HIV and AIDS

Careful pre-travel planning and preparation is required for people who are living with HIV/AIDS (PLWHA)

Key messages

- **Travel plans for people living with HIV/AIDS (PLWHA) should be made in conjunction with the traveller's HIV specialist.**
- **Many travel-related infections, including malaria, can be much more severe PLWHA particularly if they are immunosuppressed. Good pre-travel planning is essential.**
- **Interruption of HIV medication due to travel plans should be avoided.**
- **In adults, the CD4 count is the key blood test that gives a measure of the level of immunosuppression, helps quantify risk of infection, and guides vaccination. Frequency of monitoring CD4 counts, and viral load is dependent on the stage of HIV care.**
- **Inactivated vaccines are safe PLWHA but may be less effective - especially at lower CD4 counts.**
- **Certain live vaccines are contraindicated for people living with HIV, and some can only be administered if the patient's CD4 count is greater than 200 cells/ml (or a CD4 proportion of > 15 percent in children).**
- **Antiretroviral (ART) medication has the potential for multiple drug-drug interactions. Before prescribing any additional medication, be sure to check for drug-drug interactions.**

Overview

Untreated HIV infection causes progressive loss of immunity. Antiretroviral therapy (ART) is now standard treatment for HIV infection. ART aims to achieve viral suppression which results in

reduced HIV associated illness and improved life expectancy for people living with HIV/AIDS (PLWHA) [1].

For PLWHA, careful pre-travel planning and preparation are required. PLWHA should be encouraged to discuss their travel plans with the HIV specialist team and to read information provided by HIV-specific sources (see Resources below).

Pre-travel preparation

PLWHA should discuss their travel plans with their HIV specialist and a travel health professional; PLWHA should check their destination country's entry requirements (including the transport of medicines) and allow time to complete regulatory procedures. Check the Foreign Commonwealth and Development Office FCDO, and/or the UK Embassy, High Commission or Consulate.

Risk management advice should follow that of the general traveller and be tailored as described below:

- Destination-specific risk management advice can be found on our Country Information pages.
- Comprehensive travel insurance is essential for all travellers. A full declaration of medical conditions should be made to the insurers. All equipment and planned activities should be covered.

Standard travel insurance policies may decline PLWHA or AIDS; the Terrence Higgins Trust provides information on available specialist policies (see Resources below).

Children

Additional advice on preparing HIV-infected children and adolescents for travel and vaccination of children living with HIV 2022 is available from the Children's HIV Association.

Monitoring (CD4 count and viral load) in adults

When advising PLWHA, it is important to know whether, and to what extent, the travellers is immune-suppressed as this may affect their susceptibility to infection, response to vaccines and whether they can receive certain live vaccines.

The most recent CD4 cell count with clinical judgement, can determine the level of immune suppression of HIV-positive **adults**:

- Normal range of CD4 count is ≥ 500-1500 cells/µls of blood (considered to have no immune suppression).
- Those with a CD4 count of < 200 cells/µls are considered to have severe immune suppression [2].

- There is a correlation between the CD4 count and risk of HIV-related opportunistic infections; adults with a CD4 count of < 200 cells/µls are most at risk of HIV-related opportunistic infections and cancers [2, 3]. A large study, undertaken over 17 years, predominantly in Africa, found that both adults and children with a CD4 count of < 200 cells/µls had an increased likelihood of malaria infection [4].
- CD4 counts of children as indicators of level of immunosuppression differ from adults and by age. Children with a CD4 proportion < 15 percent are severely immunocompromised [5].

Assessment and monitoring of PLWHA is usually undertaken by the HIV specialist team and is categorised into the following areas: initial diagnosis, asymptomatic individuals not yet on ART, ART initiation, initial assessment following commencement of ART, routine monitoring on ART and monitoring in special circumstances [2].

For the person living with HIV who is well, with a healthy CD4 count and undetectable viral load, additional blood tests prior to vaccinations may not be necessary, but specialist advice can be sought and liaison with the HIV specialist team should be considered.

Antiretroviral Therapy (ART)

Ideally, a newly commenced ART regimen or changes to an existing one should be known to be effective and well tolerated before travelling. The following points should be discussed prior to travel:

- Availability of anti-retroviral drugs; these may not be available in some areas; adequate supplies of all medications must be carried.
- Disclosure of all prescription drugs is required by some countries (e.g. UAE).
- It may be helpful to carry a letter from the HIV specialist indicating the drugs prescribed and stating that they should not be withheld or confiscated.
- Interruption to ART should be avoided.
- For ART doses, factoring in time zone differences may be necessary.
- How to seek medical advice for HIV-related illness occurring during or after travel.
- Expertise in HIV medicine may not be available during travel.

The Terence Higgins Trust provides additional useful advice on Travelling with HIV Medication.

Food and water-borne risks

PLWHA who are travelling overseas may be at increased risk of some gastrointestinal infections, such as salmonellosis, *Campylobacter*, *Cystoisospora belli*, *Cryptosporidium* sp. and their complications such as chronic infection, bacteraemia, and relapse [3].

Principles of food, water and personal hygiene should be discussed in the pre travel consultation and written instructions on the use of medication for self-treatment of travellers' diarrhoea should be provided. Prompt treatment of gastrointestinal infection is essential and the person travelling

should know when and how to seek medical assistance.

Individuals may wish to discuss with their HIV specialist whether to consider the prophylactic use of an antibiotic for traveller's diarrhoea (e.g. azithromycin) during travel. Because of the risk of side effects, fluoroquinolones (e.g. ciprofloxacin) should only be prescribed where other commonly recommended antibiotics cannot be used [6].

Potential interactions with drugs used to treat HIV should be carefully checked prior to prescribing any new medication - HIV drug interactions.

Vector-borne risks

Strict bite avoidance measures should be emphasised to reduce the risk of vector-borne diseases.

Travellers with HIV with a CD4 count < 200 cells/µls have a higher risk of visceral leishmaniasis [3].

Malaria

PLWHA can have a higher risk of developing severe malaria [4]. Travel to malaria endemic areas should be considered carefully. To reduce risk, strict bite avoidance measures and compliance with malaria chemoprophylaxis (antimalarial tablets) are essential.

Potential drug interactions with ART should be determined when prescribing antimalarials. Drug information should be checked in the British National Formulary (BNF), and at hiv-druginteractions.org, and with the traveller's HIV specialist.

The Guidelines for malaria prevention in travellers from the UK suggest doxycycline as the simplest malarial chemoprophylaxis for most adult PLWHA taking ART; but each case should be considered individually and the options for chemoprophylaxis discussed with the traveller's HIV clinician [4].

Vaccination

All travellers should be up to date with all recommended inactivated vaccines in the UK schedule; this includes additional vaccines recommended for those with underlying medical conditions [7].

The British HIV Association (BHIVA) guidelines for immunisation of people living with HIV should be consulted before vaccination [8]; the Children's HIV Association (CHIVA) also provides guidance [9]. Health professionals should also refer to the relevant chapter of Immunisation against infectious disease [7]. Specialist travel advice should be sought, and liaison with an HIV specialist may be necessary.

Key points

- **Vaccine schedules for PLWHA are sometimes different from those recommended for HIV negative individuals and health professionals are recommended to refer to BHIVA and CHIVA Guidelines for detailed information.**
- **Response to vaccination, particularly in those with immune deficiency, is often sub-optimal; post-vaccination serology can help guide booster frequency. Consideration can be given to delaying immunisation until the CD4 cell count has recovered with ART; this may not always be possible or practical [8].**
- **Inactivated vaccines are safe to administer to PLWHA (including children) and should be offered where appropriate; sub-optimal immune response to vaccines may occur, so the importance of e.g. insect bite precautions and personal and food and water hygiene should be stressed.**
- **Adults with CD4 cell counts < 200 cells/µLs must NOT be given live vaccines; if possible, vaccination should be postponed until the CD4 cell count has improved on ART. Those who are severely immunosuppressed will not be able to have live vaccinations. Live vaccines currently used in the United Kingdom include Bacillus Calmette-Guérin (BCG for TB prevention), dengue vaccine (Qdenga®), paediatric nasal influenza, mumps, measles and rubella (MMR), oral typhoid, rotavirus, shingles, varicella (chickenpox) and yellow fever (YF).**
- **Adults with a CD4 cell count of 200-350 cells/µLs have moderate immunodeficiency. Some live vaccines may be considered. Clinical judgment should be used to guide the use of live (replicating) vaccines in these patients; the benefits and risks of vaccination in relation to the risk of exposure (which often carries a greater risk of adverse outcomes than vaccination), should be discussed, emphasizing that a high CD4 cell count and a suppressed viral load on ART are likely to increase the safety and efficacy of vaccination [1].**

Some special considerations (vaccine preventable disease)

Measles vaccination

Around 10% of adults and adults living with HIV do not have measles immunity and are therefore susceptible to the infection [10]; Measles, Mumps and Rubella (MMR) is a live vaccine and should only be considered for PLWHA after individual risk assessment and following specialist guidance.

Guidance is provided in a BHIVA position statement on measles in people living with HIV (January 2024).

Rabies vaccination

PLWHA may not make an optimum antibody response to pre-exposure rabies vaccine, but should be given pre-exposure rabies vaccines in accordance with UK guidance. Re-immunisation should be considered when there has been immune recovery because of antiretroviral treatment (e.g. CD4 count is greater than 200 cells/µls) [11].

Urgent post-exposure treatment in the event of rabies exposure should be emphasised, regardless of prior vaccination status, and expert advice sought. Specific advice for rabies post-exposure management of people with HIV is available; In the event of a significant rabies exposure (i.e. red or amber Composite Rabies Risk), PLWHA must receive five intramuscular doses (2.5IU) of rabies

vaccine on days 0, 3, 7, 14 and 30, plus HRIG. Additionally, blood tests to confirm response to the post-exposure treatment are recommended. Rabies: guidance on management of rabies post exposure treatment 2023.

Yellow fever

Travel to areas at risk of yellow fever (YF) should be considered carefully. YF vaccine can be considered, following specialist advice, in most adults living with HIV* who are clinically well, with a suppressed viral load, and a CD4 count > 200 cells/µls if risk of YF exposure is high and unavoidable [12].

***BHIVA recommends that HIV positive pregnant women or those aged 60 years and over, should not receive YF vaccine until further data on vaccine safety is available [8]. Specialist advice should be sought.**

As with other vaccines, a reduced immune response may occur. Revaccination at 10 years should be offered for those who fit the criteria for vaccination and who are at continued risk [8, 12].

If there is a substantial risk of exposure, travellers unable to receive YF vaccine should be advised against travel. If travel to a risk country cannot be avoided, the risk of yellow fever to the traveller should be explained and scrupulous mosquito bite avoidance advised.

Where proof of YF vaccination is required as a condition of entry by a receiving country, and where the vaccine is contraindicated on medical grounds, a Medical Letter of Exemption from vaccination can be offered.

COVID-19

Current advice is that anyone with a weakened immune system is at higher risk of severe COVID-19 disease.

Although PLWHA who are on treatment with a normal CD4 count and suppressed viral load may not be at an increased risk of serious illness from COVID-19, some PLWHA may have other conditions that increase their risk.

All individuals should follow current UK recommendations to reduce their risk of infection.

BHIVA provides additional guidance on Coronavirus (COVID-19) and HIV.

Other health risks

Sexual health and blood-borne viruses (BBVs)

All travellers should be aware of the risks of sexually transmitted diseases and blood-borne viruses, and how to reduce the risk:

- Use condoms; used correctly for every act of vaginal or anal sexual intercourse, condoms reduce the risk of HIV transmission and protect against acquisition of a different HIV strain and other sexually transmitted infections (STIs) and BBVs [13].
- Avoid body piercing/tattoos which carry a risk of blood-borne virus infection.
- Intravenous drug users (IDU) must be made aware of potential legal and health consequences of this activity, especially overseas. Needles and other paraphernalia used by IDUs should not be shared.

Environmental risks

Respiratory fungal infections (mycoses) are uncommon in travellers but can cause life-threatening opportunistic infections in PLWHA, often several years after exposure [2, 14].

Exposure to dust, soil, and bird and bat droppings should be avoided. Care should be taken during eco/adventure/cave trips or during excavation/construction/agricultural work. Masks and gloves can help reduce exposure to fungal spores when working with plants, hay, or peat moss.

Soil-transmitted helminth (worm) infection

Helminth infections are caused by different species of parasitic worms. Infection may be transmitted through ingesting helminth eggs or, in some cases, penetration of the worm larvae through the skin [15]. Travellers should follow good food, water and personal hygiene advice and avoid walking barefoot on soil / sand.

Most travellers will be at very low risk from soil-transmitted helminth infections. However, overwhelming infection with Strongyloides stercoralis can occur in travellers who are immunosuppressed. If visiting tropical/subtropical areas, travellers with immunosuppression should be discouraged from walking barefoot. Prompt medical advice should be sought if infection is suspected, as early treatment could prevent severe illness [16].

Resources

- Drug interaction checker
- Terence Higgins Trust
- National AIDS trust
- NAM

REFERENCES

1. British HIV Association (BHIVA) guidelines on antiretroviral treatment for adults living with HIV-1. 2022 (2023 interim update) [Accessed 17 May 2024]
2. National Institute for Health and Care Excellence. Scenario: Established HIV infection. Revised May 2021. [Accessed 17 May 2024]

3. Nelson M, Dockrell and S Edwards on behalf of the BHIVA Guidelines Subcommittee. British HIV Association and British Infection Association guidelines for the treatment of opportunistic infection in HIV-seropositive individuals 2011. HIV Medicine. 2011 Sep; 12 Suppl 2:1-140 [Accessed 17 May 2024]

4. Chiodini PL, Patel D, Goodyer L. Guidelines for malaria prevention in travellers from the United Kingdom, 2023. London: UK Health Security Agency; July 2023. Updated 16 January 2024 [Accessed 17 May 2024]

5. i-Base. Treatment Training Manual (on-line). Immune System and CD4 Count. CD4 differences between adults and children. 2023. [Accessed 17 May 2024]

6. Medicines and Healthcare Regulatory Authority (MHRA). Fluoroquinolone antibiotics: must now only be prescribed when other commonly recommended antibiotics are inappropriate. 22 January 2024. [Accessed 17 May 2024]

7. UK Health Security Agency. Immunisation against infectious disease. Immunisation of individuals with underlying medical conditions. Ch7. Last updated January 2020 [Accessed 17 May 2024]

8. BHIVA guidelines on the use of vaccines in HIV-positive adults 2015. [Accessed 17 May 2024]

9. Childrens' HIV Association (CHIVA). Vaccination of children living with HIV. 2022 [Accessed 17 May 2024]

10. BHIVA Position statement on measles in people living with HIV. 2024 [Accessed 17 May 2024]

11. UK Health Security Agency. Immunisation against infectious disease. Rabies. Ch 27. Last updated May 2023 [Accessed 17 May 2024]

12. UK Health Security Agency. Yellow fever. Ch 35. In: Immunisation against infectious disease. 6 February 2024 [Accessed 17 May 2024]

13. NHS. Condoms. Updated 26 January 2024 [Accessed 17 May 2024]

14. **Tirado-Sánchez A, González GM, Bonifaz A. Endemic mycoses: epidemiology and diagnostic strategies. Expert Rev Anti Infect Ther. 2020 Nov;18(11):1105-1117. doi: 10.1080/14787210.2020.1792774**

15. World Health Organization. Soil-transmitted helminth infections. 2 December 2020 [Accessed 17 May 2024]

16. Office for Health Improvement and Disparities. Helminth infections. Migrant Health Guide. Updated 15 September 2021. [Accessed 17 May 2024]

Published Date: 17 May 2024

Updated Date: 17 May 2024