The Earphone Project Pilot:
A tele-otology study for remote Aboriginal communities

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Appendix 1: Patient History Questionnaire. Adapted with permission from authors Dr. James Schuster-Bruce, Dr. Mahmood F. Bhutta and the publisher John Wiley and Sons.

Please note: The program is intuitive. As patients answer a question it will automatically determine which next set of questions are opened. e.g. If the problem is primarily a discharging ear, they will be asked the questions specific to that problem.

The green text refers to what the computer program will respond to the answer. Eg GO TO Q3.

1. **How old are you?** Only allow number as input. If age<16 omit question 3

2. **What is your gender?**
   a. Male
   b. Female
   c. Non-binary
   d. Prefer not to say
   e. Other (specify) free text

3. **What is the <u>main problem</u> with your ear(s)?**
   Runny ear / discharging ear - Go to “Discharging ear questions” Page 3
   Hearing loss - Go to “Hearing loss questions” Page 5
   Ear pain / discomfort - Go to “Ear Pain questions” Page 6
   Noises in the ear (tinnitus) - Go to “Tinnitus questions” Page 7
   Dizziness - Go to “Dizziness questions” Page 8

4. **Do you have any other problems with your ear(s)?**
   Runny ear / discharging ear)
   Hearing loss)
   Ear pain / discomfort) ----
   Noises in the ear (tinnitus))
   Dizziness)
   No other symptoms - Go to Question 6

   From this list of options, automatically exclude the option(s) previously selected

   This will keep repeating until patient states “No other symptoms”

5. **Do you have either of these symptoms in your ear(s)?**
   a. Itching in the ear
   b. Ear pressure / fullness / popping
   c. Neither

6. **Which ear is affected?**
   a. Left ear
   b. Right ear
   c. Both ears

7. **Have you had previous ear surgery?**

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a. Yes
b. No - Go to Question 10

8. What surgery have you had? More than one option possible
a. I'm not sure
b. Grommets (tubes in the eardrum)
c. Repair of the ear drum (myringoplasty)
d. Mastoid surgery (drilling into the ear)
e. Fixing the bones of hearing (ossiculoplasty)
f. Other (specify) free text

If answered 4b, 4c, 4d or 4e then supplementary question for each of these:

Which ear(s) had surgery?
a. Right ear
b. Left ear
c. Both ears

9. **Do you have any other medical problems?** free text

10. **Are there any medications (e.g. antibiotics) you are allergic to?** free text

11. **Is there anything else you want to tell us?** free text

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Runny Ear / Discharging Ear Questions

Only asked if positive response to Q 4 or Q 5

1. **Which ear is running / discharging?**
a. Left
b. Right
c. Both – if this is selected, then questions 2-7 will need to be answered twice, once for each side. Start with "Thinking now only about your left ear" > answer questions 2-7. "Now thinking about your right ear" > answer questions 2-7.

2. **Describe the nature of the discharge?**
a. Thick, yellow and sticky
b. Watery and white/clear
c. Thick and sometimes with blood
d. Other (specify) free text

3. **Is your ear runny (discharging) now?**
a. Yes
b. No > go to 6

4. **How long has your ear been runny (discharging) for?**
a. A few days
b. A few weeks
c. Months
d. Years

5. **What treatment have you had for this episode of runny/discharging ear?**
a. None
b. Ear drops
c. Oral antibiotics
d. Ear drops and Oral Antibiotics
e. Other (specify) free text

6. **How often do you get a runny/discharging ear?**
a. This is the first time
b. Every day
c. Every few weeks
d. Every few months
e. It is usually more than 6 months between episodes

7. **When you get a runny ear is it often after swimming or washing?**
a. Yes
b. No

8. **Is there anything else you want to tell us about the discharge from your ear?** free text

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Hearing loss Questions - Adult

Only asked if positive response to Q 4 or Q 5 and age 16yrs or older

1. Which ear has poor hearing?
a. Both ears
b. Left
c. Right

2. How long have you had hearing loss?
a. A few days
b. A few weeks
c. Months
d. Years

3. Did the hearing loss come on suddenly or slowly?
a. suddenly (minutes to hours)
b. slowly (months to years) > go to question 5
c. Other

4. Did your hearing loss come on after a head injury?
a. No > go to question 7
b. Yes > go to question 7

5. Is there a family history of hearing loss at a younger age (under 50 yrs old)?
a. No
b. Yes – one or two family members affected
c. Yes – more than two family members affected

6. Have you had any significant noise exposure? (without ear protection)?
a. No
b. Yes – Noisy workplace (Farm, factory)
c. Yes – Gunfire (Hobby, job)
d. Yes – other (specify) free text

7. Do you use a hearing aid?
a. Yes
b. No

8. Is there anything else you want to tell us about your hearing loss? free text

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Hearing loss Questions - Child

Only asked if positive response to Q 4 or Q 5

AND AGE 15yrs or younger

1. Which ear has poor hearing?
a. Both ears
b. Left
c. Right

2. How long have you/your child had hearing loss?
a. A few days
b. A few weeks
c. Months
d. Years

3. Is there a family history of hearing loss at a younger age (under 50 yrs old)?
a. No
b. Yes – one or two family members affected
c. Yes – more than two family members affected

4. Have you/ your child had any problems with their speech?
a. No
b. Yes – Delayed speech development but untreated
c. Yes – Attending speech therapy

5. Daycare/school
5a) IF UNDER &7YRS: Have daycare/ school had any concerns about your child's hearing
   a. No
   b. Yes
5b) IF OVER 7YRS: Have you had any difficulty hearing your teacher at school
   A No
   B Yes

6. Do you use a hearing aid or softband bone conductor?
a. Yes
b. No

7. Is there anything else you want to tell us about your/ your child's hearing loss?
free text

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Ear pain/discomfort Questions

Only asked if positive response to Q 4 or Q 5

1. **Which ear has ear discomfort or pain?**
a. Left
b. Right
c. Both – if this is selected then questions 2-6 will need to be answered twice, once for each side. Start with “Thinking now only about your left ear” > answer questions 2-6. “Now thinking about your right ear” > answer questions 2-6.

2. **How long have you had ear pain?**
a. A few days – go to question 4
b. A few weeks
c. Months or years

3. **How often do you get the pain?**
a. All the time
b. Several times a day
c. Every few days
d. Once every few weeks
e. Once every few months
f. Less often

4. **How would you describe the pain?**
a. A shooting pain that lasts a few seconds
b. A prolonged aching pain that lasts minutes or hours
c. Other (specify) free text

5. **How severe is the pain?**
a. Mild
b. Moderate
c. Severe
d. Unbearable

6. **Is the pain associated with any other symptoms?**
a. No, I only have ear pain
b. Yes – Ear Pain and runny /discharging ear
c. Yes – Ear Pain and fever
d. Yes – Ear Pain when I open my mouth or chew
e. Yes – Ear Pain with a sore throat
f. Yes - other (specify) free text

7. **Is there anything else you want to tell us about your ear pain/discomfort?**
free text

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Noises in the ear (tinnitus) Questions

Only asked if positive response to Q 4 or Q 5

1. **Tinnitus: Which ear has ringing, or unwanted noise (tinnitus)?**
a. Central / both ears
b. Left ear only
c. Right ear only

2. **How long have you had the noise/ringing in your ears?**
a. A few days
b. A few weeks
c. Months
d. Years

3. **What does the noise sound like?**
a. High pitched hissing
b. Low pitched rumbling
c. A pulsating noise, in time with my heartbeat
d. Other (specify) free text

4. **Is the noise always there?**
a. Always
b. Most days – only when it is quiet around me
c. Occasional – it comes and goes

5. Have you had any significant noise exposure? (without ear protection)?
a. No
b. Yes – Noisy workplace (Farm, factory)
c. Yes – Gunfire (Hobby, job)
d. Yes – other (specify) free text

6. **How severe is the noise/ ringing?**
a. Mild
b. Moderate
c. Severe
d. Unbearable

7. **Is there anything else you want to tell us about the noises in your ear?** free text

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Dizziness Questions

(based upon Kentala and Rauch, Otolaryngol Head Neck Surg 2003;128:54-9.)

Only asked if positive response to Q 4 or Q 5

1. **Do you or did you have "vertigo"? (Vertigo includes a false sense of motion, floating, bobbing, swaying, rocking, tilting, or spinning)**
a. Yes > go to 3
b. No

2. **Do you or did you have any of the following symptoms?**
a. Dysequilibrium/imbalance - off-balance, tipsy, wobbly, feeling you might fall
b. Near fainting - feeling you might faint, black out, or lose consciousness
c. Spacey - disconnected or distanced from the world around you, panicky, tingling around the mouth or hands
d. **None of the above .** *go to 3*

> If answered 2a – Supplementary question:

When do you feel off balance?
a. All the time
b. Only when I try to walk

> If answered 2b – Supplementary question:

Is any of these associated with you feel faint?
c. Standing up from a sitting or lying position
d. Palpitations (by heartbeat is irregular)
e. Neither of these

> If answered 2c – Supplementary question:

Do you suffer from anxiety or panic attacks?
a. Yes
b. No

3. **Once vertigo has started, how long do your symptoms last?**
a. Short episode - less than 5 minutes
b. Moderate episodes - 5 minutes to 24 hours
c. Long episodes - 1 day to 1 week
d. Persistent – continuous for longer than 1 week

> If answered 1a 3a – Supplementary question:

Does movement bring on your symptoms?
a. No
b. Yes, if I move my head to the side when lying down
c. Yes, if I get up quickly
d. Yes – other (specify) free text

> If answered 1a 3b or 1a 3c – Supplementary question:

When you have the episodes of dizziness, do you or did you get any other symptoms at the same time? More than one answer possible

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a. No
b. Yes – my hearing gets worse
c. Yes – I get noises in the ear (tinnitus)
d. Yes – I feel pressure in my ear
e. Yes – other (specify) free text

>If answered b, c, or d to above question, then one additional question:

Which ear is affected by these other symptoms?
a. Left ear
b. Right ear
c. Both ears

4. **When did you first get symptoms of dizziness?**
a. Only a few days ago > go to Q6
b. A few weeks ago
c. Months or years ago

5. **How often do you get dizzy?**
a. I have just had one or two episodes of dizziness
b. I am dizzy every day
c. I am dizzy at least once every week
d. I am dizzy once every few weeks/months
e. Less often

6. **Is there anything else you want to tell us about your dizziness?** free text

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Royal Prince Alfred Hospital & University of Sydney

EarPhone Research Study

Patient Experience Survey

Participant ID: _____

Date: _____

					
1. How comfortable was the having a video taken of your ear?					
2. How comfortable was having your ear examined by the doctor?					
3. How comfortable was the iPAD hearing test?					
4. How comfortable was the standard hearing test?					
5. Did anything in the testing offend or worry you?					
6. Was it culturally appropriate? If no, please explain how we can improve it					
7. Is there anything you would change?					

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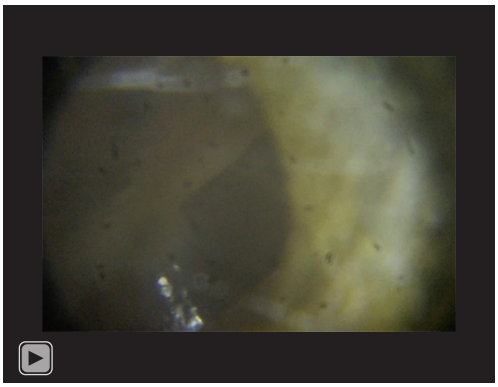
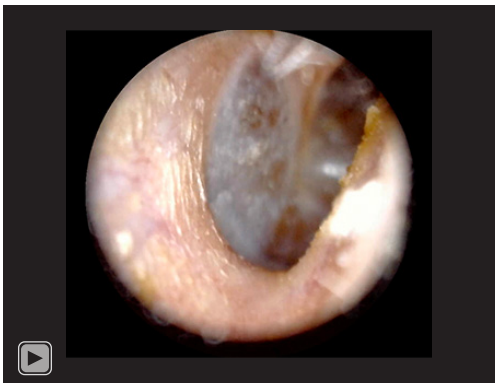


Video S1 Video file example of Cupris TYM video otoscopy.



Video S2 Video file example of HearScope video otoscopy.

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