

## **APPENDICES**

**APPENDIX A**

**PRINCIPLES OF NEWBORN HEARING  
SCREENING**

### Screening principles for hearing impairment (Davis et al. 1997:8)

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1. The hearing impairment to be screened for should be an important health problem
  2. There should be an accepted rehabilitation means for cases of permanent childhood hearing loss identified by the screen
  3. Facilities for assessment, diagnosis and rehabilitation should be available
  4. The hearing impairment should be recognisable at an early stage
  5. A suitable hearing screening test should be available at the proposed age for the screen (it should be quick, with good sensitivity, good specificity, and easy to interpret)
  6. The hearing screening test should be acceptable to both child and parents
  7. The natural history of childhood hearing impairments should be known and understood
  8. There should be an agreed policy on whom to treat as patients with hearing impairment
  9. The cost of hearing screening (including all assessments consequent on screening) should not be disproportionate to other healthcare costs incurred by a hearing impaired child
  10. Finding cases of childhood hearing impairment should be viewed as a continuous process
  11. The incidental harm resulting because of hearing screening programmes, e.g. stress to parents, should be small in relation to overall benefits
  12. There should be guidelines on how to explain results of hearing screening, together with transitional counselling support for those parents of children who have been screened and are concerned
  13. All hearing screening arrangements should be reviewed in light of changes in demography, epidemiology and other factors
  14. Costs and effectiveness of hearing screening should be examined in a stratified manner, and benefit maximised in each stratum
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**APPENDIX B**

**DATA COLLECTION SHEET**

## DATA SHEET

ID NO.

Respondent no

V1     1-4

### SECTION A ~ IDENTIFYING INFORMATION

a) Gender

Male	1	Female	2
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V2  5

b) Child's Age

Weeks		
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V3   6-7

c) Mother's Age

Years		
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V4   8-9

d) Home Language

Tswana	1
Sepedi	2
Shangaan	3
Zulu	4
English	5
Afrikaans	6
Other	7

V5  10

e) Race

Black	1
Coloured	2
Indian	3
White	4

V6  11

f) Primary Caregiver

Mother	1
Father	2
Both	3
Grandparents	4
Extended family	5
Foster parents	6

V7  12

g) Educational Qualifications

*i. Biological Mother*

< St. 6	1
St. 6-8	2
St. 8-10	3
Diploma/Degree	4
Postgraduate	5

V8  13

*ii. Biological Father*

< St. 6	1
St. 6-8	2
St. 8-10	3
Diploma/Degree	4
Postgraduate	5

V9  14

h) Average Household Income (p/m)

<R500	1
R501 – R1000	2
R1001 – R2000	3
R2001 – R 5000	4
R5000+	5

V10  15

i) No. of children (Biological mother)

Born	<input type="text"/>	<input type="text"/>
Still living	<input type="text"/>	<input type="text"/>

V11   16-17  
V12   18-19

j) Marital status of Biological parents

Married	1
Never married	2
Divorced	3
Widow	4

V13  20

k) Housing

Own house/flat	1
Informal housing	2
Renting	3
With others	4

V14  21

**SECTION B ~ RISK INDICATORS**

a) Family History of childhood Hearing loss

Yes	1	No	2	Info unavailable	3
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V15  22

b) Hyperbillirubinemia

Levels requiring blood transfusion/exchange

Yes	1	No	2	Info unavailable	3
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V16  23

If levels are known, are they in excess of the following amounts,

Birth weight (grams)	Bili level
≤ 1000	10.0
1001 – 1250	10.0
1251 – 1500	13.0
1501 – 2000	15.0
2001 – 2500	17.0
2500 +	18.0

Yes	1	No	2	Info unavailable	3
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V17  24

c) Congenital infections

Yes	1	No	2
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V18		25
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If 'Yes', specify:

	YES	NO
Toxoplasmosis	1	2
Cytomegalovirus	1	2
Syphillis	1	2
Herpes	1	2
Rubella	1	2
Measles	1	2
HIV	1	2
Malaria	1	2

V19		26
V20		27
V21		28
V22		29
V23		30
V24		31
V25		32
V26		33

d) Craniofacial defects (Head and neck)

Yes	1	No	2
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V27		34
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e) Birth weight < 1500g

Yes	1	No	2	Info unavailable	3
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V28		35
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f) Bacterial meningitis

Yes	1	No	2	Info unavailable	3
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V29		36
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g) Asphyxia

Apgar 0-4 at 1min and/or 0-6 at 5min

Yes	1	No	2	Info unavailable	3
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V30		37
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If 'Yes' specify at:

1 min		
5 min		

V31			38-39
V32			40-41

h) Ototoxic medications

Used for more than 5 days (e.g. gentamycin, tobramycin, kanamycin, streptomycin, aminoglycosides and loop diuretics combined with amino's)

Yes	1	No	2	Info unavailable	3
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V33		42
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i) Persistent pulmonary hypertension / persistent fetal circulation. Prolonged mechanical ventilation ≥ 5 days

Yes	1	No	2	Info unavailable	3
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V34		43
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j) Syndrome present

Yes	1	No	2
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V35		44
-----	--	----

If 'yes', specify syndrome:

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V36			45 - 46
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k) Admitted to the NICU

Yes	1	No	2
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V37		47
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If 'Yes', for how long?

No of days			
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V38				48-50
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**SECTION C ~ IMMITTANCE**

**a) 1000 Hz Tympanogram**

i. Y – Admittance

	RIGHT		LEFT	
i.i Performed	Yes	No	Yes	No
i.ii Discernable peak	Yes	No	Yes	No
i.iii Admittance (mmho)		,		,
i.iv Pressure (daPa)				
i.v Double peak	Yes	No	Yes	No
i.vi Time taken (min)				

V39R		51		
V39L		52		
V40R		53		
V40L		54		
V41R		,		55-58
V41L		,		59-62
V42R				63-66
V42L				67-70
V43R		71		
V43L		72		
V44R				73-74
V44L				75-76

ii. B – Susceptance

	RIGHT		LEFT	
ii.i Performed	Yes	No	Yes	No
ii.ii Admittance (mmho)		,		,
ii.iii Pressure (daPa)				

V45R		77		
V45L		78		
V46R		,		79-82
V46L		,		83-86
V47R				87-90
V47L				91-94

iii. G– Conductance

	RIGHT		LEFT	
iii.i Performed	Yes	No	Yes	No
iii.ii Admittance (mmho)		,		,
iii.iii Pressure (daPa)				

V48R		95		
V48L		96		
V49R		,		97-100
V49L		,		101-104
V50R				105-108
V50L				109-112



**b) 1000 Hz Probe Tone Reflex**

	RIGHT		LEFT	
	Yes	No	Yes	No
i. Performed				
ii. Threshold present				
iii. Threshold value (dB)				

V51R		113
V51L		114
V52R		115
V52L		116
V53R		117-119
V53L		120-122

**SECTION D ~ HEARING SCREENING**

**a) First Screen**

	RIGHT		LEFT	
	Pass	Refer	Pass	Refer
i. OAE				
ii. AABR				

V54R		123
V54L		124
V55R		125
V55L		126

iii. Time taken:

**iii.i OAE**

		min
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V56		127-128
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**iii.ii AABR**

		min
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V57		129-130
-----	--	---------

**b) Follow-up Screen**

i. Returned?

Yes	1	No	2
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V58		131
-----	--	-----

	RIGHT		LEFT	
	Pass	Refer	Pass	Refer
ii. OAE				
iii. AABR				

V59R		132
V59L		133
V60R		134
V60L		135

**SECTION E ~ DIAGNOSTIC ASSESSMENT**

a) Returned? 

Yes	1	No	2
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V61  136

b) Hearing loss? 

None	1	Bilateral	2	Unilateral	3
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V62  137

c) Type of hearing loss? 

S/N	1
Conductive	2
Mixed	3
AN	4

V63  138

d) Ear 

Left	1	Right	2	Both	3
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V64  139

e) Degree of hearing loss?  
**i. Right ear**

Mild (15-30 dB)	1
Moderate (31-50dB)	2
Severe (51-70dB)	3
Profound (71dB+)	4

V65  140

**ii. Left ear**

Mild (15-30 dB)	1
Moderate (31-50dB)	2
Severe (51-70dB)	3
Profound (71dB+)	4

V66  141

**COMMENTS**

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**APPENDIX C**

**CRITICAL REFLECTION SHEET**

## **A CRITICAL REFLECTION**

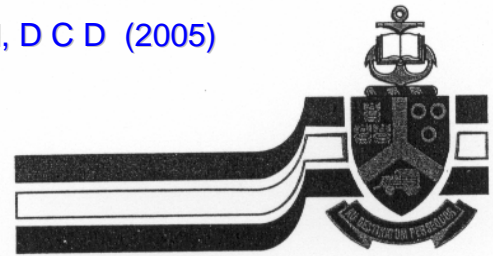
TO: Fieldworkers of the Hammanskraal infant hearing screening project

Please document and describe your experiences at the MCH clinics in Hammanskraal according to the following headings:

- ✓ **The clinics as screening contexts (facilities, barriers, positive aspects etc.)**
  
- ✓ **Collaboration with personnel and nurses (Attitudes, contact, involvement, etc.)**
  
- ✓ **Experience with caregivers (attitudes, collaboration, insight, language abilities etc.)**
  
- ✓ **Experience with babies 0-12 months in the performance of hearing screening tests**

**APPENDIX D**

**LETTER TO CAREGIVERS -  
DESCRIPTION OF THE PROJECT AND  
INFORMED CONSENT**



University of Pretoria

Pretoria 0002 Republic of South Africa Tel 012-420-2357  
/ 012-420-2816 Fax 012-420-3517 <http://www.up.ac.za>

Department of Communication Pathology  
Speech, Voice and Hearing Clinic

Date:

Dear parent:

**A HEARING TEST FOR YOUR BABY**

The Department of Communication Pathology at the University of Pretoria is doing a research project at the Refentse and Eersterus clinics to test the hearing of young babies. We have equipment that can test your baby's hearing in 5 minutes by putting a soft probe in his/her ear. The hearing test does not hurt and every baby gets his own soft probe to make sure that the testing is clean and hygienic. The testing is free and if the baby needs more testing this will also be provided free of charge. The results of your baby's test will be used for research purposes as part of a large project to improve services to young babies. His/her name will not be used and all the results will be completely confidential.

If you want to have your baby's hearing screened please fill in and sign the consent form below. If you have any questions please contact us at the Communication Pathology Department, University of Pretoria, Tel: (012) 420 2357.

Thank you.

\_\_\_\_\_  
Mr. De Wet Swanepoel

University of Pretoria  
Department Communication Pathology

Surname: \_\_\_\_\_

Name: \_\_\_\_\_

Age: \_\_\_\_\_

First language: \_\_\_\_\_

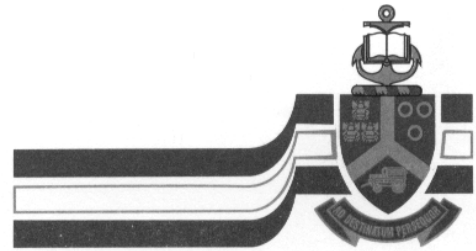
I hereby consent to participate as a research subject in the hearing screening project at the Refentse/Eersterus clinics:

\_\_\_\_\_  
Signature

Date: \_\_\_\_\_

**APPENDIX E**

**FOLLOW-UP APPOINTMENT LETTER**



University of Pretoria

Pretoria 0002 Republic of South Africa Tel 012-420-2357  
/ 012-420-2816 Fax 012-420-3517 <http://www.up.ac.za>

Department of Communication Pathology  
Speech, Voice and Hearing Clinic

Date:

Dear parent of \_\_\_\_\_

We have screened the hearing of your baby. The test results indicate that your baby must come back for another test to make sure that he/she hears all sounds. The follow-up hearing test is scheduled on the \_\_\_\_\_ at the Refentse clinic. We look forward to seeing you and your baby on this day.

Thank you,

A handwritten signature in black ink, appearing to read 'DeWet Swanepoel', written over a horizontal line.

DeWet Swanepoel  
Audiologist/Lecturer  
Tel: 420 5152



**APPENDIX F**

**LETTER OF ETHICAL CLEARANCE -  
ETHICS COMMITTEE, FACULTY OF  
HUMANITIES, UNIVERSITY OF PRETORIA**



Universiteit van Pretoria

Pretoria 0002 Republiek van Suid-Afrika Tel (012) 420-4111  
Faks (012) 362-5168 / 362-5190 <http://www.up.ac.za>

Fakulteit Geesteswetenskappe

Departement Maatskaplike Werk

Faks (012) 420-2093 Tel (012) 420-2325

Prof. Renè Hugo  
Departement Kommunikasie Patologie  
Navorser: Mnr. D.C.D Swanepoel

06-12-2002

Geagte Prof. Hugo

**GOEDKEURING VAN ETIESE AANSOEK: Mnr. D.C.D Swanepoel**

Titel van navorsing: Infant hearing screening in two rural South African communities.

Die betrokke navorsing is op 6 Desember 2002 op 'n ad hoc basis deur Prof. Danie Prinsloo en Dr. C.S.L. Delport goedgekeur nadat die nodige toestemmingsbrief vanaf die Departement Gesondheid ingedien is.

Vriendelike groete

Dr. C.S.L Delport

012 420 2394

**APPENDIX G**

**LETTER OF ETHICAL CLEARANCE -  
ETHICAL COMMITTEE, DISTRICT DEPARTMENT  
OF HEALTH, NORTH WEST PROVINCE**



NORTH WEST PROVINCE  
DEPARTMENT OF HEALTH  
**MORETELE DISTRICT**



Mr. D.E. Baloyi  
Tel: 012 717 2079/7925  
Fax: 012 717 8712

Private Bag X454  
Hammankraal  
0400

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18 November 2002

Dr De Wet Swanepoel  
Department of Community Pathology  
University of Pretoria  
Pretoria

**RESEARCH CLEARANCE AT REFENTSE AND EESTERUS CLINICS**

1. I refer to your letter dated 11/11/2002 in connection with the above matter.
2. Approval is hereby granted.
3. May I take this opportunity to request you to copy us your findings for our records and possible interventions?

Thanks

District Manager