

Appendix. This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

QUIET Pilot RCT Supplementary Appendix

VeriPRO Testing

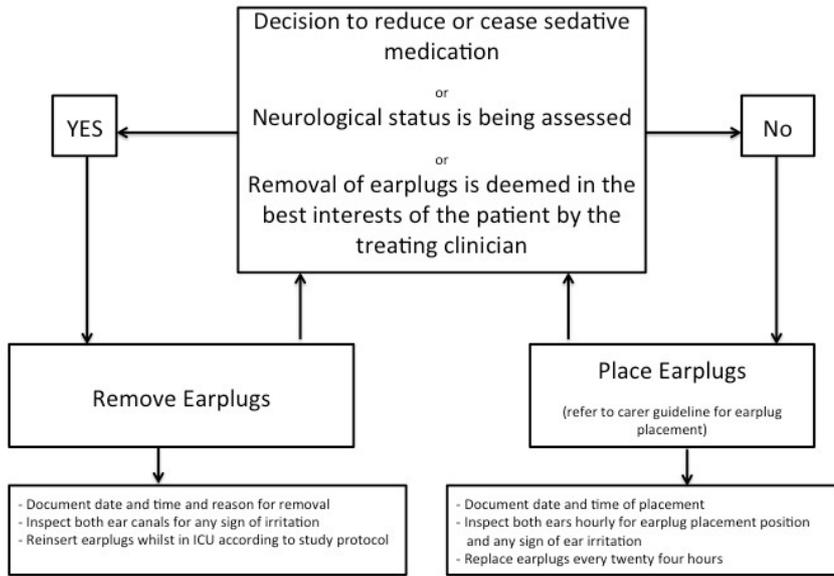
VeriPRO is a software and hardware product used in industrial applications to test the attenuation of a worker's ear plug fitting. It is designed to assess the level of protection a worker is receiving and identify if this level is sufficient for the relevant sound exposure. The equipment consists of the VeriPRO unit connecting to a laptop and specially designed earmuffs/headphones. The test procedure will be conducted by a trained operator and takes four to five minutes to complete.

Test Procedure:

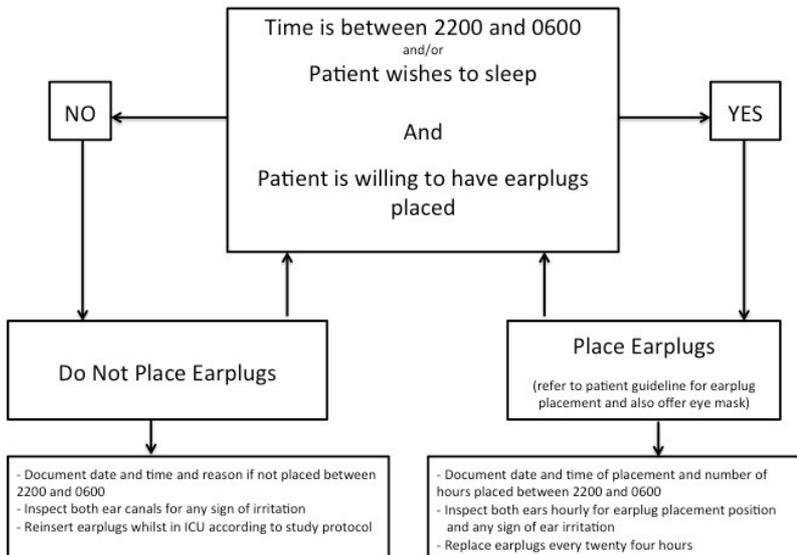
1. The patient will don the headphones making sure that they pay attention to the markings for left and right ear. They will hear a pulsing sound in both ears.
2. The tone in the right ear will be louder than the tone in the left ear. The patient will be instructed to adjust the volume via the computer software of the left ear until it matches the volume of the right ear, then click on 'match'.
3. The patient will then be instructed to remove the headphones. The patient will then be provided with the earplug fitting guide (see appendix 1 and 2) and insert an earplug into their right ear accordingly.
4. Once this is complete, the patient will don the headphones again and run through the same procedure as step 3.
5. The patient will then be instructed to remove the headphones and, whilst leaving the earplug in the right ear, place an earplug in the left ear.
6. Once this is complete, the patient will don the headphones again and run through the same procedure as steps 3 and 5.
7. This will conclude the test and the headphones and both earplugs can be removed.

Protocol for earplug placement and removal for patient receiving mechanical ventilation and overnight after extubation

QUIET Study – Flow Diagram for Earplug use in ICU Whilst **INTUBATED**



QUIET Study – Flow Diagram for Earplug use in ICU Whilst **EXTUBATED**



The QUIET Study - Nurse Ear Plug Fitting Guide

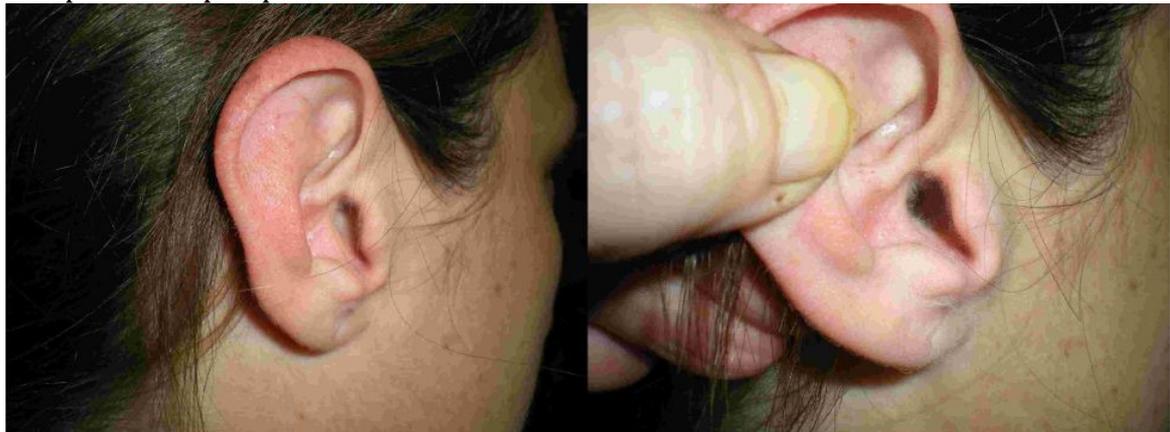
Step 1

Remove ear plugs from packet and roll down one ear plug into a crease free cylinder between your thumb and forefinger.



Step 2

Pull pinna to open patients ear canal.



Step 3

Insert rolled earplug into patients ear and hold for 10 seconds to allow plug to expand.

Step 4

Visually check fit of plug. Plug should sit behind the tragus mostly out of view.



Step 5

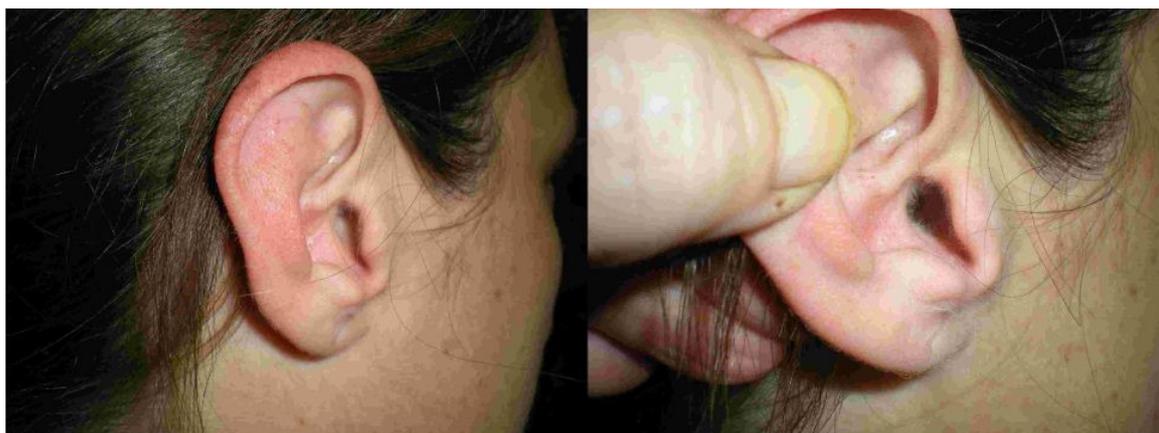
Repeat previous steps for second ear.

The QUIET Study - Fitting Guide for Patients

Step 1 - Remove ear plugs from packet and roll one into a crease free cylinder between your thumb and forefinger.



Step 2 - Pull the top of your ear backwards with one hand to open up your ear canal.



Step 3 - Insert the rolled earplug into your ear and hold for 10 seconds to allow plug to expand.



Step 4 - Visually check the fit of plug with a mirror or ask a carer for help. The plug should sit mostly out of view.



Step 5 - Repeat previous steps for second ear.