Evaluation of the under-respirator elastic band beard cover (Singh Thattha technique)

An under-mask elastic band beard cover, also known as the Singh Thattha technique\(^1\), has been identified as a potential option that would enable the use of tight-fitting respirators for those who are unable to shave.

This technique involves the use of a long elastic band, such as a TheraBand® (used for resistance exercise and Pilates) that is placed over the beard, secured closely around the sides of the face and tied on top of the head. The respirator is then worn with the seal formed on the band (artificial skin). This is a relatively novel technique with limited evidence into its reliability and effectiveness\(^2\).

![Figure 1: Example of elastic band and respirator deployed using Singh Thattha technique (source: Singh et al., 2020)](image)

We are conducting a multi-faceted study assessing the effectiveness of this technique using disposable filtering facepiece respirators that are available to Victorian healthcare workers.

We are seeking volunteers from RMH for the study who meet the following criteria:

- HCWs who require respiratory protection for airborne biohazards at P2 (N95) level
- HCWs who cannot shave due to religious, cultural or medical reasons, with facial hair greater than 5 mm
- HCWs prepared to wear a Theraband wrap around the head for the purpose of achieving a face seal with a tight fitting N95 respirator whilst performing their duties
- Able to attend RMH City Campus for a fit test and familiarisation process that takes up to 2.5 hrs
- Able to attend the RMH fit testing clinic on 3 separate occasions: prior to clinical deployment of the technique, 2-6 weeks after clinical deployment, then at 12 months for routine fit testing
- Prepared to participate in short usability surveys for up to one year post the initial fit test

Additionally, external (non-RMH) HCWs can participate if they meet the above criteria and are referred to the RMH RPP by their HR/OHS Manager or Director, or their RPP co-ordinator. The use of the Singh Thattha/Theraband technique in a clinical setting is at the discretion of the external participant’s employer/health service.

To register your interest please contact us on RespiratoryProtectionProgram@mh.org.au or 03 9342 5590
Notes

- At this stage we are not recommending nor advocating adoption of the technique sector-wide. It is up to the individual’s host organisation to decide on the suitability of the technique for individuals that present to us.
- We are limiting the fit test to the highest pass rate disposable respirators i.e., 3M 1870+ & Industree Trident.
- We have developed a rigorous protocol that requires an individual to independently pass 3x QNFT, and they must pass our skill assessment based on critical safety behaviours.
- The original 2020 study by Singh R, Safri HS, Singh S, et al¹, included a small cohort or participants which looked at both qualitative (QLFT) fit testing and quantitative (QNFT) fit testing. The QLFT cohort included 27 bearded Sikh dentist participants, recording a 92.6% pass rate across four different respirators. Interestingly, the two failures were in disposable FFRs used in healthcare. Most participants tied the band over the top of their turban and were using re-usable elastomeric respirators. Only 5 bearded Sikh dentists participated in QNFT on two different respirator types, recording a 100% success rate, but these were not disposable respirators used in healthcare in Victoria.

References