

BIMODAL QUESTIONNAIRE

BIM=bimodal users (continued to use the hearing aid aside the CI)
 UNI=unilateral users (discarded the hearing aid aside the CI)

Instructions: By this questionnaire we hope to gain more insight into the advantages and disadvantages of wearing a hearing aid and the reasons why patients do (not) continue to wear a hearing aid. Please answer each question by checking the box that best represents your situation, experience or vision. Feel free to add any comments in the assigned free space or on the back of the page (please add the number of the question).

Remember the period **BEFORE** you received a cochlear implant. These questions ask about your experiences with hearing aids during this period.

1. When did you start wearing hearing aids? (Please indicate year and month if possible)

Right: Left:

2. When did you stop wearing hearing aids? (Please indicate year and month or "I continued to use a hearing aid until surgery")

Right: Left:

3. How much did you wear your hearing aid(s) before your surgery?

			Frequency		Percentage		% Bars	
			BIM	UNI	BIM	UNI	BIM	UNI
Both sides:	more than 10 hours a day	(almost) always	17	13	68,0	61,9		
	5 to 10 hours a day	sometimes	1	2	4,0	9,5		
	less than 5 hours a day	rarely	0	1	0,0	4,8		
		never	7	5	28,0	23,8		
Right:	more than 10 hours a day	(almost) always	2	2	8,0	9,5		
	5 to 10 hours a day	sometimes	0	0	0,0	0,0		
	less than 5 hours a day	rarely	0	0	0,0	0,0		
	never		23	19	92,0	90,5		
Left:	more than 10 hours a day	(almost) always	5	2	20,0	9,5		
	5 to 10 hours a day	sometimes	0	1	0,0	4,8		
	less than 5 hours a day	rarely	0	0	0,0	0,0		
		never	20	18	80,0	85,7		

Question based on....

Fitzpatrick et al. (2010)

4. Could you hear environmental sounds with your hearing aid(s) before your surgery?

		Frequency		Percentage		% Bars	
		BIM	UNI	BIM	UNI	BIM	UNI
	yes	18	19	72,0	86,4		
	no	7	3	28,0	13,6		

Fitzpatrick et al. (2010)

5. Could you understand people talking to you with your hearing aid(s) before your surgery?

			Frequency		Percentage		% Bars	
			BIM	UNI	BIM	UNI	BIM	UNI
With lipreading:	yes		22	18	88,0	81,8		
	no		3	4	12,0	18,2		
Without lipreading:	yes		7	5	28,0	22,7		
	no		18	17	72,0	77,3		

Fitzpatrick et al. (2010)

6. All in all, how helpful was your hearing aid(s)?

		Frequency		Percentage		% Bars	
		BIM	UNI	BIM	UNI	BIM	UNI
	very helpful	14	6	56,0	27,3		
	somewhat helpful	10	6	40,0	27,3		
	rarely helpful	1	8	4,0	36,4		
	not at all helpful	0	2	0,0	9,1		

Fitzpatrick et al. (2010)

7. How do you feel that you coped with your hearing loss before you received your implant?

		Frequency		Percentage		% Bars	
		BIM	UNI	BIM	UNI	BIM	UNI
	well all of the time	2	3	8,0	13,6		
	well much of the time	11	9	44,0	40,9		
	well some of the time	7	7	28,0	31,8		
	not well at all (it really affected me negatively)	5	3	20,0	13,6		

Fitzpatrick et al. (2010)

The following questions deal with your decision process about using a hearing aid with the cochlear implant.

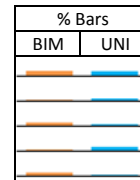
8. Had you made a decision before your surgery about whether you would use your hearing aid with your cochlear implant?

		Frequency		Percentage		% Bars	
		BIM	UNI	BIM	UNI	BIM	UNI
	yes	17	7	65,4	31,8		
	no	9	15	34,6	68,2		

Fitzpatrick et al. (2010)

9. Did your audiologist talk to you about the possibility of wearing your hearing aid with your cochlear implant?

	Frequency		Percentage	
	BIM	UNI	BIM	UNI
yes, before surgery	9	7	34,6	31,8
yes, after surgery	2	4	7,7	18,2
yes, both before and after surgery	6	3	23,1	13,6
no, use of a hearing aid was not discussed	3	6	11,5	27,3
I can't remember	6	2	23,1	9,1



Fitzpatrick et al. (2010)

10. Did your audiologist encourage you to try wearing your hearing aid with your cochlear implant?

	Frequency		Percentage	
	BIM	UNI	BIM	UNI
yes, before surgery	6	1	23,1	4,5
yes, after surgery	5	4	19,2	18,2
yes, both before and after surgery	4	4	15,4	18,2
no	7	9	26,9	40,9
I can't remember	4	4	15,4	18,2

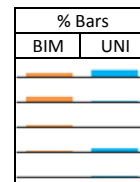


Fitzpatrick et al. (2010)

The following questions deal with your experiences of using a hearing aid **AFTER** you received the cochlear implant.

11. Has the hearing in your un-implanted ear changed since you received your cochlear implant?

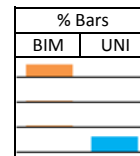
	Frequency		Percentage	
	BIM	UNI	BIM	UNI
don't notice any difference	8	11	30,8	50,0
seems a little worse	10	2	38,5	9,1
seems a little better	4	1	15,4	4,5
seems a lot worse	3	6	11,5	27,3
seems a lot better	1	2	3,8	9,1



Fitzpatrick et al. (2009)

12. How often do you use a hearing aid with your cochlear implant?

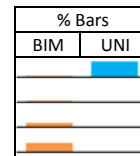
		Frequency		Percentage	
		BIM	UNI	BIM	UNI
more than 10 hours a day	(almost) always	21	0	80,8	0,0
5 to 10 hours a day	sometimes	2	0	7,7	0,0
less than 5 hours a day	rarely	3	0	11,5	0,0
	never	0	22	0,0	100,0



Fitzpatrick et al. (2009)

13. How often do you use only your cochlear implant?

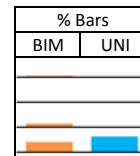
		Frequency		Percentage	
		BIM	UNI	BIM	UNI
more than 10 hours a day	(almost) always	2	22	8,0	100,0
5 to 10 hours a day	sometimes	2	0	8,0	0,0
less than 5 hours a day	rarely	7	0	28,0	0,0
	never	14	0	56,0	0,0



Fitzpatrick et al. (2009)

14. How often do you use only a hearing aid?

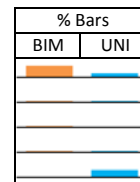
		Frequency		Percentage	
		BIM	UNI	BIM	UNI
more than 10 hours a day	(almost) always	2	0	8,0	0,0
5 to 10 hours a day	sometimes	1	0	4,0	0,0
less than 5 hours a day	rarely	6	0	24,0	0,0
	never	16	22	64,0	100,0



Fitzpatrick et al. (2009)

15. When did you start using your hearing aid and cochlear implant together?

	Frequency		Percentage	
	BIM	UNI	BIM	UNI
right away	20	6	76,9	27,3
within 1 to 3 months of the implant	2	2	7,7	9,1
within 3 to 6 months of the implant	2	1	7,7	4,5
after the first 6 months of the implant	2	2	7,7	9,1
I never tried a hearing aid with the implant	0	11	0,0	50,0

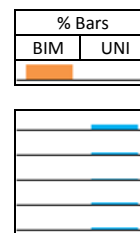


Fitzpatrick et al. (2009)

--> If you never tried a hearing aid with your cochlear implant: go straight on to question 38.

16. After receiving your implant, how long did you use your hearing aid in the other ear?

	Frequency		Percentage	
	BIM	UNI	BIM	UNI
I still use my hearing aid in the other ear	26	0	100,0	0,0
I do no longer use a hearing aid in the other ear, but I did try a hearing aid for:				
more than 6 months	0	4	0,0	36,4
1 to 6 months	0	2	0,0	18,2
1 to 4 weeks	0	1	0,0	9,1
1 to 7 days	0	2	0,0	18,2
less than 1 day	0	2	0,0	18,2



Fitzpatrick et al. (2010)

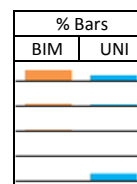
--> Please answer the following questions, even if you no longer use a hearing aid aside your implant. You will be asked about your experiences during the period that you did try the hearing aid.

17. How fast did you adapt to using your hearing aid and cochlear implant together?

right away
 within 1 to 3 months of the implant
 within 3 to 6 months of the implant
 after the first 6 months of the implant
 I couldn't get used to the hearing aid

Frequency	
BIM	UNI
18	4
4	1
2	0
1	0
1	5

Percentage	
BIM	UNI
69,2	40,0
15,4	10,0
7,7	0,0
3,8	0,0
3,8	50,0



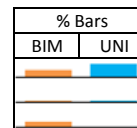
Fitzpatrick et al. (2009)

18. The hearing aid that you used with your cochlear implant, is this the same hearing aid you used before your surgery?

yes
 no, I immediately started with a new hearing aid after surgery
 no, first I used the old hearing aid, but now I have a new hearing aid since.....

Frequency	
BIM	UNI
13	9
3	1
10	0

Percentage	
BIM	UNI
50,0	90,0
11,5	10,0
38,5	0,0



Fitzpatrick et al. (2009)

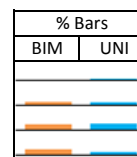
Fitzpatrick et al. (2010)

19. How old was the hearing aid that you used with your cochlear implant?

more than 10 years old
 5 to 10 years old
 3 to 5 years old
 less than 3 years old

Frequency	
BIM	UNI
0	1
6	2
10	4
10	2

Percentage	
BIM	UNI
0,0	11,1
23,1	22,2
38,5	44,4
38,5	22,2



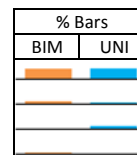
Fitzpatrick et al. (2010)

20. Did you need to have your hearing aid adjusted after using your cochlear implant?

not at all, the same settings that were in place before my surgery were used
 yes, the fitting was changed:
 1 to 3 times
 3 to 6 times
 more than 6 times

Frequency	
BIM	UNI
17	6
5	1
1	2
3	0

Percentage	
BIM	UNI
65,4	66,7
19,2	11,1
3,8	22,2
11,5	0,0



Fitzpatrick et al. (2009)

Fitzpatrick et al. (2010)

These changes were made by:

the audiologist (audiological centre)
 the hearing aid dispenser (shop)

Frequency	
BIM	UNI
4	0
5	2

Percentage	
BIM	UNI
44,4	0,0
55,6	100,0



21. How did you set the volume of your hearing aid and cochlear implant when worn combined? Please check all that apply.

Hearing aid:
 the same as when I use the hearing aid alone
 different compared to when I use the hearing aid alone
 depends on the situation
 I rarely use the volume control on my hearing aid
 I didn't have access to the volume control of my hearing aid

Frequency	
BIM	UNI
17	3
2	2
6	2
8	3
1	1

Percentages cannot be calculated since more than one alternative was possible.

Fitzpatrick et al. (2009)

Cochlear implant:
 the same as when I use the cochlear implant alone
 different compared to when I use the cochlear implant alone
 depends on the situation
 I rarely use the volume control on my cochlear implant
 I didn't have access to the volume control of my cochlear implant

Frequency	
BIM	UNI
17	5
0	1
7	2
7	1
1	1

Percentages cannot be calculated since more than one alternative was possible.

22. How did you adjust the program of your hearing aid and the cochlear implant when worn together? Please check all that apply.

Hearing aid:
 the same as when I use the hearing aid alone
 different compared to when I use the hearing aid alone
 depends on the situation
 I rarely use different programs on my hearing aid
 I don't have access to the program function of my hearing aid

Frequency	
BIM	UNI
18	5
0	0
5	2
5	2
2	1

Percentages cannot be calculated since more than one alternative was possible.

Fitzpatrick et al. (2009)

Cochlear implant:
 the same as when I use the cochlear implant alone
 different compared to when I use the cochlear implant alone
 depends on the situation
 I rarely use different programs on my cochlear implant
 I don't have access to the program function of my cochlear implant

Frequency	
BIM	UNI
15	7
1	1
10	3
6	0
1	0

Percentages cannot be calculated since more than one alternative was possible.

23. In which of the following settings did you wear your hearing aid with your cochlear implant? Please check all that apply.

I use(d) my hearing aid at work
 I use(d) my hearing aid at home
 I use(d) my hearing aid everywhere I went

Frequency	
BIM	UNI
1	0
3	5
23	5

Percentages cannot be calculated since more than one alternative was possible.

Fitzpatrick et al. (2010)

24. In wich of the following listening conditions did you wear your hearing aid with your cochlear implant? Please check all that apply.

Fitzpatrick et al. (2010)

	Frequency		
	BIM	UNI	
I use(d) my hearing aid in noisy situations	22	4	Percentages cannot be calculated since more than one alternative was possible.
I use(d) my hearing aid in quiet situations	25	9	
I use(d) my hearing aid when listening to music	22	5	
other listening situations:	0	0	

25. In quiet listening situations (e.g. a 1-on-1 conversation), you hear better with your:

Fitzpatrick et al. (2009)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
cochlear implant only	0	6	0,0	60,0		
hearing aid only	0	0	0,0	0,0		
cochlear implant and hearing aid together	25	0	100,0	0,0		
no difference with any of the above	0	4	0,0	40,0		

26. In noisy situations (e.g. in a restaurant, at a party, shopping center, in a large group discussion), you hear better with your:

Fitzpatrick et al. (2009)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
cochlear implant only	0	5	0,0	55,6		
hearing aid only	2	0	7,7	0,0		
cochlear implant and hearing aid together	20	2	76,9	22,2		
no difference with any of the above	4	2	15,4	22,2		

27. In places with an echo (e.g. church, auditorium), you hear better with your:

Fitzpatrick et al. (2009)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
cochlear implant only	2	6	7,7	85,7		
hearing aid only	1	0	3,8	0,0		
cochlear implant and hearing aid together	15	0	57,7	0,0		
no difference with any of the above	8	1	30,8	14,3		

28. Music sounds best with your:

Fitzpatrick et al. (2009)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
cochlear implant only	1	6	3,8	85,7		
hearing aid only	1	0	3,8	0,0		
cochlear implant and hearing aid together	20	0	76,9	0,0		
no difference with any of the above	4	1	15,4	14,3		

29. Telling from which direction sounds are coming is easier with your:

Fitzpatrick et al. (2009)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
cochlear implant only	2	4	7,7	50,0		
hearing aid only	1	0	3,8	0,0		
cochlear implant and hearing aid together	13	1	50,0	12,5		
no difference with any of the above	10	3	38,5	37,5		

30. Are there certain sounds that you hear better (or worse) when wearing your hearing aid and cochlear implant together? Describe which sounds, e.g. sounds in the environment (e.g. telephone, water), speech sounds (e.g. consonants, vowels, quiet voices, etc.)

Fitzpatrick et al. (2009)

31. Please use the space below and the reverse side of this page to share any additional information about how you feel that using a hearing aid and cochlear implant together helps or hinders listening and communication.

Fitzpatrick et al. (2009)

32. When you are using your hearing aid and cochlear implant together, where do you perceive sound?

Tyler et al. (2002)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
in the middle of your head	8	0	34,8	0,0		
closer to the the ear with cochlear implant	8	3	34,8	33,3		
closer to the ear with hearing aid	1	0	4,3	0,0		
separaty in both ears	5	5	21,7	55,6		
depends on the situation	1	1	4,3	11,1		

33. When you are using your hearing aid and cochlear implant together, where is the sound louder?

Tyler et al. (2002)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
in the cochlear implant ear	15	7	65,2	77,8		
in the hearing aid ear	1	1	4,3	11,1		
same loudness in both ears	7	1	30,4	11,1		
depends on the situation	0	0	0,0	0,0		

34. When using the cochlear implant and hearing aid together, does the sound "fuse" or "join" to become one image?

Tyler et al. (2002)

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
yes, it fuses together to become one image	16	1	66,7	11,1		
no, I hear two separate images	5	7	20,8	77,8		
different, namely:	3	1	12,5	11,1		

35. Which ear contributes most to understanding speech?

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
especially the cochlear implant ear	12	10	46,2	100,0		
rather the cochlear implant ear	2	0	7,7	0,0		
the hearing aid and cochlear implant ear add equally	9	0	34,6	0,0		
rather the hearing aid ear	1	0	3,8	0,0		
especially the hearing aid ear	2	0	7,7	0,0		

36. Considering everything, do you think your hearing aside the cochlear implant is worth the trouble?

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
no, not worthwhile at all	1	7	3,8	77,8		
a bit worthwhile	2	1	7,7	11,1		
reasonably worthwhile	4	0	15,4	0,0		
really worthwhile	8	1	30,8	11,1		
extremely worthwhile	11	0	42,3	0,0		

Cox et al. (2002)

37. Considering everything, how much has your hearing aid aside the cochlear implant changed your enjoyment in life?

	Frequency		Percentage		% Bars	
	BIM	UNI	BIM	UNI	BIM	UNI
worse	0	3	0,0	33,3		
no difference	2	5	7,7	55,6		
a bit better	5	0	19,2	0,0		
better	7	0	26,9	0,0		
much better	12	1	46,2	11,1		

Cox et al. (2002)

38. List the 3 factors that most influenced your decision (not) to use year hearing aid with the cochlear implant (from 1 to 3 in order of importance).

1.
2.
3.

Fitzpatrick et al. (2010)

39. Please feel free to share any additional information concerning the reasons why you decided (not) to wear your hearing aid in conjunction with your

Fitzpatrick et al. (2010)

Bibliography

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