



Appendix E

Protocols for management of HIV in cochlear implant candidates and users

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Patients with HIV represent a particularly vulnerable portion of our hearing impaired population due to pre, peri and post-operative factors.

Each patient may be at a different point on their treatment journey e.g newly diagnosed, recently commenced on treatment or in the monitoring phase. Each of these phases requires separate assessments and each may have an impact on surgical risk assessment:

- Clinical (Determine WHO staging)
- Virological and Immunological (VL and CD4 counts)
- Screening for side effects and toxicities (Cr, eGFR, TGs, Chol, FBC etc.)

Recent HIV treatment guidelines place an increased emphasis on using viral load (VL) to assess treatment response and adherence rather than CD4 count¹.

The VL is measured every 6m and then yearly once suppressed (<50c/mL) but the importance here is that an elevated viral load is a medical emergency and may be a sign of:

- **A**dherence problems
- **B**ugs (concurrent infections – remember latent TB can reactivate at CD4>500)
- **I**nCorrect ART dosage
- **D**rug interactions
- **R**Esistance

The additional problem for a patient undergoing implantation with an unsuppressed viral load is the significantly increased potential risk to the surgeon as well as the patient.

While it may take a few weeks to even a few months to correct the underlying problem albeit an alternative drug regimen or enhanced adherence support, exceptions to implantation in the patient with an unsuppressed VL should be made with caution and preferably in consultation with an infectious disease specialist

CD4 count should be measured to monitor susceptibility to opportunistic infections and eligibility for CPT (Cotrimoxazole preventative therapy) as follows:

- Children age 1-5 CD4% <25% = CPT
- Adults CD4<200 cells/ μ L

As CD4 counts are no longer used to determine eligibility for ART, it is first done after 12m after starting treatment and then every 6m until patient VL is suppressed (<50c/mL) at which point it is stopped

As a result, CD4 counts are not always as readily available nor is an arbitrary value or target of 350 cells/ μ L for example necessarily clinically applicable depending on where the patient is on their treatment journey.

Prof François Venter, Deputy Director of Wits RHI has therefore recommended that the following criteria should be met for cochlear implantation in the HIV infected patient.

The patient should be:

- Compliant with ART.
- Well controlled and healthy (medically well).
- Have an **undetectable viral load**.
- Vaccinated with Prevenar 13 a minimum of 2 weeks prior to surgery.

Where possible, it is encouraged that the CI team or implanting surgeon consult the treating physician prior to implantation to see if any additional investigations may be required

Protocol for vaccinations:

PCV13 followed by PSV23 in series at least 8 weeks apart for all patients > 2years if not yet had PCV13.

References:

1. 2019 ART Clinical Guidelines for the Management of HIV in Adults, Pregnancy, Adolescents, Children, Infants and Neonates. Republic of South Africa National Department of Health
2. Souter, J. An update on pneumococcal vaccination in children and adults. *S Afr Pharm J.* 2014; 81 (2): 15-18
3. Matanock A et al. Use of PCV13 and PPSV23: Updated recommendation of the ACIP of the CDC. *MMWR.* Nov 2019 Vol 68 (46): 1069-1075
4. Personal communication Prof François Venter (2019)