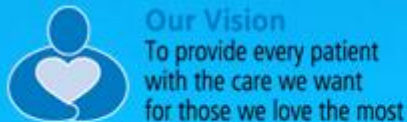


# ABR Peer Review - ensuring quality and promoting learning

Dr John E FitzGerald BSc PhD CS  
Consultant Clinical Scientist in Audiology

[John.fitzgerald@nnuh.nhs.uk](mailto:John.fitzgerald@nnuh.nhs.uk)



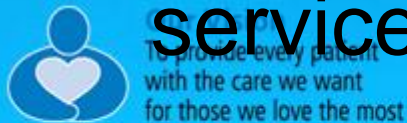
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# Aims

- To show the benefits of peer review
- To highlight considerations in setting up external ABR peer review
- To demonstrate how the SONAR system operates and meets peer review requirements
- To show how peer review acts as a supportive learning tool and ensures service quality.





# Benefits of Peer Review

- To quality assure ABR tests to ensure a consistent and uniformly high quality service.
- To recognise good practice.
- To provide support, advice and information to ensure quality assurance standards are met.
- To facilitate the exchange of knowledge and best practice and encourage productive networking in order to foster developments in quality.
- To address cases where standards have not been met to safeguard children against mis-diagnosis and inappropriate management.



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# Considerations in Setting Up an External Peer Review System

- Clear definition of what is to be peer reviewed
- Training of peer reviewers
- Agreed standards against which to review
- Agreed actions when review identifies issues
- Operating Standards for the peer review process
- Audit of the peer review process
- Moderation of the peer reviewers
- Statement of 'liability'

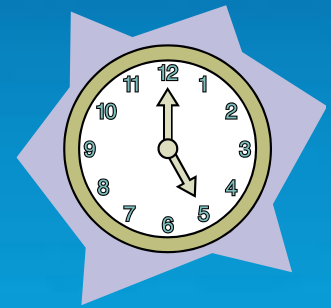


# Statement of 'liability'

- The responsibility and liability for the patient and ultimate decisions on trace interpretation and patient management resides with the tester and the tester's organisation. Comments and advice given via the SONAR ABR peer review system are only an opinion and it is for the tester to decide whether or not to accept that opinion. Individuals performing peer review accept no responsibility or liability for the test, its interpretation or patient management decisions.*

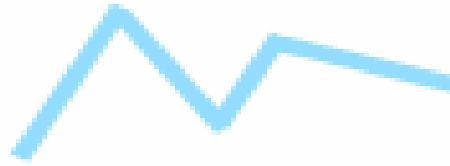
# Considerations in Running a Peer Review System

- Secure
- Easy to Use
- Efficient
- Fast





# sonar



system for online newborn ABR review

- Secure web based system used in the East of England
- Includes 17 services



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## Main Menu

Welcome John FitzGerald

Reviews open

0

Discussions open

0

What do you need to do?

Review a new case

Open an existing review

View Discussions

Upload trace files

Register for a training session

Open an existing training session

Log out of the system

Reviews completed

0

Training sessions

0



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## Review



Waiting for review

1

Do you want to review a new case now?

Yes

No



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# Are recording parameters correct?

Recording parameters

Are the recording parameters correct? Yes

Stimulus not alternating

Tone pip incorrect (i.e. not 2:1:2)

Rep rate not optimal

Exceeded max level with inserts

Time window not optimal

Low number of averages accepted

Filters not optimal

Gain/artefact reject outside recommended range

Notch filter used

Blocking period inappropriate

Masking - on all time

***Stimulus Parameters***

<i>Label Index</i>	<i>Intensity</i>	<i>Ear</i>	<i>Transducer</i>	<i>Polarity</i>	<i>Type</i>	<i>Frequency</i>	<i>Ramp</i>	<i>Rise/Fall</i>	<i>Plateau</i>	<i>Masking level</i>
A1	50dB nHL	Left	Headphones	Alternating	Tone Burst	4000	Blackman	0.50	0.25	N/A
A2	50dB nHL	Left	Headphones	Alternating	Tone Burst	4000	Blackman	0.50	0.25	N/A
A3	40dB nHL	Left	Headphones	Alternating	Tone Burst	4000	Blackman	0.50	0.25	N/A
A4	40dB nHL	Left	Headphones	Alternating	Tone Burst	4000	Blackman	0.50	0.25	N/A

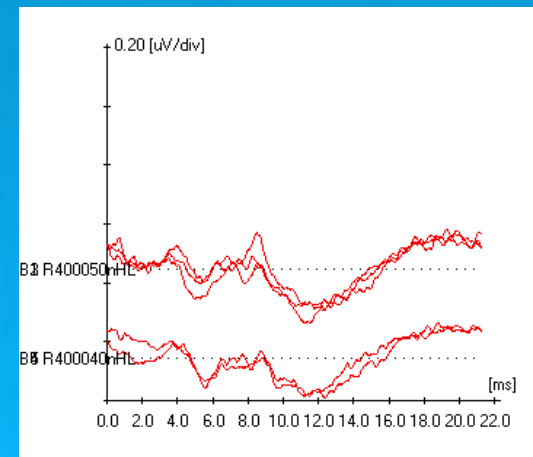
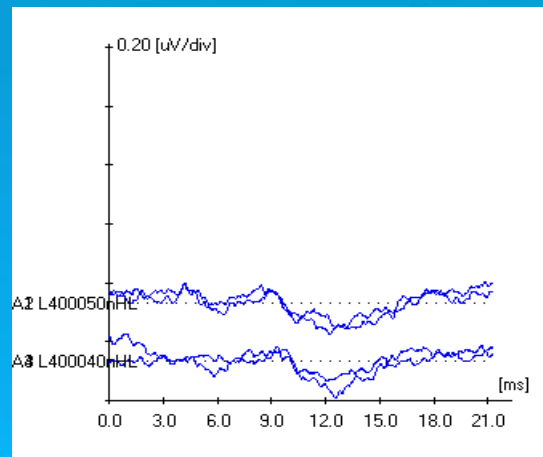
# Quality of Recording

## Quality of recording

Was the quality of recording satisfactory?

Yes

- High number of rejects indicating poor recording conditions
- Excessive electrical noise apparent



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# Trace Display

Trace display

Traces displayed appropriately?

- Display aspect ratio outside recommended range
- Display aspect ratio not optimal for these waveforms
- Incorrect superposition of traces
- Too many different stimuli displayed on one chart
- Patient identifying details not removed from printout

# Reviewer enters analysis

**ABR Tone Pip and Click**

Enter values in dB nHL *(If all traces for given stimulus are inconclusive leave box blank)*

Freq. (kHz)	0.5	1.0	2.0	3.0	4.0	Click
Right Insert	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>
Left Insert	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>
Right Headphone	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
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Left Headphone	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>
BC Right	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>
BC Left	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>	<input type="text" value="v"/> <input type="text"/>
	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>	<input type="text" value="v"/>

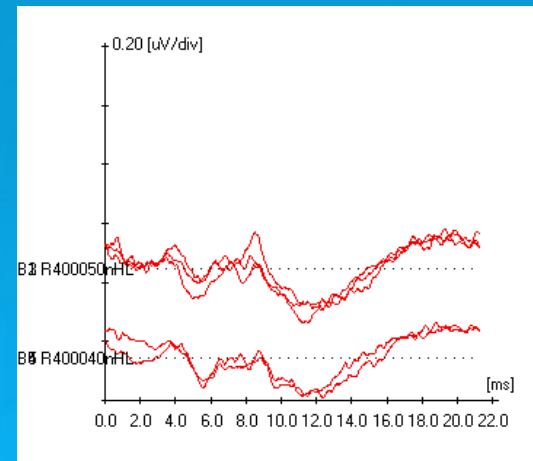
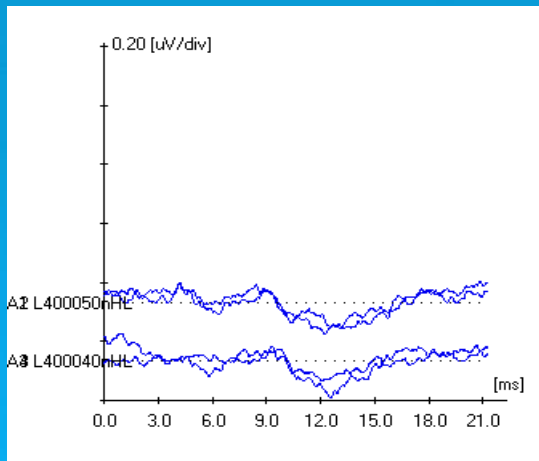
### Type of hearing loss

Right Ear

Left Ear

Notes

- N/A
- Satisfactory
- Conductive temporary
- Conductive permanent
- Not Yet Determined
- Sensorineural
- Sensorineural / Mixed
- Mixed
- AN / AD





## Tester : Reviewer Trace Analysis Comparison

Show all values

Field	App Date	Tester (dB nHL)	Tester (dB eHL)	Reviewer (dB nHL)	Reviewer (dB eHL)
ABR CHIRP Right BC 0.5 FREQ	22/09/2014	> 57	> 67		
ABR CHIRP Right BC 1.0 FREQ	22/09/2014	<= 58	<= 68	= 75	= 85
ABR CHIRP Right BC 2.0 FREQ	22/09/2014	= 59	= 59	<= 76	<= 76
ABR CHIRP Right BC 3.0 FREQ	22/09/2014	> 60	> 65	> 77	> 82
ABR CHIRP Right BC 4.0 FREQ	22/09/2014	<= 61	<= 66	= 78	= 83
ABR CHIRP Left BC 0.5 FREQ	22/09/2014	= 62 (Masked)	= 72 (Masked)	<= 79	<= 89
ABR CHIRP Left BC 1.0 FREQ	22/09/2014	> 63 (Masked)	> 73 (Masked)	= 80	= 90

# Appropriate Testing

## Full and appropriate testing

Has full and appropriate testing been conducted?

- |  |  |
|--|--|
| <input type="checkbox"/> BC would be helpful   | <input type="checkbox"/> Masking (undermasked/overmasked or not performed when needed)       |
| <input type="checkbox"/> Tonepips at other frequencies would be helpful                                  | <input type="checkbox"/> Lack of gold standard on one or both ears (AC and/or BC)            |
| <input type="checkbox"/> Unnecessary testing below an inconclusive level                                 | <input type="checkbox"/> Gap between CRs that define gold standard threshold is >10dB        |
| <input type="checkbox"/> Too many Inc traces at different levels   | <input type="checkbox"/> A further 2 waveforms, added pairwise need to resolve Inc           |
| <input type="checkbox"/> Too many thresholds <=  | <input type="checkbox"/> Discharged but discharge level not reached                          |
| <input type="checkbox"/> Too many levels used not near threshold   | <input type="checkbox"/> Not tested to low enough level (e.g. in UHL or on BC to define ABG) |
| <input type="checkbox"/> Only 1 ear tested   | <input type="checkbox"/> No tympanometry results to confirm middle ear status                |
| <input type="checkbox"/> Tester reports parent declined further testing                                  | <input type="checkbox"/> Incorrect probe tone frequency used in tymp. for age of child       |
| <input type="checkbox"/> Tester reports non-attendance by patient  | <input type="checkbox"/> Cochlear Microphonic test not done when appropriate                 |
| <input type="checkbox"/> Tester reports further ABR not appropriate due to medical reasons or babies age |  |



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# Review Outcome

**Review Outcome**

*If discussion is required tester details will be revealed after submission of review*

Additional Information	<div style="border: 1px solid #ccc; height: 20px; margin-bottom: 5px;"></div>
Outcome	<div style="border: 1px solid #ccc; padding: 5px;"><p>Agreement &amp; meets NHSP standards</p><p>Trace agreement with NHSP guideline deviation &amp; discussion required</p><p style="background-color: #0070C0; color: white;">Disagreement &amp; discussion required</p><p>Incomplete testing due to non-attendance</p></div>
Notes	<div style="border: 1px solid #ccc; height: 150px; margin-top: 5px;"></div>

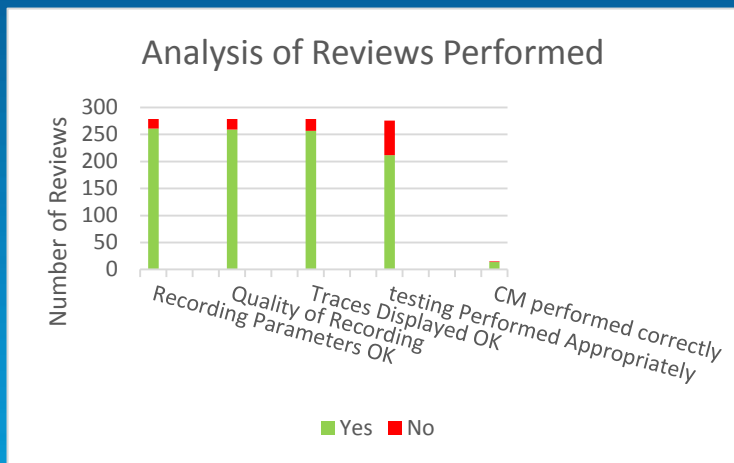
Submit ReviewPrint

# Discussion Outcome

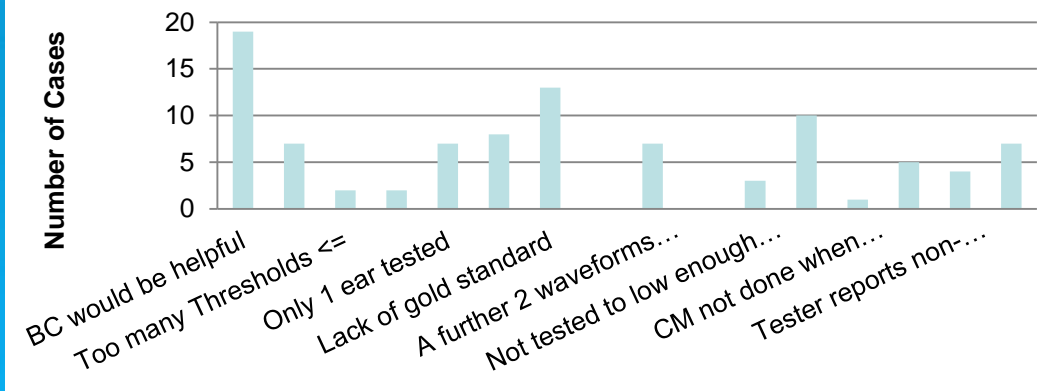
To see the review detail, please click the following link: [Show review](#)

Organisation ESP ID	NOW_Norfolk and Norwich University Hospital
Tester ESP ID	now_jfitzgerald
Contact details as recorded in Sonar	<b>System Administrator</b> Norfolk & Norwich University Hospital test road 1 Test road 2 NR4 7UY  Email: <a href="mailto:s.brunt@cyres.co.uk">s.brunt@cyres.co.uk</a>
Discussion Notes	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
Discussion Outcome	<div style="border: 1px solid #ccc; padding: 5px;"><p>Tester agreed with Reviewer</p><p>Reviewer agreed with Tester</p><p>No agreement</p><p>Incomplete testing due to non-attendance</p></div>
Follow Up Required	

# Audit



## Cases Without Full or Appropriate Testing



# Outcomes from SONAR

- Over 1800 reviews since October 2012
- Recalls
- Areas of focus for service improvement;
  - Tympanometry
  - Bone Conduction
  - Masking
- All services are committed to peer review process.

# Summary

- Need a time efficient secure system
- Peer Review can help ensure service quality
- Safeguards against practices being isolated and from falling behind best practice.
- Identifies learning points and is supportive in improving quality.