Joint position statement on Mohs Micrographic Surgery for people living with HIV

Authors: C McNeill, APJJ Bray, A Wernham.

Publication date: 5/11/2025

Review date: 5/11/2029

This is a joint position statement from the British Society for Dermatological Surgery (BSDS), the British Association for Sexual Health and HIV, the British HIV Association and the Institute of Biomedical Science. We would also like to acknowledge the valuable contributions of Dr Darryl Braganza Menezes and other important stakeholders consulted; the National AIDS Trust, the Terence Higgins Trust.

About Mohs micrographic surgery

Mohs micrographic surgery (MMS) is a precise surgical technique for removing higher risk non-melanoma skin cancer (NMSC) on the head and neck, with evidence demonstrating lower recurrence rates compared with other treatments. Access to this form of treatment should be equal for appropriate patients living within the United Kingdom.

MMS involves the surgeon removing the visible skin tumour under local anaesthetic, the laboratory staff then immediately processing the sample, then the surgeon reviewing the sample under the microscope to assess if any tumour remains at the edges. If tumour remains, then the patient is brought back into the operating theatre and the process is repeated until the tumour is clear. As it is a same-day procedure from start to finish, the tissue removed in conventional MMS laboratories is processed fresh using a frozen tissue technique. There is a potential risk of transmission of blood-borne viruses to healthcare staff when performing the surgery, and in handling fresh tissue samples.

Mohs micrographic surgery and blood borne viruses

Blood borne viruses which may currently impact access to conventional MMS with fresh-frozen sections include HIV, Hepatitis B and C. This statement addresses MMS and HIV. Future statements may expand to include other BBVs. Untreated HIV is a well-known risk factor for non-melanoma skin cancer, with some evidence that patients with a CD4 count

<200 have a higher risk of subclinical tumour spread[1], demonstrating the importance of access to MMS to ensure prompt tumour clearance prior to surgical reconstruction.

Background to our position

This document confirms the agreed position on providing MMS for patients diagnosed with HIV. This position was developed in response to the recent published variation in practice. We stress the importance of equal access to conventional, frozen-section MMS for all eligible patients. [2,3]

In the published survey by Alani et al,[2] only 44% of MMS centres in the UK offer conventional MMS for people living with HIV with an undetectable viral load, whereas 56% instead offer 'slow' MMS (where tissue is fixed in formalin), regardless of the patient's viral load. Offering this alternative derives from the theoretical risk of transmission of HIV to laboratory staff during the processing of fresh tissue. The disadvantages of slow MMS include the extended turnaround time, which requires multiple hospital visits for the patient, often separated a week apart. This form of fixation may also result in difficulty achieving complete representation of the surgical margins and therefore a lower effectiveness.[3] Comparatively, in the US 89% of people living with HIV are offered conventional frozen section MMS. [4]

The UK Equality Act 2010 states that it is illegal to discriminate indirectly against individuals based on their HIV status unless it can be justified objectively. Therefore any policy which mandates an alternative form of treatment solely on the basis of an individual's HIV status must be medically required to be able to justify the differential treatment. Without this justification any policy is likely to be discriminatory and could be legally challenged.

The UK Health Security Agency (UKHSA) reported that 95% of people living with HIV in England are diagnosed, 98% of those are on treatment, and 98% of those have an undetectable viral load.[5] The risk of transmission of HIV to a healthcare worker from a patient with an undetectable viral load (uVL) from a needle-stick injury is considered negligible,[2,6] compared to the risk of an untreated patient which is ~0.3%.[7-9] Despite this theoretical risk, UK Health Protection Agency (HPA) data from 1999-2018 found there were no HIV transmissions following significant occupational exposures among healthcare workers.[10]

Risk of transmission is more likely to occur from someone living with undiagnosed HIV, and hence any policy specific to only those with a positive diagnosis, may encourage false reassurance and lack of appropriate precautions from staff. People living with HIV are not required to disclose their infection status, and any form of pressure or discrimination in the healthcare setting may discourage patients from seeking healthcare services, resulting in worse outcomes.

All fresh tissue samples, from any patient, should be treated as potentially infectious, with universal precautions taken, as any patient receiving MMS may have HIV or other infection.

Surgical practices to reduce the risk of exposure injury during MMS may include:

- Regular training and competency assessment for nursing and medical staff involved in MMS procedures is essential to ensure safety and consistency of practice
- Standard safe surgical and assistant technique to reduce risk of needlesticks
- Appropriate use of procedure specific WHO safe surgical checklist (especially sharps counts and handling)
- Appropriate use of personal protective equipment (PPE): mask, protective eyewear, double-gloving (if dexterity unaffected), gown
- Appropriate use of specific equipment: safety scalpel, smoke evacuator, safety syringe, avoiding skin hooks or using blunt skin hooks where possible

Precautions to reduce the risk of infection when handling fresh tissue in the MMS laboratory may include:

- Regular training and competency assessment for laboratory staff involved in MMS procedures is essential to ensure safety and consistency of practice
- Double-gloving (if dexterity unaffected), or cut-resistant gloves
- Cleaning of all surfaces, cryostats and equipment after each MMS layer
- Cleaning of the laboratory at the end of the day
- Designating a specific cryostat for infectious material
- Using a separate supply of tissue staining ink and sticks/brushes when marking known infectious material
- Ideally at least two cryostats should be available to accommodate decontamination time after operating on a person with detectable HIV. All equipment should undergo full decontamination at the end of the surgical session.

In the event of an occupational exposure such as sharps or needlestick injury, standard procedure should follow in line with local trust recommendations. Depending on the level of risk, this may involve post-exposure prophylaxis (PEP). The British Association for Sexual Health and HIV (BASHH) 2021 UK guideline for the use of PEP outlines up-to-date risk recommendations.[11]

Jointly agreed recommendations

- All patients, irrespective of HIV status, should have equal access to conventional frozen section MMS for appropriate tumours. If this is not current practice, we encourage clinicians and laboratory staff to make these changes with immediate effect given the legal responsibilities detailed above.
- For people living with HIV, MMS should be offered irrespective of CD4 count at the time of referral or of surgery.
- HIV is not a significant risk factor for post-operative wound infection in general. However, in patients with late-stage (untreated) HIV and a low CD4 count (<200cells/μ L), the risk of post-operative wound infection may be higher.[12,13]
- People living with untreated HIV undergoing MMS should be counselled on the increased risk of post-operative infection and supported to access HIV care whilst awaiting surgery.

- Training and ongoing professional development to support staff safety and confidence when working with all fresh tissue should be in place across MMS services. Consideration should be given to the differing resource levels across laboratories.
- Universal safety precautions should be taken on the assumption that any patient may have HIV which is undiagnosed or undisclosed.
- All MMS laboratories should have a clear, readily accessible, local policy on:
    1) Universal safety precautions to reduce exposure injuries.
    2) Specific safety precautions whilst handling known infectious tissue.
    3) Procedure following occupational exposure injury (such as sharps or needlestick injury) and post-exposure prophylaxis (PEP).
- Further work is needed in assessing the acceptability and cost of offering routine HIV testing for all patients undergoing MMS. This has the potential to pick up undiagnosed cases which have the highest risk of transmission to staff. This screening would also benefit patients, allowing for earlier detection and management. Use of routine testing in non-emergency settings is supported by the British HIV Association (BHIVA) and NICE guidelines.

References:

1. Lewis, Daniel J. MD*; Messenger, Elizabeth MD*; Shin, Thuzar M. MDPhD*; Lipoff, Jules B. MD*. Nonmelanoma Skin Cancers Treated With Mohs Micrographic Surgery in Patients With HIV: A Cross-Sectional Analysis. Dermatologic Surgery 48(7):p 776-778, July 2022.
2. Alani A, Allstaff S, Yirrell D, Topping D, Affleck A. Standards, equality and safety in Mohs micrographic surgery for patients living with HIV. Clin Exp Dermatol. 2021 Mar;46(2):354-355. doi: 10.1111/ced.14367. Epub 2020 Oct 22. PMID: 32621299
3. Alani A, Kibbi N, Oliphant T. Mohs micrographic surgery for patients living with HIV. Br J Dermatol. 2021 Oct;185(4):836-837. doi: 10.1111/bjd.20417. Epub 2021 Jun 22. PMID: 33913517
4. LoPiccolo MC, Balle MR, Kouba DJ et al. Safety precautions in Mohs micrographic surgery for patients with known blood-borne infections: a survey-based study. Dermatol Surg 2012; 38:1059–65
5. HIV Action Plan monitoring and evaluation framework 2024 report. (2025, February 17). GOV.UK. https://www.gov.uk/government/publications/hiv-monitoring-and-evaluation-framework/hiv-action-plan-monitoring-and-evaluation-framework-2024-report [Accessed August, 2025]
6. Eisinger RW, Dieffenbach CW, Fauci AS. HIV viral load and transmissibility of HIV infection: undetectable equals untransmittable. JAMA 2019; 321:451–2
7. Wyzgowski P, Rosiek A, Grzela T, Leksowski K. Occupational HIVrisk for health care workers: risk factor and the risk of infection in the course of professional activities. Ther Clin Risk Manag 2016; 12:989–94
8. Cardo DM, Culver DH, Ciesielski CA, Srivastava PU, Marcus R, Abiteboul D, et al. A casecontrol study of HIV seroconversion in health care workers after percutaneous exposure. Centers for Disease Control and Prevention Needlestick Surveillance Group. The New England journal of medicine. 1997;337(21):1485-90.
9. Baggaley RF, Boily MC, White RG, Alary M. Risk of HIV-1 transmission for parenteral exposure and blood transfusion: a systematic review and meta-analysis. AIDS. 2006;20(6):805-12.
10. Woode Owusu M, Wellington E, Rice B, Gill ON, F N. Eye of the Needle: United Kingdom Surveillance of Significant Occupational Exposures to bloodborne Viruses in Healthcare Workers. Public Health England, London; 2014.
11. British Association for Sexual Health and HIV (BASHH). (2021). *UK Guideline for the use of HIV Post-Exposure Prophylaxis 2021*. Available at: https://www.bashh.org/_userfiles/pages/files/resources/pep2021_2023amendment.pdf [Accessed: December 2024]

12. Drapeau CM, Pan A, Bellacosa C, Cassola G, Crisalli MP, De Gennaro M, Di Cesare S, Dodi F, Gattuso G, Irato L, Maggi P, Pantaleoni M, Piselli P, Soavi L, Rastrelli E, Tacconelli E, Petrosillo N. Surgical site infections in HIV-infected patients: results from an Italian prospective multicenter observational study. Infection. 2009 Oct;37(5):455-60. doi: 10.1007/s15010-009-8225-1. PMID: 20358638.
13. Zhang L, Liu BC, Zhang XY, Li L, Xia XJ, Guo RZ. Prevention and treatment of surgical site infection in HIV-infected patients. BMC Infect Dis. 2012 May 14;12:115. doi: 10.1186/1471-2334-12-115. PMID: 22583551; PMCID: PMC3433368.