

Disability, handicap and benefit analysis with the bone-anchored hearing aid: the Glasgow hearing aid benefit and difference profiles

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Abstract

The Birmingham bone-anchored hearing aid programme began in 1988 and by autumn 2000 a total of 351 patients had been fitted with such an aid. The aim of this study was to assess the effectiveness of hearing rehabilitation with the bone-anchored hearing aid. This was a prospective interview-based questionnaire study carried out in the autumn 2000. A total of 84 adult patients were interviewed. Each patient had worn their BAHA for more than one year.

The questionnaire used during these interviews was the Glasgow hearing aid benefit profile (GHABP) and the Glasgow hearing aid difference profile (GHADP). This was first derived and validated by Gatehouse in 1999. The use of bone-anchored hearing aids was found to reduce the level of disability and handicap and provided the most patient benefit and satisfaction.

Key words: Hearing Aids; Osseointegration; Disability Evaluation; Patient Satisfaction

Introduction

The rehabilitation of patients with hearing loss aims to reduce the level of disability and handicap that occurs as a consequence. Various hearing aids are used to provide amplification and each of these has its own individual problems. Since the advent of the bone-anchored hearing aid (BAHA), it has been shown to be a highly effective hearing aid for patients particularly those with aural atresia, chronic otitis media or externa and more recently otosclerosis.^{1–3} It has proved to be extremely well tolerated by patients.

The BAHA was first described in the early 1980s and since then the operative techniques employed have evolved along with the hearing aid device itself. It is currently a single stage procedure in adults that can be performed under local anaesthesia. More recently, the advent of the compact BAHA has further improved the aesthetics of wearing such a device.

A series of postal questionnaire studies were undertaken to evaluate patient satisfaction and quality of life with the BAHA.^{4–6} However, a prospective interview based questionnaire was necessary to quantify the BAHA use, the residual hearing disability and handicap, overall benefit and patient satisfaction.

Patients and methods

This was a prospective interview-based study using the GHABP and GHADP. It was designed by Gatehouse in 1999, to evaluate hearing disability, handicap, hearing aid use and benefit, residual disability and patient satisfaction with their hearing aids.⁷

The initial questionnaire provided four pre-determined environments and allowed the opportunity for patients to choose a further four situations in which they had hearing difficulties (Appendix 1). The four pre-determined situations assessed were the following:

- (1) listening to the television with other family and friends when the volume is adjusted to suit other people;
- (2) having a conversation with one other person when there is no background noise;
- (3) carrying on a conversation in a busy street or shop;
- (4) having a conversation with several people in a group.

The first four questions addressed the benefit of a no hearing aid situation with conventional hearing aids i.e. GHABP. The second questionnaire used the same four situations except these questions were designed to address the difference between conventional aids and BAHA i.e. GHADP (Appendix 2).

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TABLE I

DISTRIBUTION OF SCORES FROM QUESTION 1 OF THE GHABP INTERVIEW: NO HEARING AID VERSUS CONVENTIONAL AID
Listening to the television with other family or friends when the volume is adjusted to suit other people

Percentile	Initial disability	Initial handicap	Reported aid use	Reported benefit	Residual disability	Patient satisfaction
25th	4.0	4.0	5.0	2.0	3.0	2.25
75th	5.0	5.0	5.0	3.0	4.0	3.0
Median	5.0	4.5	5.0	2.0	3.0	3.0

TABLE II

DISTRIBUTION OF SCORES FROM QUESTION 2 OF THE GHABP INTERVIEW: NO HEARING AID VERSUS CONVENTIONAL AID
Having a conversation with one person when there is no background noise

Percentile	Initial disability	Initial handicap	Reported aid use	Reported benefit	Residual disability	Patient satisfaction
25th	3.0	3.0	5.0	2.0	2.0	2.0
75th	4.75	5.0	5.0	4.0	3.0	4.0
Median	3.0	4.0	5.0	2.0	3.0	3.0

The GHABP covered initial disability, handicap, hearing aid use, hearing aid benefit, residual disability and satisfaction. This prospective interview-based questionnaire study was carried out in autumn 2000 at the Queen Elizabeth Hospital, Birmingham.

A total of 84 adult patients who attended the routine follow-up clinics were interviewed. Each patient had worn their BAHA for more than one year. This was to reduce enthusiasm bias when first issued with their hearing aid.

These patients were all randomly selected on the basis of their regular review appointment during a six months' period. No paediatric patients were interviewed for this study. The same clinician interviewed all subjects included in the study.

Scoring of the GHABP and GHADP questionnaires was carried out as recommended in the GHABP – information package.⁷ The scores from each of the four situations were added for each patient and the mean calculated for each set of data. The values were then scaled to lie between 0 and 100 by subtracting 1 from each of them and then multiplying by 25.

The results were computed using the SPSS package. These have been represented in 'Box and Whisker' plots with median values, interquartile

ranges (within the box) and highest and lowest data scores (within whiskers) with outliers, if any.

Results

A total of 84 adult patients were interviewed using the GHABP and GHADP. Patients involved in the study were all interviewed following a routine out-patient review. The age range was 31 to 58 years (mean 46 years). The gender distribution was equal. In all cases, patients volunteered many of their own situations (data not in tables and figures) but most felt the four pre-specified situations encompassed their main difficulties.

The first part of the questionnaire addressed the issue of a no hearing aid situation compared with their conventional air-conduction (AC) or bone-conductor (BC) hearing aid. In each situation there was considerable disability and handicap but with full time use of a conventional hearing aid, the residual disability was reduced and derived benefit was improved (Tables I–IV).

The initial hearing disability and handicap was considered to be very significant. A GHABP score ranged from 44 to 100 per cent handicap (Figure 1, Whisker plot). The majority (interquartile range) described a no-hearing aid handicap score of 68 to 88 per cent (Figure 1, Box plot). When asked about the

TABLE III

DISTRIBUTION OF SCORES FROM QUESTION 3 OF THE GHABP INTERVIEW: NO HEARING AID VERSUS CONVENTIONAL AID
Carrying on a conversation in a busy street or shop

Percentile	Initial disability	Initial handicap	Reported aid use	Reported benefit	Residual disability	Patient satisfaction
25th	3.0	3.0	5.0	1.0	3.0	1.0
75th	5.0	5.0	5.0	2.75	5.0	3.0
Median	4.0	4.0	5.0	2.0	4.0	2.0

TABLE IV

DISTRIBUTION OF SCORES FROM QUESTION 4 OF THE GHABP INTERVIEW: NO HEARING AID VERSUS CONVENTIONAL AID
Having a conversation with several people in a group

Percentile	Initial disability	Initial handicap	Reported aid use	Reported benefit	Residual disability	Patient satisfaction
25th	4.0	4.0	5.0	1.0	4.0	1.0
75th	5.0	5.0	5.0	3.0	5.0	2.0
Median	4.0	4.0	5.0	2.0	4.0	2.0

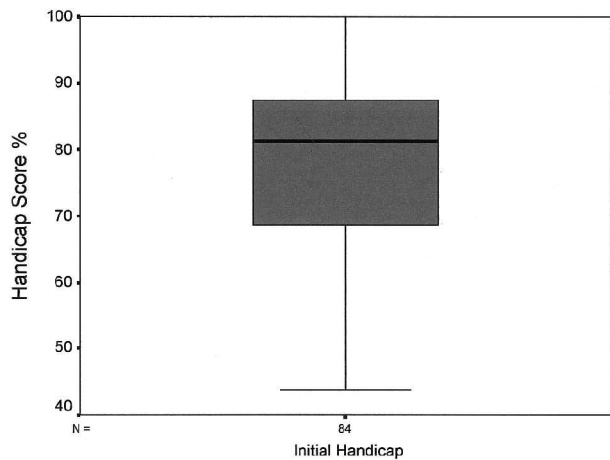


FIG. 1

Hearing handicap reported by patients when not using any hearing aid (Box and Whiskers Plot).

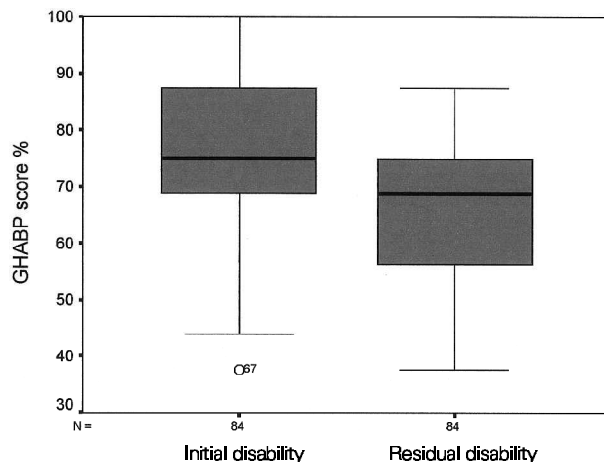


FIG. 3

Hearing disability before and after wearing conventional hearing aids.

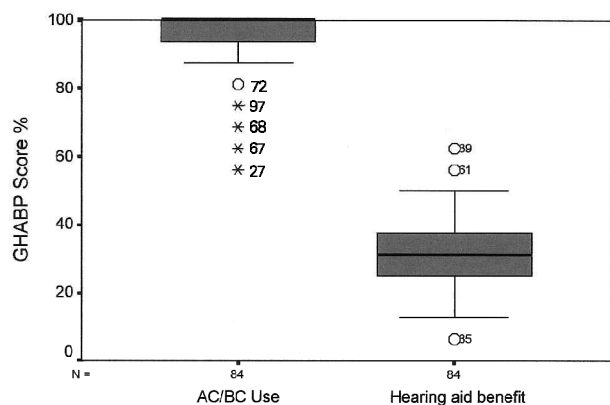


FIG. 2

GHABP scores showing the use of conventional hearing aids and the benefit these hearing aids provide.

amount of time these conventional hearing aids were used it appeared the vast majority wore their aids all of the time (Figure 2). Only five patients reported wear for less than three quarters of the time. Despite this use, the hearing benefit was surprisingly poor, with a GHABP benefit score range of 28 to 38 per

cent (Figure 2). It was found that overall, the hearing disability was less with conventional aids compared to the initial disability (Figure 3).

The second part of the study compared conventional air or bone conduction hearing aids with the BAHA (GHADP). Compliance with BAHA use was excellent and the benefit, reduced hearing disability and overall satisfaction was significantly improved when compared to other aids (Tables V–VIII).

Firstly, the day to day usage of each type of hearing aid was similar with the majority of patient wearing their aids all of the time (Figure 4). The residual hearing disability was markedly reduced with the use of a BAHA and this was found to be significant (Figure 5). The benefit of BAHA use was greater than conventional aids (Figure 6), and patient satisfaction was significantly better with the use of BAHA compared to conventional aids (Figure 7). BAHA use was encouraging and the benefit was significantly better than that of prior aids (Figure 8). Finally, the regular use of a BAHA significantly reduced the level of hearing disability compared to both conventional aid use and a no-aid situation (Figure 9).

TABLE V

DISTRIBUTION OF SCORES FROM QUESTION 1 OF THE GHADP PROFILE: CONVENTIONAL AID VERSUS BAHA

Listening to the television with other family or friends when the volume is adjusted to suit other people

Percentile	Initial disability with previous aid	Reported previous aid use	Reported BAHA use	Reported benefit with BAHA	Residual disability with BAHA	Patient satisfaction with BAHA
25th	3.0	4.0	5.0	5.0	1.0	4.0
75th	4.0	5.0	5.0	5.0	1.0	5.0
Median	3.0	4.0	5.0	5.0	1.0	5.0

TABLE VI

DISTRIBUTION OF SCORES FROM QUESTION 2 OF THE GHADP PROFILE: CONVENTIONAL AID VERSUS BAHA

Having a conversation with one person when there is no background noise

Percentile	Initial disability with previous aid	Reported previous aid use	Reported BAHA use	Reported benefit with BAHA	Residual disability with BAHA	Patient satisfaction with BAHA
25th	3.0	4.0	5.0	5.0	1.0	5.0
75th	5.0	5.0	5.0	5.0	1.0	5.0
Median	4.0	5.0	5.0	5.0	1.0	5.0

TABLE VII

DISTRIBUTION OF SCORES FROM QUESTION 3 OF THE GHADP PROFILE: CONVENTIONAL AID VERSUS BAHA

Carrying on a conversation in a busy street or shop

Percentile	Initial disability with previous aid	Reported previous aid use	Reported BAHA use	Reported benefit with BAHA	Residual disability with BAHA	Patient satisfaction with BAHA
25th	4.0	5.0	5.0	3.0	2.0	4.0
75th	5.0	5.0	5.0	4.0	3.0	5.0
Median	4.5	5.0	5.0	3.0	3.0	4.0

TABLE VIII

DISTRIBUTION OF SCORES FROM QUESTION 4 OF THE GHADP PROFILE: CONVENTIONAL AID VERSUS BAHA

Having a conversation with several people in a group

Percentile	Initial disability with previous aid	Reported previous aid use	Reported BAHA use	Reported benefit with BAHA	Residual disability with BAHA	Patient satisfaction with BAHA
25th	4.0	4.0	5.0	3.0	2.0	4.0
75th	5.0	5.0	5.0	5.0	3.0	5.0
Median	4.0	5.0	5.0	4.0	2.0	4.0

Discussion

Hearing aid services may be configured in a variety of ways but always contain elements associated with the technical performance of the device and the extent to which it helps the listener overcome the deficits and disadvantages experienced in everyday life. In the context of optimizing services, there is a growing requirement to provide measures of outcome that are appropriate and sensitive to the various options for intervention. It is essential to demonstrate these measures of outcome to bodies or individuals responsible for funding services and to the hearing-impaired listeners.⁷

Performance measures cannot adequately characterize disability and handicap and therefore such instruments have stayed in the self-reporting domain. This has led to the development of a variety of questionnaires and inventories for the characterization of disability and handicap and its subsequent change following intervention.⁸⁻¹⁰

The GHABP is one such client-centred questionnaire. It has been derived, optimized and verified as an instrument suitable for application in the context of evaluation of efficacy and effectiveness of

rehabilitation services for hearing-impaired adults. The GHABP firstly assesses four pre-specified listening circumstances which commonly occur in the lives of the hearing-impaired (Appendix 1). These are separately assessed as to:

- (i) their occurrence;
- (ii) their degree of difficulty experienced by the listener (initial disability);
- (iii) the effect or impact on the hearing-impaired listener's life (handicap);
- (iv) the extent to which the hearing aid is used in that listening circumstance (reported hearing aid use);
- (v) the extent to which hearing is improved in that listening circumstance (hearing aid benefit);
- (vi) the hearing difficulty experienced by the listener after the fitting of the hearing aid (residual disability) and
- (vii) the client's satisfaction with their hearing aid for that listening circumstance.

Another page (not shown in appendix) on the GHABP allows the listener to specify up to four additional listening circumstances of importance and relevance to their everyday communication circum-

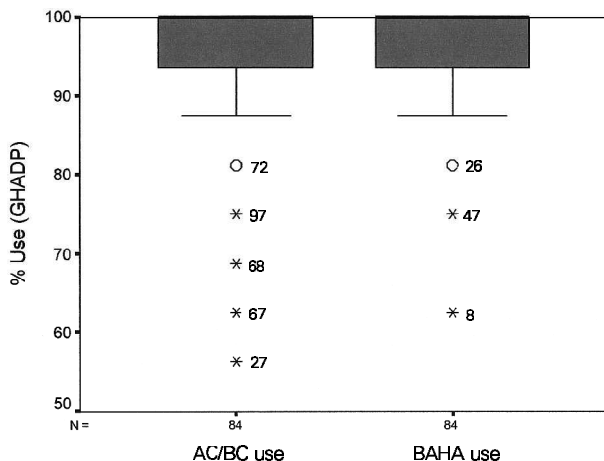


FIG. 4

Day-to-day use of hearing aids – the current BAHA and previous conventional hearing aid.

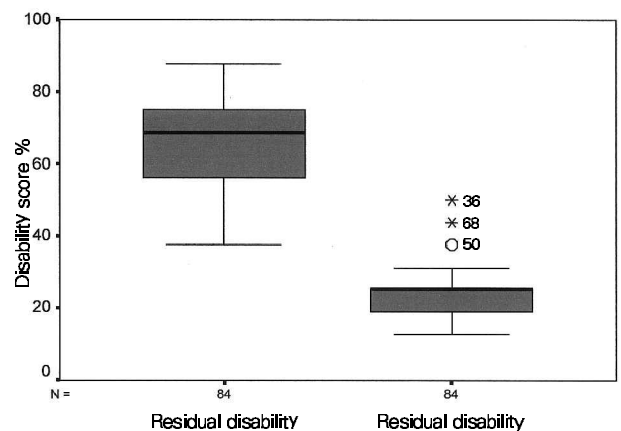


FIG. 5

Residual disability after conventional hearing aid compared with the use of a BAHA.

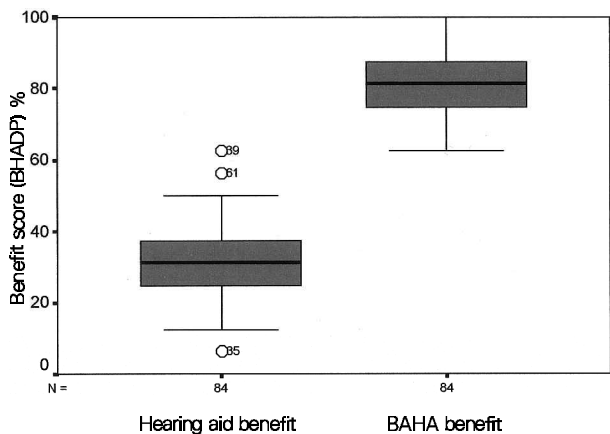


FIG. 6

Differences in the benefit obtained by conventional aid and BAHA use.

stances, for example, listening to music, having a conversation on the telephone and following a lecture or service in church. Some of the patients in our series (14 per cent of 84) chose to discuss listener-specified situations as mentioned above. However, all 84 of them agreed that the four pre-specified situations reflected the disabilities and benefits quite satisfactorily.

This is then followed by the difference profile (GHADP; Appendix 2) that compares the previous hearing aid with a new hearing aid with respect to the previously described domains.

The GHABP has been optimized and validated previously. Our study is the first to evaluate the use of bone-anchored hearing aids using GHABP. Needless to say the questionnaire is designed to be completed by an independent observer in an office-setting and is not suitable for postal surveys. The GHABP and the GHADP proved to be valuable tools (prospective interview-based questionnaires) in the evaluation of our hearing aid services. It is envisaged that the instrument will be applied to all the patients on the Birmingham BAHA programme who are on regular audiological follow-up.

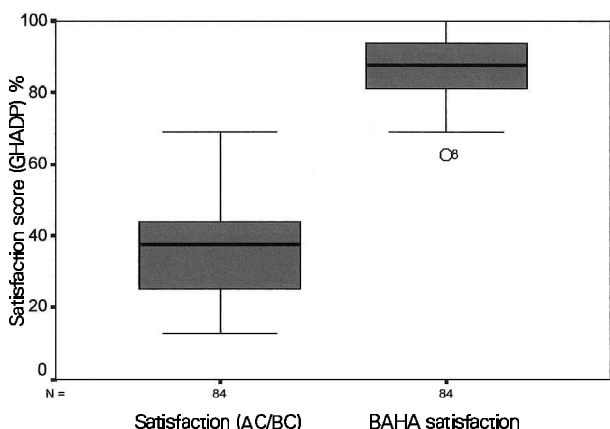


FIG. 7

Patient satisfaction with the conventional aid compared with the BAHA.

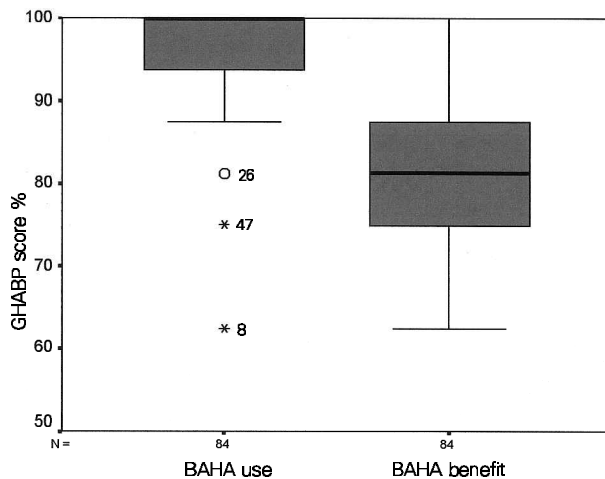


FIG. 8

Compliance with BAHA use and perceived benefit.

Conclusions

Eighty-four BAHA users were evaluated using the GHABP and the hearing disability was significantly reduced with the BAHA compared to their previous conventional hearing aids. The reported hearing aid benefit and patient satisfaction were higher with the BAHA compared with the previous aids.

This prospective study on 84 BAHA users demonstrates that the GHABP is a suitable candidate for a routine service-monitoring indicator as part of a programme of quality assurance and standards.

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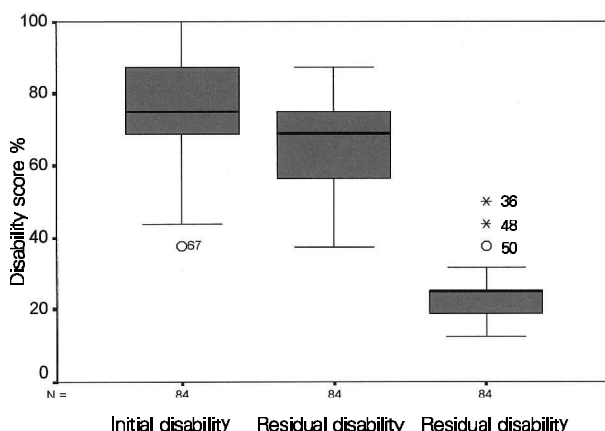


FIG. 9

Disability without aid, with conventional hearing aid and with the BAHA.

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Miss A-L McDermott takes responsibility for the integrity of the content of the paper.

Competing interests: None declared.

Appendix 1

The Glasgow hearing aid benefit profile (GHABP)

GLASGOW HEARING AID BENEFIT PROFILE

Date of Assessment

Date of Review

Hospital Number
Name
Address
.....

Does this situation happen in your life? 0__No 1__Yes		LISTENING TO THE TELEVISION WITH OTHER FAMILY OR FRIENDS WHEN THE VOLUME IS ADJUSTED TO SUIT OR OTHER PEOPLE			
How much difficulty do you have in this situation?	How much does any difficulty in this situation worry, annoy or upset you?	In this situation, what proportion of the time do you wear your hearing aid?	In this situation, how much does your hearing aid help you?	In this situation, <u>with your hearing aid</u> , how much difficulty do you <u>now</u> have?	For this situation, how satisfied are you with your hearing aid?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not at all 2__Only a little 3__A moderate amount 4__Quite a lot 5__Very much indeed	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__Hearing aid no use at all 2__Hearing aid is some help 3__Hearing aid is quite helpful 4__Hearing aid is a great help 5__Hearing is perfect with aid	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not satisfied at all 2__A little satisfied 3__Reasonably satisfied 4__Very satisfied 5__Delighted with aid
Does this situation happen in your life? 0__No 1__Yes		HAVING A CONVERSATION WITH ONE OTHER PERSON WHEN THERE IS NO BACKGROUND NOISE			
How much difficulty do you have in this situation?	How much does any difficulty in this situation worry, annoy or upset you?	In this situation, what proportion of the time do you wear your hearing aid?	In this situation, how much does your hearing aid help you?	In this situation, <u>with your hearing aid</u> , how much difficulty do you <u>now</u> have?	For this situation, how satisfied are you with your hearing aid?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not at all 2__Only a little 3__A moderate amount 4__Quite a lot 5__Very much indeed	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__Hearing aid no use at all 2__Hearing aid is some help 3__Hearing aid is quite helpful 4__Hearing aid is a great help 5__Hearing is perfect with aid	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not satisfied at all 2__A little satisfied 3__Reasonably satisfied 4__Very satisfied 5__Delighted with aid
Does this situation happen in your life? 0__No 1__Yes		CARRYING ON A CONVERSATION IN A BUSY STREET OR SHOP			
How much difficulty do you have in this situation?	How much does any difficulty in this situation worry, annoy or upset you?	In this situation, what proportion of the time do you wear your hearing aid?	In this situation, how much does your hearing aid help you?	In this situation, <u>with your hearing aid</u> , how much difficulty do you <u>now</u> have?	For this situation, how satisfied are you with your hearing aid?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not at all 2__Only a little 3__A moderate amount 4__Quite a lot 5__Very much indeed	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__Hearing aid no use at all 2__Hearing aid is some help 3__Hearing aid is quite helpful 4__Hearing aid is a great help 5__Hearing is perfect with aid	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not satisfied at all 2__A little satisfied 3__Reasonably satisfied 4__Very satisfied 5__Delighted with aid
Does this situation happen in your life? 0__No 1__Yes		HAVING A CONVERSATION WITH SEVERAL PEOPLE IN A GROUP			
How much difficulty do you have in this situation?	How much does any difficulty in this situation worry, annoy or upset you?	In this situation, what proportion of the time do you wear your hearing aid?	In this situation, how much does your hearing aid help you?	In this situation, <u>with your hearing aid</u> , how much difficulty do you <u>now</u> have?	For this situation, how satisfied are you with your hearing aid?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not at all 2__Only a little 3__A moderate amount 4__Quite a lot 5__Very much indeed	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__Hearing aid no use at all 2__Hearing aid is some help 3__Hearing aid is quite helpful 4__Hearing aid is a great help 5__Hearing is perfect with aid	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Not satisfied at all 2__A little satisfied 3__Reasonably satisfied 4__Very satisfied 5__Delighted with aid

Appendix 2

The Glasgow hearing aid difference profile (GHADP)

GLASGOW HEARING AID DIFFERENCE PROFILE

Date of Assessment

Date of Review

Hospital Number
Name
Address
.....

Does this situation happen in your life? 0__No 1__Yes		LISTENING TO THE TELEVISION WITH OTHER FAMILY OR FRIENDS WHEN THE VOLUME IS ADJUSTED TO SUIT OTHER PEOPLE			
With your <u>current</u> hearing aid, how much difficulty do you have in this situation?	In this situation what proportion of the time do you wear your <u>current</u> hearing aid?	In this situation, with your <u>new</u> hearing aid, how much difficulty do you now have?	In this situation, what proportion of the time do you wear your <u>new</u> hearing aid?	In this situation, how much <u>more</u> does your <u>new</u> hearing aid help compared to your previous one?	For this situation, how much <u>more</u> satisfied are you with your <u>new</u> aid than with your previous one?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Greater difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__New aid much worse 2__New aid worse 3__New aid the same 4__New aid better 5__New aid much better	0__N/A 1__Much less satisfied 2__Less satisfied 3__Equally satisfied 4__More satisfied 5__Much more satisfied
Does this situation happen in your life? 0__No 1__Yes		HAVING A CONVERSATION WITH ONE OTHER PERSON WHEN THERE IS NO BACKGROUND NOISE			
With your <u>current</u> hearing aid, how much difficulty do you have in this situation?	In this situation what proportion of the time do you wear your <u>current</u> hearing aid?	In this situation, with your <u>new</u> hearing aid, how much difficulty do you now have?	In this situation, what proportion of the time do you wear your <u>new</u> hearing aid?	In this situation, how much <u>more</u> does your <u>new</u> hearing aid help compared to your previous one?	For this situation, how much <u>more</u> satisfied are you with your <u>new</u> aid than with your previous one?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Greater difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__New aid much worse 2__New aid worse 3__New aid the same 4__New aid better 5__New aid much better	0__N/A 1__Much less satisfied 2__Less satisfied 3__Equally satisfied 4__More satisfied 5__Much more satisfied
Does this situation happen in your life? 0__No 1__Yes		CARRYING ON A CONVERSATION IN A BUSY STREET OR SHOP			
With your <u>current</u> hearing aid, how much difficulty do you have in this situation?	In this situation what proportion of the time do you wear your <u>current</u> hearing aid?	In this situation, with your <u>new</u> hearing aid, how much difficulty do you now have?	In this situation, what proportion of the time do you wear your <u>new</u> hearing aid?	In this situation, how much <u>more</u> does your <u>new</u> hearing aid help compared to your previous one?	For this situation, how much <u>more</u> satisfied are you with your <u>new</u> aid than with your previous one?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Greater difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__New aid much worse 2__New aid worse 3__New aid the same 4__New aid better 5__New aid much better	0__N/A 1__Much less satisfied 2__Less satisfied 3__Equally satisfied 4__More satisfied 5__Much more satisfied
Does this situation happen in your life? 0__No 1__Yes		HAVING A CONVERSATION WITH SEVERAL PEOPLE IN A GROUP			
With your <u>current</u> hearing aid, how much difficulty do you have in this situation?	In this situation what proportion of the time do you wear your <u>current</u> hearing aid?	In this situation, with your <u>new</u> hearing aid, how much difficulty do you now have?	In this situation, what proportion of the time do you wear your <u>new</u> hearing aid?	In this situation, how much <u>more</u> does your <u>new</u> hearing aid help compared to your previous one?	For this situation, how much <u>more</u> satisfied are you with your <u>new</u> aid than with your previous one?
0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Great difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__No difficulty 2__Only slight difficulty 3__Moderate difficulty 4__Greater difficulty 5__Cannot manage at all	0__N/A 1__Never/Not at all 2__About ¼ of the time 3__About ½ of the time 4__About ¾ of the time 5__All the time	0__N/A 1__New aid much worse 2__New aid worse 3__New aid the same 4__New aid better 5__New aid much better	0__N/A 1__Much less satisfied 2__Less satisfied 3__Equally satisfied 4__More satisfied 5__Much more satisfied