



# It's not me, it's the equipment... or is it?

## Testing perceptions using data

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**Melbourne Children's**  
A world leader  
in child and  
adolescent health



**murdoch children's  
research  
institute**

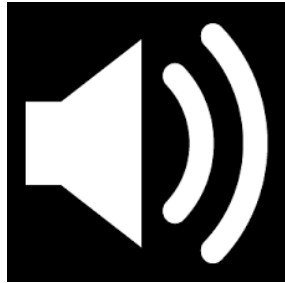


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## The Hearing Screen

- Automated Auditory Brainstem Response (ABR)
- ABR matched against stored template
- Typical screen completed in 15 minutes or less

# Factors Influencing the Screen



## Available Data

### During screen

- Impedance monitor
- Myogenic noise bar
- Ambient noise bar
- Elapsed screening time

### Downloaded data

- Screen results
- Myogenic
- Screen duration

## Ideal Screening Conditions

- Low impedance
- Low myogenic interference
- Low ambient noise
- Fewer false refer results
- Screen duration from 34 seconds up to 10 minutes

## Variables During Screening



## Variables During Screening



## Measures of a Least Favoured Device

- Longer screen duration
- High myogenic interference
- High impedance
- More troubleshooting
- High number of refer results



## The Question

*Is the screeners' perception that one screening device performs worse than another supported by evidence?*

## Outcome



### Device A

### Device B

Screen duration



Screen duration

Rate of refer results



Rate of refer results

Myogenic



Myogenic



## Comparison Sites

### Site 2

- 974 screens (April – August 2018)

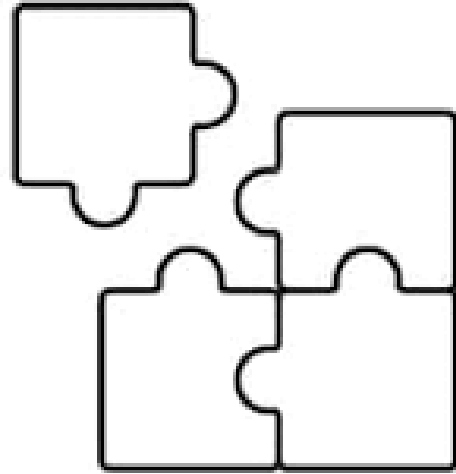


### Site 3

- 1103 screens (June – November 2018)

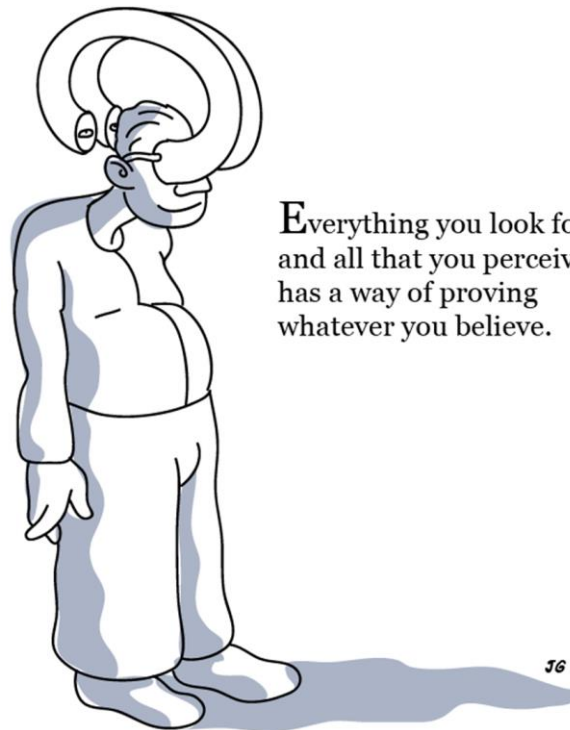
No significant difference between devices across all measures

# The Mismatch



## Influences of Perception

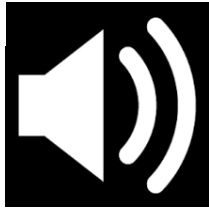
- Confirmation bias
- Individual experience
- Shared experience
- Team dynamic
- Workload
- Work demand
- Measure of productivity
- Measure of achievement



Everything you look for  
and all that you perceive  
has a way of proving  
whatever you believe.

## Potential Implications

- Screener experience
- Timing of troubleshooting
- Technical fail rate



## Acknowledgements

- Kate Francis – Biostatistician, Murdoch Children's Research Institute
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The Centre for Community Child Health is a department of The Royal Children's Hospital and a research group of Murdoch Children's Research Institute.

