

# PRE-CI COUNSELING MODULE - ADIP CI PROGRAM

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## Foreword

As an apex institute for re/habilitation of individuals with speech and hearing disabilities, AYJNISHD(D) is committed to improve the quality of life of ALL including young deaf and hard of hearing children across the country. In this journey, Institute has been implementing various schemes and projects of DEPwDs, MSJE, New Delhi. Over these years, we have experienced that every re/habilitation service relies on technology in big and small ways. As technology evolves, re/habilitation services have an overriding need to incorporate some form of technology. The latest addition in the Scheme of Assistance to Disabled Persons for purchase/fitting of aids and appliances (ADIP scheme) is the cochlear implantation (CI) of children. AYJNISHD(D) being an autonomous body under the DEPwDs, MSJE was made the nodal agency for implementation of ADIP CI scheme. The institute with its long-standing experience in the field of hearing impairment has built robust service delivery models and has empaneled hospitals and rehabilitation professionals to reach out to the needy families. A total of 2,800 children are benefitted and are progressing towards mainstreaming.

As a nodal agency, AYJNISHD(D) is committed to empower the professionals in order to improve the quality of services offered to children and their families at every stage of implementation of ADIP CI scheme. In the last year, we have conducted zonal ENT surgeons meet and also empowered rehabilitation professionals in Auditory Verbal Therapy. The latest addition is the development of pre cochlear Implant (pre-CI) counselling module.

As Director of AYJNISHD(D), I appreciate TEAM ADIP CI for materializing the idea of having a comprehensive module of pre-CI counselling. This module can be a good reference material for audiologists while counselling the families of young children to be implanted under ADIP CI scheme. The content, illustrations and the mode of presentation followed by the authors will surely bring greater satisfaction to the users. I am sure that this module will surely bridge the existing gaps in the pre-CI counselling services offered by the audiologists empaneled under ADIP CI across the country.

DR. SUNI MARIAM MATHEW  
DIRECTOR, AYJNISHD(D)

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## Acknowledgements

First and foremost we thank the Department of Empowerment of Persons with Disabilities under the Ministry of Social justice and Empowerment, Government of India for implementing the ADIP scheme for facilitating cochlear implantation of children with hearing from lower socio economic group. More than 2,800 children have been benefitted from this scheme.

We immensely thank our institute Director, Dr. Suni Mathew who had conceptualized the idea of this “Pre CI module” for Audiologists providing services to ADIP CI scheme beneficiaries and supported us in all ways and means to complete the module.

We thank the empanelled Audiologists and Rehabilitation professionals involved in the assessment and management of the ADIP CI beneficiaries across the country. This module has paved its way for the support of empanelled audiologists to offer best practices in pre CI counselling of families of prospective CI beneficiaries.

This module could not have been completed without the validation from empanelled audiologists who have been associated with ADIP scheme right from the outset: Mr. Chandan Saha (East Zone), Mr. Rahul Hemant Vaidya (West Central Zone), Ms. Ramya Kopooria (North Zone), Ms. Rojina Nongmaithem (North East Zone), and Mr. Shiva Prasad (South Zone). All your valuable comments have allowed us to make progress in this project.

In the process of developing this module the contribution of audiologists Ms. Gauri Telang, and Ms. Pranjali Ujawane of Department of Audiology, AYJNISHD(D), Mumbai towards content validity is highly appreciated.

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Last but not the least we thank all the ADIP CI beneficiaries who ignite in us the flame for achieving best practice in the services provided to them.



## Introduction

According to World Health Organization (WHO) (2018), over 5% of the world's population – or 466 million people – have disabling hearing loss (432 million adults and 34 million children). The prevalence of hearing loss is reportedly greatest in South Asia, Asia Pacific and sub-Saharan Africa. According to WHO (2018) data, the prevalence of hearing impairment (HI) in India is around 6.3% (63 million people suffering from significant hearing loss). The estimated prevalence of adult-onset deafness in India is 7.6% and childhood-onset deafness is 2%.

Cochlear implantation as a treatment option for persons with severe to profound hearing loss has been available in India since the last three decades. However, due to various reasons, mainly financial aspects, the technology was not easily available to all eligible persons in the early years. Cochlear implant device is not just initially expensive, its maintenance over the lifetime of the recipient is an equally daunting task. Over the years, various funding resources have been available to persons with hearing loss to access such an expensive technology.

Considering the high prevalence of childhood hearing loss in the country, and the expenditure involved in the well-accepted technology of cochlear implantation, Government of India has taken proactive action in providing cochlear implantation to eligible pediatric beneficiaries at no cost or concessional rates. This is the flagship program of the Department for Empowerment of Persons with Disabilities (DEPwD) under the Ministry of Social Justice and Empowerment (MoSJE) and is referred to as the Revised ADIP Scheme (2014). As a part of this scheme, several hospitals, surgeons, habilitation professionals and centers have been empaneled.

Though beneficiaries of this scheme receive the cochlear implant and significant post implant services free of cost, getting a cochlear implant for a child is a big decision for the family. Parents and the family have a lot to think about and consider before they decide to get the cochlear implant

for their child. There are several aspects to be considered before making this decision, as this is a life-altering decision not only for the recipient, but also for the significant others and the family. In order to make sure that the family has fully understood the dynamics involved in the decision of getting a cochlear implant for their child, pre-cochlear implant (pre-CI) counseling is recommended.

Pre-CI counseling is what happens prior to the family's decision of getting a cochlear implant for their child. It should be provided during the cochlear implant candidacy assessment by the cochlear implant team to ensure that the family has complete information about the aspects involved before, during and after the implantation. The professionals can help in setting realistic expectations and identifying any specific concerns for a given child. **Thorough pre-CI counseling is an important step in preparing families to fully understand the long-term implications and in facilitating optimum outcomes from an implanted child.**

## **Aims of pre-CI counseling**

The main aims to be fulfilled during the pre-CI counseling sessions are as outlined below:

- To convey the results of the cochlear implant candidacy assessment and discuss the child's status of functioning in the various areas assessed
- To discuss the candidacy of the individual child and convey if he/she is a candidate for cochlear implantation or not
- To discuss the positive and negative factors influencing outcomes specifically in the given child
- To discuss the expected outcomes keeping in mind the specific factors pertaining to the given child
- To give an orientation to the parts and functioning of a cochlear implant
- To provide information about the different devices and their accessories
- To provide detailed information about the costs involved for various aspects - immediate and recurring expenses

- To emphasize the need for long-term programming and habilitation services following the implantation
- To discuss the further procedures involved

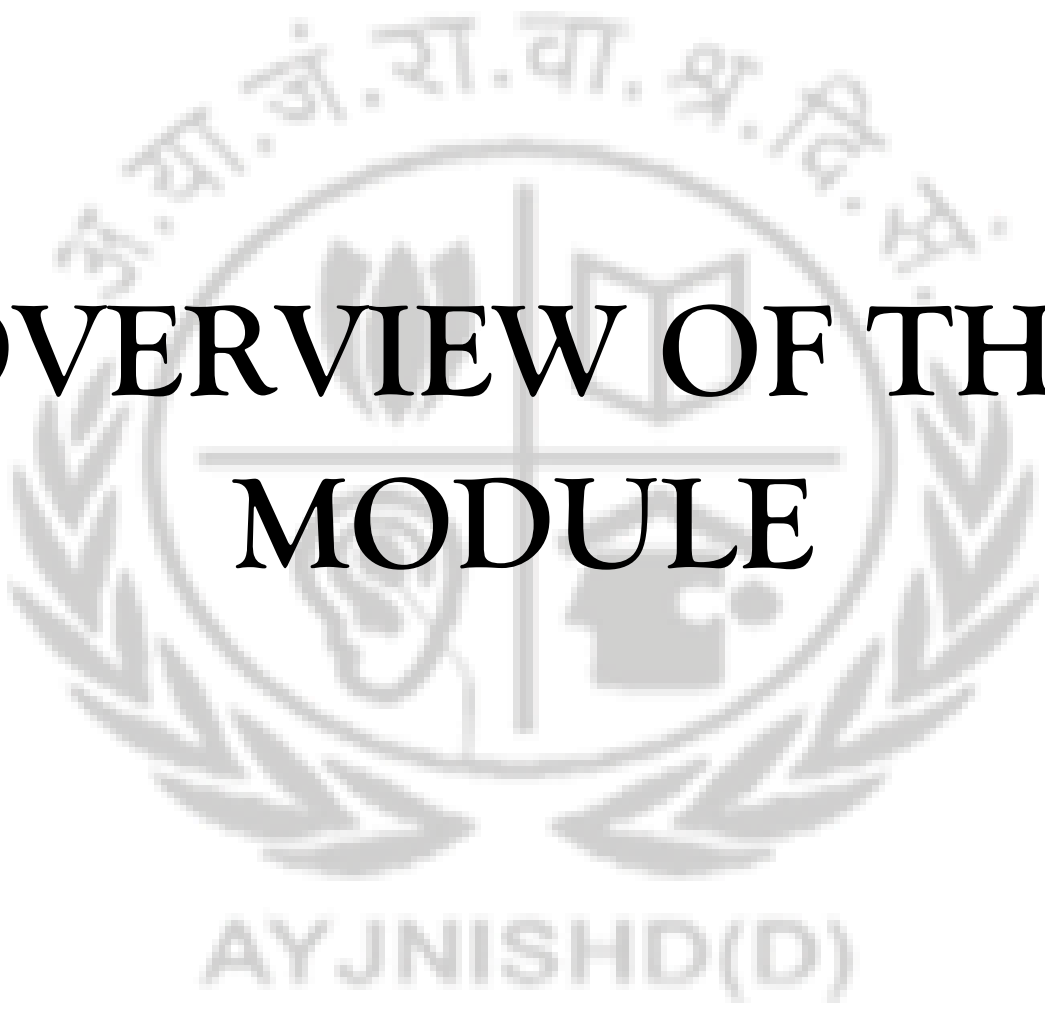
## **Pre-CI Counseling Module**

As a step towards ensuring adequate preparation of families of prospective ADIP CI recipients and maintaining uniformity in the pre-CI counseling being carried out across the empaneled centers, AYJNISHD(D) has developed this module for audiology professionals empaneled under the scheme. It is an attempt to put together requisite areas for pre-CI counseling, identify points in each of the areas and provide comprehensive resources that can be used while providing information about these aspects to families. The module promotes systematic approach towards pre-CI counseling of families and focusses on four main elements:

1. Assessment of pre-CI expectations of families
2. Providing in-depth counseling using varied resources
3. Assessment of expectations after counseling has been provided
4. Assessment of recall and understanding of information provided during the counseling sessions

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# OVERVIEW OF THE MODULE

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## Contents of the module

Keeping in with the above four tenets, the module consists of the following:

1. Content Booklet: The various areas to be covered during the informational counseling sessions and the detailed points to be covered in each area are detailed here.
2. Resource Booklet: These include variety of appropriate material, pictures, audiovisuals, models, pamphlets that can be used for explaining the various points to the family members.
3. Proforma: Pre-CI counseling proforma (Appendix 1) has been provided to uniformly record information about the prospective children whose families are being counselled and to document the information provided in the various areas to be covered during the sessions. Each clinician/center can make copies of the proforma and maintain hard copies of the filled up proformas for each child after the sessions are conducted.
4. Questionnaires: Formats have been developed in English and Hindi for a) Expectation questionnaire (Appendix 2) and b) Recall and understanding questionnaire (Appendix 3). Again, center can make copies of the questionnaires, translate them in regional languages as necessary and maintain the records in each child's file.
5. Video of Pre-CI Counseling Session: A recorded video of pre-CI counseling sessions in progress is included for novice professionals to get a demonstration

## General Points to Remember

- To be effective, counselling needs to be provided by a well-informed professional over a period of time. Pre-CI counselling thus need not be completed in a single session. In fact, most often 1 to 2 sessions of an hour each are required for giving complete information.
- Both parents at least should be present for the session. Other family members are welcome if they are the part of decision-making process. As often happens in the Indian context, elders from the family are the decision makers and they need to be provided with all the relevant information to facilitate appropriate decision-making.

- It is desirable that the key professionals from the cochlear implant team i.e. surgeon, audiologist, habilitationist, social worker be present during the counselling sessions, at least during the time specific issues pertaining to the child are being discussed. However, it may not be feasible every time or in each setup. It is common in most cochlear implant programs for the audiologist to conduct the pre-CI counselling sessions as the audiologist is the co-ordinator of the program. The current module is designed keeping in view that sessions will be conducted by an audiologist.
- If counselling is done in two sessions, keep a space of 3-4 days to a week between sessions so one can check understanding and retention of previous information. Parents also get adequate time to consider the points discussed in the earlier session and ask questions based on that during their next visit.
- Families should be provided with an opportunity to meet other families of children who have been implanted and have clinical factors similar to their child (i.e. similar age, similar hearing aid benefit, similar audiological results) so that they can discuss their concerns, get information of their experiences and develop realistic expectations.
- Counselor/audiologist needs to adopt and maintain a listening approach and listen to parents non-judgmentally. Provide time and support so that all their queries, concerns, and fears are addressed appropriately.
- Information should be provided in simple, non-technical language and in a sensitive manner.
- The approach to the counseling should not be a persuasive one (where the clinician is persuading parents to take a decision to go ahead with CI), but a two-way communication and discussion between the family and the clinician. Decisions taken by parents need to be supported by the audiologist. In the context of ADIP CI program, if a family decides to not opt for an implant despite getting it free of cost for their own reasons such as poor ability to maintain the device or skepticism about surgery in a young child, the audiologist should respect their decision and understand their reasons for doing so.

## Steps in Conducting Pre-CI Counseling

1. Administer pre-CI expectation questionnaire. Discuss with the parents their main expectations at the outset.
2. Conduct pre-CI counseling sessions as outlined in the content below and following the general guidelines stated above.
3. Administer post-CI expectation questionnaire. Highlight the differences between the expectations before and after the parents have been provided with relevant information. Clear any doubts or any unrealistic expectations that may still continue to exist.
4. Administer recall and understanding questionnaire. This may be done immediately after completion of the pre-CI counseling sessions to assess immediate recall or 8 to 10 days after the counseling sessions to assess delayed recall.





# **CONTENT BOOKLET**

## Content Areas for Pre-CI Counseling

1. Process of hearing
2. Explanation of Audiological findings
3. Explanation of findings of related assessments (communication, psychological, listening, any other associated issues)
4. Speech banana
5. Aided audiogram
6. Critical period
7. Importance of pre-implant habilitation and hearing aid use
8. Does your child need a cochlear implant, and why?
9. Orientation to Cochlear Implant
10. Pre-Surgical Work-up and tests
11. Cochlear Implant Surgery
12. Switch-on and Mapping
13. Post Cochlear Implant therapy
14. Warranty details
15. Costs involved in post-CI – accessories, servicing, repair, upgrade, loss of processor
16. Factors influencing outcomes in specific child (GOSH-CHIP)
17. Expected outcomes
18. ADIP scheme guidelines
19. Hospitals and centers empaneled under ADIP

## 1) Process of hearing

Points to explain about		<ul style="list-style-type: none"> <li>• The three main parts of ear</li> <li>• The process of hearing</li> <li>• Stress that presence of cochlea and auditory nerve are pre-requisites for cochlear implantation</li> <li>• What happens when there is cochlear/nerve abnormality?</li> </ul>
Key points		Role of cochlea, Role of auditory nerve in hearing
Resources	1a	Diagram showing parts of the human ear (Source: <a href="https://www.hearinglink.org/your-hearing/about-hearing/how-the-ear-works/">https://www.hearinglink.org/your-hearing/about-hearing/how-the-ear-works/</a> )
	1b	Videos showing the process of hearing <a href="https://www.youtube.com/watch?v=CacPQK6gI6Y">https://www.youtube.com/watch?v=CacPQK6gI6Y</a> <a href="https://www.youtube.com/watch?v=eOXuM1J8wNs">https://www.youtube.com/watch?v=eOXuM1J8wNs</a>
Test their Understanding	1c	Use Resource 1c and ask parents to name the important parts of the ear. Ask them what are the structures that are pre-requisites for CI.

## 2) Explanation of Audiological findings

Points to explain about		<ul style="list-style-type: none"> <li>• Degree of hearing loss</li> <li>• Type of hearing loss</li> <li>• Site of lesion</li> <li>• Probable cause of hearing loss</li> <li>• Contrast the findings with those of typically hearing children</li> </ul>
Key points		BOA, PTA, OAE, BERA/ABR, Type of hearing loss, degree of hearing loss, site of lesion
Resources	2a	Client's audiogram showing severe to profound hearing loss
	2b	Audiogram of hearing sensitivity within normal limits and contrast the findings with client's audiogram
Test their Understanding		<ul style="list-style-type: none"> <li>• Which tests were done for your child?</li> <li>• What is your child's degree of hearing loss?</li> <li>• What is your child's type of hearing loss?</li> </ul>

3) Explanation of findings of related assessments (communication, psychological, listening, and any other associated issues)

Points to explain about		<ul style="list-style-type: none"> <li>• The need for speech and language evaluation</li> <li>• Explain the connection between hearing and speech</li> <li>• Compare the child's speech findings with the normal speech and language developmental milestones chart</li> <li>• The importance of psychological evaluation findings</li> <li>• Explain the results of any other evaluations that are done</li> <li>• Need for genetic testing and counseling</li> </ul>
Key points		Comprehension, expression, mental status, IQ, cognitive skills
Resources	3a	<p>The chart of normal speech and language developmental milestones</p> <p>(Source: <a href="http://www.kiddy123.com/article/why-cant-my-child-talk.html">http://www.kiddy123.com/article/why-cant-my-child-talk.html</a>)</p>
	3b	<p>Utilizing the resource 3a and show the child's current speech and language level</p> <p>(Source: <a href="http://www.kiddy123.com/article/why-cant-my-child-talk.html">http://www.kiddy123.com/article/why-cant-my-child-talk.html</a>)</p>
Test their Understanding		<ul style="list-style-type: none"> <li>• Why is there a delay in your child's speech and language development?</li> <li>• What is the level of speech and language of your child?</li> <li>• What is the intellectual level of your child?</li> <li>• Does hearing loss affect child's cognitive abilities?</li> </ul>



#### 4) Speech banana

Points to explain about		<ul style="list-style-type: none"> <li>Describe what speech banana is</li> <li>Explain where the sounds occur on an audiogram in the view of speech banana</li> <li>Importance of hearing right at the top of the speech banana. Concept of Speech String Bean by Jane Madell.</li> <li>Use of SHARP (Situational Hearing Aid Response Profile)</li> </ul>
Key points		Visual tool, soft sounds, phonemes, environmental sounds
Resources	4a	Audiogram showing speech banana and different sounds (Source : <a href="https://earcommunity.org/hearing-loss/emotional-support/how-to-explain-hearing-loss/">https://earcommunity.org/hearing-loss/emotional-support/how-to-explain-hearing-loss/</a> )
	4b	Speech String Bean concept Source: <a href="http://www.janemadell.com/publications/Checking%20For%20Audibility%20in%20School.pdf">http://www.janemadell.com/publications/Checking%20For%20Audibility%20in%20School.pdf</a>
	4c	SHARP Source: <a href="http://audres.org/rc/sharp/">http://audres.org/rc/sharp/</a>
Test their Understanding		<ul style="list-style-type: none"> <li>What does speech banana show on an audiogram?</li> <li>What is the importance of the speech banana on an audiogram?</li> </ul>

#### 5) Aided audiogram

Points to explain about		<ul style="list-style-type: none"> <li>Explain aided and unaided audiogram</li> <li>Show the benefit with hearing aid</li> <li>Explain the aided and unaided audiogram findings in context with a speech banana</li> <li>The importance of aided thresholds to be on the upper end of the speech banana for speech development</li> </ul>
Key points		Speech banana, unaided thresholds, aided thresholds
Resource	5a	Diagram showing aided and unaided audiogram of the child
Test their Understanding		<ul style="list-style-type: none"> <li>What sounds is your child able to hear without hearing aid fitting?</li> <li>Where do your child's responses fall with hearing aid on audiogram?</li> <li>What level of speech will your child be able to hear after hearing aid fitting?</li> </ul>

## 6) Critical period

Points to explain about		<ul style="list-style-type: none"><li>• Explain what critical period is</li><li>• The importance of critical period and early intervention</li><li>• Auditory deprivation and the factors leading to auditory deprivation</li><li>• Highlight hearing loss as a neurological emergency in a true sense</li></ul>
Key points		First language, auditory training, untreated hearing loss, early intervention, early implantation
Resources	6a	A comprehensible chart showing the importance of critical age in learning language (Source: <a href="https://www.theentclinic.net/cochlearimplantprogram.htm">https://www.theentclinic.net/cochlearimplantprogram.htm</a> )
Test their Understanding		<ul style="list-style-type: none"><li>• What is the period of critical age?</li><li>• Why is critical age important in learning speech and language?</li><li>• What is auditory deprivation?</li></ul>

## 7) Importance of pre-implant habilitation and hearing aid use

Points to explain about		<ul style="list-style-type: none"><li>• The need of using hearing aid and attending therapy prior to surgery</li><li>• Explain the focus of speech therapy and its importance</li><li>• Explain the focus of auditory verbal therapy</li></ul>
Key points		Pre-implant habilitation, intervention, prognosis
Resources	7a	Picture showing the speech therapy setup (Source: <a href="https://docplayer.net/59170321-Compendium-of-ayjnihh.html">https://docplayer.net/59170321-Compendium-of-ayjnihh.html</a> )
Test their Understanding		<ul style="list-style-type: none"><li>• Why does your child need to attend speech and language therapy when he/she is receiving limited benefit with hearing aid?</li><li>• What is the importance of using hearing aid and attending speech and language therapy prior to the surgery?</li></ul>

## 8) Does your child need a cochlear implant, and why?

Points to explain about		<ul style="list-style-type: none"> <li>Hearing v/s Listening</li> <li>The limited benefits received through amplification devices and its effect on speech and language development and various other aspects.</li> <li>What is cochlear implant and the benefits of implantation</li> <li>Show the level at which the child would be able to hear with cochlear implant in view of the speech banana.</li> </ul>
Key points		Hearing aids' limitation, cochlear implant, severity of hearing loss, post cochlear implant rehabilitation, speech banana
Resources	8a	Diagram showing candidacy criteria for CI for children Source: <a href="https://www.hearingreview.com/hearing-products/implants-bone-conduction/cochlear-implants/identifying-cochlear-implant-candidates-in-the-hearing-aid-dispensing-practice">https://www.hearingreview.com/hearing-products/implants-bone-conduction/cochlear-implants/identifying-cochlear-implant-candidates-in-the-hearing-aid-dispensing-practice</a>
	8b	Diagram showing a CI-assisted audiogram
Test their Understanding		<ul style="list-style-type: none"> <li>What level would your child hear with cochlear implant?</li> <li>What are some benefits of implantation?</li> </ul>

## 9) Orientation to Cochlear Implant

Points to explain about		<ul style="list-style-type: none"> <li>Cochlear implant</li> <li>Parts of cochlear implant</li> <li>Working of cochlear implant</li> <li>Compare and contrast the functioning of cochlear implant with other amplification devices</li> </ul>
Key points		Internal component, external component, auditory nerve, electrical stimulation, hearing aid device
Resources	9a	Picture of a child with cochlear implant (Source: <a href="http://adipcochlearimplant.in/">http://adipcochlearimplant.in/</a> )
	9b	Internal components of cochlear implant (Source: <a href="https://www.researchgate.net/figure/Cochlear-implant-internal-part_fig4_265255384">https://www.researchgate.net/figure/Cochlear-implant-internal-part_fig4_265255384</a> )
	9c	External components of cochlear implant (Source: <a href="https://www.cochlear.com/us/en/professionals/products/cochlear-implants/products">https://www.cochlear.com/us/en/professionals/products/cochlear-implants/products</a> )

	9d	Show cochlear implant dummy models using the demonstration kits of different companies by highlighting the difference for each
	9e	Show how the cochlear implant works using a video (Source: <a href="https://www.cochlear.com/in/en/home/diagnosis-and-treatment/how-cochlear-solutions-work/cochlear-implants/how-cochlear-implants-work">https://www.cochlear.com/in/en/home/diagnosis-and-treatment/how-cochlear-solutions-work/cochlear-implants/how-cochlear-implants-work</a> )
	9f	Show the difference between cochlear implant and other amplification devices (Source: <a href="http://www.personal.psu.edu/bmb5873/Assignment%206.html">http://www.personal.psu.edu/bmb5873/Assignment%206.html</a> )
Test their Understanding		<ul style="list-style-type: none"> <li>• How would a cochlear implant differ from hearing aid?</li> <li>• Show and name few parts of cochlear implant?</li> <li>• What are the few advantages of cochlear implant over hearing aid?</li> </ul>

## 10) Pre-Surgical Work-up and tests

Points to Explain about		<ul style="list-style-type: none"> <li>• Different radiological tests and medical tests</li> <li>• Importance of radiological evaluation findings</li> <li>• Provide the information about pre anesthesia work-up</li> <li>• Cost involved</li> </ul>
Key points		MRI, CT scan, vaccinations, blood test, physical examination, anesthesia, fitness
Resources	10a	Pictures showing CT scan and MRI scan (Source: <a href="https://www.healthline.com/health/ct-scan-vs-mri">https://www.healthline.com/health/ct-scan-vs-mri</a> )
Test their Understanding		<ul style="list-style-type: none"> <li>• Why are radiological tests needed prior to the surgery?</li> <li>• What do you think vaccinations are recommended prior to surgery?</li> <li>• What is need for child's blood test?</li> </ul>

## 11) Cochlear Implant Surgery

Points to Explain about		<ul style="list-style-type: none"> <li>• Explain about the hospitalization</li> <li>• Place of incision</li> <li>• Duration of surgery</li> <li>• Risks of cochlear implant surgery</li> <li>• Management for the post implant complications</li> </ul>
Key points		Cochlear implant surgery, placement, duration, complications
Resources	11a	Animated video showing cochlear implant surgery (Source: <a href="https://www.youtube.com/watch?v=QBi1Bij39H8">https://www.youtube.com/watch?v=QBi1Bij39H8</a> )
	11b	<ul style="list-style-type: none"> <li>• Picture showing incision after surgery</li> </ul> (Source: <a href="https://entokey.com/implantable-hearing-devices/">https://entokey.com/implantable-hearing-devices/</a> )
Test their Understanding		<ul style="list-style-type: none"> <li>• Where will the implant be placed during the cochlear implant surgery?</li> <li>• How many days of hospitalization would the surgery need?</li> <li>• How long does a cochlear implantation surgery take?</li> <li>• What is the approximate healing period of the incision site?</li> <li>• What are the possible complications during the surgery?</li> </ul>

## 12) Switch-on and Mapping

Points to Explain about		<ul style="list-style-type: none"> <li>• Switch-on</li> <li>• When the switch-on is to be done</li> <li>• Mapping</li> <li>• Importance of mapping</li> <li>• Schedule for mapping</li> </ul>
Key points		Switch-on, care and maintenance, mapping, cochlear implant
Resources	12a	Picture of cochlear implant mapping setting
	12b	Pictures showing mapping screens of different companies
Test their Understanding		<ul style="list-style-type: none"> <li>• What do you understand by switch-on?</li> <li>• Why does your child need mapping?</li> </ul>

### 13) Post-CI therapy

Points to Explain about		<ul style="list-style-type: none"> <li>• Importance of Post CI Therapy</li> <li>• Duration and sessions for speech therapy</li> <li>• Facilities under ADIP scheme for post cochlear implant therapy</li> <li>• Role of family members</li> </ul>
Key points		Speech and language therapy, Auditory Verbal therapy, ADIP, cost, activities, goals, sessions, family members
Resource	13a	<ul style="list-style-type: none"> <li>• Post Cochlear Implant therapy</li> </ul> (Source: <a href="https://docplayer.net/59170321-Compendium-of-ayjnihh.html">https://docplayer.net/59170321-Compendium-of-ayjnihh.html</a> )
Test their Understanding		<ul style="list-style-type: none"> <li>• How many times will you attend speech therapy in a week?</li> <li>• What is the importance of attending speech therapy?</li> <li>• Would speech therapy be helpful for the child's speech development?</li> </ul>

### 14) Warranty details

Points to Explain about		<ul style="list-style-type: none"> <li>• Details of the warranty period</li> <li>• Terms and conditions of warranty for specific parts</li> <li>• Cost of spares that are not covered by warranty under ADIP scheme</li> <li>• Implant reliability</li> <li>• Warranty terms and costs of spares subject to change by company</li> </ul>
Key points		External components, internal components, cost, ADIP
Resource	14a	At present, two are supplied under ADIP (Subject to change w.r.t. tender process) <ul style="list-style-type: none"> <li>• Cochlear – warrant statement from company (Source: <a href="https://www.cochlear.com/in/en/home">https://www.cochlear.com/in/en/home</a>)</li> <li>• Digisonic – warrant statement from company (Source: <a href="https://www.oticonmedical.com/about-oticon-medical">https://www.oticonmedical.com/about-oticon-medical</a>)</li> </ul>
Test their Understanding		<ul style="list-style-type: none"> <li>• Does your child's cochlear implant have any warranty?</li> <li>• Which parts are covered under warranty?</li> <li>• How long does warranty of the external processor last?</li> </ul>

### 15) Costs involved in post-CI – accessories, servicing, repair, upgrade, loss of processor

Points to Explain about		<ul style="list-style-type: none"> <li>• Cost involved in servicing and repairing</li> <li>• The average amount that needs to be saved per year</li> <li>• The overall cost for the batteries</li> <li>• Processor replacement if it goes for repair</li> <li>• Company is responsible for all the product related issues</li> <li>• Need for processor upgrades – specific dates of obsolescence if any</li> </ul>
Key points		Accessories, internal and external component, ADIP scheme
Resources	15a	<ul style="list-style-type: none"> <li>• Cochlear website – Accessory price list (Source: <a href="https://www.cochlear.com/in/en/home">https://www.cochlear.com/in/en/home</a>)</li> </ul>
	15b	<ul style="list-style-type: none"> <li>• Digisonic website – Accessory price list (Source: <a href="https://www.oticonmedical.com/about-oticon-medical">https://www.oticonmedical.com/about-oticon-medical</a>)</li> </ul>
Test their Understanding		After the warranty, what is the expected annual maintenance cost?

### 16) Factors influencing outcomes in specific child (GOSH-CHIP)

Points to Explain about		Factors influencing the outcomes and performance of the child after implant
Key points		Prognosis, outcomes, GOSH ChIP
Resources	16a	Children's Implant Profile (ChIP)
Test their Understanding		What factors you think will influence the outcome in the development of speech and language skills in your child?

### 17) Expected outcomes

Points to Explain about		Keeping the view of the factors influencing the child describe the expected outcomes
Key points		Speech development, rehabilitation, role of parents, prognosis
Resources	17a	Use GOSH ChIP result to identify the outcomes
Test their Understanding		<ul style="list-style-type: none"> <li>• What will be your child's understanding of speech after surgery?</li> <li>• What do you expect from cochlear implant surgery?</li> </ul>

## 18) ADIP scheme guidelines

Points to Explain about		<ul style="list-style-type: none"><li>• Guidelines under ADIP scheme</li><li>• Eligibility</li><li>• Criteria</li><li>• Facilities provided under ADIP scheme</li></ul>
Key points		ADIP scheme, guidelines, costs, radiological evaluations, facilities
Resources	18a	ADIP scheme guidelines (Sources: <a href="http://adipcochlearimplant.in/ADIP-scheme.aspx">http://adipcochlearimplant.in/ADIP-scheme.aspx</a> )
Test their Understanding		What are the documents required for applying for CI under ADIP?

## 19) Hospitals and centers empaneled under ADIP

Points to Explain about		List of centers and hospitals empaneled under ADIP scheme
Key points		ADIP, government hospitals, private hospital, cost, facilities
Resources	19a	ADIP scheme - List of empaneled therapy and mapping centers (Sources: <a href="http://adipcochlearimplant.in/ADIP-scheme.aspx">http://adipcochlearimplant.in/ADIP-scheme.aspx</a> )
Test their Understanding		Choice of hospital?

AYJNISHD(D)

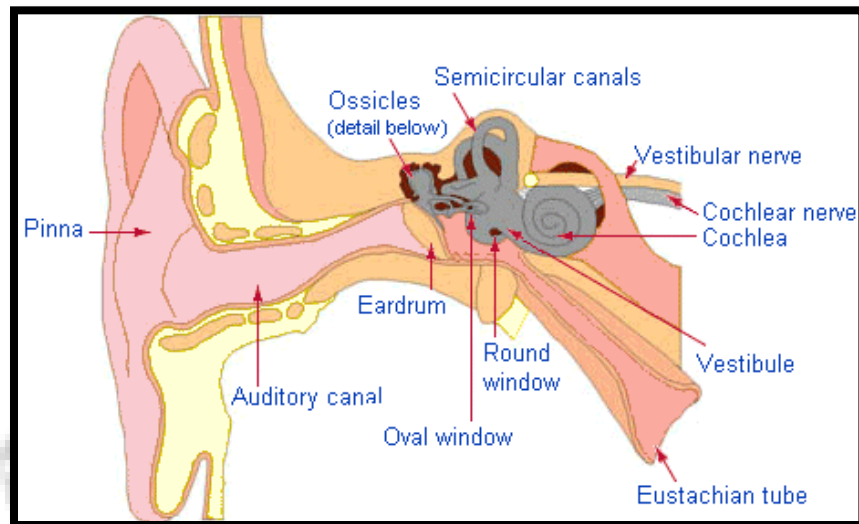




# RESOURCE BOOKLET

Resource 1a)

Diagram showing parts of the human ear



Source: <https://www.hearinglink.org/your-hearing/about-hearing/how-the-ear-works/>

Resource 1b)

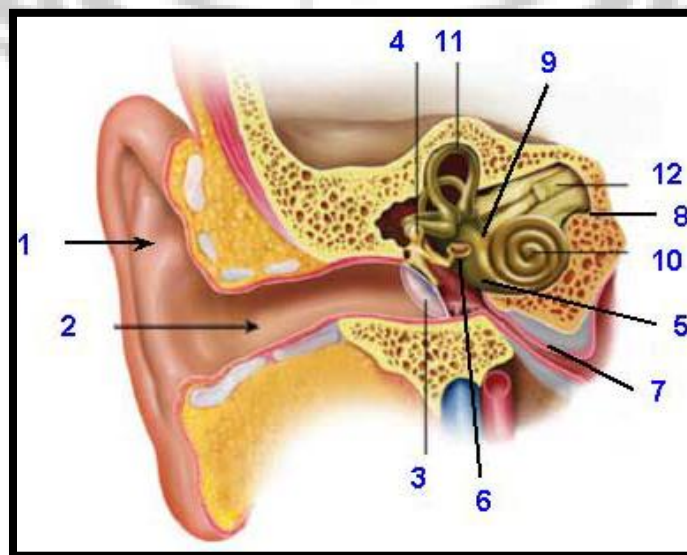
Videos showing process of hearing in humans

<https://www.youtube.com/watch?v=CacPQK6gI6Y>

<https://www.youtube.com/watch?v=eOXuM1J8wNs>

Resource 1c)

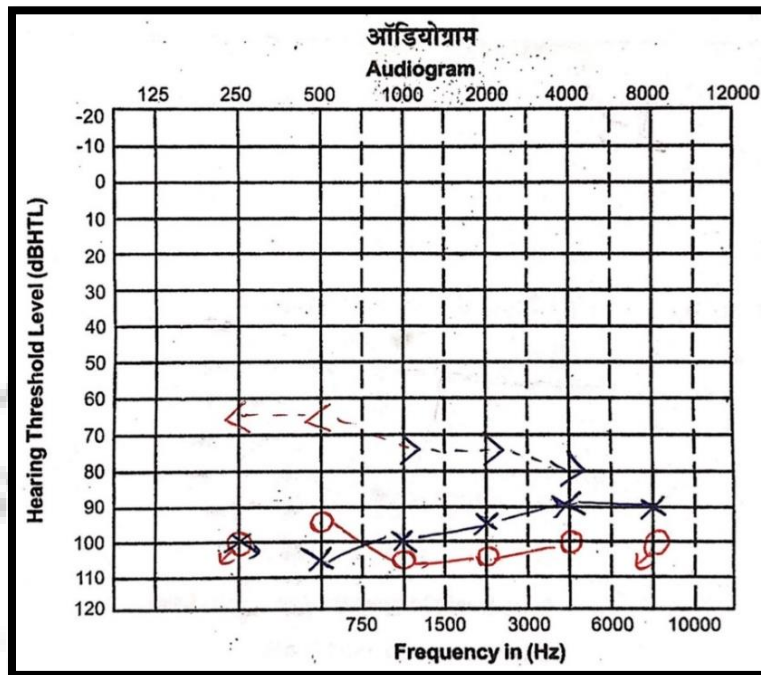
Diagram showing important parts of the human ear



Source: <https://www.boystownhospital.org/knowledge-center/the-normal-ear>

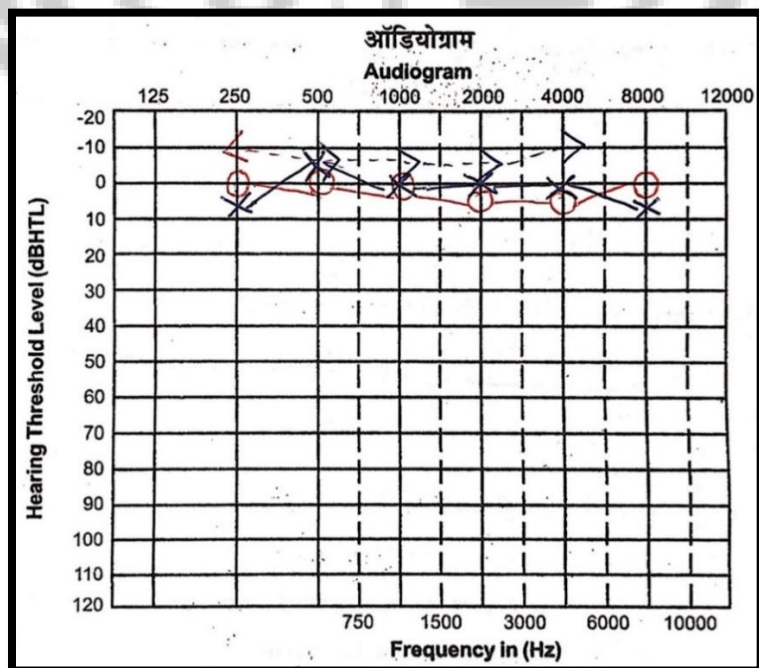
Resource 2a)

Client's audiogram showing severe to profound hearing loss



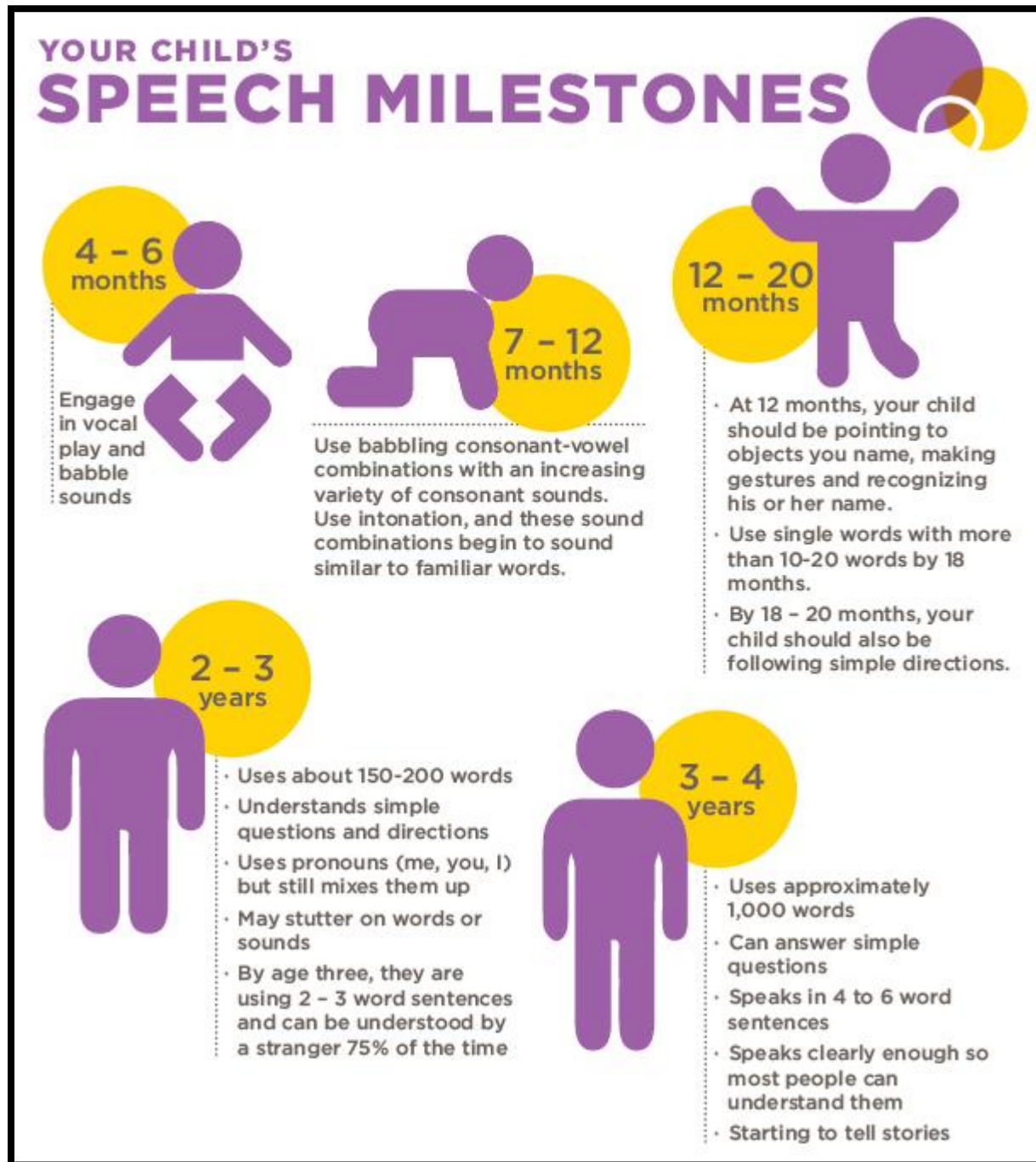
Resource 2b)

Audiogram of hearing sensitivity within normal limits to contrast the findings with client's audiogram



Resource 3a)

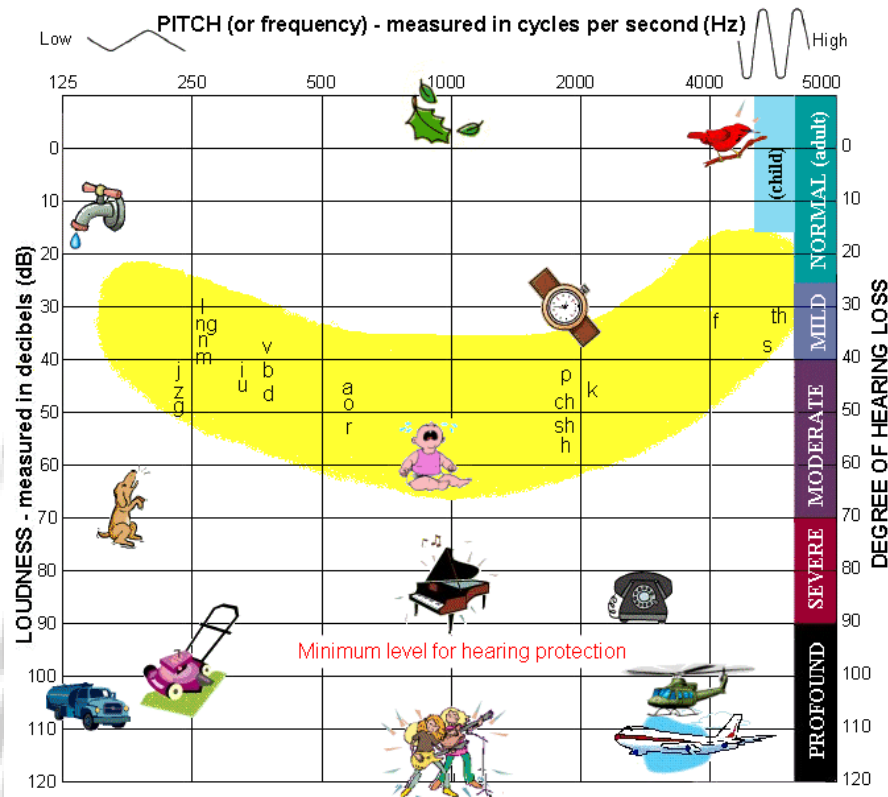
Chart showing normal speech and language developmental milestones



Source: <http://www.kiddy123.com/article/why-cant-my-child-talk.html>

Resource 4a)

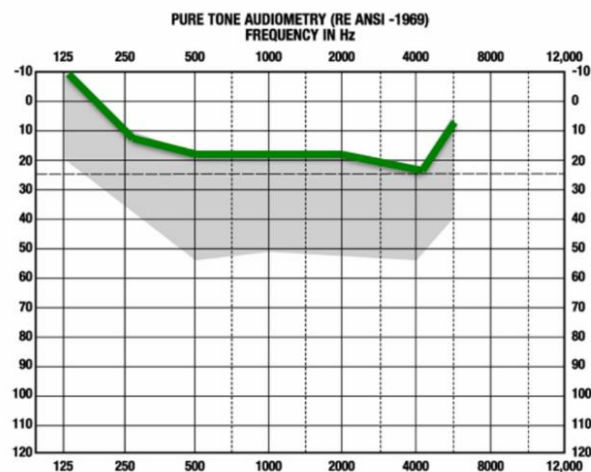
Audiogram showing speech banana and different sounds



Source: <https://earcommunity.org/hearing-loss/emotional-support/how-to-explain-hearing-loss/>

Resource 4b)

Speech String Bean recommended by Jane Madell



Source:

<http://www.janemadell.com/publications/Checking%20For%20Audibility%20in%20School.pdf>



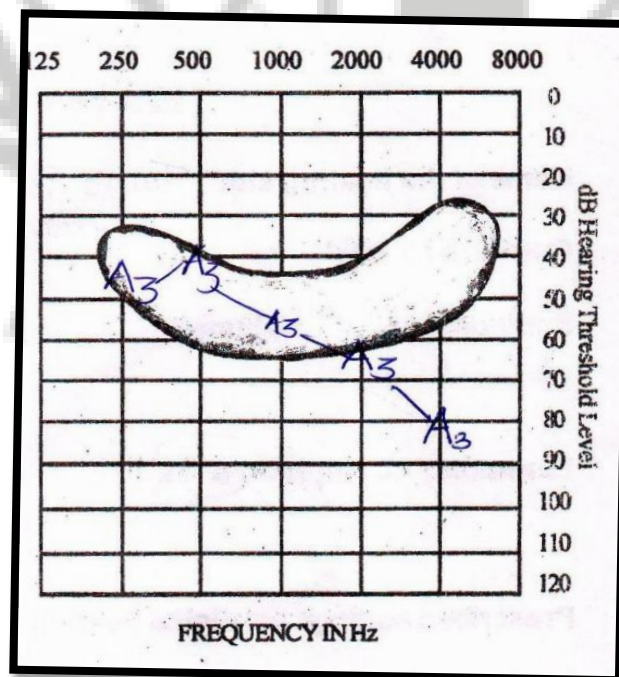
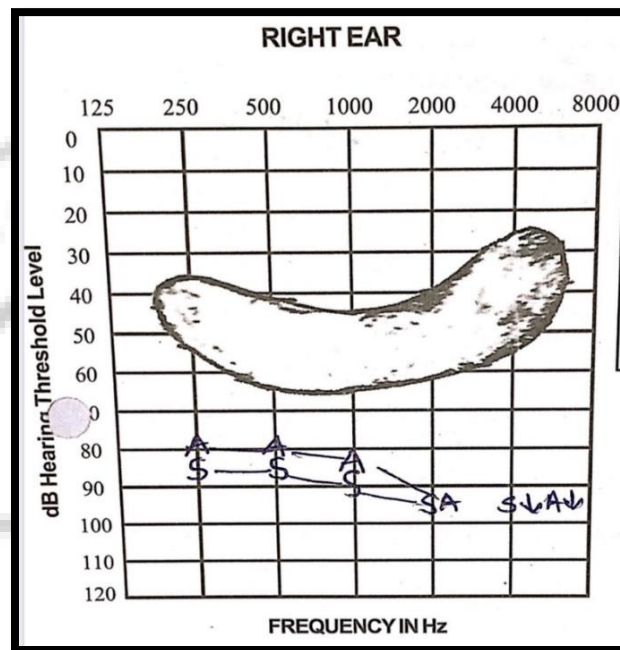
Resource 4c)

SHARP

Source: <http://audres.org/rc/sharp/SharpManual.pdf>

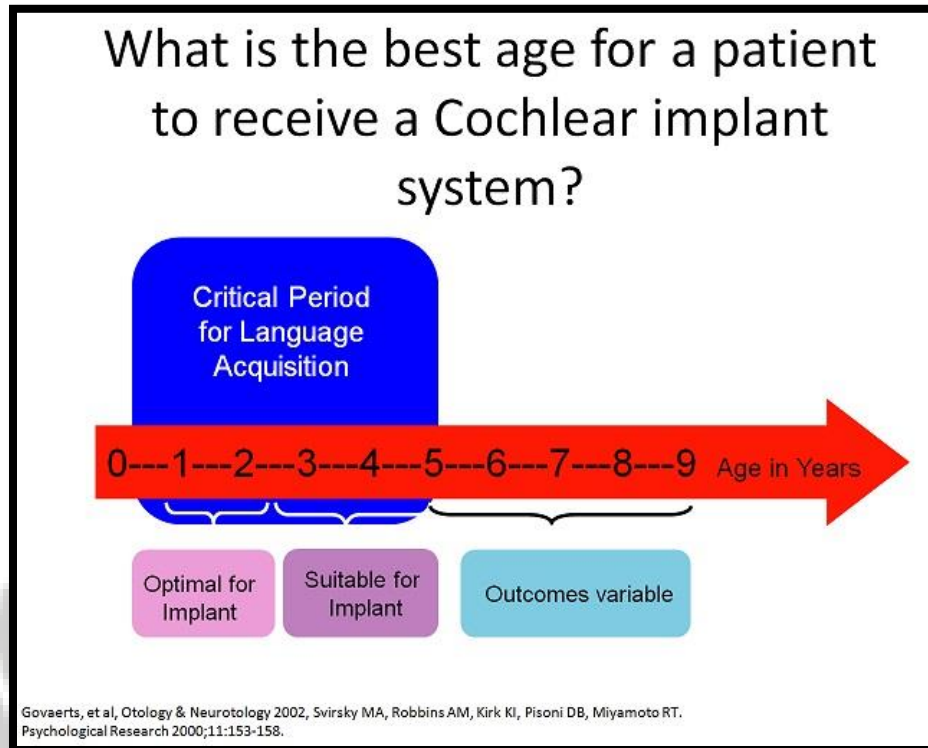
Resource 5a)

The aided and unaided audiogram of the client



Resource 6a)

A comprehensible chart showing the importance of critical age in learning language



Source: <https://www.theentclinic.net/cochlearimplantprogram.htm>

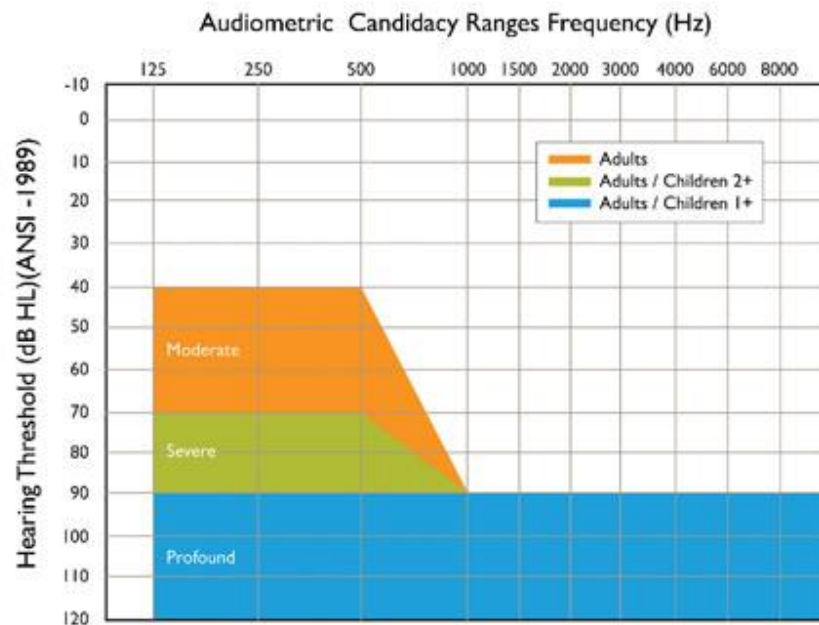
Resource 7a)

Picture of a speech therapy set up



Resource 8a)

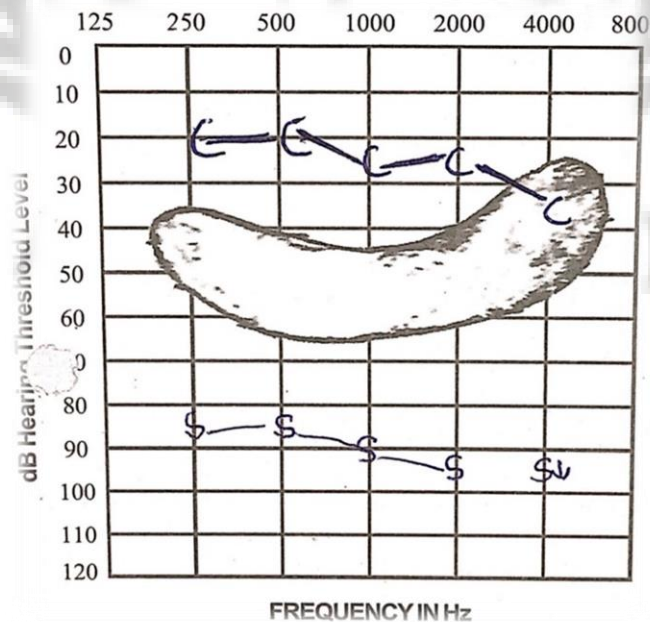
Diagram showing candidacy criteria for children



Source: <https://www.hearingreview.com/hearing-products/implants-bone-conduction/cochlear-implants/identifying-cochlear-implant-candidates-in-the-hearing-aid-dispensing-practice>

Resource 8b)

Diagram showing CI-assisted audiogram for a child





Resource 9a)

Picture of a child wearing cochlear implant



Source: <http://adipcochlearimplant.in/>

Resource 9b)

Internal components of cochlear implant



Source: [https://www.researchgate.net/figure/Cochlear-implant-internal-part\\_fig4\\_265255384](https://www.researchgate.net/figure/Cochlear-implant-internal-part_fig4_265255384)

Resource 9c)

External components of cochlear implant



Source: <https://www.cochlear.com/us/en/professionals/products/cochlear-implants/products>

**Resource 9d)**

Demo/Dummy kits from various cochlear implant companies.

**Resource 9e)**

Video showing how the cochlear implant works

<https://www.cochlear.com/in/en/home/diagnosis-and-treatment/how-cochlear-solutions-work/cochlear-implants/how-cochlear-implants-work>

**Resource 9f)**

The difference between cochlear implant and hearing aid



Sources: <http://www.healthyhearing.com>  
<http://www.personal.psu.edu/bmb5873/Assignment%206.html>

**Resource 10a)**

Pictures showing the CT scan and MRI scan



Source: <https://www.healthline.com/health/ct-scan-vs-mri>

**Resource 11a)**

Animated video showing cochlear implant surgery

<https://www.youtube.com/watch?v=QB1Bij39H8>

Resource 11b)

Picture showing incision after the surgery



Source: <https://entokey.com/implantable-hearing-devices/>

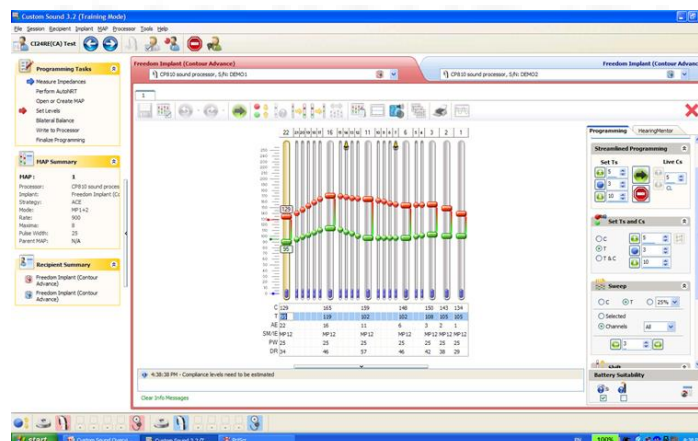
Resource 12a)

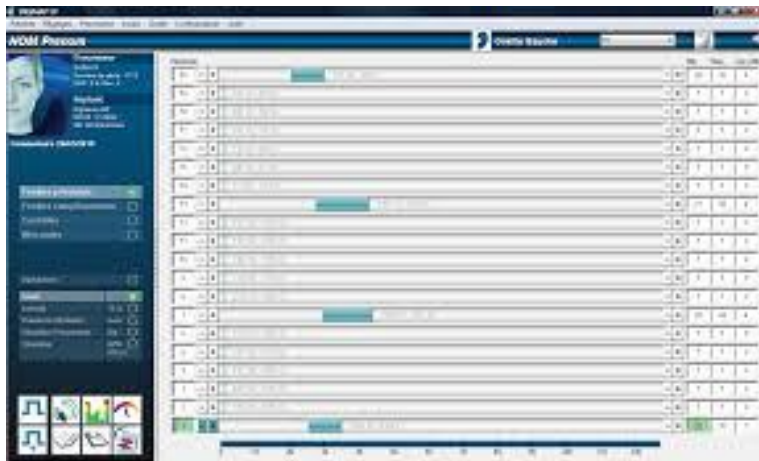
Picture showing cochlear implant mapping setting



Resource 12b)

Pictures showing mapping screens of different companies





**Resource 13a)**  
Post Cochlear Implant therapy



**Resource 14a)**  
Warranty details of the implants supplied under ADIP, currently Digisonic and Cochlear (subject to change w.r.t. tender process)

Cochlear website

Source: <https://www.cochlear.com/in/en/home>

Digisonic website

Source: <https://www.oticonmedical.com/about-oticon-medical>

**Resource 15a)**

Cochlear website: <https://www.cochlear.com/in/en/home>

**Resource 15b)**

Digisonic website: <https://www.oticonmedical.com/about-oticon-medical>

**Resource 16a)****GOSH ChIP**

## Great Ormond Street Hospital for Children (GOSH) Children's Implant Profile

Name:

Date:

D.O.B.

Developmental Age:

Aetiology:

Onset:

Team Impressions of Factors Important to Implant Use and Success	No concern	Mild-Mod Concern	Great Concern	N/A	Team member decision	<input type="checkbox"/> x
CHRONOLOGICAL AGE					AUD	
RADIOLOGICAL & ANATOMICAL					TOD	
MEDICAL (AS YET IDENTIFIED)					SLT	
RESIDUAL HEARING THRESHOLDS					AP	
USE OF HEARING AIDS					PSYC	
FUNCTIONAL HEARING					ENT	
COMMUNICATION SKILLS (SPOKEN/ORAL)						
COMMUNICATION SKILLS (MANUAL/ SIGN LANGUAGE)						
COGNITIVE/NON VERBAL SKILLS						
LEARNING STYLE						
BEHAVIOUR (AT TIME OF ASSESSMENT)						
FAMILY STRUCTURE & SUPPORT /RECORD OF ATTENDANCE						
EXPECTATIONS (PARENTS & CHILD)						
EDUCATIONAL/PRE-SCHOOL SUPPORT						
AVAILABILITY OF TOD SERVICES						
AVAILABILITY OF SLT SERVICES						

Concerns:



## G.O.S.H. Children's Implant Profile Criteria

	No Concern	Mild-Mod Concern	Great Concern	Not Applicable
<b>Chronological Age for Pre-lingual Hearing Loss</b>	<2.0 Years	2.0 – 3.11 Years	≥ 4.0 Years	
<b>Radiological &amp; Anatomical</b>	Normal CT, normal cochlea and middle ears	Slight CT or MRI abnormality, partial ossification, middle ear problems	Very abnormal CT or MRI, complete bilateral ossification, very abnormal middle ears	
<b>Medical (as yet identified)</b>	No Medical Problems	Difficulties that mildly affect child's potential to use implant, e.g. visual, mild CP, Cleft palate, dyspraxia	Difficulties that severely affect child's potential to use implant, e.g. autism, severe physical difficulties and combination of Medical/Surgical problems	
<b>Residual Hearing Thresholds</b>	Highly likely to receive additional benefit from a CI compared to HA's	May receive small amount of additional benefit from a CI compared to HA's	Highly unlikely to receive additional benefit from a CI compared to HA's	
<b>Use of Hearing Aids</b>	Wears aids for 50% of waking hours in all locations	Wears aids inconsistently	Wears aids 25% or less of all waking hours in all locations	
<b>Functional Hearing</b>	Speech perception and/or speech production are consistent with audiogram. No evidence of speech pattern difficulties	Although functional hearing matches hearing thresholds, benefit derived from CI may be limited compared to HA's	Significant discrepancy between speech perception and/or production skills and audiogram. Atypical speech pattern difficulties.	
<b>Communication Skills (spoken/oral)</b>	Skills consistent with type/time of exposure	Mild/moderate delay considering type/time of exposure	Significant delay considering type/time of exposure	
<b>Communication skills (manual/sign language)</b>	Skills consistent with type/time of exposure	Mild/moderate delay considering type/time of exposure	Significant delay considering type/time of exposure. BSL is primary /chosen mode of communication	
<b>Cognitive/non verbal skills</b>	Skills/abilities consistent with chronological age	Mild general delay/specific area of weakness/minor inconsistencies	Severe global delay/many specific areas of weakness/gross inconsistencies	
<b>Learning Style</b>	Learns new tasks. Copes well with change/ambiguity. Learns at approp. rate	Needs structured teaching to learn new tasks	Struggles with new tasks or ambiguous stimuli.	
<b>Behaviour (at time of assessment)</b>	Behaviour appropriate for age. Responds to positive reinforcement and consistency.	Some problems, not unusual for age, degree of deafness or other disabilities. Carers have insight into problems.	Major behavioural problems. Prevents appropriate functioning at home/school. Parents/carers have difficulty following programme.	
<b>Family Structure &amp; Support / Record of Attendance</b>	Main carers committed to training child and supporting team in assessment process. Attended all appointments given	Main carers showing some, but not full commitment and support. Attended most appointments. Flexible re time and dates.	Main carers showing minimal commitment and support. External/Social factors cause significant difficulties for parents/carers. Attended few appointments. Inflexible re time and dates.	
<b>Expectations (Parents &amp; Child)</b>	Realistic	Have become more realistic during assessment process	Less realistic	
<b>Educational/Pre-school support</b>	Appropriate resources available to support child/parent/support team to develop child's listening skills and spoken language	Some resources available to support child/parent/support team to develop child's listening skills and spoken language	Limited resources available to support child/parent/support team to develop child's listening skills and spoken language. Placement/ environment not conducive to develop listening skills and spoken language	
<b>Availability of ToD services</b>	Weekly/fortnightly access to peripatetic ToD	Minimal access to ToD	No access to ToD	
<b>Availability of SLT services</b>	Regular Access to specialist SLT/ supported non specialist SLT.	Irregular access to Specialist SLT/ supported non specialist SLT. Regular access to unsupported non specialist SLT	No regular access to SLT	

Resource 17a)  
GOSH ChIP

Same as 16a) above

Resource 18a) ADIP scheme guidelines

<http://adipcochlearimplant.in/ADIP-scheme.aspx>

Resource 19a) Hospitals and centers under ADIP scheme

<http://adipcochlearimplant.in/ADIP-scheme.aspx>





# PRE-CI COUNSELING PROFORMA

AYJNISHD(D)



ALI YAVAR JUNG NATIONAL INSTITUTE OF SPEECH AND HEARING

DISABILITIES (DIVYANGJAN) MUMBAI 50

DEPARTMENT OF AUDIOLOGY

PRE-CI COUNSELING REPORT

Name: Case #: Session Dates:  
Referred by: DOB: Age/Sex: Sessions attended by:  
Significant history:

Age of Suspicion:

Age of first assessment:

Age of first hearing aid fitting:

Details about hearing aid usage:

Details about intervention:

Details about schooling:

Assessments done and their results:

- a) PTA/BOA/ABR:
- b) IA/OAE
- c) HAT and optimization
- d) Speech and language
- e) Psychology
- f) Education
- g) Any other

How much does the family know about CI and what are their expectations?

**Points discussed as part of pre-CI counseling:**

1.	Type and degree of hearing loss in each ear (unaided audiogram)	
2.	Aided benefit in each ear, expected outcomes with present aided benefit	
3.	Importance of speech banana	
4.	Audiological candidacy established for right/left/both ears Sequential versus simultaneous bilateral implantation, bimodal hearing	
5.	What is CI? Basics and misconceptions, Difference between working of HA & CI	
6.	Anatomy and physiology relevant to placement and working of CI	
7.	Importance of radiological investigations to establish candidacy	
8.	Information about different manufacturers and models (specify ones shown) including details of internal and external components, wearing options, costs, warranties, cost of spares and repairs, up-gradation costs <ul style="list-style-type: none"> <li>• Cochlear</li> <li>• Advanced Bionics</li> <li>• Med-El</li> <li>• Neurelec</li> </ul>	
9.	<b>Information on costs involved</b> Radiological investigations Medical investigations Costs of surgery and hospitalization Device, care and maintenance, upgradation	
10.	Pre-surgical work-up (Radiology, medical, immunizations)	
11.	Hospitals where surgery is done and costs involved at each	
12.	Surgery details including risks (note specific risks expressed by family)	
13.	Post-surgical course of events (bandage and stitches removal, healing period)	
14.	Switch-on and mapping, approximate schedule for the same	
15.	Long-term care, risks, complications, device failure	
16.	Importance of pre-implant habilitation	
17.	Importance of post-implant habilitation	
18.	Specific factors determining outcomes in this particular case, concerns observed based on history	

19.	Expected benefits in this case based on concerns and prognostic factors	
20.	Aspects pertaining to funding for the implant	
21.	Procedure for issue of referral letter	

Specific issues in this case, if any:

Final notes:

Recall questionnaire: Administered / Not administered (reasons)

Expectation questionnaire: Administered / Not administered (reasons)

**Parent / Client declaration:**

I have been given the above information on cochlear implants. I choose \_\_\_\_\_ hospital  
for surgery and want to opt for \_\_\_\_\_ device of \_\_\_\_\_ company.

Family members' signatures:

Clinician's signature:

# UNDERSTANDING AND RECALL QUESTIONNAIRE FOR PARENTS

AYJNISHD(D)

## Recall and Understanding Questionnaire

### **A. RATE THE FOLLOWING ITEMS:**

#### **a. Relevance:**

Rate the relevance of the content of the information given to you during cochlear implant counselling.

Not at all relevant

Somewhat relevant

Completely relevant

#### **b. Understanding:**

Rate your understanding of the information provided to you during cochlear implant counselling.

Not understood at all

Somewhat understood

Understood everything

#### **c. Sufficiency:**

Rate whether the information you just received during cochlear implant counselling was sufficient.

Not sufficient at all

Somewhat sufficient

It's all I needed to know

Please choose the response/responses you think is/are correct for each item and circle the letter(s) of those response(s). Please remember that more than one response could be appropriate.

### **B. TESTS DONE WITH THE CHILD:**

#### **1. Which of these tests was/were done for your child?**

- (a) BERA alone
- (b) BERA and a test of observing child's responses to sound via loud speakers or headphones
- (c) Only a test of observing child's responses to sound via loud speakers or headphones
- (d) I don't remember

#### **2. What is your child's degree of hearing loss based on the tests done?**

- (a) No hearing loss
- (b) Mild loss
- (c) Moderate loss
- (d) Severe loss
- (e) Profound loss
- (f) I don't know

#### **3. In which ear of your child is the loss more prominent?**

- (a) Equal in both ears
- (b) Right ear more than left
- (c) Left ear more than right
- (d) Loss only in right ear (or left)
- (e) I don't know

#### **4. Which of these sounds is your child able to hear presently?**

- (a) Loud auto horn
- (b) Mixer

- (c) Fire crackers
- (d) Bird sounds
- (e) Wedding and other processions
- (f) Normal conversation level
- (g) None
- (h) I don't know

5. Which of these sounds your child might be able to hear after hearing aid fitting?

- (a) Bird sounds
- (b) Friend's voice at 1 meter distance in quiet classroom
- (c) Average street traffic
- (d) All sounds
- (e) There will be no difference with or without the hearing aid
- (f) I don't know

6. What level of speech will your child be able to hear after hearing aid fitting?

- (a) Usual conversation level speech
- (b) Soft whisper
- (c) None of the speech directed to him/her
- (d) All of the speech directed to him/her
- (e) There will be no difference with or without the hearing aid
- (f) I don't know

### C. TYPE AND DEGREE OF HEARING LOSS:

7. What information do we get from an audiogram?

- (a) About what type of and how much hearing loss one has in both ears
- (b) About how much hearing loss one has in either of the two ears
- (c) About what type of hearing loss one has in either of the two ears
- (d) I don't know

8. Human ear can be grossly divided into how many parts?

- (a) 4
- (b) 3
- (c) 5
- (d) I don't know

9. What is the importance of this shape  or speech banana on an audiogram?

- (a) It comprises of all sounds my child can hear
- (b) It comprises of all sounds my child can't hear
- (c) It comprises of all sounds in speech
- (d) I don't know

10. Where do your child's responses fall on the audiogram?

- (a) In the speech banana
- (b) Outside the speech banana
- (c) Partly inside the speech banana
- (d) I don't know

### D. COCHLEAR IMPLANT RELATED ISSUES:

11. A cochlear implant

- (a) unlike the hearing aid provides electrical stimulation
- (b) Is a cure for hearing loss

- (c) Directly stimulates the hearing nerve
  - (d) Makes sounds louder and reaches them to inner ear
  - (e) Only transmits speech sounds directly to inner ear
  - (f) I don't know
- 12. Your child's cochlear implant can be expected to:**
- (a) return his/her hearing function to normal
  - (b) make listening easier
  - (c) make speech more accessible (reach speech more effectively to the child)
  - (d) help him/her hear better in most listening situations
  - (e) help the child to speak on the telephone immediately
  - (f) I don't know
- 13. The advantages of cochlear implants over hearing aids for your child are:**
- (a) It would ensure immediate improvement in my child's hearing
  - (b) It would make my child start speaking immediately
  - (c) My child will not require any further intervention
  - (d) It would directly stimulate the hearing nerve bypassing the faulty inner ear
  - (e) I don't know
- 14. What is the name of the procedure when the cochlear implant is activated for the first time after surgery?**
- (a) Mapping
  - (b) Therapy
  - (c) Switch-on
  - (d) Programming
  - (e) I don't know
- 15. The day of SWITCH ON might be postponed by weeks in case,:**
- (a) I'm too busy to report with my child
  - (b) My child is reluctant to come to the audiologist
  - (c) My child's surgical wound hasn't healed post the CI surgery
  - (d) In case my child's external device is not available
  - (e) I don't know
- 16. What can be the issues post implant surgery?**
- (a) Redness of the area of the scalp where the magnet is placed
  - (b) Temporary removal of the internal magnet for MRI purpose
  - (c) Need of re-implantation due to complications like trauma, infections near to the implanted region
  - (d) Itching in area around the pinna (outer ear)
  - (e) I am not aware

**E. SURGERY RELATED:**

- 17. Where will the implant be placed during the cochlear implant surgery?**
- (a) Just below the skin
  - (b) Inside the brain
  - (c) In the innermost part of the ear
  - (d) In the hearing nerve
  - (e) I don't know
- 18. How will the implant be worn by your child?**
- (a) All parts outside
  - (b) All parts inside the body

- (c) Partly inside and partly outside
  - (d) Either inside or outside as per our choice
  - (e) I don't know
- 19. How many days of hospitalisation would the surgery need?**
- (a) 2-3 days
  - (b) One day
  - (c) A month
  - (d) I wasn't told anything regarding this
  - (e) I don't know
- 20. How long does a cochlear implantation surgery take?**
- (a) 2 to 3 hours
  - (b) 7 to 8 hours
  - (c) 12 hours
  - (d) I wasn't told anything regarding this
  - (e) I don't know
- 21. Which are the different assessments done/to be prior to surgery?**
- (a) MRI and CT scans
  - (b) MRI and CT scans, blood tests
  - (c) MRI and CT scans, blood tests, complete assessment by child specialist
  - (d) I wasn't told anything regarding this
  - (e) I don't know
- 22. Clearance from which professionals is needed for cochlear implantation?**
- (a) Child specialist
  - (b) Child specialist, ENT and audiologist
  - (c) Child specialist and ENT
  - (d) Child specialist and audiologist
  - (e) No clearance/permissions are needed
  - (f) I don't know
- 23. Why do you think your child's blood tests are asked to be taken?**
- (a) To detect the presence of malaria
  - (b) To confirm if the child is healthy enough to undergo an operation
  - (c) To assess if the child will need additional blood during the surgery
  - (d) To detect any factors which can be unfavourable to the CI surgery
  - (e) I don't know
- 24. Why do you think your child's CT/MRI scans are done?**
- (a) To check for any abnormal growth in the brain
  - (b) To check if the cochlea is favourable for insertion of implant
  - (c) To check if the auditory nerve is healthy
  - (d) To know the size of brain
  - (e) I don't know
- 25. Why do you think your child has been recommended for vaccinations prior to surgery?**
- (a) As a precaution against malaria
  - (b) As a precaution against specific infections during and post the CI surgery
  - (c) To make my child stronger to overcome hearing loss faster
  - (d) So that my child can derive maximum benefit from the implant as soon as possible
  - (e) I don't know
- 26. What are the possible complications during the surgery?**
- (a) Damage to nerve supplying parts of the face



- (b) General surgical complications
- (c) Unsuccessful implantation
- (d) I am not aware of any possible complications
- (e) I don't know

**27. After what duration post-surgery can your child start using the cochlear implant?**

- (a) About 1 year later
- (b) About 2-3 months later
- (c) Within a month
- (d) I don't know

**F. WARRANTY AND COST OF OWNERSHIP:**

**28. Does your child's cochlear implant have any warranty?**

- (a) Yes
- (b) No
- (c) I don't think so
- (d) I don't know
- (e) Wasn't informed anything regarding this

**29. Which parts of the implant are covered under warranty?**

- (a) Only the internal parts
- (b) Only the external parts
- (c) All parts
- (d) I don't know
- (e) Wasn't informed anything regarding this

**30. How long does warranty of internal implant last?**

- (a) 1 year
- (b) 5 years
- (c) 10 years
- (d) I don't know
- (e) Wasn't told anything about it

**31. How long does warranty of the main external part (i.e. processor) last?**

- (a) 1 year
- (b) 3 years
- (c) 5 years
- (d) I don't know
- (e) Wasn't told anything about it

**32. After the warranty period, what is the expected annual maintenance cost?**

- (a) 4-5 thousand
- (b) 15-20 thousand
- (c) 75 thousand-1lakh
- (d) I don't know
- (e) I wasn't told anything about it

**G. POST IMPLANTATION PROGRESS:**

**33. My child's understanding of speech after the implantation will be**

- (a) As good as normal hearing people
- (b) Will be better than with hearing aids for sure
- (c) Depends on the pre surgery skills and post surgery therapy
- (d) Will depend on his intervention

- (e) I don't know
- (f) Wasn't informed anything regarding this

**34. The amount of improvement due to implantation depends upon:**

- (a) The success of surgery alone
- (b) The success of surgery and mapping
- (c) The success of surgery, mapping and intervention of my child post surgery
- (d) Various factors within my child
- (e) I don't know
- (f) Wasn't informed anything regarding this

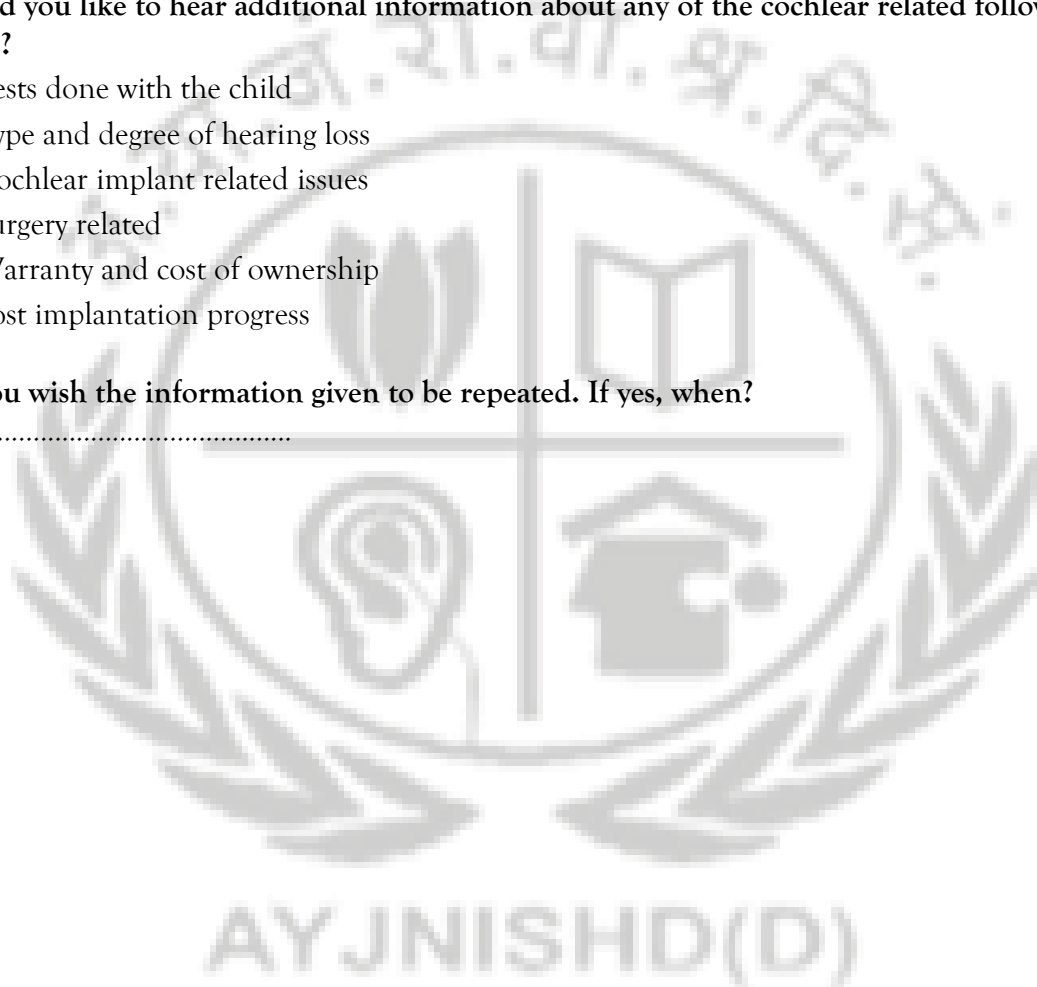
**35. Write the name of any one Cochlear Implant Company. \_\_\_\_\_**

**Would you like to hear additional information about any of the cochlear related following topics?**

- Tests done with the child
- Type and degree of hearing loss
- Cochlear implant related issues
- Surgery related
- Warranty and cost of ownership
- Post implantation progress

**Do you wish the information given to be repeated. If yes, when?**

.....



## प्रश्नावली

A. नीचे दिये गये विषयों पर आपका अनुमान दिजिये।

a. समर्पकता:

मशीन के बारे में आपको दी गई जानकारी आपको कितनी समर्पक / लागू लगती है इसके बारे में आपका अनुमान दिजिये।

बिल्कुल लागू नहीं

कुछ हद तक लागू/ समर्पक

पूरी तरह से लागू / समर्पक

b. समझ:

मशीन के बारे में आपको दी गई जानकारी आपको कितने हद तक समझी है इसके बारे में आपका अनुमान दिजिये।

बिल्कुल नहीं समझी

कुछ हद तक समझी

पूरी तरह से समझी

c. योग्यता / पर्याप्तता:

मशीन के बारे में आपको दी गई जानकारी आपको कितने हद तक पर्याप्त / काफी लगती है इसके बारे में आपका अनुमान दिजिये।

बिल्कुल पर्याप्त/ काफी नहीं

कुछ हद तक पर्याप्त/ काफी

पूरी तरह से पर्याप्त/ काफी

कृपया नीचे दिये गये प्रश्नों के लिए, विकल्पों में से जो विकल्प सही लगे उसे सूचित करें। याद रखिये, हर प्रश्न के लिए एक से ज्यादा विकल्प योग्य हो सकते हैं।

B. आपके बच्चे की जाँचों के बारे में :

1. इनमें से कौन सी जाँचें आपके बच्चे पर की गई थी?

- (a) सिर्फ बेरा
- (b) बेरा और एक जाँच जिस में स्पीकर द्वारा दी गई आवाजों के लिए बच्चे की प्रतिक्रिया देखी गयी थी
- (c) सिर्फ एक जाँच जिस में स्पीकर द्वारा दी गई आवाजों के लिए बच्चे की प्रतिक्रिया देखी गयी थी
- (d) मुझे याद नहीं

2. इन जाँचों पर आधारित आपके बच्चे की सुनने की तकलीफ कितनी है?

- (a) सुनने की कोई तकलीफ नहीं है
- (b) सौम्य तकलीफ
- (c) मध्यम तकलीफ
- (d) तीव्र तकलीफ
- (e) अति तीव्र तकलीफ
- (f) मुझे पता नहीं

3. आपके बच्चे के कौन से कान में सुनने की तकलीफ अधिक है?

- (a) दोनों कान में एक जैसी है
- (b) दाहिने कान में ज्यादा
- (c) बाएँ कान में ज्यादा
- (d) तकलीफ केवल दाहिने (या बाएँ) कान में
- (e) मुझे पता नहीं

4. फिलहाल इन में से कौनसी आवाजें आपका बच्चा सुन पाता है?

- (a) ऑटो के हॉर्न की तेज़ आवाज़
- (b) मिक्सर की आवाज़
- (c) पटाखों की आवाज़
- (d) पंछियों की आवाज़
- (e) शादी समारोह का शोर
- (f) सामान्य बोलने की आवाज़
- (g) मुझे पता नहीं

5. इनमें से कौनसी आवाज़ें आपका बच्चा कॉकलियर इम्प्लांट लगवाने के बाद सुन पाएगा?

- (a) पंछियों की आवाज़
- (b) एक मीटर की दूरी पर बैठे मित्र की आवाज़
- (c) साधारण ट्रैफिक की आवाज़ें
- (d) सभी आवाज़ें
- (e) कॉकलियर इम्प्लांट लगवाने से सुनने में कोई बदलाव नहीं आयेगा
- (f) मुझे पता नहीं

6. कौन से स्तर की आवाज़ों को आपका बच्चा कॉकलियर इम्प्लांट लगाने के बाद सुन पाएगा?

- (a) सामान्य वार्तालाप जितनी
- (b) फुसफुसाने जितनी
- (c) सिर्फ ट्रैफिक की आवाज़ें
- (d) सभी आवाज़ें
- (e) कॉकलियर इम्प्लांट लगवाने से सुनने में कोई बदलाव नहीं आयेगा
- (f) मुझे पता नहीं


### C. श्रवण दोष के बारे में:

7. एक औडिओग्राम से हमें क्या जानकारी मिलती है?

- (a) दोनों कानों में कितने हद तक और किस प्रकार का श्रवणदोष है
- (b) किसी एक कान में कितने हद तक का श्रवणदोष है
- (c) किसी एक कान में किस प्रकार का श्रवणदोष है
- (d) मुझे पता नहीं

8. मनुष्य का कान साधारणतः कितने भागों में बँटा है?

- (a) ४
- (b) ३
- (c) ५
- (d) मुझे पता नहीं

9. औडिओग्राम पर इस आकार  या स्पीच बनाना का क्या महत्व है?

- (a) ये उन सारी आवाज़ों को दर्शाता है जो मेरा बच्चा सुन सकता है
- (b) ये उन सारी आवाज़ों को दर्शाता है जो मेरा बच्चा सुन नहीं पाता
- (c) ये भाषा में पाई जाने वाली सारी आवाज़ों का संगठन है
- (d) मुझे पता नहीं

10. आपके बच्चे की आवाज़ के प्रति प्रतिक्रिया औडिओग्राम पर कहाँ पायी जाती है?

- (a) स्पीच बनाना के अंदर
- (b) स्पीच बनाना के बाहर

- (c) आधा स्पीच बनाना के अंदर और आधा बाहर
- (d) मुझे पता नहीं

**D. कॉकलियर इम्प्लांट के बारे में महत्वपूर्ण विषयों के बारे:**

**11. एक कॉकलियर इम्प्लांट:**

- (a) श्रवणयंत्र जैसे न होते हुए विद्युत उत्तेजन पर काम करता है
- (b) सुनने की तकलीफ का उपाय है
- (c) सीधा कान की नस को उत्तेजित करता है
- (d) आवाजों को बढ़ा करके उन्हें अंदर के कान की तरफ भेजता है
- (e) सिर्फ बोलने की आवाजों को अंदर के कान की तरफ भेजता है
- (f) मुझे पता नहीं

**12. आपके बच्चे के कॉकलियर इम्प्लांट से आप क्या उम्मीद कर सकते हैं?**

- (a) बच्चे की सुनने की क्षमता सामान्य कर देगी
- (b) सुनना आसान कर देगी
- (c) आवाज सुनना सुलभ कर देगी
- (d) ज्यादातर परिस्थितियों में सुनने में मदद करेगी
- (e) फौरन टेलीफोन पर सुनने में मदद करेगी
- (f) मुझे पता नहीं

**13. आपके बच्चे को कॉकलियर इम्प्लांट से कौन-कौन से फायदे हैं?**

- (a) इससे बच्चे की सुनने की क्षमता में फौरन सुधार होगा
- (b) कि मेरे बच्चे को फौरन बोलने में मदद करेगी
- (c) इससे मेरे बच्चे को और किसी उपचारों की आवश्यकता नहीं होगी
- (d) ये उपकरण/यंत्र सीधा सुनने की नस को उत्तेजित करता है
- (e) मुझे पता नहीं

**14. ऑपरेशन के बाद में की जानेवाली प्रक्रिया का नाम क्या है जिस में कॉकलियर इम्प्लांट शुरू किया जाता है?**

- (a) मॉपिंग
- (b) थेरपी
- (c) स्विच ऑन
- (d) प्रोग्रामिंग
- (e) मुझे पता नहीं

**15. किन कारणों से स्विच-ऑन का दिन कुछ हफ्तों से आगे ढकेला जा सकता है?**

- (a) मैं व्यस्त होने के कारण बच्चे के साथ आ नहीं पाया
- (b) अगर बच्चा आने के लिए नाखुश/नाराज हो
- (c) अगर बच्चे का ऑपरेशन का घाव भरा नहीं हो तो
- (d) अगर बच्चे के कॉकलियर इम्प्लांट का बाहर का भाग उपलब्ध नहीं हो तो
- (e) मुझे पता नहीं

**16. ऑपरेशन के बाद कौन-कौन सी समस्याएँ आ सकती हैं?**

- (a) सिर पर चुंबक लगाने वाले जगह लाल हो सकती है
- (b) एम.आर.आय के लिए कुछ देर तक चुंबक निकालना पड़ सकता है
- (c) इम्प्लांट किए गए जगह पर क्षति/मार लगने से या (infection) संक्रमण की वजह से निकालना पड़ सकता है/ की ज़रूरत पड़ सकती है

- (d) कान के आसपास खुजली का होना
- (e) मुझे इसकी कोई जानकारी नहीं है

**E. ऑपरेशन के बारे में:**

**17. कॉकलियर इम्प्लांट ऑपरेशन के समय इम्प्लांट कहाँ लगाया जाएगा?**

- (a) त्वचा के एकदम नीचे
- (b) दिमाग के अंदर
- (c) कान के सबसे अंदर वाली जगह पर
- (d) सुनने की नस में
- (e) मुझे पता नहीं

**18. बच्चा कॉकलियर इम्प्लांट कहाँ पहनेगा?**

- (a) सभी भाग शरीर के बाहर होंगे
- (b) सभी भाग शरीर के अंदर होंगे
- (c) कुछ भाग बाहर तो कुछ भाग अंदर होंगे
- (d) अंदर या बाहर हमारी इच्छा के अनुसार
- (e) मुझे पता नहीं

**19. ऑपरेशन के लिए कितने दिन हॉस्पिटल में रहना पड़ेगा?**

- (a) २-३ दिन
- (b) १ दिन
- (c) १ महिना
- (d) मुझे इसके बारे में कुछ बताया नहीं गया था
- (e) मुझे पता नहीं

**20. कॉकलियर इम्प्लांट ऑपरेशन के लिए कितने घंटे लग सकते हैं?**

- (a) २-३ घंटे
- (b) ७-८ घंटे
- (c) १२ घंटे
- (d) मुझे इसके बारे में कुछ बताया नहीं गया था
- (e) मुझे पता नहीं

**21. ऑपरेशन से पहले कौन-कौन सी जांच करनी पड़ती है?**

- (a) एम.आर.आय और सी.टी. स्कैन
- (b) एम.आर. आय और सी.टी. स्कैन, खून की जांच
- (c) एम.आर. आय और सी.टी. स्कैन, खून की जांच और बच्चों के डॉक्टर से पूरी जांच
- (d) मुझे इसके बारे में कुछ बताया नहीं गया था
- (e) मुझे पता नहीं

**22. कॉकलियर इम्प्लांट के लिए कौन-कौन से डॉक्टरों से अनुमति लेनी पड़ती है?**

- (a) बच्चों के डॉक्टर से
- (b) बच्चों के डॉक्टर, कान-नाक-गले के डॉक्टर और ऑडिओलोजिस्ट / श्रवणतज्ञ से
- (c) बच्चों के डॉक्टर और कान-नाक-गले डॉक्टर से
- (d) बच्चों के डॉक्टर और ऑडिओलोजिस्ट/ श्रवणतज्ञ से
- (e) किसी की भी अनुमति की जरूरत नहीं

(f) मुझे पता नहीं

**23. बच्चे की खूनकी जांच करने का कारण क्या है?**

- (a) मलेरिया का पता लगाने के लिए
- (b) ये समझने के लिए की बच्चा ऑपरेशन के लिए तंदुरस्त/स्वस्थ है की नहीं
- (c) ये समझने के लिए कि बच्चे के ऑपरेशन के समय और खून की जरूरत पड़ेगी या नहीं
- (d) ये समझने के लिए कि बच्चे की ऑपरेशन के दौरान ऐसे कौन-कौन से प्रतिकूल (unfavorable) कारण है जो कठिनाई पैदा कर सकते है
- (e) मुझे पता नहीं

**24. बच्चे की एम.आर.आय और सी.टी. स्कैन जाँचने का कारण क्या है?**

- (a) ये जाँचने के लिए कि क्या बच्चे के दिमाग में कोई भी असामान्य/असाधारण विकास है
- (b) ये जाँचने के लिए कि क्या कान का अंदरूनी हिस्सा इम्प्लांट के योग्य है
- (c) ये जाँचने के लिए कि क्या कान कि सुनने की नस स्वस्थ है
- (d) दिमाग के आकार का पता करने के लिए
- (e) मुझे पता नहीं

**25. ऑपरेशन से पहले आपके बच्चे को टीके लगाने करने की वजह क्या है?**

- (a) मलेरिया से बचने के लिए
- (b) ऑपरेशन के दौरान या बाद में किसी भी प्रकार के संक्रमण(infection) से बचाव के लिए
- (c) बच्चे का स्वास्थ्य बढ़ाने के लिए जिस के कारण उसका श्रवणदोष जल्दी कम हो सके
- (d) बच्चे को कॉकलियर इम्प्लांट से जल्द से जल्द ज्यादा से ज्यादा फायदा होने के लिए
- (e) मुझे पता नहीं

**26. ऑपरेशन के दौरान कौन-कौन सी जटिलता/कठिनाई हो सकती है?**

- (a) चेहरे के भागों के तरफ जानेवली नस को नुकसान पहुच सकता है
- (b) साधारणतः कैसी भी ऑपरेशन के दौरान होने वाली समस्याएँ
- (c) इम्प्लांट गलत जगह पर बैठने से पुनःप्रत्यारोपण करना
- (d) मुझे इसके बारे में कोई जानकारी नहीं
- (e) मुझे पता नहीं

**27. ऑपरेशन के कितने दिनों बाद आपका बच्चा कॉकलियर इम्प्लांट इस्तमाल करना शुरू कर सकेगा?**

- (a) मगभग एक साल के बाद
- (b) मगभग २-३ महिनो के बाद
- (c) एक महीने का अंदर
- (d) मुझे पता नहीं

**F. वॉरंटी व खर्च के बारे में**

**28. कॉकलियर इम्प्लांट की कोई वॉरंटी है क्या?**

- (a) हाँ
- (b) नहीं
- (c) मुझे ऐसा लगता नहीं
- (d) मुझे पता नहीं
- (e) मुझे इसके बारे में कुछ बताया नहीं गया

**29. कॉकलियर इम्प्लांट के कौन कौन से भागों की वॉरंटी है?**

- (a) सिर्फ अंदर के भागों की

- (b) सिर्फ बाहर के भागों की
- (c) कॉकलियर इम्प्लांट के सभी भागों के
- (d) मुझे पता नहीं
- (e) मुझे इसके बारे में कुछ बताया नहीं गया

30. कॉकलियर इम्प्लांट के अंदर के भागों की वॉरंटी कितने दिन होती /चलती है?

- (a) १ साल
- (b) ५ साल
- (c) १० साल
- (d) मुझे पता नहीं
- (e) मुझे इसके बारे में कुछ बताया नहीं गया

31. कॉकलियर इम्प्लांट की बाहरी हिस्सों के वॉरंटी कितने दिनों तक होती है?

- (a) १ साल
- (b) ३ साल
- (c) ५ साल
- (d) मुझे पता नहीं
- (e) मुझे इसके बारे में कुछ बताया नहीं गया

32. वॉरंटी खतम होने के बाद हर साल कितना खर्च आ/लग सकता है?

- (a) ४-५ हजार
- (b) १५-२० हजार
- (c) ७५ हजार से १ लाख
- (d) मुझे पता नहीं
- (e) मुझे इसके बारे में कुछ बताया नहीं गया

**G. इम्प्लांट बाद की प्रगति/सुधारना:**

33. इम्प्लांट के बाद मेरे बच्चे को बोली की समझ कैसे होगी?

- (a) सममान्य सुननेवाले आदमी/इंसान की तरह
- (b) जरूर मशीन लगाने से बेहतर/ज्यादा अच्छी
- (c) ये ऑपरेशन से पहले की कुशलता तथा बाद के उपचारों पर निर्भर करता है
- (d) बच्चे के उपचारों पर निर्भर है
- (e) मुझे पता नहीं
- (f) मुझे इसके बारे में कुछ बताया नहीं गया

34. कॉकलियर इम्प्लांट से होनेवाली सुधारणाएँ किन घटकों पर (factors) आधारीत है?

- (a) ऑपरेशन की सफलता पर
- (b) ऑपरेशन की सफलता और मॉनिंग पर
- (c) ऑपरेशन की सफलता, मॉनिंग पर और ऑपरेशन के बाद के उपचारों पर
- (d) मेरे बच्चे के अलग-अलग घटकों (factors) पर
- (e) मुझे पता नहीं
- (f) मुझे इसके बारे में कुछ बताया नहीं गया

35. किसी भी एक कॉकलियर इम्प्लांट कंपनी का नाम लिखिये।.....



क्या आपको इम्प्लांट के बारे में नीचे दिये गए मुद्दों पर और अधिक जानकारी चाहिए?

- आपके बच्चे की जाँचों के बारे में
- श्रवण दोष के बारे में
- कॉकलियर इम्प्लांट के बारे में महत्वपूर्ण विषयों के बारे में
- ऑपरेशन के बारे में
- वॉरंटी व खर्चों के बारे में
- इम्प्लांट बाद की प्रगति/सुधारना

क्या आप दी गई जानकारी को वापस सुनना पसंद करेंगे और अगर हाँ, कब?.....



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