This resource is designed to provide an introduction to HIV management in the primary care setting. General Practitioners (GPs) have a vital role to play in the early diagnosis of HIV by offering regular HIV testing for those at risk. Most patients will then need life-long treatment with antiviral medications, which may be provided by HIV specialists or by GPs with advanced training. In addition, patients will continue to need comprehensive general practice care.

By 2013, 35,287 cases of HIV infection had been reported in Australia with an estimated 9,900 to 11,000 having died from AIDS or related causes. In Australia, the prevalence of HIV infection is highest in men who have sex with men (MSM). In those whose only risk behaviour is heterosexual contact, HIV prevalence is very low compared to many countries in the Asia-Pacific region. Hence, the risk of HIV infection occurring through heterosexual contact in Australia remains low.

By international standards Australia has very good outcomes in term of HIV care but there is much more that can be done. Of particular importance is the need to regularly test those at risk, diagnose people early and to support patients to start and remain on treatment. These are key roles for the GP.

Early diagnosis of patients with HIV infection allows regular monitoring and timely treatment, with anti-retroviral therapy (ART) is increasingly being offered early in the course of infection. There is also good data to show that people treated with ART can live a normal life span. Treatment is also very effective at reducing HIV transmission as successful therapy reduces HIV viral load in the blood and potentially in other fluids such as semen, thus reducing infectiousness. This approach is known as ‘treatment as prevention’.

**The Virus**

HIV is a single-stranded ribonucleic acid (RNA) virus. It has an outer envelope that surrounds two copies of single-stranded RNA as well as a number of viral proteins. The HIV replication commences when the envelope 120 glycoprotein (gp 120) attaches to CD4 receptors expressed on the surface of lymphocytes. Attachment allows fusion of the membranes of virus and cell at viral entry. The RNA is converted to deoxyribonucleic acid (DNA) which migrates to the cell nucleus and integrates as proviral DNA into the host cell DNA.
Following infection with HIV, there is a period of high level viraemia associated with immunosuppression as measured by a reduction in the CD4 lymphocyte count. A host immune response then develops, partially controlling viral replication, but is unable to clear HIV from the body. The majority of patients develop a mononucleosis-like HIV seroconversion illness characterised by fever, pharyngitis, lymphadenopathy, rash, splenomegaly and aseptic meningitis. Other patients with HIV infection may either be asymptomatic or have subclinical illness. Symptoms of acute infection resolve as the immune system mounts an antiviral response that causes the viral load to decrease markedly. Simultaneously, there is a rebound increase in CD4 cell count to near baseline levels and the patient enters a period of clinical latency, although very high levels of viral replication continues, especially in lymphoid tissue. The plasma HIV RNA plateaus to a level of viraemia known as the virological ‘set point’. If left untreated, the patient experiences a gradual decline in CD4 cell count, with a median loss of 80 cells per year. However, starting antiretroviral therapy causes a decrease in viral load which will reverse this decline in CD4 cells. Therefore earlier treatment can potentially protect the individual’s CD4 cell count. Progression to AIDS (Acquired Immunodeficiency Syndrome), marked by the development of opportunistic infections or specific malignancies, occurs a median of 10 years after initial infection with HIV. At this time the CD4 cell count has usually fallen below 200 cells/μL and the patient is severely immunocompromised (Figure 1). 2,3

Transmission
In Australia, transmission most commonly occurs in MSM, whereas in developing countries, especially in Africa, HIV is predominantly acquired through heterosexual contact (Table 1). A person diagnosed with a sexually transmissible infection (STI) is also likely to be at increased risk of HIV infection. An STI can be a marker of recent or past risk and genital inflammation itself may have put the individual at higher risk of HIV infection.

Table 1: Exposure and transmission risk/exposure with known HIV positive source

<table>
<thead>
<tr>
<th>Type of exposure with known HIV positive source</th>
<th>Estimated risk of HIV transmission/exposure*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptive anal intercourse</td>
<td></td>
</tr>
<tr>
<td>– ejaculation</td>
<td>1/70</td>
</tr>
<tr>
<td>– withdrawal</td>
<td>1/155</td>
</tr>
<tr>
<td>Contaminated injecting equipment</td>
<td>1/125</td>
</tr>
<tr>
<td>Insertive anal intercourse (IAI) uncircumcised</td>
<td>1/160</td>
</tr>
<tr>
<td>Insertive anal intercourse (IAI) circumcised</td>
<td>1/900</td>
</tr>
<tr>
<td>Receptive vaginal intercourse (RVI)</td>
<td>1/1250</td>
</tr>
<tr>
<td>Insertive vaginal intercourse (IVI)</td>
<td>1/2500</td>
</tr>
<tr>
<td>Receptive or insertive oral intercourse</td>
<td>Unable to estimate risk</td>
</tr>
<tr>
<td></td>
<td>– extremely low</td>
</tr>
<tr>
<td>Needlestick injury (NSI) or other sharps exposure</td>
<td>1/440</td>
</tr>
<tr>
<td>Mucous membrane and non-intact skin exposure</td>
<td>&lt;1/1000</td>
</tr>
</tbody>
</table>

a These estimates are based on prospective studies, not cross-sectional data or figures derived from modelling.

Transmission through injecting drug use (IDU) is uncommon in Australia, accounting for 1% of newly acquired HIV infections in 2013 but is particularly prevalent in parts of Europe and Asia and the USA. Transmission by blood products largely occurred before the introduction of antibody screening in 1985 in Australia and was responsible for the high incidence of HIV among multiply-transfused people, such as those with haemophilia. It is now exceedingly rare in countries where blood is screened. Transmission by needlestick injury occurs in 0.3% of exposures from individuals with HIV infection where prophylaxis is not used. Perinatal transmission occurs in 20–45% of infants born to mothers with HIV, but this rate can be
reduced to less than 5% with the administration of antiretroviral therapy during pregnancy, labour and after delivery, and other interventions such as avoidance of breast feeding.6

Clinical Management

Signs and Symptoms

Signs and symptoms of acute HIV infection can present as early as three days or as late as 10 weeks following transmission. The onset of symptoms often coincides with the appearance of HIV antibodies although the patient may be HIV antibody negative by enzyme linked immunosorbent assay (ELISA) for up to three weeks after onset of symptoms. The duration of the illness is most commonly 4 to 14 days but may be longer.6,8 Approximately 50 to 90% of patients report signs or symptoms suggestive of primary HIV infection at the time of seroconversion.6-8 Patients who experience a severe symptomatic primary HIV infection appear to have more rapidly progressive HIV disease than those who do not.

Co-infection with Hepatitis B (HBV) or Hepatitis C (HCV)

Multiple blood-borne viral infections in the same individual can alter the natural history of disease. For example, HBV has no adverse effect on HIV or the development of AIDS, but HIV does influence HBV and can be associated with accelerated development of cirrhosis and liver failure. The exact mechanism(s) of the pathogenesis of this co-infection are presently unknown, but are probably due to virological (higher HBV viral load in co-infection) and host immunological (dysregulated immune responses) factors.

Individuals with HIV and HCV co-infection typically have higher HCV viral loads and a more rapid course to end-stage liver disease. This has been demonstrated by the correlation between declining CD4 cell counts and the increasing percentage of HCV-related hospital admissions and deaths among people with HIV and HCV co-infection.9

Prevention and Post-Exposure Prophylaxis (PEP)

The use of condoms for anal or vaginal sex and the use of new injecting equipment remain the most effective means of preventing the spread of HIV infection.

There is evidence from a number of studies that a course of antiretroviral therapy, commenced within 72 hours of exposure to HIV, can reduce the risk of HIV infection. Such therapy is called post-exposure prophylaxis (PEP).10

Post-exposure prophylaxis for HIV is:

- Recommended for significant percutaneous exposure to blood or body substances involving a high risk of HIV transmission
- Offered (but not actively recommended) for ocular mucous membrane or non-intact skin exposure to blood or body substances
- Not offered for exposure to any non-bloody urine, saliva or faeces

PEP involves taking a combination of antiretroviral medication (2 or 3 medications, depending on the level of risk associated with the exposure) as soon as possible after and within 72 hours of a high risk exposure to HIV.

Exposure to HIV can occur in occupational settings (e.g. needlestick injury), sexual contact (e.g. through unprotected sex or condom breakage) or by other means such as sharing of injecting equipment. Appropriate response to a known or suspected HIV exposure requires prompt assessment of the likelihood of HIV infection in the source and the risk associated with the exposure. Clinicians should always refer to the most recent protocols and seek appropriate advice about administration of PEP because the information is constantly changing, see: www.ashm.org.au/pep-guidelines/. A blood sample for antibody testing for blood-borne viruses, including HIV, should be taken with consent prior to administration of PEP to detect any infection at baseline.

Pre-exposure prophylaxis (PrEP)

PrEP involves taking HIV antivirals, usually a medication called Truvada®, prior to potential HIV exposure. PrEP has been shown to be highly effective in preventing sexual transmission of HIV in high risk groups such as men who have sex with men.11 Truvada is licensed for use as PrEP in the USA but not currently in Australia. However, there are several demonstration projects being conducted in NSW and Victoria examining the use of PrEP amongst HIV negative people to reduce their risk of acquiring the virus. Patients at risk of

Testing
For the latest guidance on HIV testing please see the National HIV Testing Policy available at: http://testingportal.ashm.org.au/hiv. HIV and STI (sexually transmissible infections) testing should be raised routinely and incorporated into regular health checks for all those at risk but especially for those in higher risk groups. These risk groups include MSM who are advised to have screening at least once a year and up to 4 times a year depending on behavioural risk assessment. See www.sti.guidelines.org.au for more information.

Despite treatment advances and changes in social perceptions, HIV infection remains a stigmatised condition, and all people who are tested should be engaged in appropriate and sensitive discussions in terms of giving informed consent for HIV testing and how their test results will be given.

The fourth generation HIV antibody test, now accompanied in Australia by a test for HIV p24 antigen, is the most accurate test available to clinicians with its extremely high sensitivity and specificity (Table 2). False positives can still occur in very low-prevalence populations but these can soon be clarified by supplementary HIV Western blot testing.

Who to Test
HIV antibody testing is indicated in the following circumstances:

- Any patient that requests a test
- Identification of clinical signs or symptoms*
- Identification of risk factors in the patient history including diagnosis of hepatitis B or C
- Part of a screening process, e.g. pregnancy
- Presentation for post-exposure prophylaxis (PEP) after occupational or non-occupational exposure to HIV
- Diagnosis of another STI. People infected with an STI, especially an ulcerative STI, are at increased risk of acquiring HIV and should be offered testing
- Risk factors from the patient history which would indicate HIV testing include:
  - MSM sexual contact.
  - Sharing of injecting equipment.
  - Being the sexual partner of a person with HIV infection
  - Being from a country or region with a high HIV prevalence, e.g. the Caribbean, Sub-Saharan Africa, South East Asia and Papua New Guinea
  - Having recently travelled overseas; travellers may be at risk of HIV through unprotected sex, injecting drugs and medical procedures

Patients who request testing may not reveal their true level of risk. In some situations, the clinician may assess the risk of infection as low, but the patient’s actual risk of infection may be high. For this reason, all patients requesting testing should be tested.

Rapid HIV Testing or Point-of-Care Testing
In December 2012, the Therapeutic Goods Association (TGA) approved the first point-of-care test for use in preliminary HIV screening in Australia. The point-of-care tests, also known as rapid tests, allow for on-the-spot HIV screening, with results delivered to the patient at the same appointment. The TGA has set out strict conditions for their use, to ensure quality of patient care.

Reactive results must be followed up with a venous blood sample, sent to a diagnostic laboratory for confirmatory testing. This is also an opportunity to provide information and support around the testing procedure, to minimise the personal impact of diagnosis, to change health-related behaviour and to address the anxiety of the person being tested. The discussion process also allows the clinician to assess risk, to educate the patient regarding risk of transmission, to obtain informed consent, and to follow up and arrange referrals as indicated (Table 3).

**Table 3: Gaining informed consent: discussion points**

- Reason for testing and risk assessment
- Timing of risk and option of post-exposure prophylaxis (PEP)
- Need for other sexually transmissible infection (STI) and blood-borne virus testing
- History of previous HIV testing
- Confidentiality and privacy issues around testing
- Natural history and transmission information (if appropriate)
- Prevention of transmission and risk reduction through behaviour change
- Implication of a positive test result, including availability of treatment
- Implications of a negative test result
- Explanation of the window period
- General psychological assessment and assessment of social supports in the event of a positive result
- Logistics of the test: time taken for results to become available and the method of delivery of results

During the discussion process, information is exchanged and concerns explored. Coping strategies are developed that may be used in the event of a positive result. While discussion does not need to proceed according to any formula, key information areas need to be covered during the consultation. Referring to a framework of key points ensures that the necessary information regarding blood-borne viruses is conveyed. Formal counselling is frequently required in the management of a person who has tested positive, or in the situation where a person who tested negative is continuing to participate in high-risk behaviours for HIV. This counselling is usually specialised and requires referral to an appropriate service or practitioner (Table 4).

The discussion should be performed in a way that is relevant and appropriate to the person’s gender, culture, behaviour, language, and their understanding of HIV testing and testing history. That is, the discussion that occurs with a high-risk man who has sex with men in a major city will differ from that which occurs with a pregnant Indigenous woman undergoing
testing in a remote area of Australia. All positive HIV test results should be given in person, however, the clinician ordering the test may consider delivery of HIV test results to patients by telephone or by another mutually agreed method in some cases. Refer to the National HIV Testing Policy: http://testingportal.ashm.org.au/hiv

**Table 4: Conveying a confirmed positive test result: discussion points**

<table>
<thead>
<tr>
<th>First post-test consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish rapport and assess readiness for the result</td>
</tr>
<tr>
<td>Know referral pathways, both clinical and psycho-social</td>
</tr>
<tr>
<td>Give positive test result</td>
</tr>
<tr>
<td>Avoid information overload</td>
</tr>
<tr>
<td>Listen and respond to needs (the patient may be overwhelmed and hear little after being told the positive result)</td>
</tr>
<tr>
<td>Discuss the immediate implications and treatment options if patient ready for the information.</td>
</tr>
<tr>
<td>Review immediate plans and support</td>
</tr>
<tr>
<td>Reassess support requirements and available services</td>
</tr>
<tr>
<td>Arrange other tests and the next appointment</td>
</tr>
<tr>
<td>Begin contact tracing process and discuss options available to facilitate this</td>
</tr>
</tbody>
</table>

**Subsequent consultations**

| Treatment options, diet and exercise |
| Effect of diagnosis on relationships and prevention information |
| Issues of disclosure |
| Assessment of contact tracing process and difficulties encountered |
| Access to life insurance may be affected |
| Workplace implications |
| Impact of other issues (e.g. drug use, poverty, homelessness) on ability to access health care and treatments |
| Referral for on-going counselling, social worker, medical specialist as appropriate |

**Key points of conveying a negative result**

- Explain the negative test result and the window period (if relevant)
- Reinforce education regarding safer behaviours
- Consider vaccination – for hepatitis B and, if indicated, hepatitis A (in men who have sex with men) and human papillomavirus (HPV)
- Further discuss anxiety or risk behaviours
- Discuss testing for other STIs.

**Key points of conveying a positive result**

- Ensure privacy and undertake the consultation in an area where you will not be interrupted.
- Discuss treatment options where appropriate
- The information and support may be provided over a number of consultations and discussion should include those points listed in Table 4.

**The Window Period**

The window period is usually defined as the period after which it is certain that the person being tested for an infection will not seroconvert following exposure to that infection. In Australia, the currently used, highly sensitive, fourth generation HIV antibody tests, are combined with an HIV antigen test and so can detect reactivity as early as two to three weeks after the infecting event. However, the window period for HIV testing is still officially quoted as three months since the time of exposure, though the majority of individuals will seroconvert within six weeks of acquiring HIV infection. Some individuals take longer than six weeks to seroconvert, hence, the policy regarding the three month window period. It is important to explain to someone who has recently acquired HIV infection that they are highly infectious during early infection due to high HIV viral loads in their blood and body fluids.

**Indeterminate Results**

Occasionally, an equivocal or indeterminate result from HIV testing may occur. This can be a source of great anxiety for the patient. Advice in interpreting indeterminate results should always be sought from specialist HIV clinicians based in hospitals or public sexual health clinics or from pathology laboratory staff. In the case of HIV antibody testing, a positive ELISA and a single band on Western blot constitutes an indeterminate result.

A patient with an indeterminate result who has reported a recent high-risk exposure is regarded as being in the window period of infection and may require considerable support during this time to deal with anxiety. Further tests for viral antigens may be indicated to test for the presence of infection and should only be performed in consultation with a specialist clinician. In populations of low seroprevalence of blood-borne viral infections, indeterminate results may be false positives. Factors such as pregnancy, past blood transfusions, intercurrent viral infections, autoimmune diseases and malignancies may play a role in indeterminate results. Upon re-testing at approximately two weeks, a second indeterminate result where there has been no progression at all in development of bands in the HIV Western blot is regarded as confirmation of negative status. However, to be sure and to address absolutely the fears of the person being tested or the health care worker’s doubts, HIV testing at approximately 12 weeks post-exposure should be performed.

**Treatment**

**Initiating Antiretroviral Therapy**

The decision to commence antiretroviral therapy is made on the basis of the risk-benefit analysis and the patient’s readiness to take treatment. Antiretroviral treatment guidelines, based on expert opinion and available scientific evidence, have been developed to guide decisions about commencing and switching treatment. Australia adopts the United States Department of Health and Human Services guidelines and adds an Australian commentary where local issues are relevant. These guidelines are available via the ASHM website: arv.ashm.org.au.

The following are indications to begin treatment with combination antiretroviral therapy:

- Prevention of onward transmission of HIV
- Individuals >50 years
- Rapid CD4 cell decline
- Hepatitis B co-infection requiring treatment for hepatitis B
- Early HIV infection
- HIV associated neurocognitive disorders
- Malignancies requiring immunosuppressive chemotherapy or radiotherapy
- Tuberculosis
There is increasing evidence to support earlier treatment of HIV infection not only to benefit the individual but also to reduce HIV transmission to sexual partners. The prescribing requirement of CD4 count <500 cells/µL for treatment initiation was removed in 2014. Patients can start ART at any CD4 cell count. Please see arv.ashm.org.au for the latest guidance on HIV treatment in Australia.

The current clinical guidance for initiation of ART in adults and adolescents in Australia is outlined below:

- In individuals with a CD4 count <350 cells/µL or an HIV associated condition, there is strong evidence from randomised trials that ART reduces morbidity and mortality. ART is strongly recommended for individuals in this group.

- In individuals with a CD4 count between 350 and 500 cells/µL, there is moderate evidence from observational studies that ART is associated with reduced morbidity and mortality. ART is recommended following discussion of the limitations of the current knowledge of benefits and risks.

- In individuals with a CD4 count >500 cells/µL, there is limited evidence regarding the balance between the benefits and risks of ART. However, the benefits of ART potentially outweigh the risks.

In making the decision to treat, consideration must be given to the patient’s commitment to therapy, his or her awareness of the importance of strict adherence to the regimen, and the potential for adverse effects. Advice regarding the decision can be obtained from an experienced antiretroviral HIV prescriber and resources listed at the end of this booklet. Only an HIV s100 prescriber, sexual health physician or HIV specialist can initiate ART. If you are interested in prescriber training or HIV management as a GP through shared care, please visit www.ashm.org.au for more information.

Antiretrovirals drugs either inhibit enzymes involved in viral replication inside the CD4 cell (usually reverse transcriptase, protease or integrase) or prevent entry of HIV into the cell. Patients commencing treatment should be started on a combination of either three or four drugs, which includes drugs from at least two different drug classes. In general, patients initiate treatment either with two nucleoside analogues and either a non-nucleoside reverse transcriptase inhibitor (NNRTI), a protease inhibitor or an integrase inhibitor. Treatment regimens are developed at the individual level based on dosing requirements, toxicity profiles and co-morbidities.

### Antiretroviral Medications

There are five classes of approved antiretroviral medications:

- nucleoside analogue reverse transcriptase inhibitors (NRTIs)
- non-nucleoside reverse transcriptase inhibitors (NNRTI)
- protease inhibitors (PI)
- entry inhibitors
- integrase inhibitors

### Side Effects of Antiretroviral Therapy

Newer ART regimens are much more tolerable, have far fewer side effects and are increasingly being coformulated into single tablet regimens. Side effects of antiretroviral therapy may be early (e.g. headache), persistent (e.g. diarrhoea) or long term (e.g. lipodystrophy). The patient should be supported through initial side effects, most of which are very common and usually short term (http://arv.ashm.org.au/arv-guidelines/limitations-to-treatment-safety-and-efficacy/adverse-effects-of-arv). Some side effects are life-threatening and necessitate immediate cessation of the medication. These include acute hepatitis, severe rashes including the Stevens-Johnson syndrome.

### Table 5: Assessment and monitoring of the patient with HIV infection

<table>
<thead>
<tr>
<th>All visits</th>
<th>Annual reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>History and symptom review</td>
<td>Assessment of immunity to hepatitis A and B and vaccination if susceptible, hepatitis C antibody if at risk</td>
</tr>
<tr>
<td>Psychosocial assessment and support</td>
<td>Influenza vaccination, (pneumococcal vaccination see guidelines)</td>
</tr>
<tr>
<td>Patient education (e.g. transmission, treatment options)</td>
<td>Cervical cytology by PAP smear</td>
</tr>
<tr>
<td>Health promotion (e.g. safe alcohol use, smoking cessation)</td>
<td>Fasting cholesterol (including HDL and LDL), triglycerides and glucose</td>
</tr>
<tr>
<td>6 monthly review</td>
<td>Urinalysis</td>
</tr>
<tr>
<td>Weight, BMI, BP, waist circumference</td>
<td>Cancer screening as per guidelines (colon, breast)</td>
</tr>
<tr>
<td>Full blood count</td>
<td>Physical assessment for lipodystrophy (fat wasting, fat accumulation)</td>
</tr>
<tr>
<td>Liver function tests</td>
<td>Review risks for osteoporosis</td>
</tr>
<tr>
<td>Renal function</td>
<td>Refer for annual dental check</td>
</tr>
<tr>
<td>CD4 cells count, HIV viral load</td>
<td>Additional monitoring for patients taking antiretroviral therapy</td>
</tr>
<tr>
<td>STI screening including syphilis serology (depending on risk group)</td>
<td>Frequent review during the first month of treatment by prescriber</td>
</tr>
<tr>
<td></td>
<td>Monitoring for severe side effects (e.g. hypersensitivity, CNS toxicity, neuropathy)</td>
</tr>
<tr>
<td></td>
<td>Management of treatable side effects (e.g. nausea, diarrhoea)</td>
</tr>
<tr>
<td></td>
<td>Adherence monitoring and support</td>
</tr>
<tr>
<td></td>
<td>Review possible drug interactions</td>
</tr>
</tbody>
</table>

To formalise the assessment and monitoring process for the patient with HIV, it is recommended that GPs implement a GP Management Plan (GPMP) for HIV. Please see the ASHM website (www.ashm.org.au) for more details.
syndrome (associated with the NNRTIs) and the abacavir hypersensitivity reaction. This reaction occurs within six weeks of starting abacavir and symptoms include fever, nausea, vomiting, diarrhoea and malaise, with or without rash, and is largely avoidable with HLA-B*5701 testing. Lactic acidosis is a rare adverse event associated with the nucleoside analogues, which may lead to multi-organ failure and death. Usually the antiretroviral prescriber will be monitoring the patient very closely through this phase. If the patient presents to the primary care clinician with a problem, the antiretroviral prescriber should be consulted.

In the past, certain protease inhibitors and nucleoside analogues were associated with lipodystrophy syndrome which involved fat gain, peripheral subcutaneous fat loss and increased serum lipids and insulin resistance. Lipodystrophy syndrome does not appear to be associated with current regimens.

It is important to recognise the increased cardiovascular risk not only in patients with HIV infection, but also in those with insulin resistance and hyperlipidaemia. Appropriate management and attention to other risk factors such as hypertension and smoking is required (Table 5). A cardiovascular risk calculation should be carried out annually.

**Adherence Issues**

Medication must be taken properly to be effective in the long term. If the patient is regularly missing doses, not following dosing recommendations or has commenced a new medication or complementary medicine which affects the metabolism of the drugs, the reduced concentration of drug allows for the selection of drug-resistant HIV and ‘failure’ of the antiretroviral regimen. Unfortunately, there is often significant cross-resistance within the same class of antiretroviral drugs and resistance to one drug may undermine response to subsequent regimens. If the patient reports poor adherence, discussion with the HIV prescriber may be appropriate to consider simplification of the antiretroviral regimen to a once-daily regimen to make adherence easier. Management of side effects may also improve adherence.

**Monitoring and the Role of the GP**

Patients require regular monitoring of their immune function and will need more intense monitoring after starting or changing anti-retroviral medication (ART). Once stable, however, six-monthly reviews of HIV viral load and CD4 count are considered sufficient (see table 5). At these review visits adherence, side effects and possible drug interactions are also checked. Periodic biochemistry and urinalysis is performed to check for toxicity. The HIV prescriber will normally perform these tests. Frequently this will be a GP who has undertaken additional training.

Most other monitoring is in line with standard GP care, as detailed in the RACGP Red Book and the Immunisation Handbook. Cardiovascular disease is more common in those who are HIV positive so risk factors need to be managed (e.g. smoking). Cancer screening should also follow standard guidelines for the general population. These checks will frequently need to be performed by a patient’s regular GP rather than by the HIV clinic.

Sexual health monitoring will depend on risk factors. Men who have sex with men are advised to have frequent sexual health checks including comprehensive testing for chlamydia, gonorrhea and syphilis.

It is important to check hepatitis A, B and C status and to vaccinate for hepatitis A and B if susceptible. Respiratory infections are more common in people with HIV so it is recommended to provide annual influenza vaccinations and periodic pneumococcal vaccination.

Depression and other mental health problems are more common in this population. The GP is ideally placed to screen for and detect mental health problems, to provide early treatment and to refer if needed.

**Legal Responsibilities**

This section refers to a number of key Australian laws and policies relating to privacy, confidentiality and duty of care. Although addressing some important questions, this information does not constitute legal advice. Practitioners who are uncertain about their statutory or common law obligations to patients or to the local Health Department, including privacy and reporting obligations, are strongly advised to contact their local Health Department or applicable privacy office or to seek independent legal advice.

For further information and examples of several legal proceedings refer to HIV, Viral Hepatitis, STIs: A guide to primary care 4th edition, Chapter 15, Legal Responsibilities in relation to HIV and viral hepatitis.

**Provision of Information to the Patient**

The provision of information, and the exchange of information between a health care provider and a patient, are key elements in any treatment or procedure. This process of engagement between patient and clinician and any agreement about treatment is often called informed consent. The aim of such discussion is to enable the patient to consider the information that is provided in order to facilitate his or her decision making.

Further, a health care practitioner should advise a person who is found to have acquired the infection of what the law may demand of him or her. Each state and territory’s body of law deals with this area differently so you will need to refer to the appropriate guidelines.

**Confidentiality**

Health care practitioners will be well aware of their duty to maintain the confidentiality of their patients. This duty is now reinforced by Commonwealth and State privacy laws. Practitioners should seek legal advice if they have questions regarding their duty of confidentiality.

**Notification of Third Parties**

Health care practitioners may become aware a patient has placed one or more people at risk of contracting HIV. In such instances the health care practitioner may wish to encourage the patient to discuss the matter with those who may be at risk of infection because of an exposure with this person. Alternatively, the health care practitioner may advise that the patient bring his or her partner/s or contact/s in so they may be counselled. There will be the occasional patient whom the health care practitioner sincerely believes may have transmitted the infection...
to others and who refuses to cooperate. In such cases, depending on the jurisdiction, there may not be an immediate legal obligation to notify, however, the practitioner will need to weigh up the relative ethical issues. In the very rare instance where the practitioner believes his or her patient is intentionally placing others at risk, the obligation to notify becomes more compelling.

Contact Tracing

Contact tracing is the practice whereby a medical professional or the relevant governmental agency traces all the contacts of a person who has, or is suspected of having, an infectious disease. Faced with an outbreak, public health officials can use contact tracing to identify people at risk of infection and people or places contributing to the spread of the disease.

Every State & Territory manages contact tracing differently. Please contact your local health authority for more information.


Anti-discrimination

Anti-discrimination provisions exist in every Australian jurisdiction, which make it illegal to discriminate against someone on the basis of having HIV. In each jurisdiction, discrimination is prohibited either on the basis of disability or impairment and it includes blood-borne viruses. Please visit your jurisdiction’s Anti Discrimination Commission for more information

For a full list of references please see online version available at www.ashm.org.au

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References