

New HIV diagnosis

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Evaluation of the newly diagnosed person with HIV infection presents a challenge to clinicians, even those highly experienced in the area of HIV medicine. Assessment and initial management involve careful evaluation of clinical status, with a focus on psychological issues, mode of infection and health promotion. While clinical practice guidelines for the management of newly diagnosed HIV infection exist,¹ the rapidity of change in this area is such that published guidelines are not always up-to-date or relevant to the local context. Web-based resources which are updated regularly may be more useful and a list of these and commentary may be found on the ASHM website.²

Management can be considered under the following headings:

- Clinical assessment (history and examination), with a particular focus on identification of clinical indicators of the stage of HIV disease and associated infections, including sexually transmissible infections and blood-borne viruses
- Assessment of the social context of the infection
- Assessment of the psychological impact of the diagnosis
- Laboratory evaluation, including the stage of HIV infection, baseline serological testing
- Investigation of co-morbidities and coinfections
- Health maintenance, including prevention of co-morbidities and sexually transmissible infections
- Education and support
- Risk assessment and prevention
- Public health measures

In the early stages following diagnosis, clinical review is often frequent (e.g. weekly). It encompasses a full clinical assessment (Table 6.1), in addition to a focus on psychosocial issues and provision of ongoing education, support and access to alternative information sources. Often clinical review includes both the care of the person with HIV infection and others closely involved with him or her (e.g. partners, family members, contacts). As this assessment phase is completed and the stage of HIV infection becomes apparent, consideration should be given to antiretroviral therapy.

Case Study 6.1 Newly diagnosed HIV infection

Paul is a 24-year-old man with recently diagnosed thrombocytopenia who has requested HIV testing because of his illness and recent knowledge of a past sexual partner with HIV infection. He is currently living alone, between jobs, depressed and isolated. Physical examination reveals oral candidiasis, generalised lymphadenopathy, and his platelet count is $20 \times 10^9/L$. Baseline investigation reveals HCV infection, plasma HIV RNA of 150 000 copies/mL and CD4 cell count of 35 cells/ μL .

Important factors in this man's management include:

- Establishment of a supportive relationship with health care providers, contact with family and other supports, including community agencies if appropriate
- Assessment of depression, with exclusion of organic contributing factors, and commencement of appropriate treatment
- Evaluation of HCV infection and behavioural risk factors, HBV and HAV vaccination
- Introduction of prophylaxis for *Pneumocystis jirovecii* pneumonia and toxoplasmosis and therapy for oral candidiasis
- Sexual health assessment and STI screening
- Education concerning goals of therapy for HIV, importance of adherence, discussion of adverse effects of therapy, followed by recommendation to commence antiretroviral therapy and frequent monitoring of platelet count until a response is noted
- Contact tracing to notify potentially infected partners.

HIV RNA = human immunodeficiency virus ribonucleic acid; HCV = hepatitis C virus; HBV = hepatitis B virus; HAV = hepatitis A virus; STI = sexually transmitted infection.

Table 6.1 Checklist of important points in initial assessment and management of HIV infection	
Clinical assessment	Complete history and examination (including weight and blood pressure), including assessment of features of seroconversion or symptomatic later stage disease Assessment of duration of HIV infection if possible
Assessment of social context	Risk factors for transmission, including sexual history, injecting drug use, prior surgery or blood transfusion, occupation Level of understanding of HIV infection and its consequences Community situation – occupation, family/social networks, cultural/religious context
Assessment of psychological impact	Factors leading to increased risk of suicide, depression or adjustment disorder following diagnosis – past psychiatric morbidity, injecting (and other) drug use, alcohol dependence, prior maladaptive illness behaviour, cultural/religious factors Disclosure of diagnosis to others
Laboratory investigation	Confirmation of HIV enzyme-linked immunosorbent assay and Western Blot Staging of HIV infection – CD4 cell count and plasma HIV RNA (two occasions) Baseline HIV genotype Baseline urea, electrolytes, creatinine, liver function tests, fasting lipids, fasting glucose, full blood examination, urine dipstick for proteinuria HLA B*5701 (screening for predisposition to abacavir hypersensitivity) Baseline serology – Cytomegalovirus, toxoplasma, HAV IgG, HBV (hepatitis B surface antigen, hepatitis B surface antibody and hepatitis B core antibody), HCV (HCV antibody and HCV RNA if antibody test is positive)
Investigation of co-morbidities and co-infections	Screening for depression and other psychiatric morbidity Screening for sexually transmitted infections (gonorrhoea, chlamydia, syphilis, and herpes simplex virus) Evaluation of viral hepatitis co-infection – ultrasound and alpha-fetoprotein at least annually, and other serology as indicated after specialist advice Cervical cytology (Pap smear) in women Chest X-ray/Mantoux test, record <i>Bacille Calmette-Guerin</i> immunisation status. At present limited data exist regarding the performance of interferon-gamma release assays in HIV infection ³ although in the future such assays may replace the Mantoux test Evaluation and recording of cardiovascular risk factors Calculation of 10 year cardiovascular disease risk ⁴
Health maintenance	Nutritional assessment and intervention Vaccination – HAV, HBV, consider pneumococcal vaccination in immunocompetent (>200 CD4 cells/ μ L), seasonal influenza vaccination Regular STI screening in men who have sex with men, as per current guidelines ⁵ Regular cervical cytology (12 monthly) Prophylaxis – any CD4 cell count: <ul style="list-style-type: none"> Herpes simplex virus (recurrent) – aciclovir 400 mg twice a day (alternative, 200 mg four times daily). Alternatives: valaciclovir 500 mg twice a day, famciclovir 500 mg twice a day Tuberculosis – refer to chapter on management of tuberculosis (section 13.5) Prophylaxis – CD4 cell count <200 cells/ μ L: <ul style="list-style-type: none"> <i>Pneumocystis jirovecii</i> pneumonia – trimethoprim-sulphamethoxazole (cotrimoxazole) 160 mg-800 mg daily or three times per week. Alternatives: dapsone 100 mg daily or twice weekly (check G-6-PD), dapsone/pyrimethamine combination, aerosolised pentamidine 300 mg/four weeks, atovaquone 750 mg twice a day (cotrimoxazole and dapsone/pyrimethamine combination also provide primary prophylaxis against toxoplasmosis) Candidiasis (recurrent, especially in those not receiving benefit from antiretroviral therapy) – fluconazole 50-200 mg daily for oral/oesophageal candidiasis, 200 mg weekly for vaginal candidiasis Prophylaxis – CD4 cell count <50 cells/ μ L: <ul style="list-style-type: none"> <i>Mycobacterium avium</i> complex – azithromycin 1200 mg/week. Alternatives: clarithromycin 500 mg bd (beware of resistance), rifabutin 300 mg daily Cytomegalovirus retinitis – review by ophthalmologist every six months
Education and support	HIV transmission, natural history, treatment Counselling, including partners where this is requested Reproductive/contraceptive advice and counselling for women and discordant couples Referral to other disciplines as required e.g. dietician, social worker, substance use agencies Referral to peer support agencies

Table 6.1 Checklist of important points in initial assessment and management - continued

Risk assessment and prevention	<p>Education, counselling and interventions regarding safer sexual practices and injecting techniques</p> <p>Detailed risk assessment, at least annually (including sexual practices and alcohol and drug use)</p> <p>Regular STI screening as indicated by risk assessment and local guidelines</p>
Public health measures	<p>Notification of new HIV diagnosis (de-identified)</p> <p>Partner notification/contact tracing – can be done by patient or clinician or by local public health officers</p> <p>Notification of other notifiable infections eg syphilis, HBV, HCV</p> <p>Advice to patient regarding legal obligations around disclosure of HIV status to sexual partners (refer to state public health legislation, differs between states, see appendix 2)</p> <p>Occupational advice e.g. HCW and exposure-prone procedures, sex work – refer to state legislation and policies</p>
<p>HIV RNA = human immunodeficiency virus ribonucleic acid; HCV = hepatitis C virus; HBV = hepatitis B virus; HAV= hepatitis A virus; STI = sexually transmitted infection; HCW = health care worker; G-6-PD = glucose-6-phosphate dehydrogenase; HCV RNA = hepatitis C virus ribonucleic acid; HLA = human lymphocyte antigen; IgG = immunoglobulin G.</p>	

References

- 1 Hammer SM. Management of newly diagnosed HIV infection. *N Engl J Med* 2005;353(16):1702-10.
- 2 Australasian Society for HIV Medicine. Australian HIV Models of Care Database. Available at: <http://www.ashm.org.au/moc> (cited January 2008).
- 3 Luetkemeyer AF, Charlebois ED, Flores LL, Bangsberg DR, Deeks SG, Martin JN, et al. Comparison of an interferon-gamma release assay with tuberculin skin testing in HIV-infected individuals. *Am J Respir Crit Care Med* 2007;175(7):737-42.
- 4 National Service Framework in Diabetes. Coronary heart disease and cardiovascular disease risk calculator. Available at: <http://www.avondiabetes.nhs.uk/professional/calc/chd%20%20cvd%20risk%20calculator.xls> (cited January 2008).
- 5 MSM Testing Guidelines 2008: Sexually Transmitted Infection Testing Guidelines for Men who have Sex with Men, 2005. Available at: <http://www.racp.edu.au/download.cfm?DownloadFile=C5BDC7AE-FB54-AD63-73B26079EBB2DC63> (cited January 2008).

