Screening Programmes

Newborn Hearing

# Protocol – Algo 3i



**Contents**



## 1. NOTES

This protocol describes the use and care of the Algo 3i with firmware version 2.21 and Audble software.
It is expected that screeners will familiarise themselves with the contents of the manual. This can be found on a CD Rom supplied with each unit.
In line with NHSP family friendly practice electrodes will be referred to as Sensors. Where the equipment uses the terms Pass and Refer; NHSP terminology is Clear response and No clear response.
The instrument must be used only with babies between the ages of 34 weeks gestational age and 6 months.
The instrument should only be used with the disposables supplied by Genesys. These are Flexicouplers and Jelly Tab Sensors. Packs of spare Jelly Tab Sensors are also available.
For ease of use these will be referred to as earphones and sensors in this document.

# 2. OPERATING INSTRUCTIONS

## 2.1. Login

Switch on
Use the arrow key to select your user name from the list. Press OK
Enter your unique user password. Press OK
Select the Location that you are working at from the list (inpatient, outpatient or home visit). Press OK
Select the facility from the list. Press OK

## 2.2. Quality Assurance tests

There is a quality assurance (QA) test that must be carried out daily which that the equipment is working correctly. This QA test is uploaded to eSP, with the screening data, as evidence that it was carried out prior to screening. It is also important to carry out a visual check and make sure that all data from a previous session has been uploaded. **It is the screener's responsibility to report a failure of any of these to the local manager and not to use the equipment until the problem has been resolved.**
Visual check

Look at the cables and check for damage
Check the connections are secure
Look at the earphone transducers and check for damage or blockage
Look at the sensor clips and check for damage
Look at the unit and check for damage

QA4 – Transducer and sensor cable check

This is a subjective test to check the AABR stimulus is being emitted via both loud speakers and that the sensor cables are working correctly.
From the Main Menu select 'enter data and screen baby'
Attach the three sensors to the test plate
Select 'perform special calibration test'. Press OK.
To proceed - Press OK for Risk Factors, NICU and Consent

Message at the bottom of the screen on the device should be:
Hearing screening in progress
And on the left of the screen.
0kΩ
0kΩ

Note! Impedances greater than 0kΩ indicates a fault therefore the cable must not be used.
Listen to the transducers to check that the click stimulus is emitted from both speakers.
Unclip the sensors from the test plate.
Message on the device should be:

Impedance too High
99kΩ
99kΩ.

Note! Impedances not rising to 99kΩ indicates a fault therefore the cable must not be used.
Stop the test
The result will be 'not complete'
Press OK – To save an empty screening record

## 2.3. Screening Test

Optimum test conditions for AABR are a settled baby in a quiet environment at least 1 metre away from other electrical equipment.

Entering Demographic details
See the manufacturer's manual for guidance on entering alpha-numerical characters
Select 'Enter data and screen baby'. Press OK

Enter Infant details:

- Infant ID - preferably NHS number
- Last Name
- D.O.B

Confirm that the entered details are correct by pressing OK or X if you need to amend.
Select the default screening parameter '35dBnHL LR simultaneously'
Press OK
For each risk factor select either Y (Yes), N (No) or U (Unknown).
Scroll down to reveal all the risk factors listed
The first Family History in the list is Wide family, while the second in the list is Close family (parents and siblings only).
Select the protocol by selecting YES or NO to NICU.
Press OK
Select the consent from full or screen only.
Press OK.

The positions for each of the gel sensors and the colour codes of sensor cables are as follows:

- White – Nape of neck
- Green – back of the shoulder
- Black – high forehead

At each sensor site, gently hold the skin taut.
Wipe baby's skin 3-5 times with a dry prep pad
Wipe baby's skin with either cotton wool or preferably gauze dampened with water to wipe away any dead skin loosened by the dry prep pad
Apply gel sensor pads at each site gently holding the skin taut.
Sensor cables may be attached to the gel sensor pads either before or after placing on the baby.
**Sensor cables should always be attached or removed when the device is switched on. Never switch on or off with sensors attached to the baby.**
Place the ear phones over baby's ears making sure that they are sealed and that the speaker is no obscured by the pinna.
Red for the right ear and blue for the left ear.

**Note:** NHSP sensor placement may be different from that recommended in the manufacturer's manual.

Sensor cables can be attached to the gel sensor pads either before or after positioning the gel sensor pads on baby

Sensor cables should always be attached after the power supply has been switched on and should always be removed before it is switched off

Keep cables separate and not crossed.

When the baby is settled - Press OK
Checking connections
Impedance levels will be displayed

Good:
Impedance < 7 kOhms
The screen will start automatically

Marginal:
Impedance between 8 kOhms and 11 kOhms
It is recommended to re prep the skin and apply a new sensor

High:
Impedance ≥ 12 kOhms
The screen will not proceed
Re-prep the skin and apply a new sensor.

Monitor the conditions throughout the screening test:

- The moving icon next to each ear - Indicates that the clicks are being generated
- The screening progress bars - Indicates the response for each ear
- The elapsed time - Test time will be short when interference is low but longer when interference is higher
- The number of good sweeps

- Impedance levels - Updated at regular intervals
- Myogenic interference bar - Electrical or muscle interference
- Ambient interference bar – Noise from baby or environment

If conditions deteriorate pause the test using pink X button.
Resume when conditions improve using the green OK button.

Outcomes:
Pass (Clear Response)  Refer (No Clear Response) or Not Complete
CR and NCR outcomes must not be repeated
Screening is complete. Press OK
Remove sensors.

If both ears = Not Complete or one ear = Not Complete and the other = CR – NCR the screen can be repeated on the ear with a Not Complete result

Switch off the machine by sliding and holding the power switch on the side of the unit until the screen has counted down from 5 to 1 and then release the power switch.



## 2.4. Uploading into eSP

Each screener is responsible for the accuracy of screening data and ensuring that it is uploaded into eSP at the end of each screening session.
Data must be uploaded within 24 hours of the screen being done.

Open and log into Audble software.
Switch on and log into the Algo 3i
Select: Data management
Select: Synchronise with PC - DO NOT PRESS OK YET!
Align the infrared port of the Algo3i with the infrared dongle connected to the PC. 6 inches apart, no obstruction between

In Audble:
Select: Device Data import
Select:  A3i from the Connected to Device dropdown list.
Click Next.
WITHIN 15 SECONDS:

On the Algo3i:
Press the OK button - twice
Transfer will start

In Audble:
Select: Transmit data to eSP
Select: All Not Previously Transmitted
Click Start.

Click Finish when completed to return to the main menu.

If the upload is not successful (data should arrive within 5 minutes)
See document 'Guidance for Local Programmes-missing data' on the website.

### 2.5. Downloading archive

Test data, including numerical data and the statistical waveform is stored in the baby's record in eSP
Export the test data from the eSP record to a PC on which Audble has been installed

On the hearing tab of an eSP record: click on the Export Test Data button
Click on Result Viewer in Audble to view the test results

See document: SEDQ - Downloading waveforms on the NHSP website

QA test data may also be exported using the download button on the QA test results list



## 3. MAINTENANCE AND CLEANING

### 3.1. Cleaning

See manufacturers manual for recommended decontamination or cleaning methods.
The equipment should be cleaned before and after each baby
All infection control procedures must be approved locally

### 3.2. Battery

Charging
Battery charging time is ~ 4 hours
A fully charged battery allows about 4 hrs of continuous use
The battery icon on the main menu gives an indication of remaining charge
All functions **except** screening can be carried out while battery is on charge
If the battery level is too low to complete a screen a warning is given when the unit is switched on

## 3.3. Manufacturer Calibration

Calibration is due annually.

## 3.4. Repairs

Take care when inserting and removing cables from the socket to avoid damage.
Store the transducer cables carefully so that the transducers do not get damaged
Further information about the care and maintenance can be found in the manufacturer's manual.