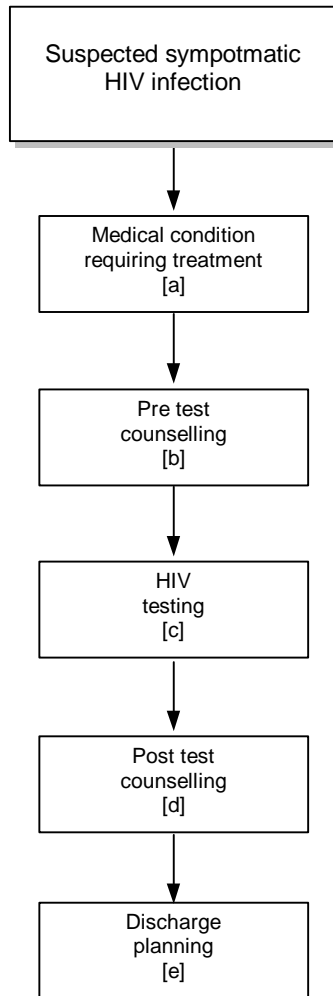


## Annotations

- (a) An individual attending a health center with a confirmed HIV positive result will require information on the HIV result and its implications.
- (b) The attending clinician may wish to follow up the individual or may delegate this responsibility to a trained counsellor. The patient needs to be involved in this decision so that issues of confidentiality are dealt with. Follow up of the patient may be in the out patient clinic or in the ward.

During the initial meeting an assessment to determine the circumstances that lead to an HIV test being performed should be done. Based on the outcome of this the individual can then be provided supportive or problem solving counselling or a combination of both.

- (c) If there is an underlying medical condition that requires treatment, this should be attended to first before HIV counselling is offered.
- (d) Whether admitted or reviewed in the clinic, the counsellor should take the opportunity to plan with the patient how follow up counselling will be provided. With the patients consent relatives may be involved in the counselling process. Based on the patients needs, plans for referral to other health and social services can be made. Home-based care as a complement to hospital care should be considered if it is available.



## Annotations

- (a) An individual with suspected HIV infection is admitted to the hospital with a medical condition requiring treatment. The medical condition should be attended to without discrimination before HIV testing is done. Appropriate treatment is given according to the presenting condition.
- (b) The patient is offered pre-test counselling by the attending clinician, or a trained counsellor. This involves the giving of information on the technical aspects of HIV testing and possible personal, medical, social, psychological and legal implications of being found either HIV positive or HIV negative.

The information is given in a manner that the individual understands and feels he/she can make an informed decision about taking the HIV test. The issue of confidentiality surrounding test results and subsequent counselling and follow up is also covered.

- (c) If the outcome of pretest counselling is favorable the individual is then tested using the approved testing procedure.
- (d) Post-test counselling is given by the clinician or a trained counsellor. This involves discussing the interpretation of an HIV result and whether it was expected or not. The focus of the discussion will depend on whether the result is positive, negative or equivocal.

- (e) Whether admitted or reviewed in the clinic, the counsellor should take the opportunity to plan with the patient how follow-up counselling will be provided. With the patients consent, relatives may be involved in the counselling process. Based on the patients needs, plans for referral to other health and social services can be made. Home-based care as a complement to hospital care should be considered if it is available.

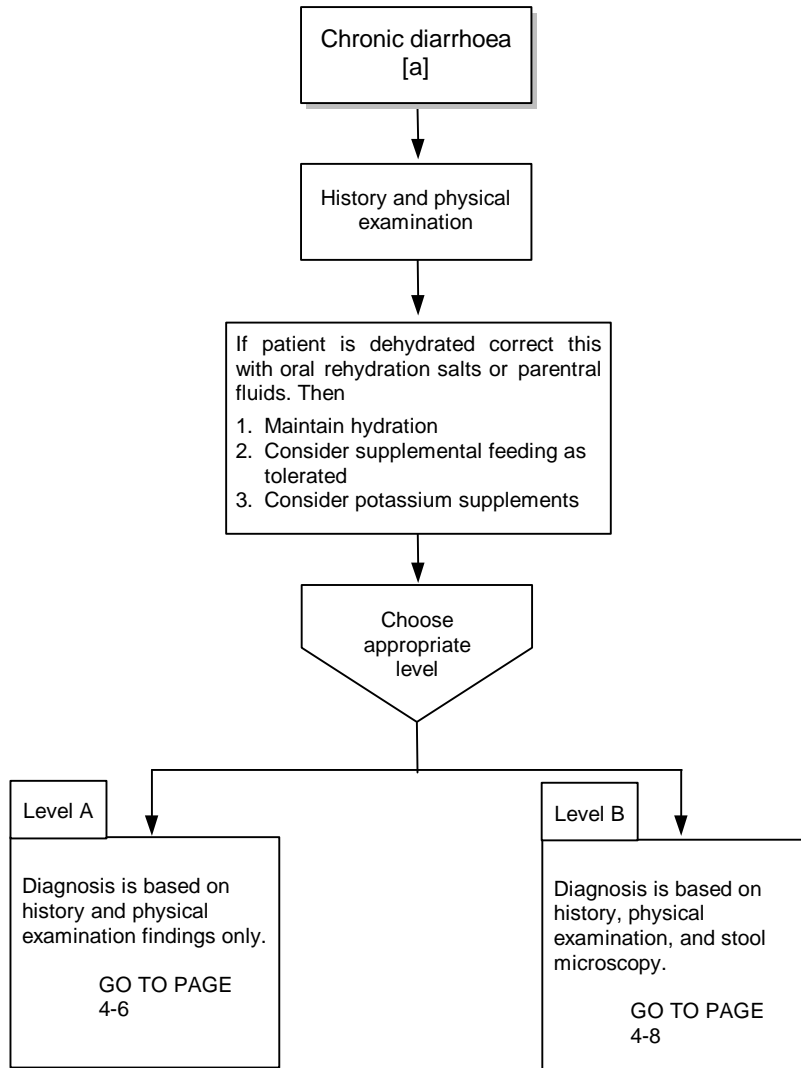
Notes



CHAPTER 4

CHRONIC DIARRHOEA

# Chronic Diarrhoea



## Annotations

- (a) **Definition:** Liquid stools 3 or more times a day, continuously or episodically for more than one month, in a patient with symptomatic HIV infection.

Diarrhoea occurs at some point in the clinical course of most HIV infections. The management of acute diarrhoea should follow standard treatment guidelines (see document WHO/CDD/SER/80.2 REV.2, 1990).

## *Etiology*

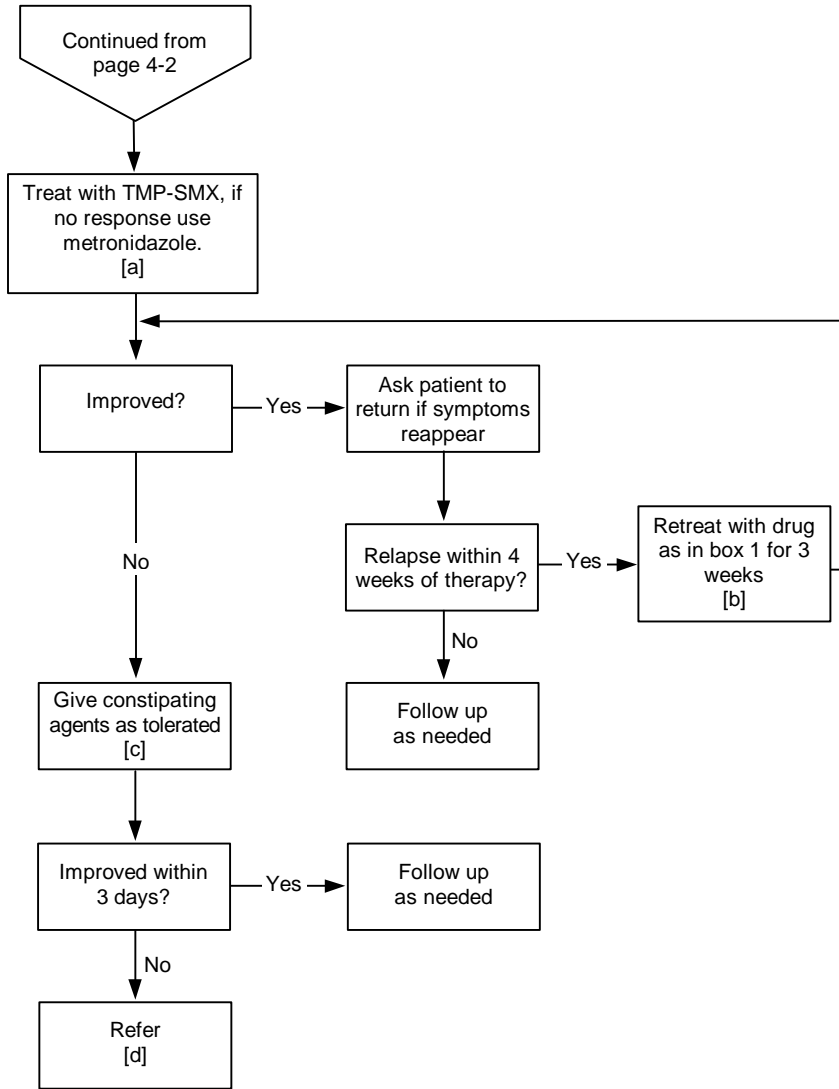
- (1) Infections:
- cryptosporidiosis
  - *Isospora belli*
  - *Giardia lamblia*
  - *Salmonella spp.*
  - *Shigella flexneri*
  - *Campylobacter spp.*
  - *Entamoeba histolytica*
  - cytomegalovirus disease
  - *Strongyloides stercoralis*
  - *Mycobacterium tuberculosis*.
- (2) Malignancies:
- Kaposi sarcoma
  - lymphoma.
- (3) Idiopathic (possibly HIV infection).

A list of the main causes in order of significance should be established in the light of available national or local information.

(b) Assessment of dehydration

Clinical features	Dehydration	
	Some	Severe
General appearance/condition	Restless, irritable	Usually conscious; apprehensive; cold sweaty, cyanotic extremities
Pulse	Rapid	Rapid, feeble, sometimes impalpable
Respiration	Deep, may be rapid	Deep and rapid
Skin elasticity	Pinch retracts slowly	Pinch retracts very slowly (>2 seconds)
Eyes	Sunken	Deeply sunken
Mucous membranes	Dry	Very dry
Urine flow	Reduced amount and dark	None passed for 6 or more hours; empty bladder

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## Annotations

- (a) Trimethoprim-sulfamethoxazole (480mg) TMP-SMX, 2 tablets twice a day for 5 days. It is assumed that this treatment will eradicate possible bacterial or parasitic infections. If there is no response metronidazole 400mg 3 times daily for 7 days can be tried. Fever and bloody stools are more indicative of bacterial rather than parasitic infection.
- (b) Relapse may be due to the short duration of the initial treatment. One prolonged course of treatment (for 3 weeks) is justified.
- (c) For example, loperamide, 4 mg initially, followed by a further 2 mg after each unformed stool (maximal daily dosage 16 mg), diphenoxylate, 5 mg 4 times daily, or codeine 15 mg 3 times daily.

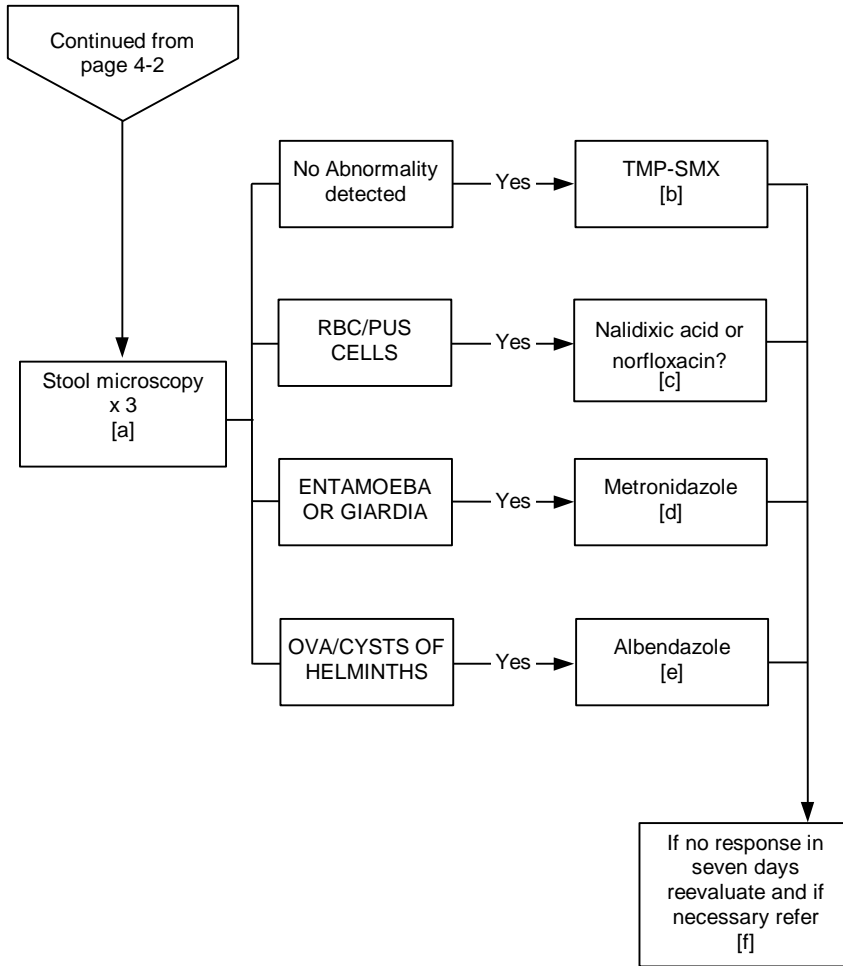
Before constipating agents are given, treatment of a potential helminthic infection can be tried, e.g. mebendazole, 100 mg 3 times daily for 7 days.

Constipating agents should not be used in patients with bloody diarrhoea, because of the risk of inducing toxic megacolon.

- (d) If diarrhoea is disabling, refer to a center with better care facilities.

# Chronic Diarrhoea

## Level B



## Annotations

- (a) TMP-SMX, trimethoprim-sulfamethoxazole. It is assumed that this treatment will eradicate possible bacterial or parasitic infections. Fever and bloody stools are more indicative of bacterial than parasitic infection.
- (b) Relapse may be due to the short duration of the initial treatment. One prolonged course of treatment (for 3 weeks) is justified.
- (c) For example, loperamide, 4 mg initially, followed by a further 2 mg after each unformed stool (maximal daily dosage 16 mg), diphenoxylate, 5 mg 4 times daily, or codeine 10 mg 3 times daily.

Before constipating agents are given, treatment of a potential helminthic infection can be tried, e.g. mebendazole, 100 mg 3 times daily for 7 days.

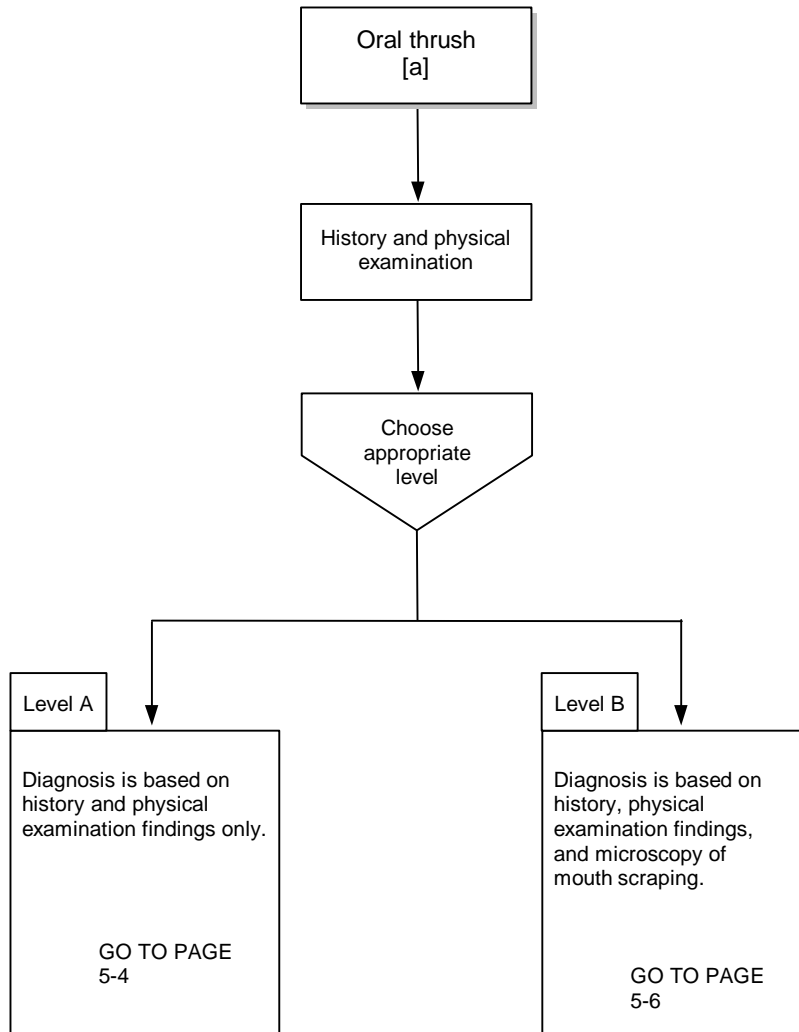
Constipating agents should not be used in patients with bloody diarrhoea, because of the risk of inducing toxic megacolon.

- (d) If diarrhoea is disabling, refer to a centre with better care facilities.



CHAPTER 5  
ORAL THRUSH

# Oral Thrush



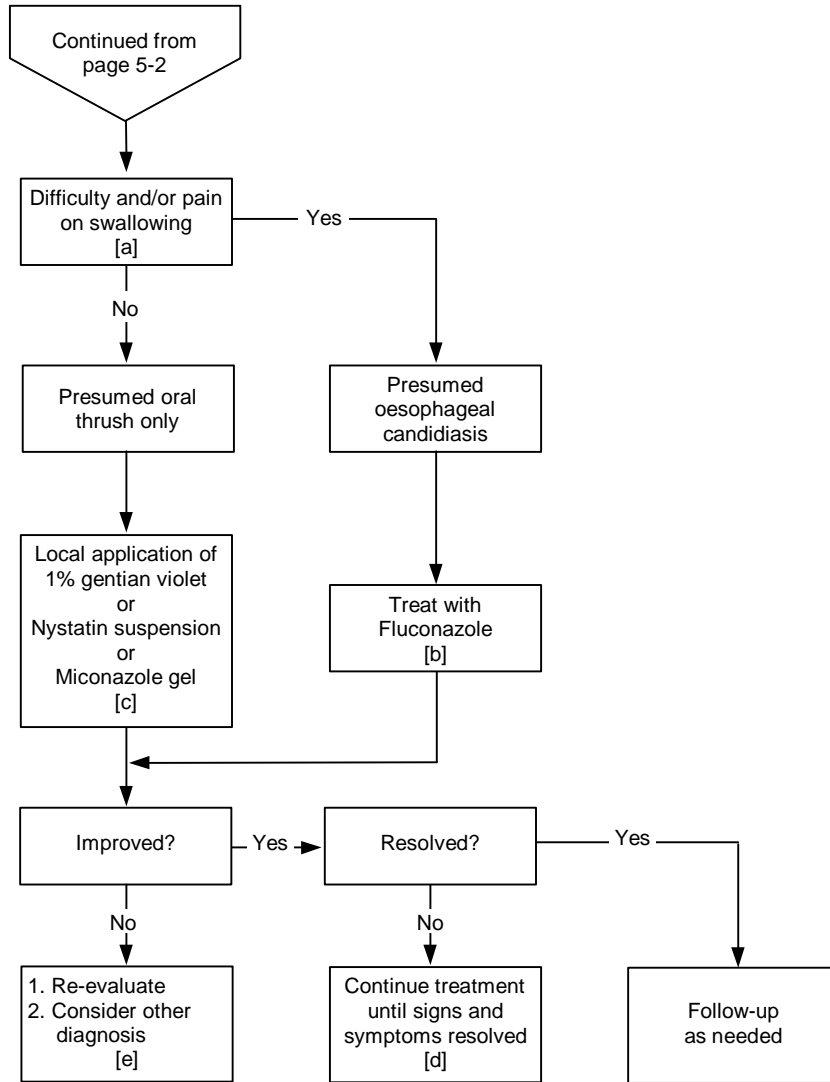
## Annotation

(a) Definition:

Presumptive: The presence of whitish, grey white or light brown plaques on the oral mucosa. These plaques, usually located on the palatal or buccal mucosa, can be removed and then often reveal a bleeding surface.

Definitive: Microscopic demonstration of pseudohyphae and/or blastospores of *Candida albicans* from mouth scraping.

Etiology: *Candida* species.



## Annotations

- (a) Candidiasis may extend into the oesophagus in HIV-infected patients with oral thrush and may cause difficulty (dysphagia) and/or pain (odynophagia) on swallowing. Other causes of oesophagitis are infections with cytomegalovirus and herpes simplex virus.

Rarely, these symptoms may be due to malignancy (Kaposi sarcoma, lymphoma, carcinoma) or ulceration owing to contact with oral tablets or acid reflux. Untreated oesophageal lesions, even if causing only mild discomfort, may alter eating habits and make already poor nutrition even worse.

- (b) Fluconazole, 200mg daily for 14 days should be used in presumptive oesophageal candidiasis. Depending on national guidelines and availability, ketoconazole is an alternative drug.
- (c) In presumed oral thrush local application of gentian violet 1% aqueous solution twice daily or nystatin, 100,000 IU oral suspension 3 times a day for 7 days is effective. If oral suspension is not available, pessaries (100 000 IU, to be sucked every 4 hours) or tablets (500 000 IU, to be sucked every 6 hours) can be used. Miconazole gel if it is available is an alternative drug. Oral thrush and oesophageal candidiasis have a high likelihood of recurrence and indicate a high risk of other opportunistic infections.

- (d) Oesophageal lesions may resolve slowly although symptomatic response is usually prompt. Prolonged therapy until remission is often required.
- (e) The presence of hairy leukoplakia may mimic oral thrush. For the differential diagnosis of oesophageal candidiasis, see annotation [a]. A patient with oral thrush who has received only local anti-fungal treatment should receive a systemic antifungal drug prior to referral or should be referred for treatment.

**Level B. Treatment of oral candidiasis at this level is similar to that for level A, the difference is in the use of a microscope to confirm the presence of spores or hyphae.**

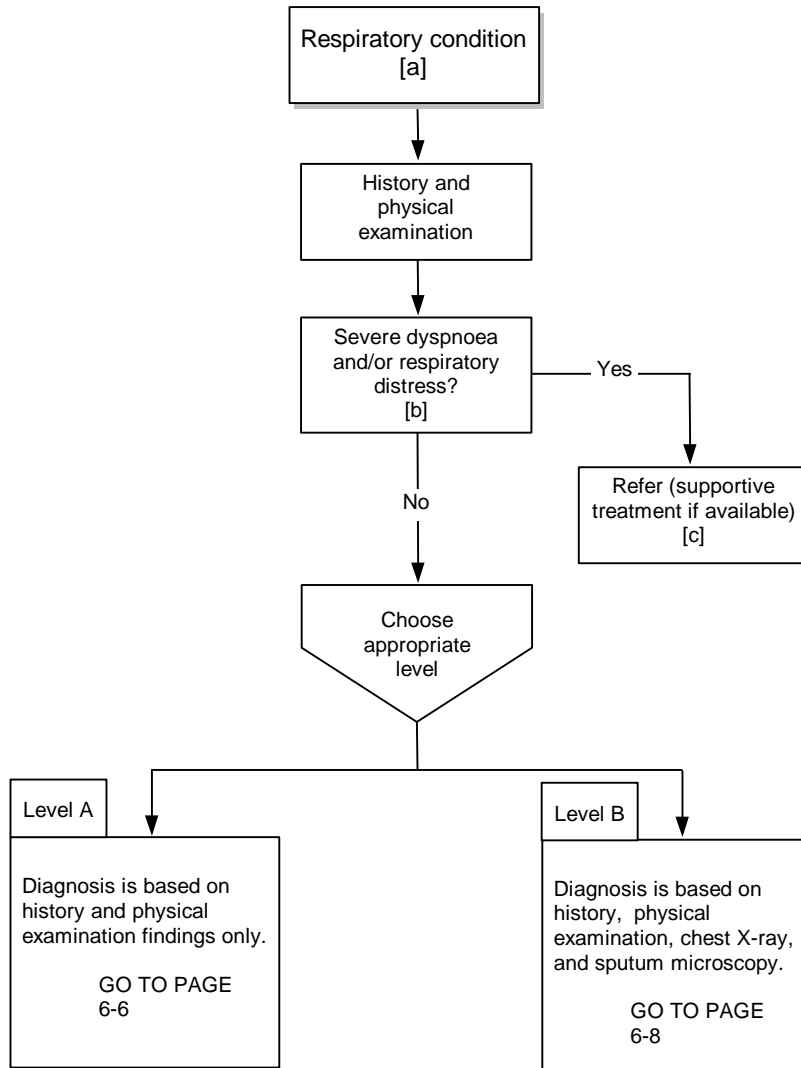
Notes



CHAPTER 6

RESPIRATORY CONDITIONS

# Respiratory Conditions



## Annotations

- (a) **Definition:** Persistence or worsening of cough and/or chest pain and/or dyspnoea in a patient with symptomatic HIV infection.

### *Etiology*

- (1) Pulmonary conditions:
- Infections:
    - pyogenic bacteria
    - Mycobacterium tuberculosis
    - Pneumocystis carinii pneumonia
    - fungal infection (cryptococcus)
    - atypical mycobacteria
    - others: cytomegalovirus infection, toxoplasmosis
  - Malignancies:
    - Kaposi sarcoma
    - lymphoma
  - Others:
    - lymphoid interstitial pneumonitis
- (2) Other associated conditions:

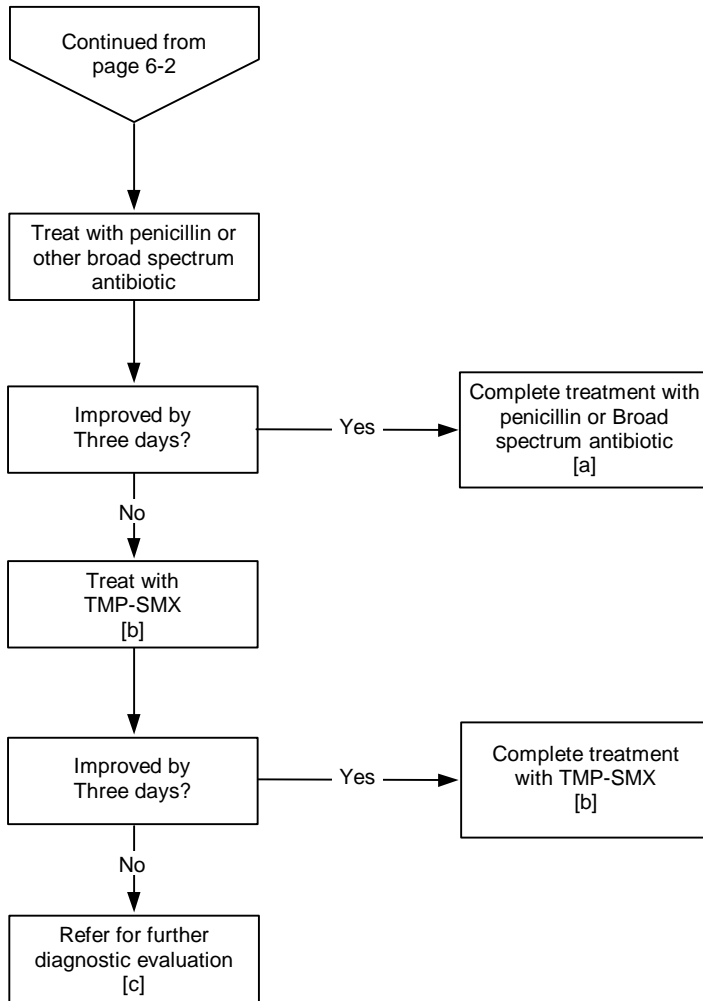
- pleural effusion/empyema (associated with tuberculosis, bacterial infection or cancer)
- pneumothorax (associated with tuberculosis, Pneumocystis carinii pneumonia or cancer)
- pericardial effusion (often associated with tuberculosis).
- A list of the main causes in order of significance should be established in the light of available national or local information.

- (b) Dyspnoea is defined as subjective shortness of breath at rest or on minimal exertion.

Respiratory distress is defined as objective evidence of respiratory dysfunction including hypoxemia, cyanosis, tachycardia and signs of ventilatory effort (intercostal indrawing, use of accessory muscles).

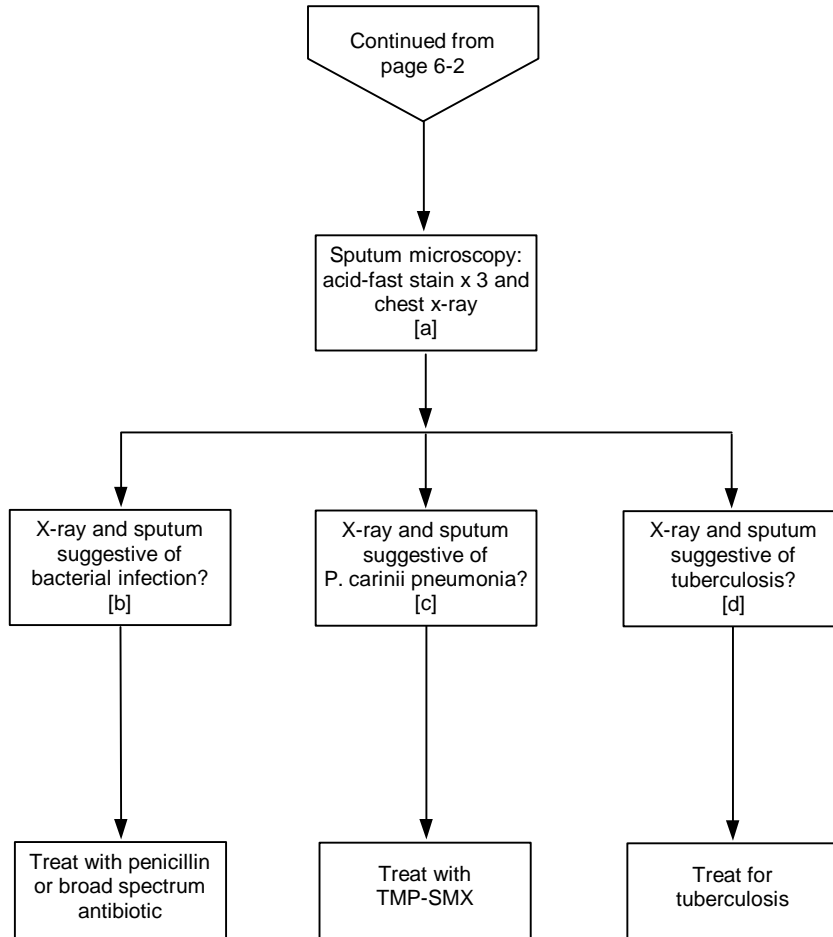
- (c) Inhaled oxygen therapy, where available, is indicated in the presence of hypoxemia, diagnosed on clinical grounds (dyspnoea, cyanosis). The use of assisted mechanical ventilation, where available, should depend on the criteria used in general medicine, although the outcome is often poorer in a person with HIV infection.

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## Annotations

- (a) In many countries, Gram-positive pyogenic bacteria will be the most probable cause of symptoms. The purpose of this algorithm is to provide guidance on the treatment of potential bacterial pneumonia. Response to penicillin (e.g. phenoxymethylpenicillin, 250mg 4 times daily) is likely to be prompt. Other broad spectrum antibiotics may be used if penicillin V is not effective.
- (b) As no further diagnostic tools are available, a trial with a second antibiotic, for example trimethoprim-sulfamethoxazole (TMP-SMX), 480 mg, 4 tablets twice daily for 10 days, is justified. This will cover pyogenic infections not sensitive to penicillin.
- (c) In many countries the exclusion of tuberculosis will be a high priority in patients not responding to antibiotic treatment.



## Annotations

- (a) In countries with a high prevalence of tuberculosis, sputum examination for acid-fast bacteria is essential. If readily available, a chest X-ray should always be performed at presentation. A chest X-ray is also of value in assessing response to therapy. (For the purpose of clarity this algorithm shows a stepwise procedure, although sputum examination and chest X-ray are generally done simultaneously.)
- (b) In many countries, Gram-positive pyogenic bacteria will be the most probable cause of bacterial pneumonia. Response to penicillin (e.g. phenoxymethylpenicillin, 250 mg, 2 tablets 4 times daily), is likely to be prompt. A broad spectrum antibiotic can be used instead of penicillin v. If there is no improvement within 3 days a different antibiotic, e.g. trimethoprim-sulfamethoxazole (TMP-SMX), 480 mg, 2 tablets twice daily for 10 days, should be given.
- (c) The chest X-ray is abnormal in more than 90% of documented cases of *Pneumocystis carinii* pneumonia, typically showing bilateral interstitial infiltrates.

Oral or intravenous trimethoprim-sulfamethoxazole (TMP-SMX): TMP, 15 mg/kg daily plus SMX, 75 mg/kg daily in 4 divided doses, e.g. for a patient of 65 kg body weight, TMP-SMX, 480 mg, 3 tablets orally 4 times daily. Assessment of benefit requires at least 7 days as *P. carinii* pneumonia may initially worsen. If

the patient responds, continue for at least 14 and preferably 21 days in the absence of side effects.

If the patient is unable to tolerate the full course, change to pentamidine isothionate 3-4 mg/kg daily by intravenous injection, if available. The risk of recurrence is high and can be reduced by prophylaxis. Commonly used regimens include TMP-SMX, 480 mg 2 tablets twice daily, dapsone, 100 mg daily, and aerosolized pentamidine. Corticosteroids e.g. prednisone, 20 mg, 4 times daily, are recommended for the severely ill patient.

- (d) In most HIV-infected patients with immune deficiency X-ray is consistent with primary rather than reactivated disease, with hilar and/or mediastinal adenopathy and localized middle or lower lung field infiltrates. Cavitation and apical infiltrates are uncommon. Pleural effusion is a prominent feature.

Pulmonary tuberculosis in a patient with a negative smear is defined as: radiographic abnormalities consistent with active pulmonary tuberculosis (i.e. a changing chest X-ray) and the decision by a physician to give a curative course of antituberculous chemotherapy.

The highest priority is *smear-positive pulmonary tuberculosis*. Short-course therapy with an initial intensive phase is advised, e.g. for a patient of 51 kg or more, 2 months of daily treatment with isoniazid (H) and rifampicin (R), 2 tablets of a fixed combination (150 mg H and 300 mg R), pyrazinamide,

4 tablets of 500 mg, and ethambutol, 3 tablets of 400 mg, followed by a 4-month continuation phase of treatment 3 times weekly with isoniazid and rifampicin, 4 tablets of a fixed combination (100 mg H and 150 mg R) plus isoniazid, 1 tablet of 300 mg. If resources are scarce, a 6-month continuation phase of daily treatment with isoniazid, 300 mg, and ethambutol, 2 tablets of 400 mg can be given. **Priority should be given to providing treatment under observation of a health care worker. A repeat sputum test should always be performed after completion of treatment.**

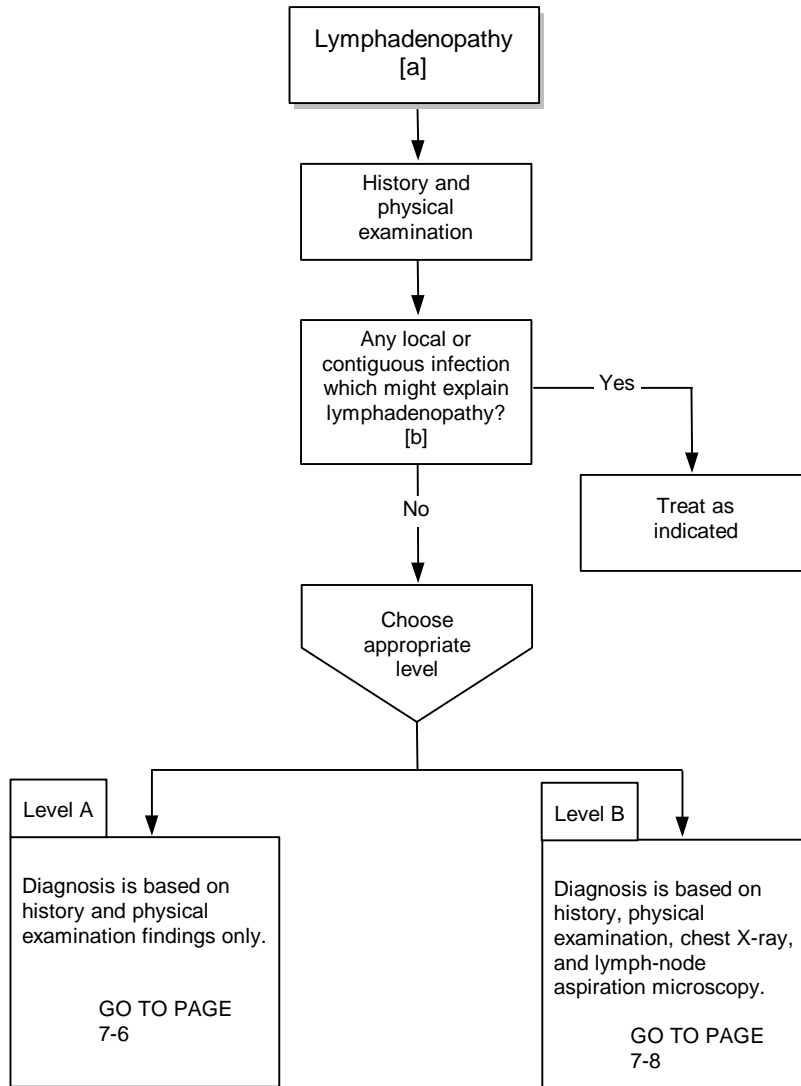
Thiacetazone should not be used in persons known to be or suspected of being infected with HIV, because of the occurrence of severe hypersensitivity reactions (see WHO guidelines in document WHO/TUB/96.200).

Notes

CHAPTER 7

LYMPHADENOPATHY

# Lymphadenopathy



## Annotations

- (a) **Definition:** Lymph node enlargement in a patient with symptomatic HIV infection.

### *Etiology*

- (1) HIV infection itself
- (2) Infections
  - (i) Bacterial
    - tuberculosis
    - syphilis
  - (ii) Fungal
    - histoplasmosis
  - (iii) Viral
    - cytomegalovirus disease
- (3) Malignancies:
  - (i) lymphadenopathic Kaposi sarcoma (not necessarily associated with cutaneous Kaposi sarcoma)
  - (ii) lymphoma
- (4) Dermatological conditions:
  - (i) seborrhoeic dermatitis

(ii) chronic pyoderma

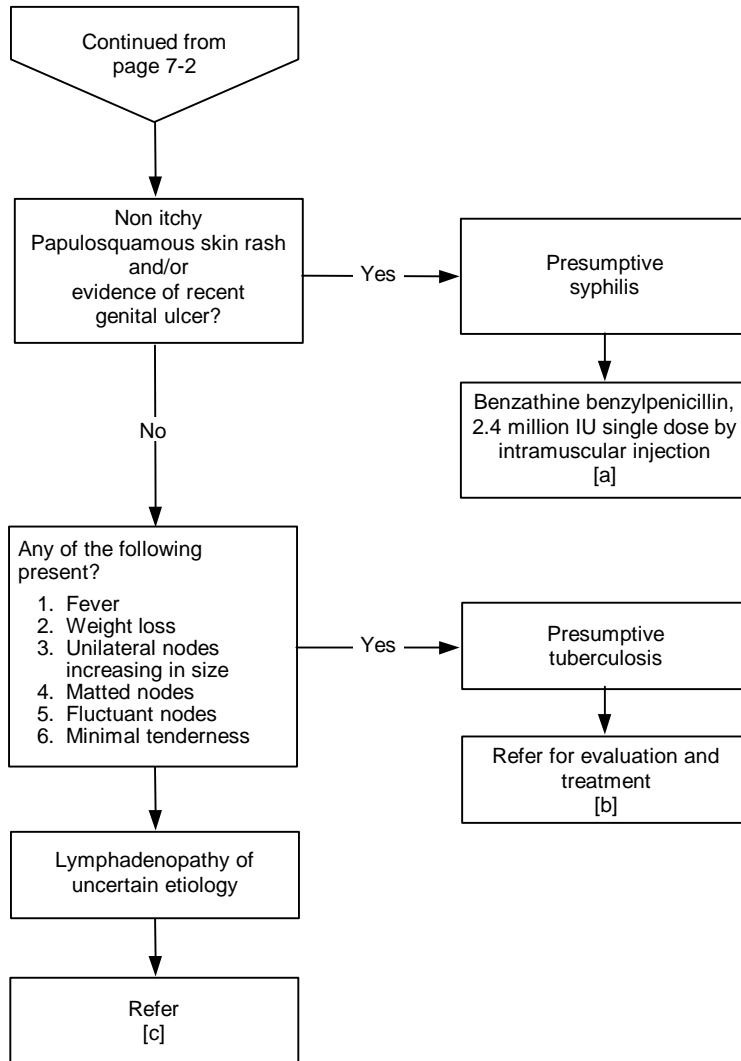
A list of the main causes in order of significance should be established in the light of available national or local information.

- (b) A careful physical examination should identify any local or contiguous infection that might explain the lymphadenopathy. Infections prevalent in the region concerned, e.g. filariasis should also be considered.

Persistent generalized lymphadenopathy is common in HIV-infected patients and is often due to HIV alone. It is defined as follows:

- (1) More than 3 separate lymph node groups affected.
- (2) At least 2 nodes more than 1.5 cm in diameter at each site.
- (3) Duration of more than 1 month.
- (4) No local or contiguous infection that might explain the adenopathy.

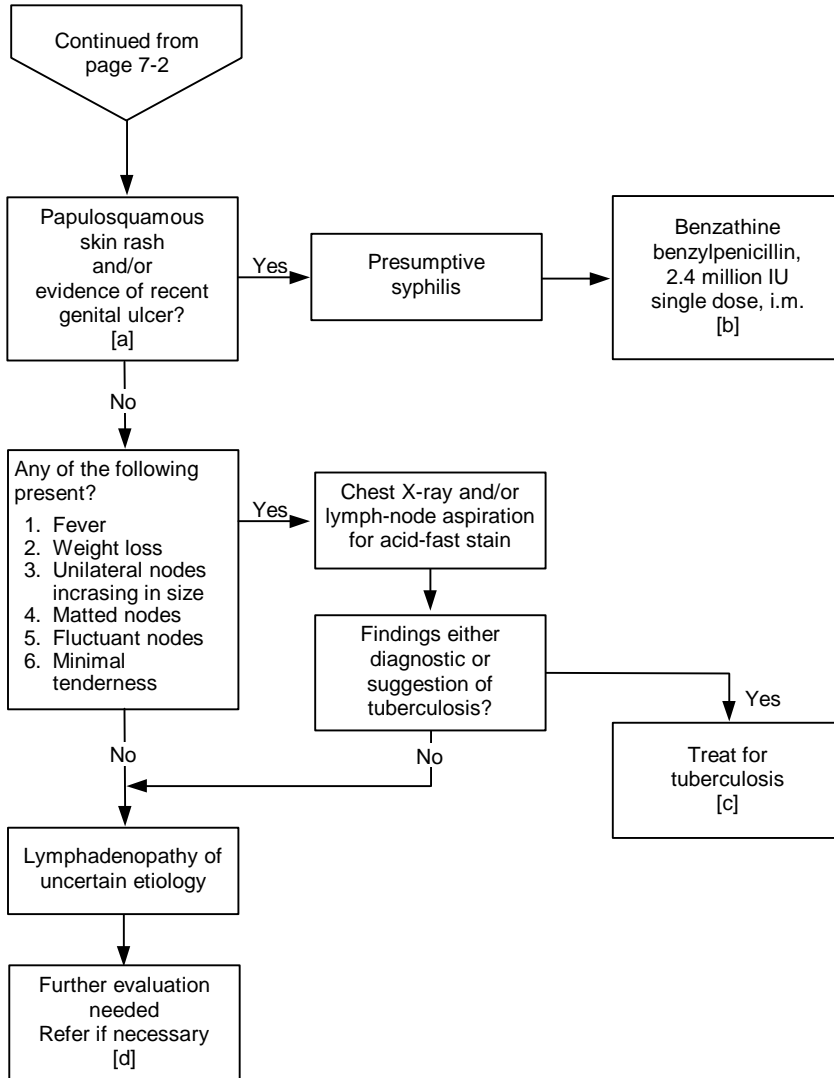
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## Annotations

- (a) Alternative treatment: if long-acting penicillin is not available or for non-pregnant patients allergic to penicillin, tetracycline, 500 mg 4 times daily for 15 days. For pregnant women allergic to penicillin, use erythromycin 500 mg. 4 times daily for 15 days (see WHO guidelines in document WHO/GPA/TCO/PMT/95.18 D).
  
- (b) Tuberculosis in HIV-infected individuals is frequently extrapulmonary with peripheral lymph nodes frequently involved and showing one or more of the features listed in box 1.
  
- (c) Persistent generalized lymphadenopathy is common in HIV-infected patients. The purpose of this algorithm is to identify tuberculosis or syphilis.

In an asymptomatic patient no further investigation or treatment is required. However, in patients with recently symptomatic lymphadenopathy, rapidly enlarging nodes, marked nodal asymmetry, and constitutional symptoms, referral for biopsy should be considered. The same is true for patients not responding to empiric therapy. A biopsy is useful for excluding lymphoma, sarcoidosis, lymphadenopathic Kaposi sarcoma and infiltrative fungal or mycobacterial disease.



## Annotations

- (a) Where available, serological testing (Venereal Disease Research Laboratories test, *Treponema pallidum* hemagglutination assay) is of additional benefit in substantiating the diagnosis of syphilis.
- (b) Alternative treatment: if long-acting penicillin is not available or for non-pregnant patients allergic to penicillin, use tetracycline, 500 mg 4 times daily for 15 days. For pregnant women allergic to penicillin, use erythromycin 500 mg. 4 times daily for 15 days (see WHO guidelines in document WHO/GPA/TCO/PMT/95.18 D).
- (c) Tuberculosis in HIV-infected individuals is frequently extrapulmonary with peripheral lymph nodes frequently involved and showing one or more of the features listed in box 5. For the treatment of pulmonary tuberculosis see page 6-6.

Tuberculous lymphadenitis e.g. for a patient of 51 kg or more, a 2-month initial phase of daily treatment with isoniazid (H) and rifampicin (R), 2 tablets of a fixed combination (150 mg H and 300 mg R), and pyrazinamide(Z) 4 tablets of 500 mg, followed by a 2-month continuation phase of treatment 3 times weekly with isoniazid and rifampicin, 4 tablets of a fixed combination (100 mg H and 150 mg R) plus isoniazid, 1 tablet of 300 mg. *Where resources are scarce*, a 6-month continuation phase of daily

treatment with isoniazid, 300 mg, and ethambutol, 2 tablets of 400 mg can be given.

Thiacetazone should not be used in persons known to be or suspected of being infected with HIV, because of the occurrence of severe hypersensitivity reactions (see WHO guidelines in document WHO/TUB/96.200).

- (d) Persistent generalized lymphadenopathy is common in HIV-infected patients. The purpose of this algorithm is to identify tuberculosis or syphilis.

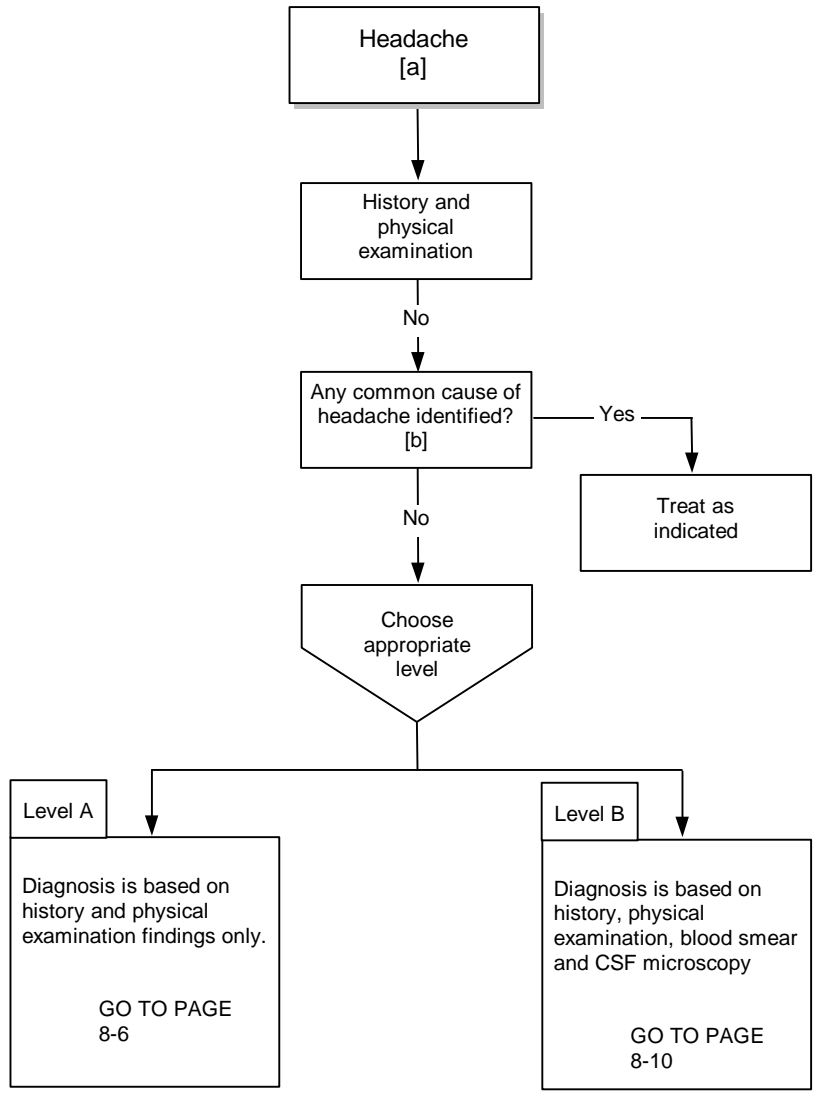
In an asymptomatic patient no further investigation or treatment is required. However, in patients with recently symptomatic lymphadenopathy, rapidly enlarging nodes, marked nodal asymmetry, and constitutional symptoms referral for biopsy should be considered. The same is true for patients not responding to empiric therapy. A biopsy is useful for excluding lymphoma, lymphadenopathic Kaposi sarcoma and infiltrative fungal or mycobacterial disease.

Notes



CHAPTER 8  
HEADACHE

# Headache



## Annotations

- (a) **Definition:** Headache in a patient with symptomatic HIV infection, often persistent or severe and rapidly increasing or not responding to common drugs used for pain relief. It can be with or without fever.

### *Etiology*

(1) Infections:

- tuberculous meningitis
- cryptococcal meningitis
- Toxoplasma meningoencephalitis
- neurosyphilis
- viral meningoencephalitis (e.g. due to cytomegalovirus)
- chronic HIV meningitis
- progressive multifocal leukoencephalopathy.

(2) Malignancy:

- lymphoma.

(3) Drug side effect:

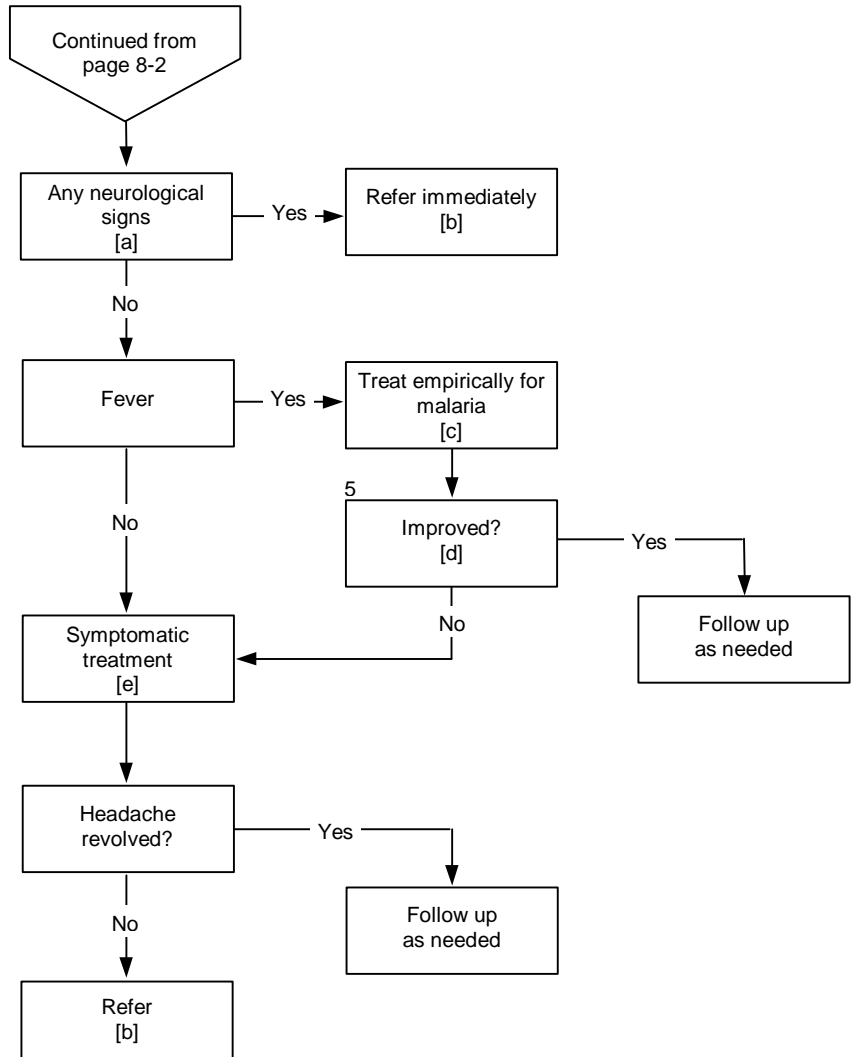
A list of the main causes in order of significance should be established in the light of available national or local information.

- (b) Causes of headache not related to HIV infection, e.g. migraine, tension, sinusitis, refractive disorders, dental

disease, anaemia, hypertension, drugs (e.g. indomethacin), should be identified and treated.

Infectious diseases prevalent in the region concerned that can lead to headache, e.g. malaria, typhoid fever, dengue fever, should also be considered and treated, if possible.

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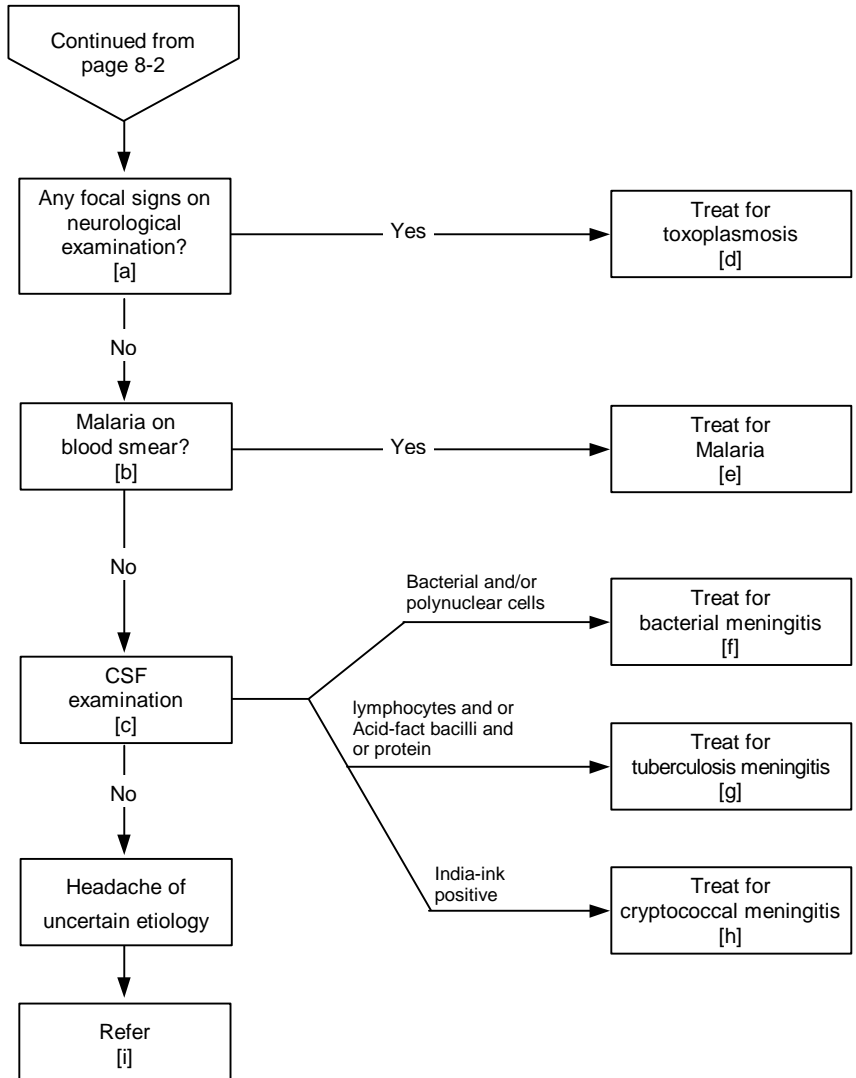
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## Annotations

- (a) These include:
  - (1) Changes in mental state (may be subtle) including loss of concentration, personality change (mild to psychotic), confusion, cognitive impairment, dementia.
  - (2) Focal neurological deficits including paresis, cranial nerve palsies, movement disorders, ataxia, aphasia.
  - (3) Seizures.
  - (4) Evidence of meningeal irritation or raised intracranial pressure (neck stiffness, high blood pressure and slow pulse in the presence of fever).
- (b) Wherever possible, further evaluation of headache, particularly in a patient with symptomatic HIV infection showing neurological signs, should be pursued to identify treatable conditions. Cerebral malaria can lead to mental changes. In areas where malaria is prevalent, empiric treatment may be indicated.
- (c) Treat for malaria, chloroquine 4 tablets stat then 2 tablets after 6 hours, followed by two tablets twice a day for three days. Alternative treatment can be given according to national guidelines.

- (d) Cryptococcal meningitis may present with fever and headache only. Referral for further evaluation may be indicated.
  
- (e) As in patients without HIV infection; commence with a simple analgesic such as paracetamol and increase to compound analgesics containing narcotics of varying strength as needed and available. In palliative treatment, optimal relief is essential.

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## Annotations

- (a) This should cover:
  - (1) Changes in mental state (may be subtle) including loss of concentration, personality change (mild to psychotic), confusion, cognitive impairment, and dementia.
  - (2) Focal neurological deficits including paresis, cranial nerve palsies, movement disorders, ataxia, and aphasia.
  - (3) Seizures.
  - (4) Evidence of meningeal irritation or raised intracranial pressure, (neck stiffness, high blood pressure, and slow pulse in the presence of fever).
- (b) A blood smear for malaria parasites should be carried out in areas where the disease is endemic or when there is a history of recent travel to such an area.
- (c) Before lumbar puncture, a fundoscopy should be performed to rule out raised intracranial pressure. Examination of cerebrospinal fluid (CSF) is valuable for confirming the diagnosis of major causes of headache treatable at a Level B facility (tuberculosis; cryptococcal meningitis; bacterial meningitis).
- (d) Toxoplasmosis is the most probable cause of focal signs. It usually responds promptly and well to treatment and this response can be used to support

the diagnosis. There is a high rate of recurrence on cessation of therapy. Primary therapy is given for 6 weeks: pyrimethamine loading dose 75-100 mg, then 25-50 mg daily plus sulfadiazine, 6-8 g daily in 4 doses. If the response is good, lifelong chronic suppressive therapy is advisable: pyrimethamine, 25 mg daily plus sulfadiazine, 2-4 g daily. If there is no response to primary therapy, a diagnosis of cerebral toxoplasmosis is unlikely.

- (e) Treat for malaria, chloroquine 4 tablets stat then 2 tablets after 6 hours, followed by two tablets twice a day for three days. Alternative treatment can be given according to national guidelines.
- (f) For example, benzylpenicillin 12-24 million IU daily by intravenous injection in divided doses every 4 hours or chloramphenicol 2-4 g daily by intravenous injection in divided doses every 4 hours. Treat for a minimum of 7 days or for 4-5 days after the patient becomes afebrile.
- (g) Tuberculous meningitis: e.g. for a patient of 51 kg or more, *2 months of daily treatment* with isoniazid (H) and rifampicin (R), 2 tablets of a fixed combination (150 mg H and 300 mg R), pyrazinamide, 4 tablets of 500 mg, and ethambutol, 3 tablets of 400 mg, followed by a *4-month continuation phase* of treatment 3 times weekly with isoniazid and rifampicin, 4 tablets of a fixed combination (100 mg H and 150 mg R) plus isoniazid, 1 tablet of 300 mg. *If resources are scarce*, a 6-month continuation phase of daily

treatment with isoniazid, 300 mg, and ethambutol, 2 tablets of 400 mg can be given.

Thiacetazone should not be used in persons known to be or suspected of being infected with HIV, because of the occurrence of severe hypersensitivity reactions (see WHO guidelines in document WHO/TUB/96.200).

- (h) Amphotericin B, 0.5-0.7 mg/kg daily by intravenous injection for 6 weeks, if tolerated. Alternatively treat with fluconazole, 200-400 mg daily for 12 weeks (orally or by intravenous injection). Maintenance therapy e.g. fluconazole 200 mg daily or amphotericin B, 1 mg/kg weekly by intravenous injection is indicated as relapses are common.
- (i) As in patients without HIV infection; commence with a simple analgesic such as paracetamol and increase to compound analgesics containing narcotics of varying strength as needed and available. In palliative treatment, optimal relief is essential. Referral for supportive counselling may also be necessary.

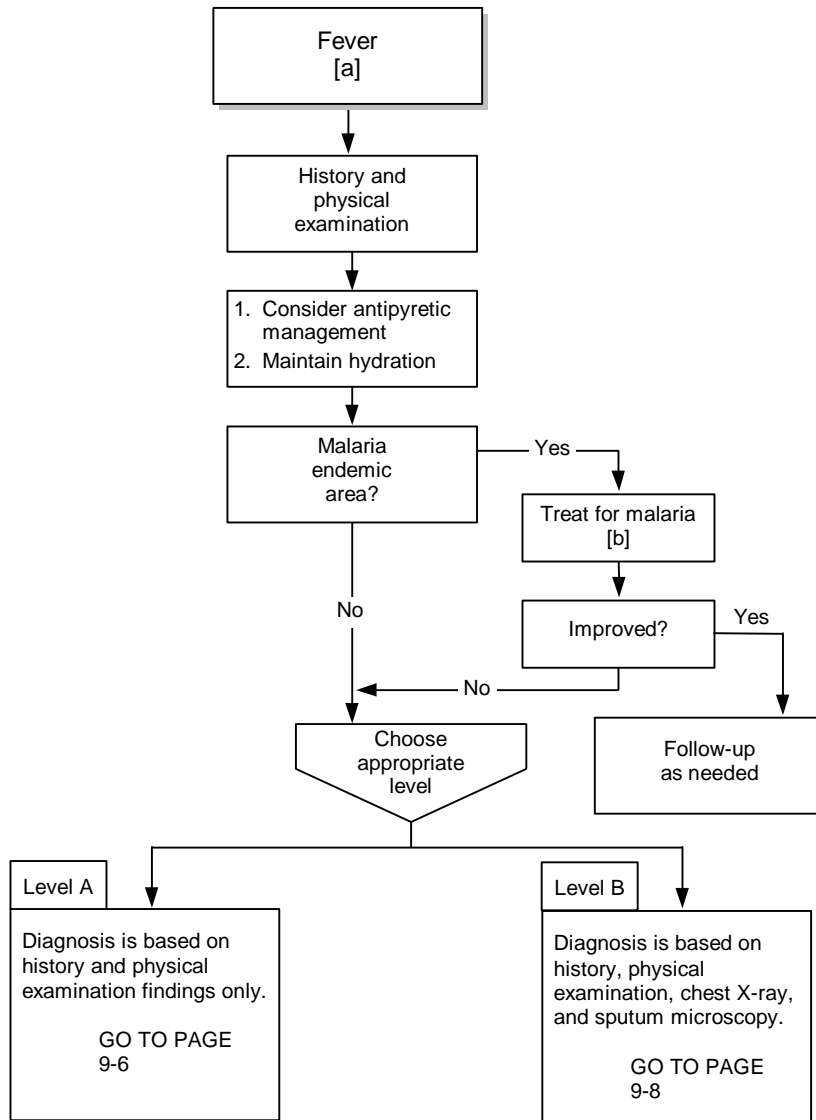
If headache is not resolved, consider referral.



CHAPTER 9

FEVER

# Fever



## Annotations

- (a) **Definition:** Fever with a duration of more than 2 weeks as the only clinical presentation in a patient with a prior history of symptomatic HIV infection; in a known HIV-positive patient with an asymptomatic prior history; Where fever is defined as a body temperature of  $> 38.0^{\circ}\text{C}$  continuously for more than 24 hours or intermittently for more than 24 hours in any 72-hour period.

## *Etiology*

- (1) Infections:
- Mycobacterial
    - Mycobacterium tuberculosis
  - Fungal
    - cryptococcosis
  - Bacterial
    - bacteremia due to Salmonella spp., Streptococcus pneumoniae,
    - Hemophilus influenzae
  - Viral
    - cytomegalovirus, Epstein-Barr virus
  - Protozoal
    - Pneumocystis carinii, Toxoplasma gondii, Malaria, Filariasis
  - HIV infection itself.

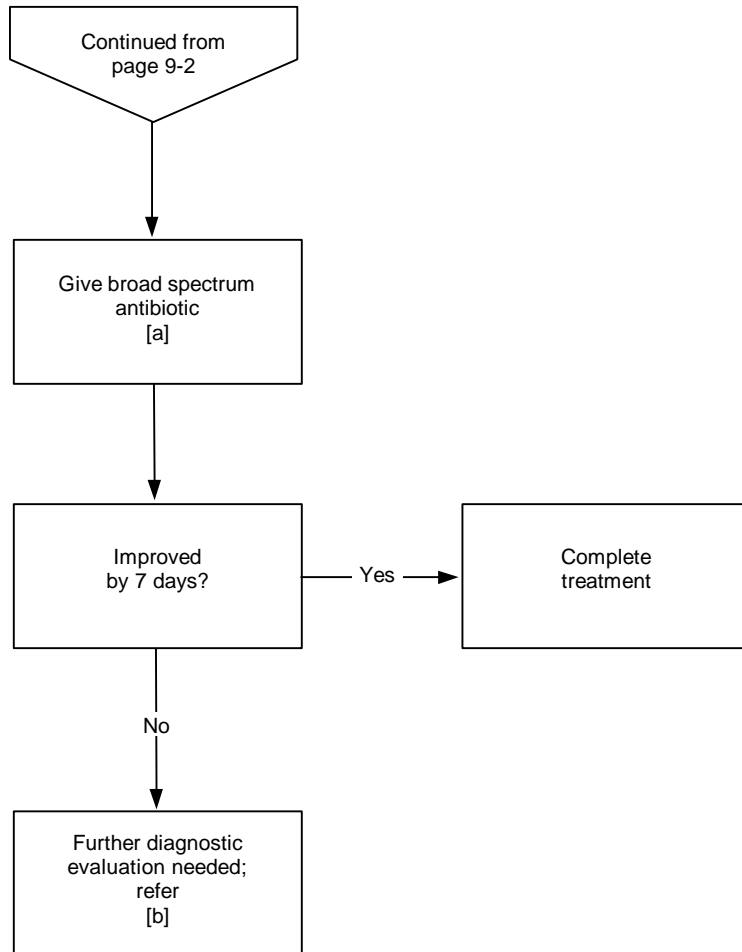
(2) Malignancy

- lymphoma.

A list of the main causes in order of significance should be established in the light of available national or local information.

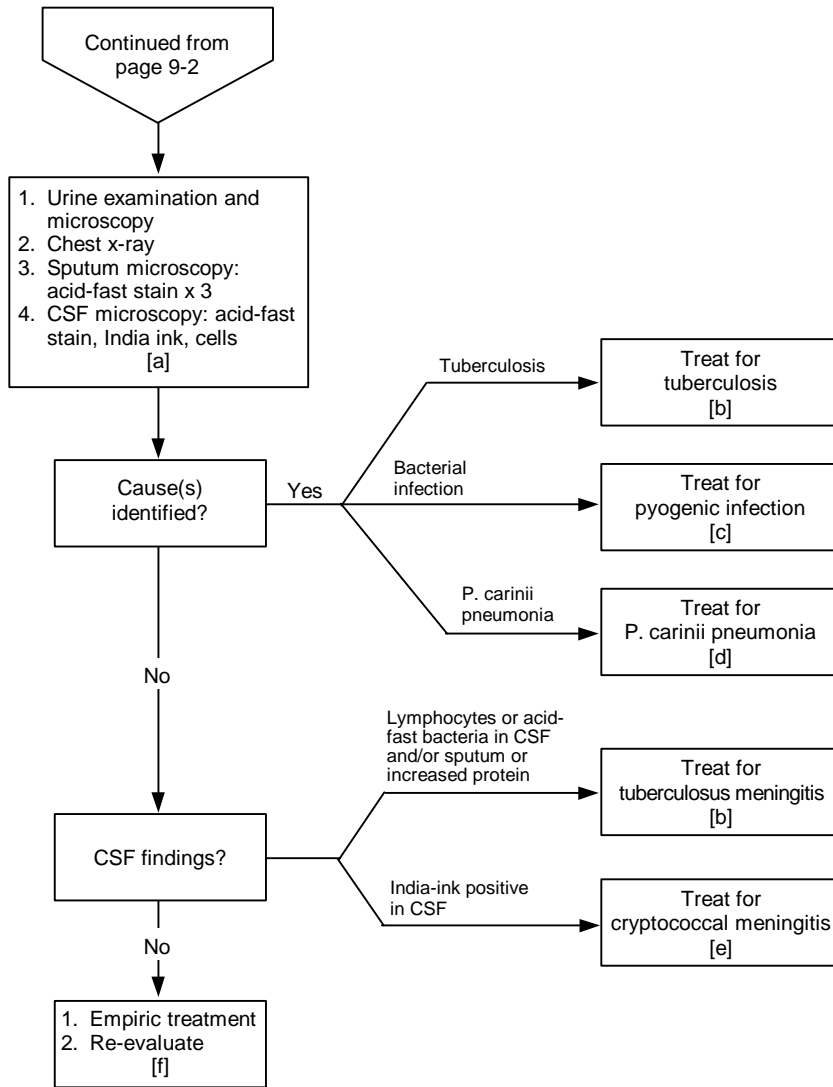
- (b) In endemic areas a febrile patient must be given antimalarial treatment prior to further diagnostic investigations (refer to national guidelines on malaria).

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## Annotations

- (a) Use a broad-spectrum antibiotic, e.g. ampicillin, 1g 4 times daily for 10 days, which will treat the pathogens most frequently responsible for bacterial fevers. Alternatively, use chloramphenicol, 500 mg 3 times daily for 10 days.
  
- (b) Referral is particularly helpful in identifying treatable diseases such as tuberculosis or *Pneumocystis carinii* pneumonia or cryptococcal meningitis.



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## Annotations

- (a) In countries with a high prevalence of tuberculosis, examination of sputum and cerebrospinal fluid (CSF) for acid-fast bacteria is essential. If readily available, a chest X-ray should also always be performed at presentation. A chest X-ray is also of value in assessing response to therapy. (For the sake of clarity, this algorithm shows a stepwise procedure, although sputum examination and chest X-ray are usually done simultaneously.)
- (b) The highest priority is smear-positive pulmonary tuberculosis. Short-course therapy with an initial intensive phase is advised, e.g. for a patient of 51 kg or more, *2 months of daily treatment* with isoniazid (H) and rifampicin (R), 2 tablets of a fixed combination (150 mg H and 300 mg R), pyrazinamide, 4 tablets of 500 mg, and ethambutol 3 tablets of 400 mg, followed by a *4-month continuation phase of treatment* 3 times weekly with isoniazid and rifampicin, 4 tablets of a fixed combination (100 mg H and 150 mg R) plus isoniazid, 1 tablet of 300 mg. *If resources are scarce, a 6-month continuation phase of daily treatment* with isoniazid, 300 mg, and ethambutol, 2 tablets of 400 mg can be given.

Tuberculous meningitis: e.g. for a patient of 51 kg or more, 2 months of daily treatment with isoniazid (H) and rifampicin (R), 2 tablets of a fixed combination (150 mg H and 300 mg R), pyrazinamide, 4 tablets of 500 mg, and ethambutol, 3 tablets of 400 mg,

followed by a 4-month continuation of phase of treatment 3 times weekly with isoniazid and rifampicin, 4 tablets of a fixed combination (100 mg H and 150 mg R) plus isoniazid, 1 tablet of 300 mg. If resources are scarce, a 6-month continuation phase of daily treatment with isoniazid, 300 mg, and ethambutol, 2 tablets of 400 mg can be given.

Thiacetazone should not be used in persons known to be or suspected of being infected with HIV, because of the occurrence of severe hypersensitivity reactions (see WHO guidelines in document WHO/TUB/96.200).

- (c) In many countries, Gram-positive pyogenic bacteria will be the most probable cause of bacterial pneumonia. Response to penicillin (e.g. phenoxymethylpenicillin, 250 mg, 2 tablets 4 times daily), is likely to be prompt. A broad spectrum antibiotic can be used as an alternative to penicillin V. If there is no improvement within 3 days a different antibiotic, e.g. trimethoprim-sulfamethoxazole, 480 mg, 2 tablets twice daily for 10 days, should be given.
- (d) Oral or intravenous trimethoprim-sulfamethoxazole (TMP-SMX): TMP, 15 mg/kg daily plus SMX, 75 mg/kg daily in 4 divided doses, e.g. for a patient of 64 kg body weight, TMP-SMX, 480 mg, 3 tablets orally 4 times daily. Assessment of benefit requires at least 7 days as *Pneumocystis carinii* pneumonia may initially worsen. If the patient responds, continue for at least 14 and preferably 21 days in the absence of side-effects. If the patient is unable to tolerate the full

course, change to pentamidine isothionate 4 mg/kg daily by intravenous injection, if available. The risk of recurrence is high and can be reduced by prophylaxis. Commonly used regimens include TMP-SMX, 480 mg, 2 tablets twice daily, dapsone, 100 mg daily and aerosolized pentamidine.

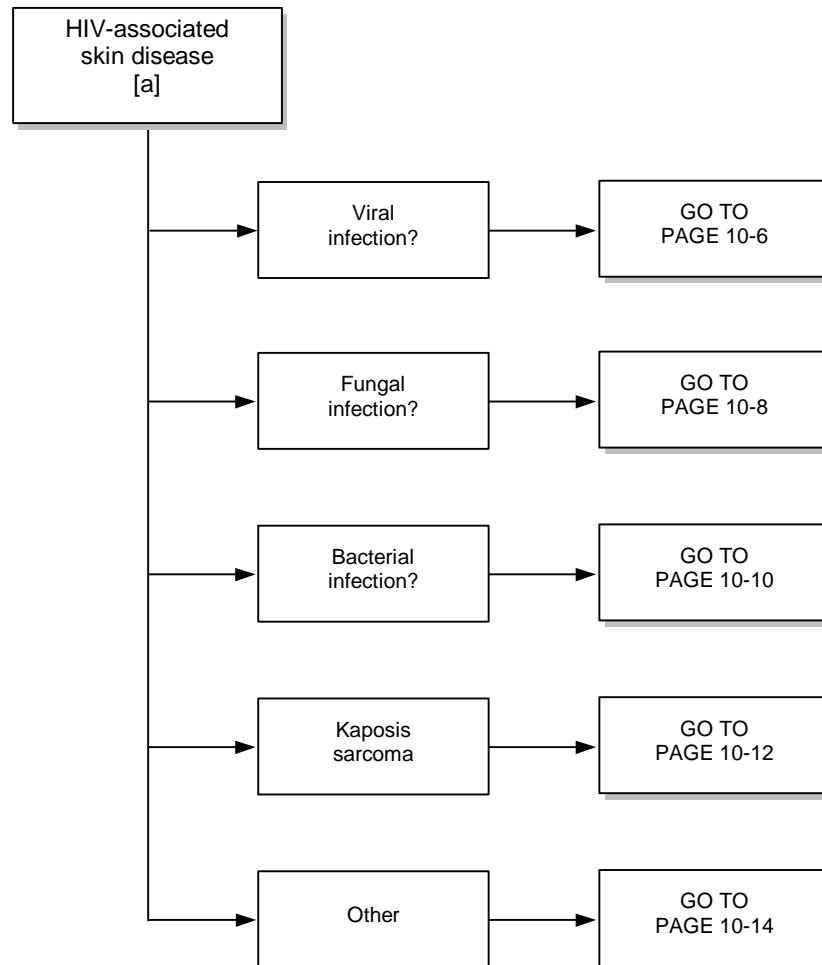
Corticosteroids, e.g. prednisone, 20 mg 4 times daily, are recommended for the severely ill patient.

- (e) Amphotericin B, 0.5-0.7 mg/kg daily by intravenous injection over 4-6 hours for 6 weeks, if tolerated. Alternatively treat with fluconazole, 200-400 mg daily for 12 weeks (orally or by intravenous injection). Maintenance therapy, e.g. fluconazole 200 mg daily or amphotericin B, 1 mg/kg weekly by intravenous injection is indicated as relapses are common.
- (f) In the absence of any suggestive laboratory or radiological findings, treat empirically with a broad-spectrum antibiotic, e.g. ampicillin or chloramphenicol.



CHAPTER 10

HIV-ASSOCIATED SKIN DISEASES



## Annotations

- (a) **Definition:** The presence of a dermatosis in a patient with symptomatic HIV infection.

### *Etiology*

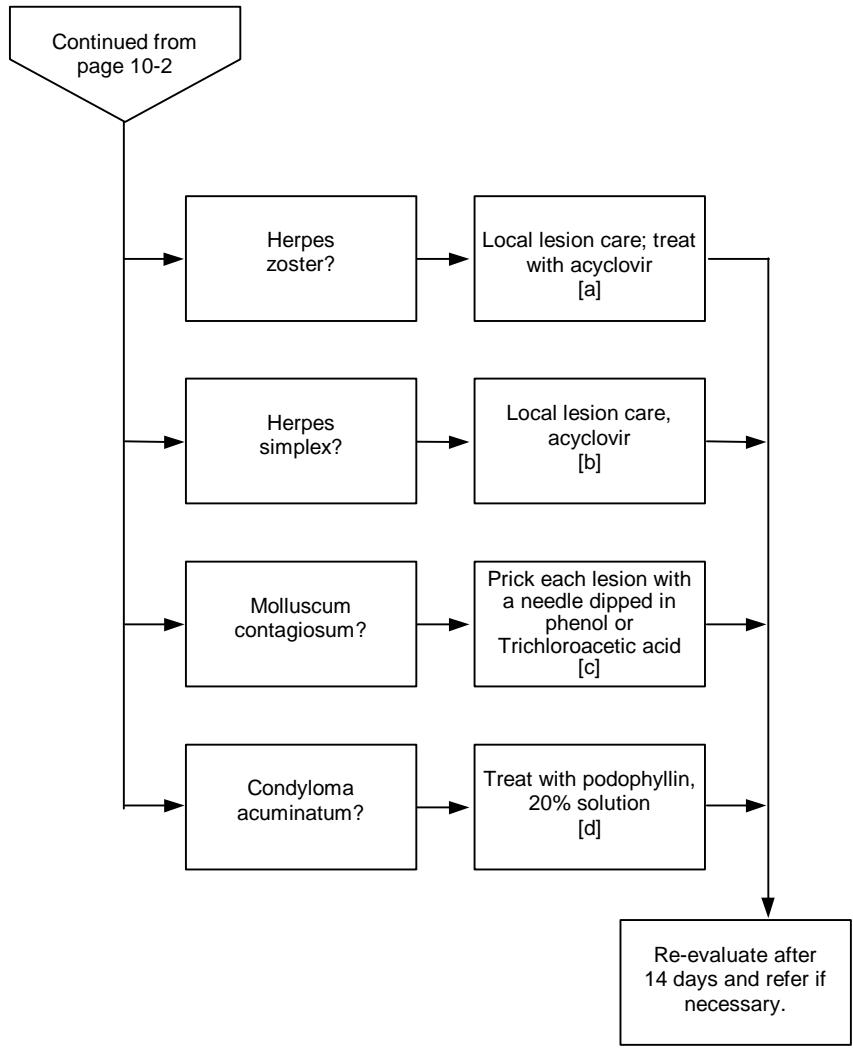
- (1) Viral infections
  - herpes simplex
  - herpes zoster
  - molluscum contagiosum
  - condyloma acuminatum
- (2) Bacterial infections
  - furunculosis
  - impetigo and pyoderma (staphylococci, streptococci)
  - hidradenitis suppurativa
  - discharging sinuses
- (3) Fungal infections
  - candidiasis
  - dermatophytosis
- (4) Malignancy
  - Kaposi sarcoma
- (5) Other dermatoses:
  - drug eruptions

- chronic prurigo or urticaria (blood parasites or other common etiologies excluded)
- severe seborrhoeic dermatoses
- generalized erythroderma
- severe psoriasis
- Scabies

Some sexually transmitted diseases occur with increased frequency or altered expression and the management needs to be reviewed (see national guidelines).

A list of the main causes in order of significance should be established in the light of available national or local information.

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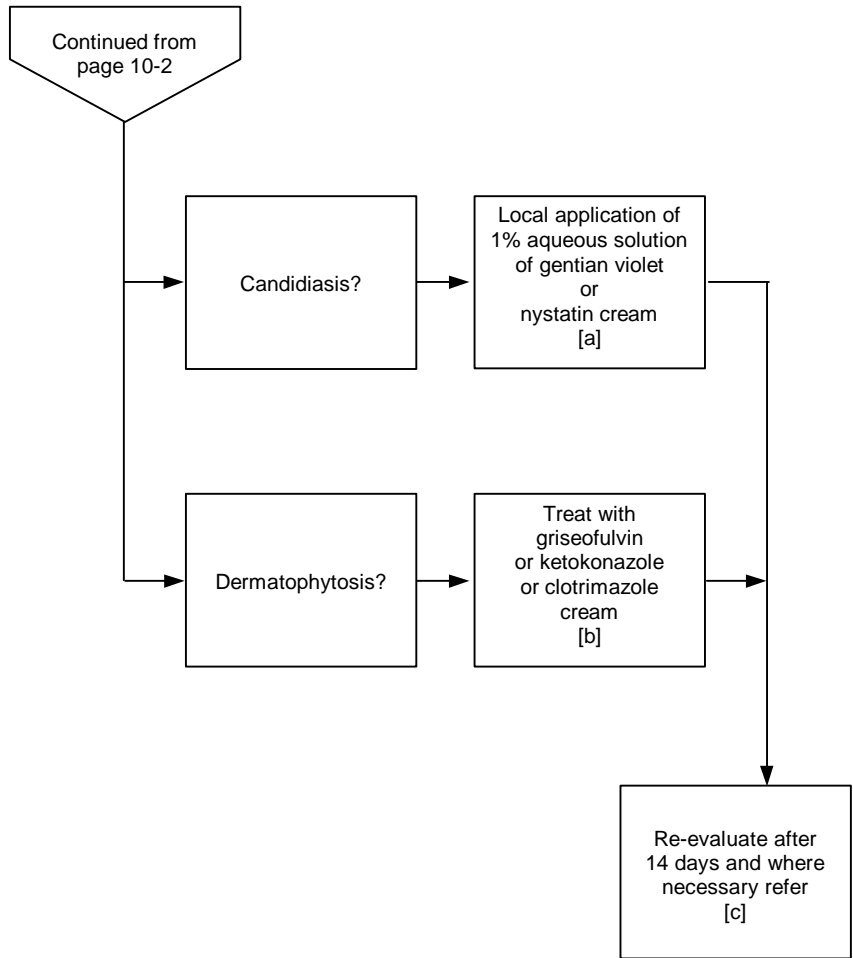


## Annotations

- (a) In early stages pain relieving agents like paracetamol and narcotic drugs can be used depending on the severity of the pain.

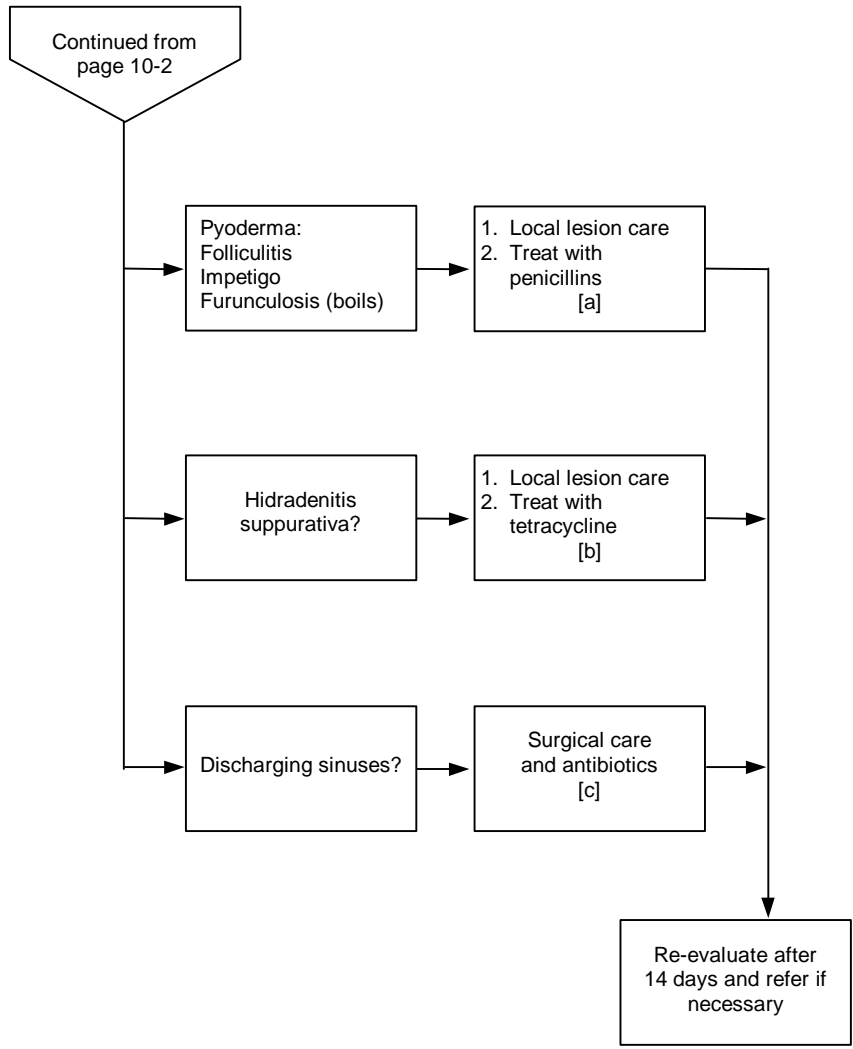
The greatest benefit of acyclovir is seen in patients with ophthalmic or disseminated zoster. Treatment should be commenced within 4 days of presentation and should continue until new lesions have stopped forming or old lesions have scabbed. The dosage of acyclovir is 10mg/kg 3 times daily for 7 days. Post-herpetic neuralgia is uncommon; if present, pain-modifying agents are considered useful, e.g. phenytoin (100 mg daily slowly increasing to 250-300 mg daily) or carbamazepine (100 mg daily increasing to 400 mg daily in 10 days).

- (b) Ulcers which are persistent and very painful may be treated with oral acyclovir, 200 mg 5 times daily, until healed. Where available, chemosuppression with oral acyclovir, 400 mg twice daily, should be administered if indicated.
- (c) Each lesion is pricked with a needle dipped in phenol or trichloroacetic acid and then twisted. The recurrence rate is high.
- (d) Alternatively, glacial trichloroacetic acid may be applied 1-2 times per week until the lesion has cleared. The recurrence rate is high.



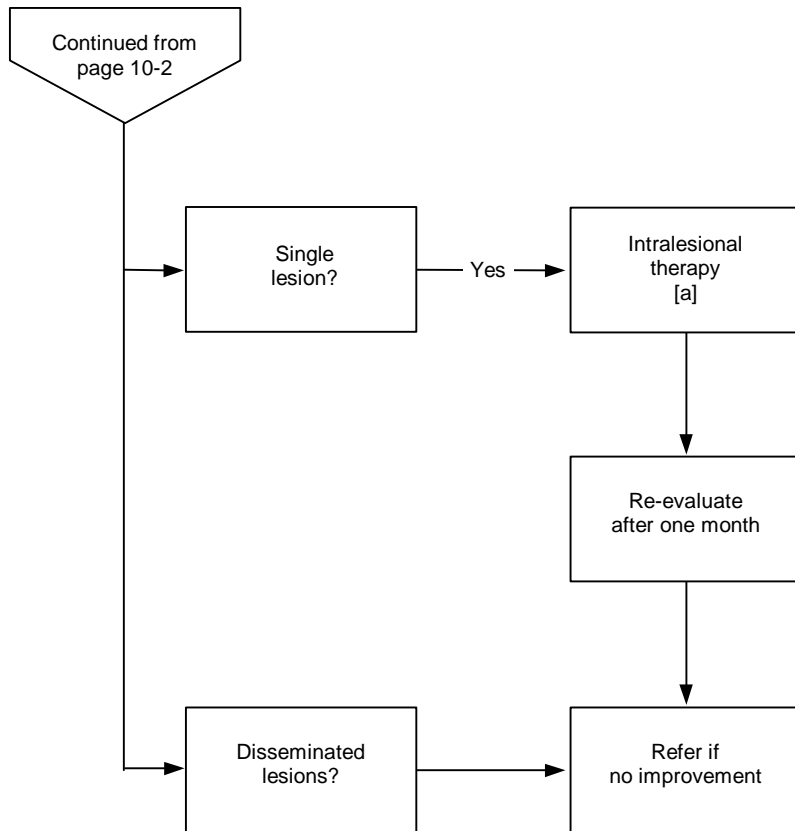
## Annotations

- (a) If there is no response to therapy, try other topical antifungal drugs, e.g. clotrimazole, 1% cream. In severe cases systemic therapy, e.g. ketoconazole, 200 mg twice daily may be required.
- (b) Widespread dermatophytosis treat with griseofulvin, 500 mg twice daily, where available. Alternative drugs are ketoconazole oral or clotrimazole 1% cream.
- (c) Cutaneous lesions of systemic cryptococcosis or disseminated histoplasmosis are rare, but respond well to antifungal chemotherapy.



## Annotations

- (a) For example, phenoxymethylpenicillin, 250-mg tablets 4 times daily for 10 days. In case of treatment failure, penicillinase-resistant penicillin, e.g. cloxacillin, should be given. In severe cases the patient may require intravenous treatment with penicillinase-resistant penicillin or cephalosporins because of the risk of systemic spread.
- (b) Treat with tetracycline 500 mg four times a day for 7 days then 500mg twice daily for 6 weeks.
- (c) Where facilities are available to determine the sensitivity of the organism identified, the treatment should be in accordance with the findings.



## Annotations

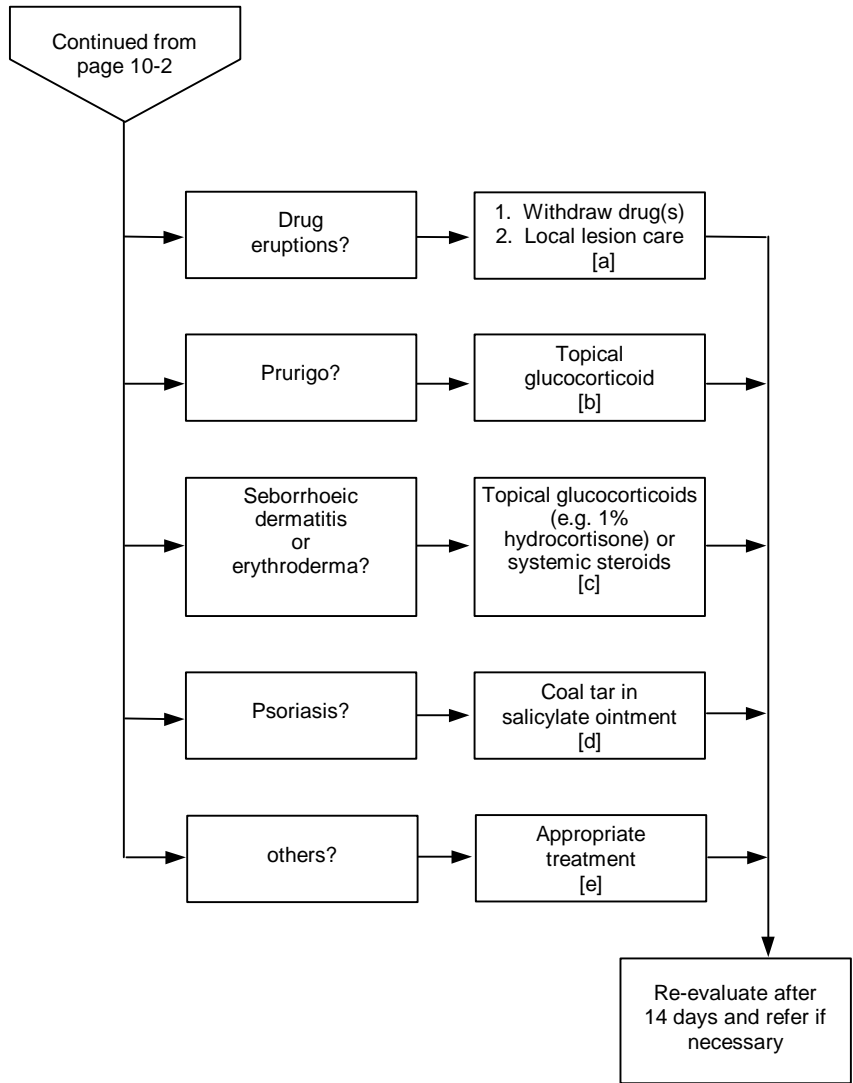
Treatment of these conditions at district level may not be available and patients may have to be referred for treatment.

- (a) Lesions on the face or exposed parts of the body may be treated locally with intralesional vincristine.

For the treatment of systemic KS, vincristine has been used. The treatment may benefit up to half of the patients but only temporarily.

For rapidly progressive and/or disseminated mucocutaneous disease, or when the tumour compromises the function of vital organs, chemotherapy may effect rapid tumour regression and be life saving. Among the drugs reported to be effective as single agents or as part of a combination regimen are bleomycin, doxorubicin, etoposide, vinblastine, and vincristine. However because such drugs may not be available at district level the patient should be referred for further treatment.

# HIV-Associated Dermatoses



## Annotations

- (a) Trimethoprim-sulfamethoxazole, sulfadiazine, pentamidine, ampicillin and acyclovir are the drugs most often associated with drug eruptions. Thiacetazone has also been incriminated. Corticosteroids should only be given in life-threatening situations.
- (b) Prurigo can be very disabling. Sometimes antihistamines, e.g. diphenhydramine, 50-mg tablets every 6 hours may be helpful.
- (c) The application is left on the skin to dry and then repeated the next day. Avoid contact with the eyes.
- (d) 1-5% Topical coal tar is also helpful. In severe cases with coexistent candidiasis, topical ketoconazole is beneficial.
- (e) Any other dermatoses, refer to a higher facility.

Notes

CHAPTER 11

PAIN RELIEF AND PALLIATIVE CARE

## Pain Relief and Palliative Care

### *Pain Relief*

During the course of illness individuals will experience varying degrees of pain due to a variety of causes which will require relief either in the hospital or the home.

### *Causes of Pain*

The cause of pain may be due to one of the associated opportunistic infections, malignancies or the complications of these.

### *Drug Therapy*

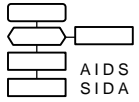
A **three step analgesic ladder** is suggested based on the premise that health care professionals should learn to use a few pain relieving drugs well. The suggested sequential use of the drugs is shown in the diagram on the opposite page. One can move a step up the ladder if there is no relief obtained after a drug is used in the recommended dosage and frequency. Only one drug from each of the groups below should be used at the same time. Should a drug cease to be effective, a switch should be made to one that is definitely stronger if it is available.

The three standard drugs used in this ladder are, aspirin (acetyl salicylic acid) a non opioid, dextropropoxyphene a weak opioid and morphine, a

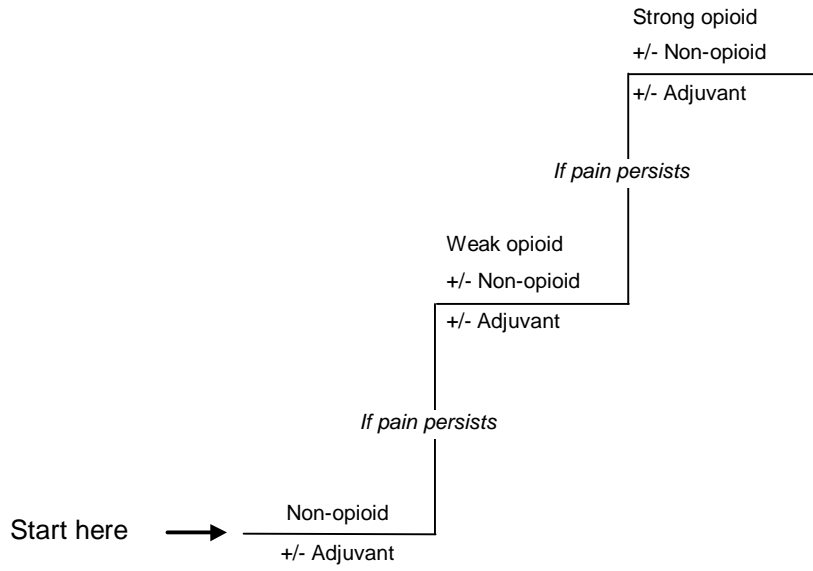
strong opioid. Alternative drugs that can be used for each step respectively are paracetamol, methadone, pethidine/standard opium. Other pain relieving agents like ibuprofen and other non steroidal anti-inflammatory drugs can also be used in pain relief.

To enhance the efficacy of these drugs, adjuvants that can be used are as follows, carbamazepine, diazepam/ amitriptyline and prednisolone. Alternative drugs are phenytoin, chlorpromazine and dexamethasone.

The side effects of both the analgesic and the adjuvant should be kept in mind and where required, drugs to counteract these effects should be prescribed.

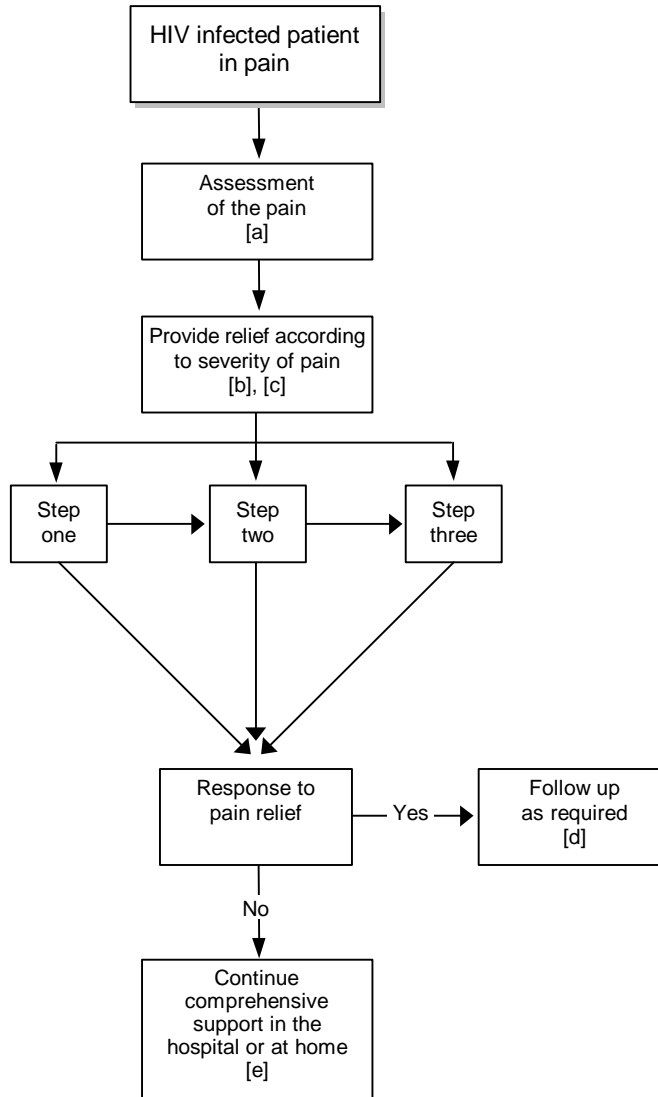


# Three Step Analgesic Ladder



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# Management of Pain in HIV infection



## Annotations

- (a) An initial assessment of the patient includes, believing the patients complaint and establishing the severity of the pain and restriction it causes. Relief obtained from previous treatment can also be assessed. A physical examination that includes a psychological assessment is important to rule out any treatable causes of the pain. Deciding on appropriate investigations or referral to other institutions can be made at this point.
- (b) If examination and investigations reveal treatable conditions then these are treated accordingly with appropriate pain relief.
- (c) If there is no treatable cause of pain then symptomatic relief can be given with the three step ladder approach. Appropriate counselling, to help the patient cope and other forms of palliation should be considered.
- (d) If adequate pain relief is achieved an appropriate schedule for review or follow up should be arranged.
- (e) Should the pain persist then a decision should be taken about how care can be provided in the home or hospital. This may involve the relatives of the patient or other supportive services in the community. The type of drug to relieve pain and duration of use needs to be agreed upon including consideration of psychological support for the family and the patient. It should be recognized that death is a part of AIDS and spiritual preparation may be requested by the patient.  
This approach to care works best when there is a team of care givers working to meet the various needs of the patient.

## Palliative care

**Definition:** This is the provision of appropriate relief and support from physical and psychological discomfort in the absence of a cure.

Individuals with end stage HIV infection may not benefit from further attempts to treat opportunistic infections. It is often difficult to decide when aggressive medical treatment should stop and palliative care should begin.

### **Palliative care might begin for example,**

- when medical treatment is no longer effective or the side effects outweigh the benefits,
- when the person or their relatives decide they do not want to continue aggressive treatment,
- when the body's vital organs begin to fail.
- when the relatives opt to have the patient discharged.

### **The goals of palliation care to**

- to provide the patient with as much control over their symptoms as possible,
- to keep the person comfortable,

- to assist the person in grieving for and coping with the continuing losses they are experiencing consequent to the impact of HIV infection,
- to help the person, their families and carers organize their lives, and orient them to the forthcoming issues and concerns about dying,
- to prepare the person and their loved ones for death.

In the hospital setting most of the care will be undertaken by the nurse while in the home the principal carer will bear this responsibility. In both settings there are interventions that can be applied to help care for the dying. These can be taught to the relatives while in the hospital or at home after the patient is discharged.

### *Comfort*

- for chronic pain, provide medication in regular doses, not episodically,
- use relaxation measures such as deep breathing, back rubs, body massage,
- nursing care to keep the person clean and dry,
- position and reposition the person regularly to maintain skin integrity and to prevent contractures and bed sores.

### *Autonomy*

- Accept the persons decisions or wishes as far as possible (such as not eating, refusing or asking for visitors, sitting up or standing in bed),
- Respect their needs for independence by allowing them to do what they can for themselves such as turning and repositioning.

### *Coping with Loss and Change*

- Provide support by allowing the person and their family to talk about how they are feeling,
- Self-esteem may be enhanced by looking at life achievements and reflecting on past events,
- Accept peoples feelings of anger, grief and other emotions and reactions.

### *Preparing for Death*

- If the person asks, and having assessed what they want to know, describe what will happen as he or she nears death. Give reassurances about controlling the pain and symptoms, resulting from the process of dying, where possible,
- Assist the person and family to plan ahead who will need to be notified to make funeral arrangements or a will.

- During the funeral proceedings the body should be buried or cremated in the normal way taking into consideration the local cultural norms.

Some terminal care needs may be beyond the capacity of the health care providers and a decision should be taken on the best options for further care. Referral to an NGO or other service organization with the relevant skills and services may be appropriate.

Notes

CHAPTER 12  
NUTRITION

## Nutrition in HIV Management

The nutritional status of the individual with HIV infection is important to consider early in the course of the infection. Studies have shown that this has a bearing on improving the quality of life of such individuals.

The following are important steps to consider

- (1) Identify any causes of wasting disease and treat these according to standard treatment guidelines. Symptoms like mouth ulcers, fever, diarrhoea and nausea should be controlled or treated by appropriate medication.
- (2) Where a dietician is available, she/he should make plans with the patient to ensure that they are receiving their daily food based on established requirements. Irrespective of the relatives knowing the HIV status of the patient, they should be involved in deciding how they may be able to contribute to the diet of the patient.

A diet rich in protein, vitamins, minerals and carbohydrates should be adequate to meet the needs of most patients. The combination of foods to achieve this will depend on the availability. Monitoring of hydration is especially important in warm climate.

- (3) Depression may be a cause for patients unwillingness to eat hence, the services of a psychiatrist or counsellor with relevant skills may

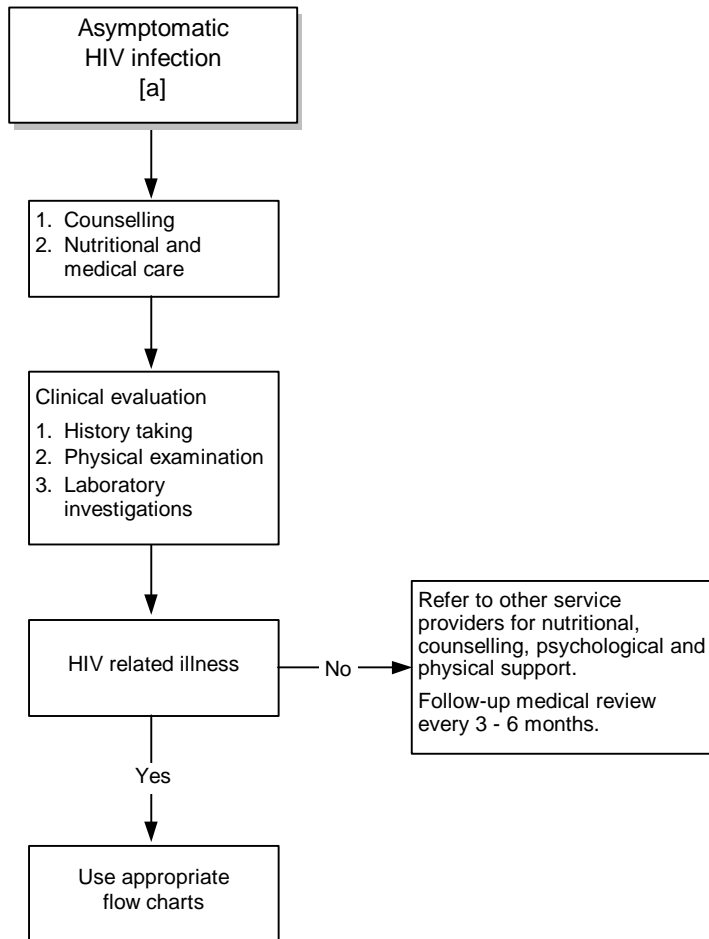
be necessary. Relatives should be involved in the counselling process to encourage the patient to eat.

- (4) As part of the counselling process the relatives of the patient should be involved in discussing how best the patients diet can be maintained at home. This may involve teaching the relatives how to prepare nutritious foods.
- (5) Where possible patients should be encouraged to refrain from smoking or drinking alcohol as this can cause damage to health.
- (6) A record of baseline height and weight at first contact is recommended. Subsequent measurement of weight of the patient is value if the nutritional status is being monitored.



CHAPTER 13

MEDICAL MANAGEMENT OF THE  
HIV-INFECTED ASYMPTOMATIC PERSON



The medical management of asymptomatic HIV-infected persons aims at: (1) early detection of HIV-associated disease and treatment; (2) improvement of the quality of life;

Where resources are scarce, priority should be given to regular clinical follow-up with only minimal laboratory investigations (e.g. haemoglobin and total lymphocyte count). Many authorities recommend follow-up every 3 - 6 months.

## 1. History-taking and Physical Examination

History-taking and physical examination can be done at all levels and are essential for classifying the patient as asymptomatic or detecting onset of disease.

### *History-taking*

Look for symptoms of HIV infection such as fever, night sweats, weakness, weight loss, anorexia, diarrhoea, cough, worsening headache, visual symptoms, seizures, diffuse lymphadenopathy, pruritis, genital ulcers, skin rash or itching, difficulty swallowing (dysphagia) or pain on swallowing (odynophagia). Ask specifically about current medication.

### *Physical examination*

This should cover the following:

- General: Weight loss, fever
- Neurological examination: Peripheral neuropathy, cognitive disorders
- Skin changes: Herpes zoster, herpes simplex, folliculitis, tinea, Kaposi sarcoma, prurigo, seborrhoeic dermatitis, severe psoriasis
- Oral cavity: Thrush, hairy leukoplakia, gingivitis, Kaposi sarcoma, lymphoma
- Eyes: Fundoscopy (less useful than in symptomatic patients)
- Lymph nodes: Focal or diffuse enlargement
- Lungs: Pneumonia, pleural effusion
- Abdominal examination: Hepatosplenomegaly
- Genitalia: Chancre/ulcers/discharge
- Anus: Ulcers, warts.

## 2. Laboratory Examination and X-ray

Regular laboratory testing should be limited where resources are scarce (see above). Where available, some of the investigations to be performed include:

Tests to assess potential infection:

- Serology: syphilis, hepatitis B
- Tuberculin skin test,

- Complete blood count, erythrocyte sedimentation rate
- Chest X-ray
- Body weight

### 3. Tuberculin Skin Test

This is of limited value in establishing a diagnosis of tuberculosis, because of the high level of energy found in HIV-infected persons. Reactivity is reasonably preserved in less immunocompromised individuals and suppressed in persons with advanced stages of HIV infection and AIDS.

### 4. Drugs

There is evidence that primary prophylaxis (for *Pneumocystis carinii* pneumonia) is beneficial for certain subgroups of asymptomatic HIV infected-persons. Trimethoprim- Sulphamethoxazole is the drug of choice, however adverse reaction, particularly rashes, nausea, and fever are frequent in HIV infected patients. Episodes of toxicity can occur but respond to dosage reduction; others require discontinuation of the drug. A tablet of double-strength TMP-SMX taken daily or 3 times a week is effective. Dapsone is an alternative drug, given, 50 - 100mg oral daily or 100mg oral two times a week.

Isoniazid prophylaxis has been shown to be beneficial in preventing tuberculosis in people who are not HIV-infected. Isoniazid prophylaxis in asymptomatic individuals with dual infection (tuberculosis and HIV) has

been found to be effective; both isoniazid daily 300 mg for 6 months or isoniazid Rifampicin twice weekly for 2 months. Decision to give TB preventive therapy is done on case by case basis.

## 5. Immunization

The antibody response to many antigens, including vaccines, is diminished in patients infected with HIV. Immune responses to vaccines tend to be better in persons in the early stages of HIV infection. There is no increase in the rate of vaccine adverse reactions. Inactivated vaccines should be administered to persons with HIV infection where indicated. Live vaccines are not usually given to immunocompromised individuals; for more information, see document WHO/GPA/INF/89.6.

## 6. Referral to Support Services and the Home

Referral of the patient to community-based support groups or organizations should be offered if such organizations exist. In many cases the patient may benefit from care at home rather than from admission to hospital. In this case referral to a home care service in the area can be made if this is available. The referral should only be made if the patient wishes to make use of this service. These services can also be beneficial by helping the patient develop a positive attitude to life with HIV.

## TERMS COMMONLY USED IN HIV/AIDS

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### *AIDS*

The initials AIDS stand for Acquired(A) Immune(I) Deficiency(D) Syndrome(S) - a group of symptoms and signs caused by the Human Immuno-deficiency Virus (HIV).

### *Antigen Test*

Laboratory test done on a sample of a person's blood to detect the presence of parts of the HIV itself. The virus is present only in minute amounts and in addition, cannot be found with this method during many of the stages of infection.

### *Antiretroviral drugs*

These are the new drugs to treat HIV. Among the first available was AZT, also known as zidovudine, or 3'-azido-3'-deoxy-thymine. These drugs interfere with the HIV enzymes (reverse transcriptase) or inhibit protease which are responsible for replication of the virus. The virus cannot multiply quickly, and so damage by the virus to the *immune system* is slowed down. Side effects of the drug include severe anaemia. The long-term effects are not

known. Currently it is recommended for people who are infected with HIV or those who have already developed AIDS. Because of its side effects, its use requires skilled medical supervision. Current cost of triple therapy including a protease inhibitor such as indinavir or zidovudine for one person over one year is about US\$12 000.

### *Asymptomatic HIV Infected Person*

An HIV infected person who appears well is capable of transmitting the infection to another person. Such persons may not have outward signs or symptoms of the infection they carry.

### *Bi-sexual Person*

An individual who has sexual relations with both males and females.

### *Casual Contact (Casual Sex)*

A sexual encounter with another person that does not lead to a long term relationship.

### *Casual Social Contact*

This is contact with individuals that is not of sexual nature.

### *CD4 Count*

A measure of the number of CD4 lymphocytes in the blood of HIV Infected persons. It is usually done to establish a baseline before initiating treatment with antiretroviral drugs and there after for monitoring the prognosis of the infected individual. (CD = cluster of differentiation)

### *Care Provider*

Any individual or group that provides care for individuals with symptomatic HIV infection in the home or in a health facility.

### *Condom*

A soft rubber device made of latex which is worn by the male before sexual intercourse begins. The condom prevents sperm from entering the female genital tract and thus prevents pregnancy. It can also prevent contact with seminal and vaginal fluids thereby preventing the transmission of STDs and HIV from either partner.

### *CSW*

Commonly used abbreviation for "commercial sex worker." A CSW is an individual, man or woman, who engages in sexual acts for the sole purpose of soliciting payment.

## *Counselling*

A confidential dialogue between a client and a health worker aimed at enabling the client to cope with stress and make decisions related to HIV/AIDS. The counselling process involves the evaluation of personal risk of HIV transmission and facilitation of preventive behavior.(see Pre and Post test counselling).

## *Comprehensive HIV/AIDS Care*

The provision of Medical and Nursing care, Counselling and Social support services to individuals affected by HIV. These services when provided can help meet most needs of people.

## *Continuum of Care*

The provision of comprehensive care from the hospital to the home, which advocates the pooling together of medical and social services within the community, and creation of linkages between community care initiatives at all levels of the health care system.

## *ELISA*

Short for Enzyme-Linked Immuno-Sorbent Assay. A test that used to detect antibodies made in response to infections by many organisms.

## *Epidemiology*

The study of the distribution and determinants of an infection or disease event in a defined population group.

## *False Negative Test Result*

A test failing to detect antibodies to HIV despite the presence of antibodies. This is very rare indeed.

## *False Positive*

A test indicating the presence of antibodies to HIV, when in fact the person does not have antibodies.

## *HIV*

Abbreviation for Human Immuno-deficiency Virus, the virus that can lead to the development of AIDS. Previously known by a variety of names such as LAV, and HTLV III. There are two types of HIV that have been isolated so far, HIV 1 and 2.

## *HIV Positive Person*

A person on testing who has been found to have antibodies to HIV, if the test is *truly positive*, then it means the person has been infected with HIV. Most people develop antibodies to HIV between 6 weeks to three months after infection, but some may take up to three

years to develop antibodies. The person may look and feel perfectly well, but is potentially infectious to other people. The test may be a *false positive*, in which case the person does not really have antibodies.

### *HIV Negative Person*

A person on testing does not have antibodies to HIV, and hence is either:

- not infected,
- has recently been infected but has not produced antibodies, (window period),
- was infected some time ago, but is no longer producing antibody.

### *Home-based Care (Home Care)*

The care of persons, living with HIV infection and AIDS, in their homes. This involves the provision of comprehensive care by community members, NGOs, Community Based Organizations(CBOs), health workers and family members. This type of care is complementary to the existing health care services.

### *HIV Test*

Refers to one of the HIV antibody tests. A laboratory test done on a sample of a persons blood to detect the presence or absence of antibodies to HIV. The presence of

antibodies in an adult indicates that the person has been infected with the virus. The commonly used test is Enzyme Linked Immunosorbent Assay (ELISA).

### *Human Rights*

The basic entitlement accorded to every human. They include a right to health, education, shelter, employment, property, food, freedom of expression and movement.

### *IEC*

Information, Education and Communication (IEC), comprises a range of approaches, activities and outputs to raise awareness about HIV/AIDS for behavior change.

### *IDU*

An abbreviation for "injecting drug use." Which means the practice of using drugs through injection.

### *Incidence*

The number of new cases in a population occurring over a specified period of time.

### *Kaposi's Sarcoma*

A rare cancer affecting the walls of blood vessels, which usually appears as pink to purple painless spots on the

skin. It is one of the *opportunistic infections* (it is thought to be caused by a virus) to which people with AIDS are prone. It is uncommon in South-East Asia.

### *Mandatory Blood Testing*

Means HIV testing without consent. This form of testing is only useful for the screening of blood, semen, organs and human tissue for treatment of medical conditions. It must not be used for any other purpose. Mandatory testing has no role in National AIDS programmes

### *MSM*

Abbreviation for men who have sex with men.

### *Multi Drug Resistant Tuberculosis (MDR-TB)*

The development of Tuberculosis bacillus strains that are resistant to most of the drugs that are commonly used. This often results from improper and injudicious use of drugs.

### *NAC*

Abbreviation for National AIDS Committee. This is the committee responsible for the development of HIV/AIDS policies in a country.

## *NAP*

Abbreviation for National AIDS Programme. This is the operational arm of NAC responsible for facilitating and implementing AIDS policies in a country.

## *Partner Notification (Contact Tracing)*

The spectrum of public health activities in which sexual partners of individuals with STDs are notified and counselled on their exposure and offered services.

## *Pneumocystis Carinii Pneumonia (PCP)*

One of the *opportunistic infections* seen in immune-suppressed people.

## *Polymerase Chain Reaction (PCR)*

A new technique that can be used to multiply one DNA molecule millions of times so that it can be detected by other tests. This is used to detect the HIV virus in a situation when antibodies are not yet developed.

## *Pre-test Counselling*

Dialogue between a client and a care provider before an HIV test aimed at discussing the HIV test and the possible implications of knowing ones HIV sero-status. This leads to an informed decision whether to take the test or not.

## *Post-test Counselling*

Dialogue between a client and a care provider aimed at discussing the HIV test result and providing appropriate information, support and referral, and at encouraging risk reduction-behaviors.

## *Retrovirus*

Retroviruses are a class of viruses characterized by their ability to convert RNA to DNA during replication in the host cell (instead of the reverse as in most other viruses). To do this it requires an enzyme called *Reverse Transcriptase*. HIV belongs to this group of viruses.

## *RNA*

Abbreviation for Ribo-Nucleic Acid, the genetic material inside a cell used to make its structural and functional components. HIV is an RNA virus.

## *Safer Sex*

Sexual practices which reduce the risk of transmitting HIV during sexual activity, e.g. condom use. *Unsafe Sex*, on the other hand, allows the exposure to fluids that can transmit HIV.

### *Sero-conversion*

When an individual who is HIV antibody negative becomes antibody positive after exposure to the virus, i.e. blood serum has converted from negative to positive. During this process the person may suffer an acute illness. In the case of HIV infection, the symptoms may be those of flu and/or swollen glands. Sometimes no symptoms are observed.

### *Sentinel Surveillance for HIV/AIDS*

Unlinked and anonymous testing of blood for the purpose of monitoring the prevalence and trends in HIV infection over time and place in a given population.

### *Sexually Transmitted Disease (STD)*

Any disease that is usually acquired while having unprotected sex with an infected partner. Such diseases may also be transmitted by other routes.

### *Syndrome*

A set of symptoms and signs resulting from a single cause, or so commonly occurring together that a definite clinical picture is manifest.

### *Targeted Interventions*

Programmes or activities targeted to specific populations groups to achieve specific objectives as for example increase in the use of condoms among truck drivers, reducing STD rates, etc

### *Unlinked Anonymous HIV Testing*

Testing of blood samples for HIV that were originally collected for other purposes, after all information that could identify the source of the blood are removed. The information gathered is used for surveillance purposes.

### *Virucides*

Chemical substances that can kill viruses when inserted inside the vagina. Potential for its widespread use is being tested.

### *Voluntary Testing*

Testing initiated either by the client or his or her health care provider and performed with the clients informed consent after pretest counselling has been provided. Confidentiality of test results should be maintained.

### *Western Blot*

Test used to confirm the presence of HIV antibodies detected after the ELISA. It is no longer recommended (barring exceptions) due to its cost as well as due to the fact that two ELISA test, using different principles produces results as accurate as western blot.

### *Window Period*

The period of time when a person has been infected with HIV, but has not yet produced antibodies. This period is usually no longer than 6 weeks to 3 months.



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at District Level

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