

	
	
Aural Rehabilitation for the Older Adult	
Michael Douglas, MA, CCC-SLP, Cert AVT Aural Rehabilitation Manager	

	
	Disclosure
	Michael Douglas, MA, CCC-SLP, LSLs Cert AVT
	Manager of Aural Rehabilitation
	Michael is employed with MED-EL
	Michael.Douglas@medel.com
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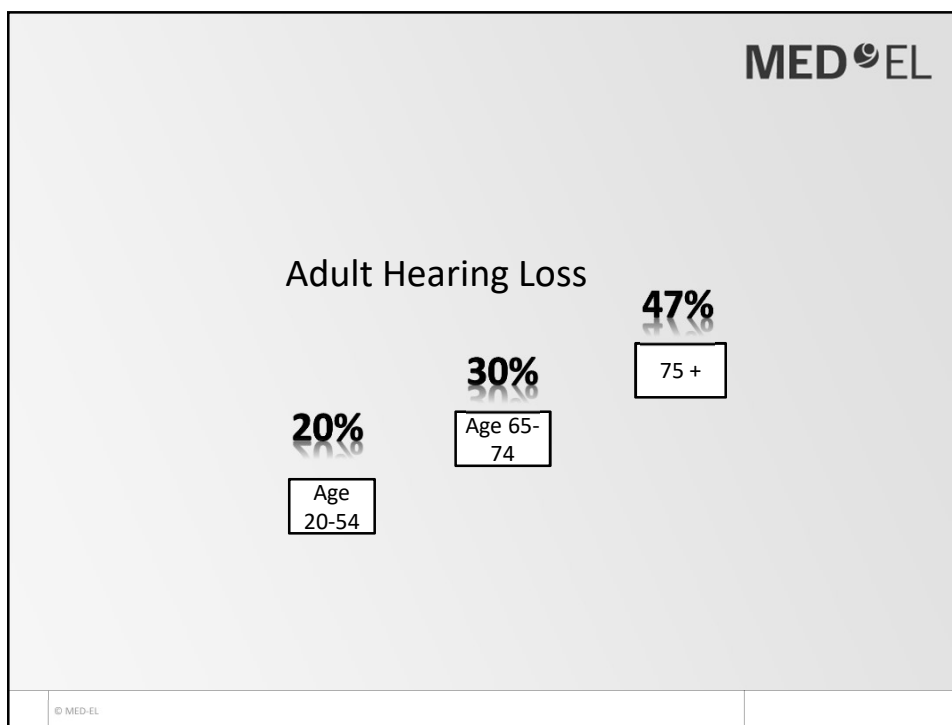
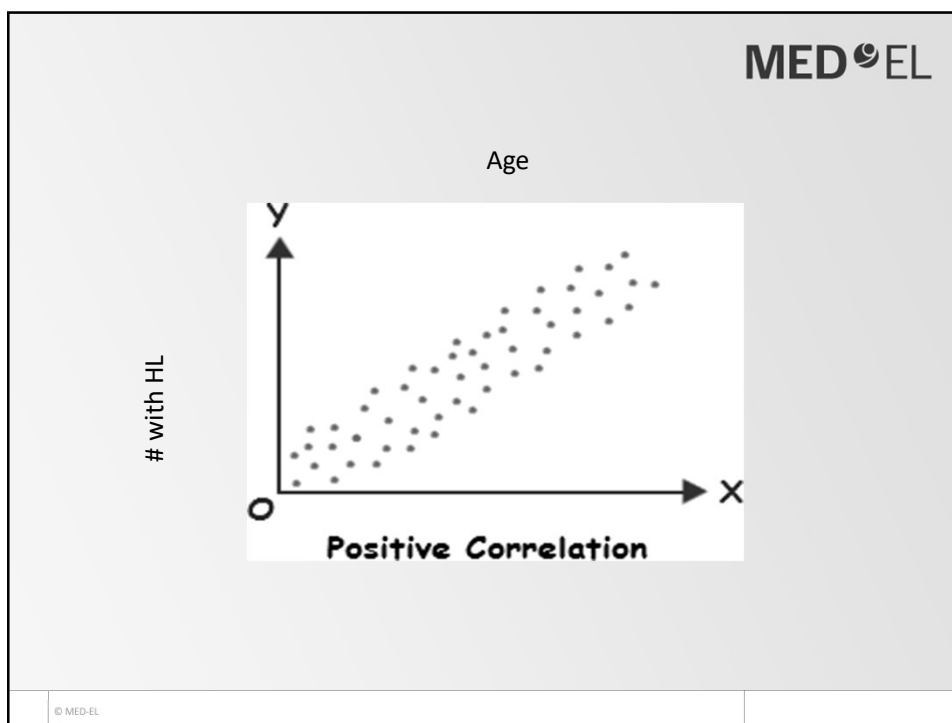
Course Objectives

- Describe three to five life-situation factors that may impact the older adults sense of self-sufficiency and independence.
- List at least three questions that will allow the speech and hearing professional and the patient to identify listening goals and priorities.
- List three types of intervention strategies that may alleviate activity limitations and participation restrictions for the older adult with hearing loss.

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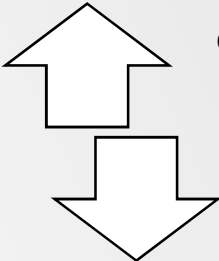


Why support AR for Older Adults?



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Older Adults




Older Population
Increasing **25%**

Health problems and
issues related to low
SES or low education

(Lyman, 2006)

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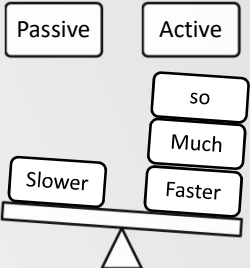
(www.linresearch.org; Davis et al, 2016)

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Is AR for the Older Adult Effective?

YES!



(Boothroyd, 2007; Tye-Murray, 2014)

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Depending on a Variety of Factors, Continued Improvements May be Seen

2 year post

&

5 year post

In the older adult

(Holden et al, 2013; Dillon, 2013)

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Reasons to Support AR for the Older Adult

- More active older population
- Potential to slow or prevent cognitive decline
- Accelerate adjustment period

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Management Considerations for Cochlear Implant Recipients in Their 80s and 90s

Advanced age is not a contraindication for CIs. But some things should be kept in mind...

By MEREDITH ROTH, AuD; ENGLISH R. KING, AuD; MARGARET DILLON, AuD; and HAROLD PILLSBURY, MD

Cochlear implants can lead to life-altering improvements in hearing and quality of life. If an older adult candidate questions, "I'm too old for a cochlear implant. What if I only live one more year?" our response is, "What do you wish to do with this last year of your life?"

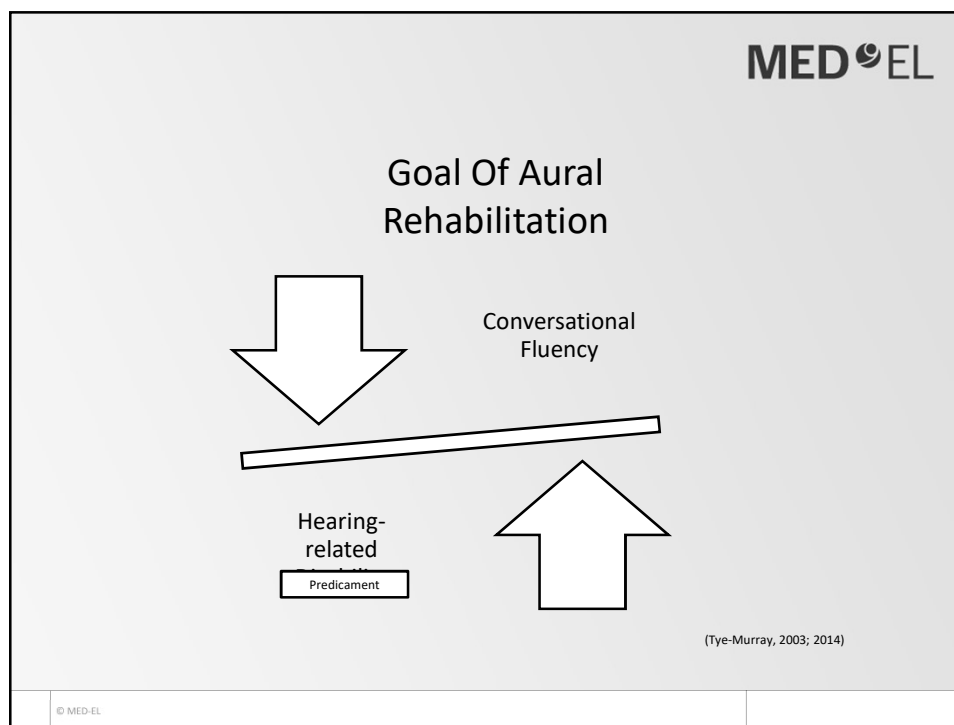
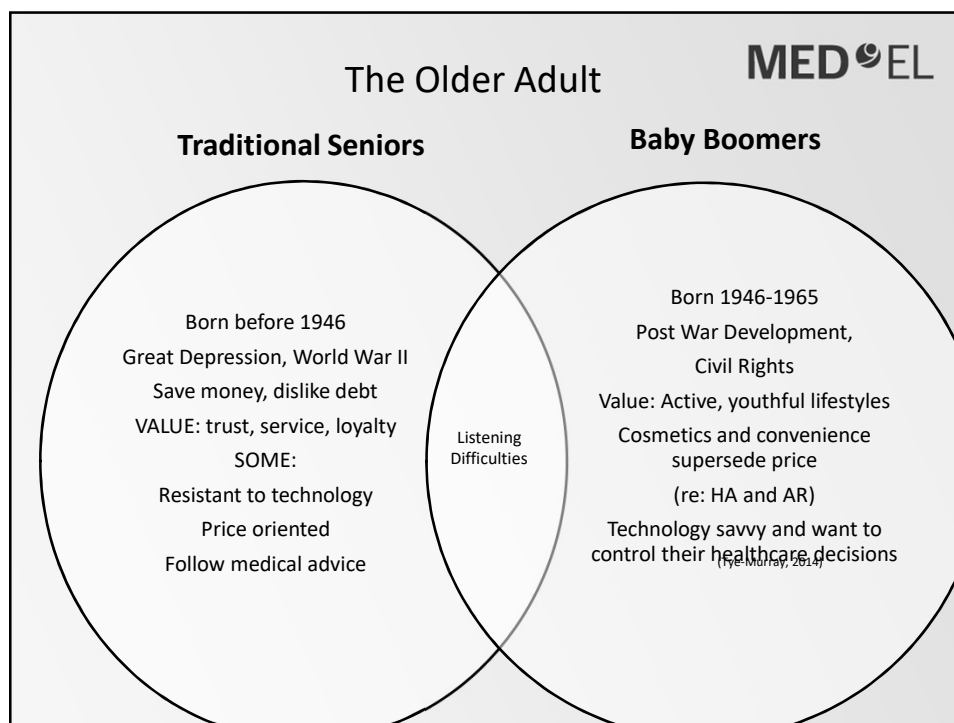
The number of older adults who are pursuing cochlear implantation is rising steadily and represents a growing percentage of total cochlear implants. However, the management of cochlear implant candidates in their 80s and 90s evolves as they advance in age. This population has distinct medical considerations and may experience physical and cognitive changes that may impact their ability to use and troubleshoot the external audio processor. Treatment is further complicated if patients are lost to follow-up due to driving restrictions or changes in care.

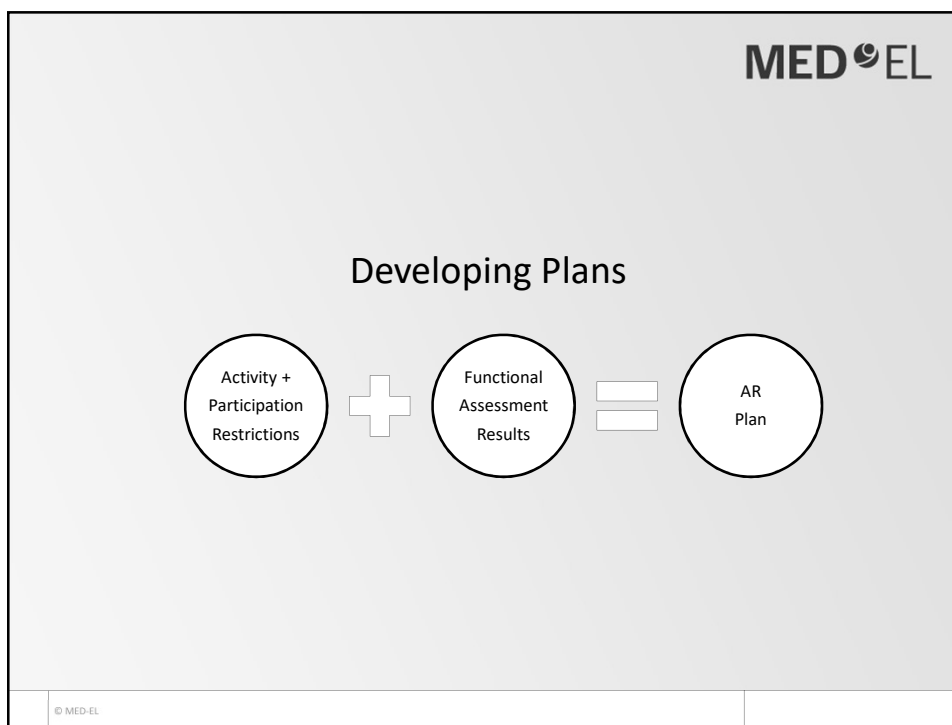
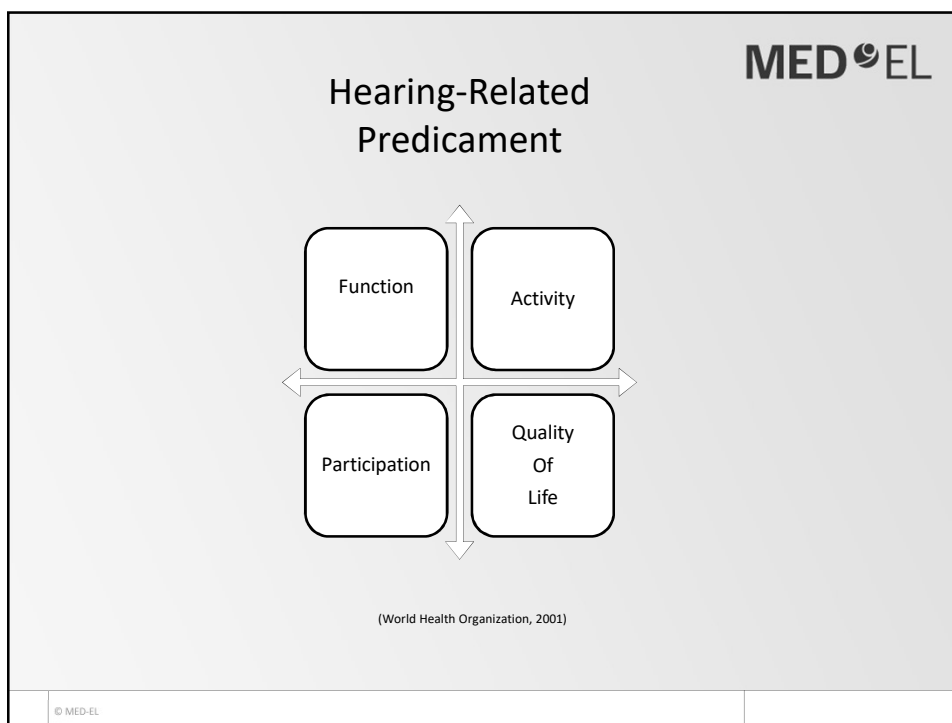
agement considerations in geriatric patients and determine how to improve the care of older adult cochlear implant recipients.

Medical Concerns Related to Age

Older adult cochlear implant candidates have additional medical considerations as compared to younger adults. Older adults require special attention to anesthesia and may require a longer stay in the hospital, as opposed to younger recipients undergoing this type of outpatient surgery. In general, the older

(Ruth, King, Dillon & Pillsbury, 2017)





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Topics

Understand activity limitations and participation restrictions in the older adult

Describe Assessment Considerations

List Intervention Strategies

Relate to a Case Example

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Activity Limitations and Participation Restrictions

Older Adults

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Seniors and Leisure time

Reading		
Attending Concerts	Movies	
Watching TV	Museums	Art Galleries

(Gonsalves & Pichora-Fuller, 2008; Schum & Sjolander, 2011)

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Discovering Activity and Participation Restrictions



(Tye-Murray, 2014)

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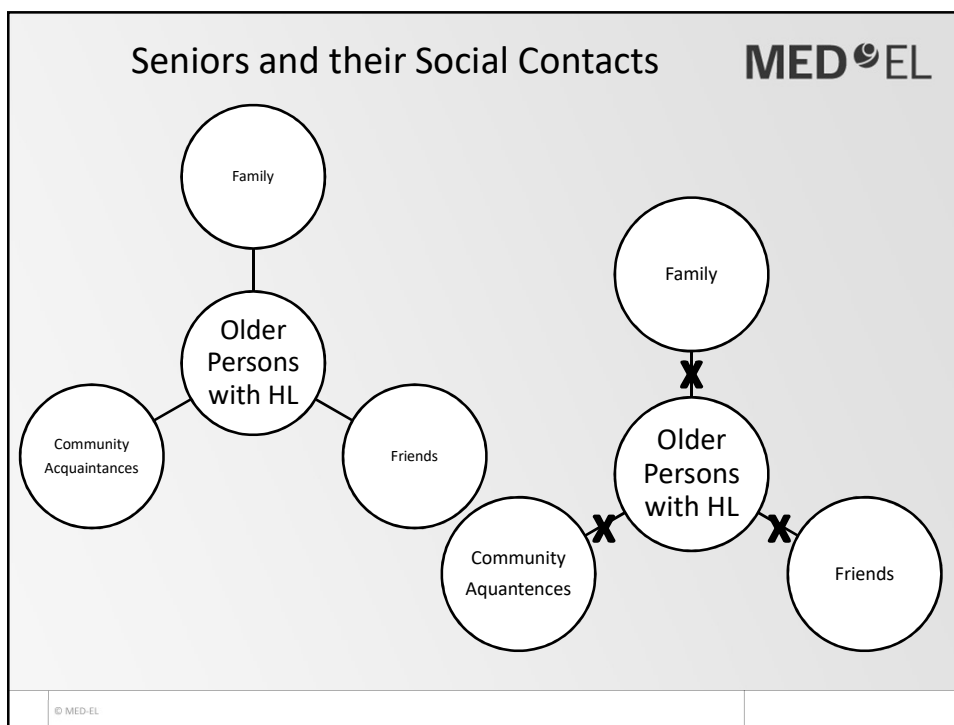
Discovering Activity and Participation Restrictions

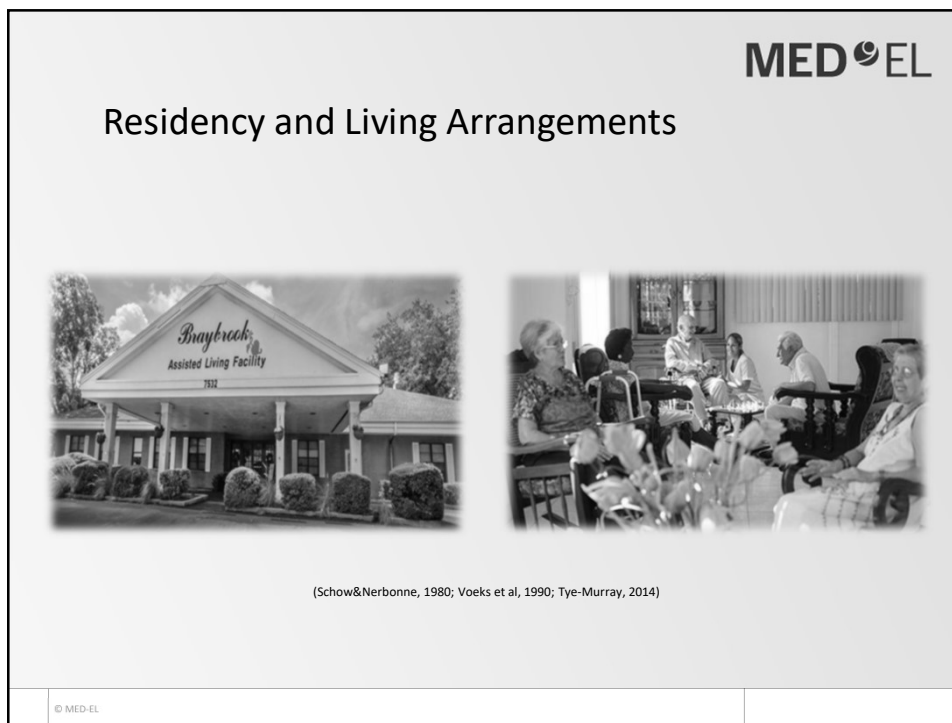
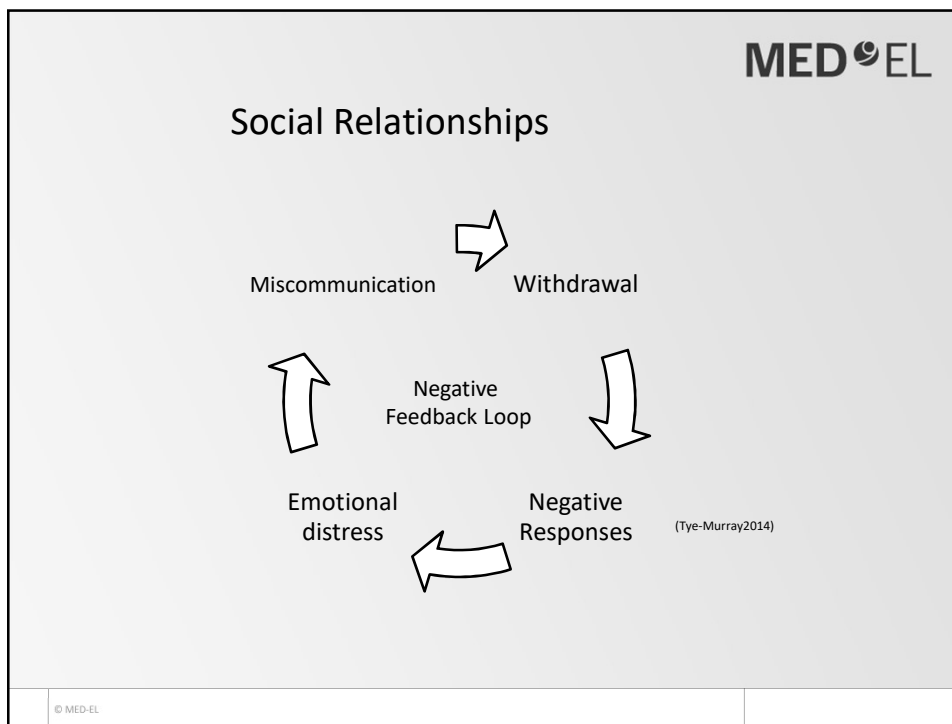


(Tye-Murray, 2014)

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<p>Life Situation Factors</p>	
<p>Assessment Considerations</p> <p>Activity and Participation Restrictions</p>	



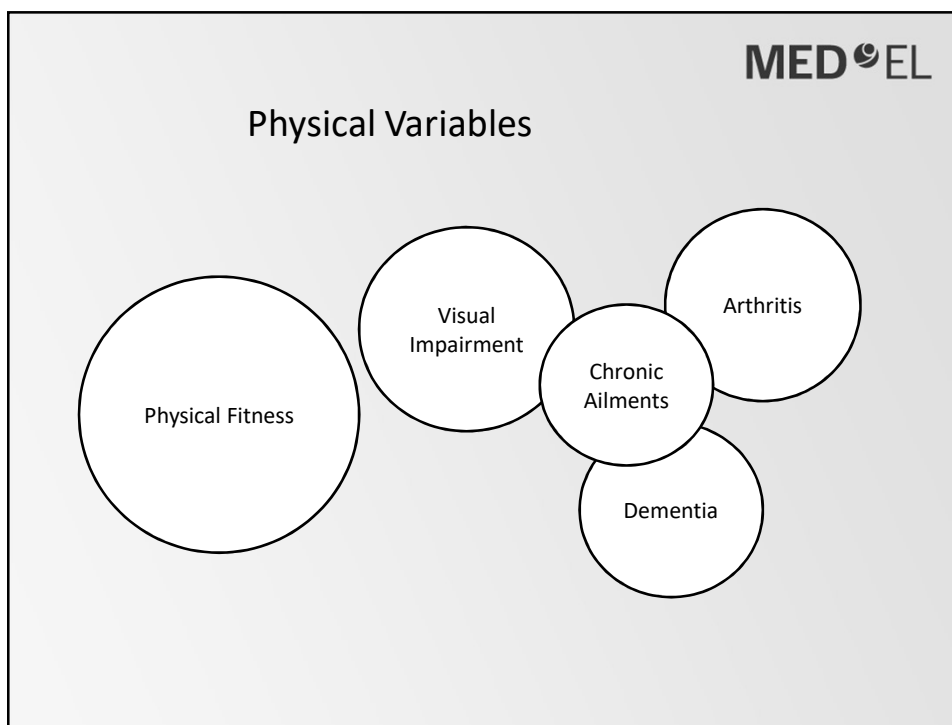


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Personal Variables




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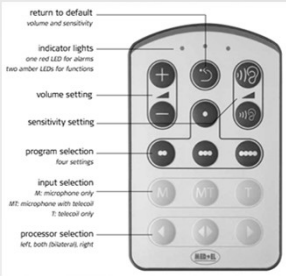


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Physical Variables: Vision & Dexterity



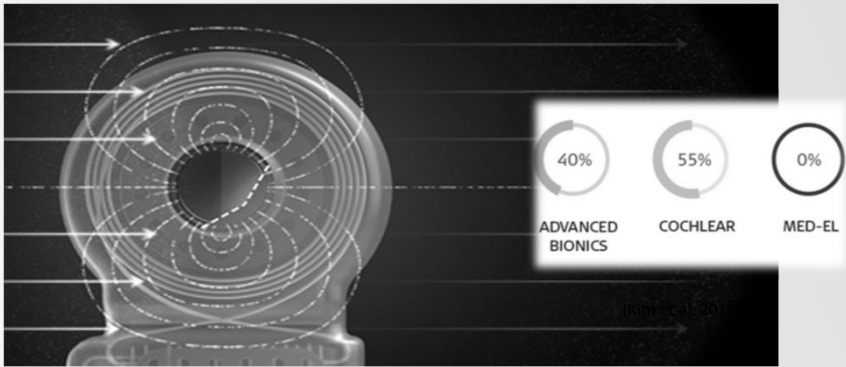
Ruth et al, 2017



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Physical Variables: Skin thickness




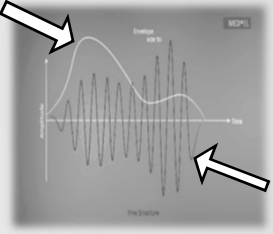
Technology	Percentage
ADVANCED BIONICS	40%
COCHLEAR	55%
MED-EL	0%

(Kim et al, 2013)

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Physical Variables: Dementia

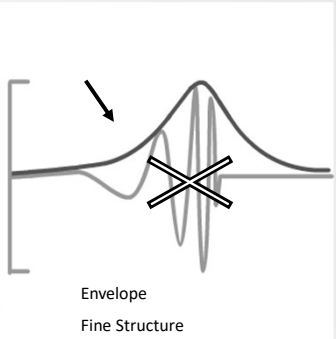
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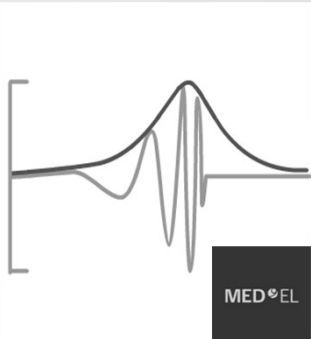
Physical Variable: Dementia



(Gfeller, 2016)



Envelope
Fine Structure



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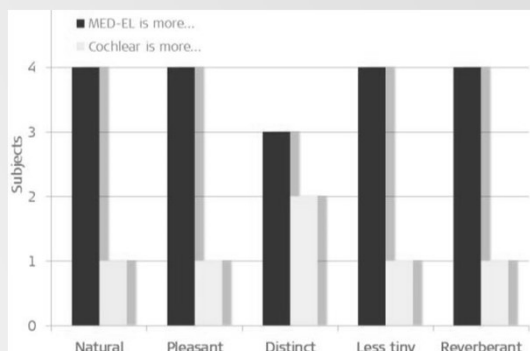
Music sounds Pleasant and Better than...

67%

(Brockmeier, 2007)

91%

(Müller, 2012]

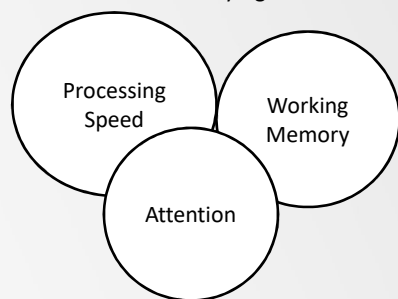


(Harris, R. et al., 2011)

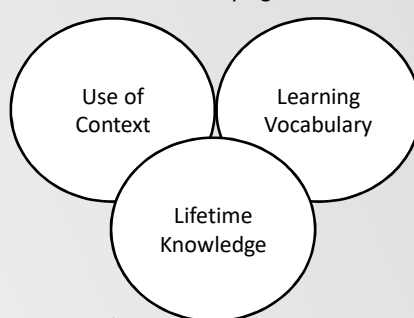
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Cognitive Variables

Affected by Age



Unaffected by Age



(Tye-Murray, 2014; Pichora-Fuller et al, 1995; Nicholas, et al 1997)

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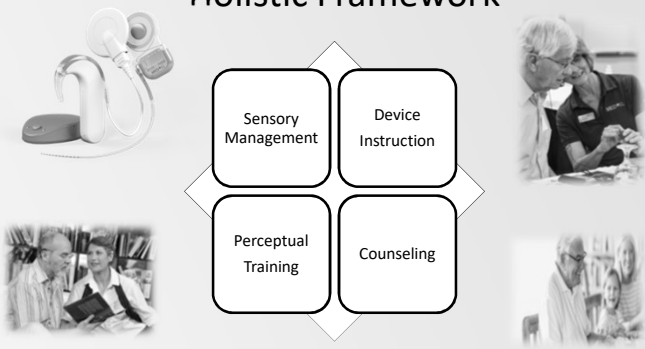

Intervention

Older Adults





Holistic Framework



(Boothroyd, 2007)

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Sensory Management

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Sensory Management

(Bess, 2000; Leung et al, 2005; Stark & Hickson, 2004; Holden et al, 2005; Clark et al 2005; Tye-Murray, 2014; Ruth et al, 2017)

Excellent and Frequent Device Instruction is Key!

<p style="text-align: center;">Hearing Aids</p> <p style="text-align: center;">Lead to improved:</p> <ul style="list-style-type: none"> – Confidence, independence, relationships and life outlook. <p style="text-align: center;">Need to be:</p> <ul style="list-style-type: none"> – Easy to handle <ul style="list-style-type: none"> • Self Adjusting • Automatic T-Coils • Remote controls • Rechargeable batteries 	<p style="text-align: center;">Cochlear Implants</p> <p style="text-align: center;">Despite Concerns, CIs lead to:</p> <ul style="list-style-type: none"> – Similar benefits as younger adults – Improved communication, confidence, participation and QoL <p style="text-align: center;">Audiologists may simplify:</p> <ul style="list-style-type: none"> – Initially MAP on comfort or volume – Once acclimated, reduce the number of maps – Deactivate certain features
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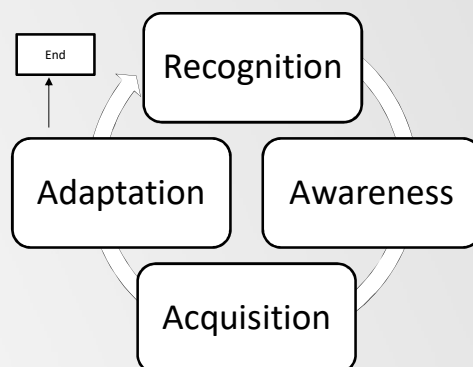
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Assisted Listening Devices



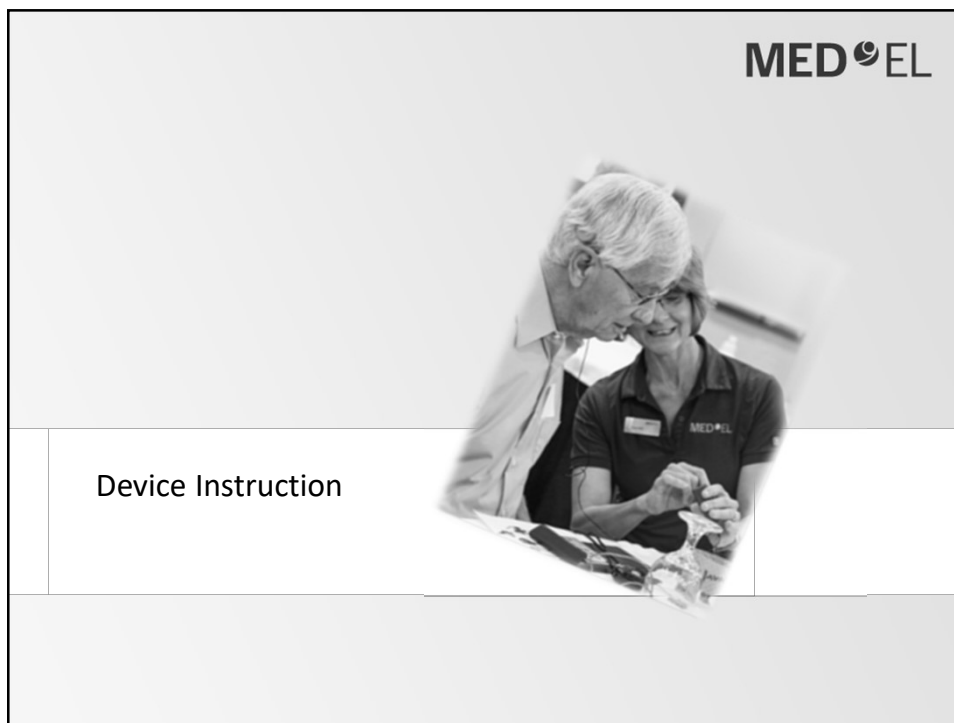
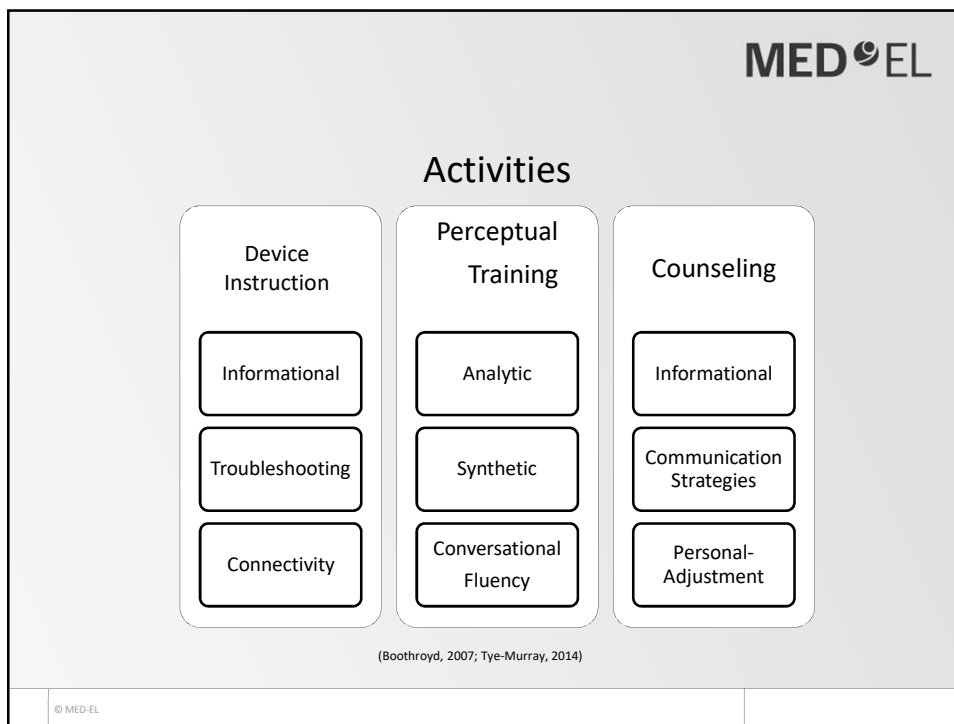
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Assisted Listening Devices



(Tye-Murray, 2014; Southall et al, 2006)

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Device Instruction: Materials



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Blog

TECHNOLOGY

Technology

Roger™ 21 with the Roger Clip-On Mic Product Review

Want to hear clearer especially in noisy settings? The Roger™ Clip-On Mic can help you hear every word of the conversation—CI user Megan shares her review!

[READ MORE](#)

Review of the Roger™ 21 with the Roger Pen Wireless Microphone

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Perceptual Training

(McClatchie & Therres, 2003; Tye Murray, 2014; Fu & Galvin, 2007; Looi, 2012; Weinberger, 2012; Krishnamurti et al, 2014))

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Perceptual Training

Auditrain: USB

Syntrain: USB

www.medel-bridge.com

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Challenges: Perceptual Training



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Perceptual Training

Set Goals.



Hear Today

Practice Alone



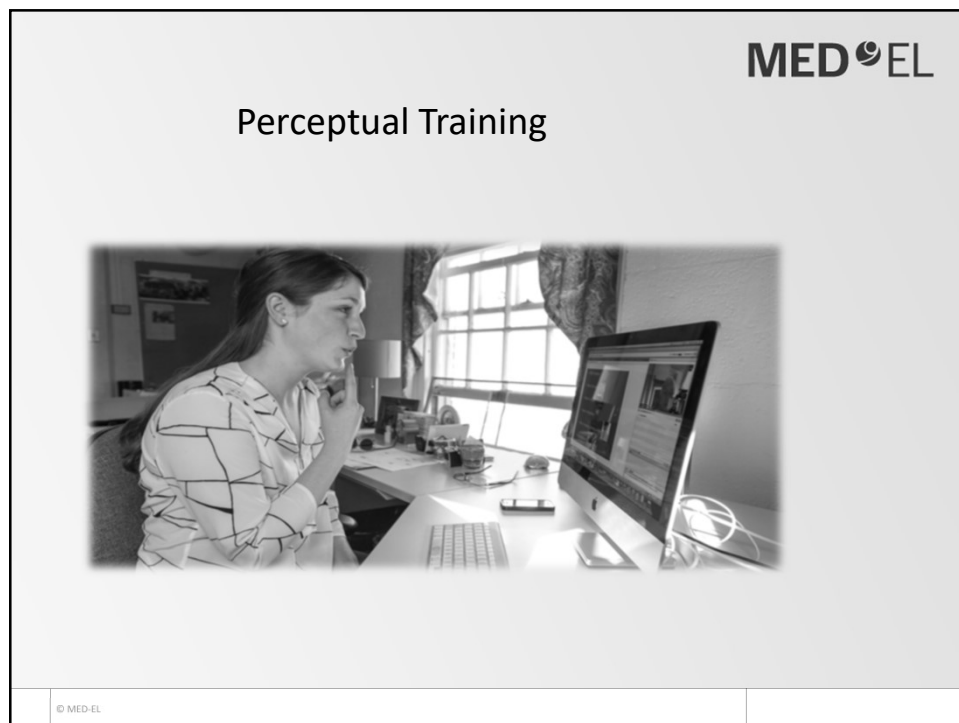
Practice with a partner.



Hear at Home

Listening Up!

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Perceptual Training

The diagram illustrates the location of the Downtown Cochlear Implant Center, which is a large, modern building with a glass facade. It is surrounded by several smaller buildings labeled "Satellite Clinics". Arrows point from the central building to each of the four satellite clinics, indicating a network of services. The entire diagram is set against a light gray background.

Downtown Cochlear Implant Center

Satellite Clinics

Satellite Clinics

Satellite Clinics

Satellite Clinics

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Customized Learning Exercises for Aural Rehabilitation

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Speech Banana





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Counseling

Informational or Supportive

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Support Groups



MED⁹EL Meet Ups

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MED-EL Meet Ups

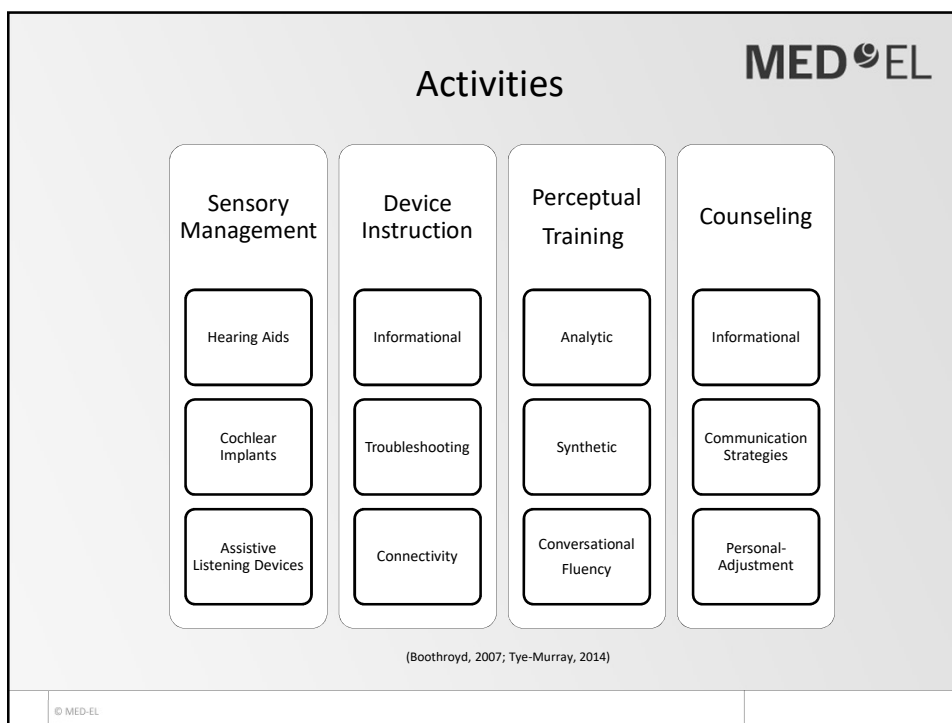


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Kramer et al, 2005



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A Holistic Approach is MOST Effective

Goal	Function	Activity	Participation	Quality of Life
Sensory Management	*	*	*?	*?
Device Instruction	*	*	?	?
Perceptual Training	X	*	?	?
Counseling	X	X	*	*
HOLISTIC	*	*	*	*

(Boothroyd, 2007; Tye-Murray, 2014)

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Intervention Strategies

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Take a Pause & Keep it Simple

- Pause after syntactic Boundaries (1.3 sec.)
- Pause even longer at the end of sentences (1.5 sec.)
- Avoid sentences with complex syntax

(Piquado, Benichov, Brownwell, & Wingfield, 2012; Peelle, Tun & Cox, 2006; Tye-Murray, 2014)

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Use Clear Speech

- ☐ Accurate pronunciation
- ☐ Slightly increased loudness that happens with careful speaking
- ☐ Emphasis on words that convey meaning
- ☐ Deliberate pauses at important breaks in the sentence
- ☐ Animated and vivacious quality

Tye-Murray (2014)

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Involve Family and Frequent Communication Partners

Provide counseling and practice in:

- ☐ Clear Speech
- ☐ Conversation: can now be tiring
- ☐ Patience and Understanding: especially during breakdowns

(Kramer et al, 2005; Hickson et al, 2006)

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Involve Caretakers

- When the patient might have a form of dementia
- Preventing loss of devices
- Maintaining devices
- Providing in-service training
- Dealing with high turnover of facility personnel

(Ferguson & Nerbonne, 2003; Lockey et al, 2010; Pichora et al, 2001; Tye-Murray, 2014)

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Provide or Refer to Group Rehabilitation



(Tye-Murray, 2014)

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Provide or Refer to Group Rehabilitation



(Pichora et al, 2001)

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Incorporate Cognitive-Linguistic Training

—2 approaches:

- A process-specific approach: improve or restore specific cognitive processes
- A functional approach: improving independence in performing real-life tasks. Emphasis on adaptation and compensation not restoration of cognitive processes

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Incorporate Cognitive-Linguistic Training

Perspectives of the ASHA Special Interest Groups
SIG 6, Vol. 1(Part 2), 2016, Copyright © 2016 American Speech-Language-Hearing Association

The Developing Relationship Among Cognition, Amplification, and Aural Rehabilitation

Jeffrey J. DiGiovanni

Communication Sciences and Disorders, Ohio University
Athens, OH

Travis L. Riffle

Communication Sciences and Disorders, Ohio University
Athens, OH

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Cognitive-Linguistic Training: Considerations

- Analytic training should receive initial attention
- Plateaus may be observed in the first few weeks
- Expect only modest improvements for those with cognitive decline
- Greater frequency and/or intensity is not necessary to enhance auditory function

Krishnamurti et al, 2014

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Summary of Strategies

Pause and Keep it Simple

Use Clear Speech

Involve FCPs and Family Members

Involve Caretakers

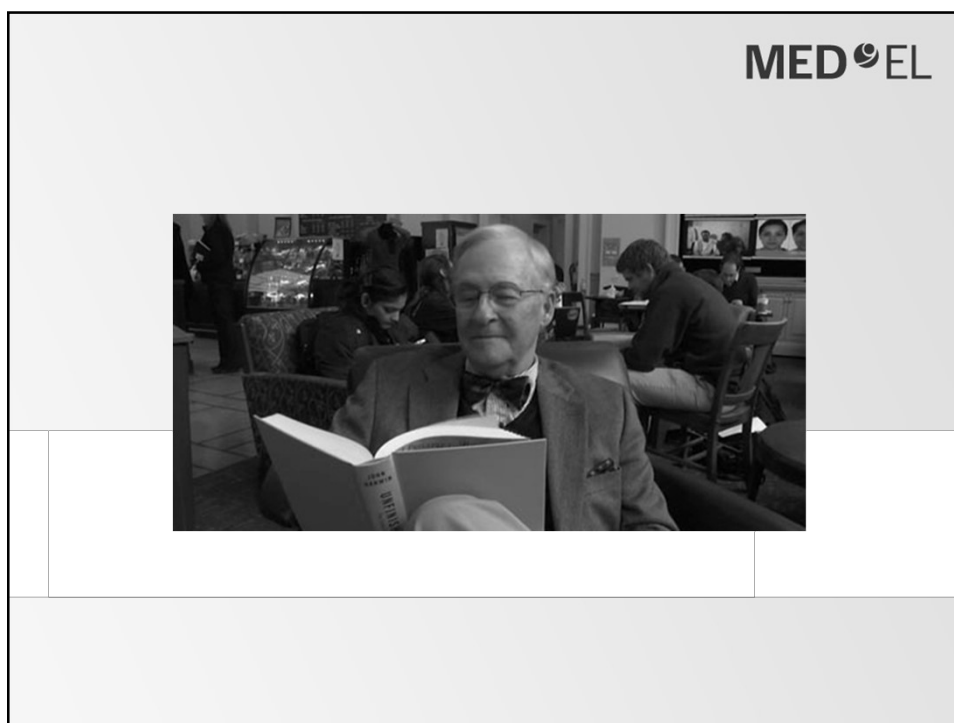
Provide or Refer to Group Aural Rehabilitation

Incorporate Cognitive-Linguistic Training (when appropriate)

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Case Examples





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Mr. Johnson's communication needs

- Improve conversation ability at home
- Improve conversation in noise
- Improve telephone conversation

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Intervention Strategy



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Hear Today
Everyday Listening Activities

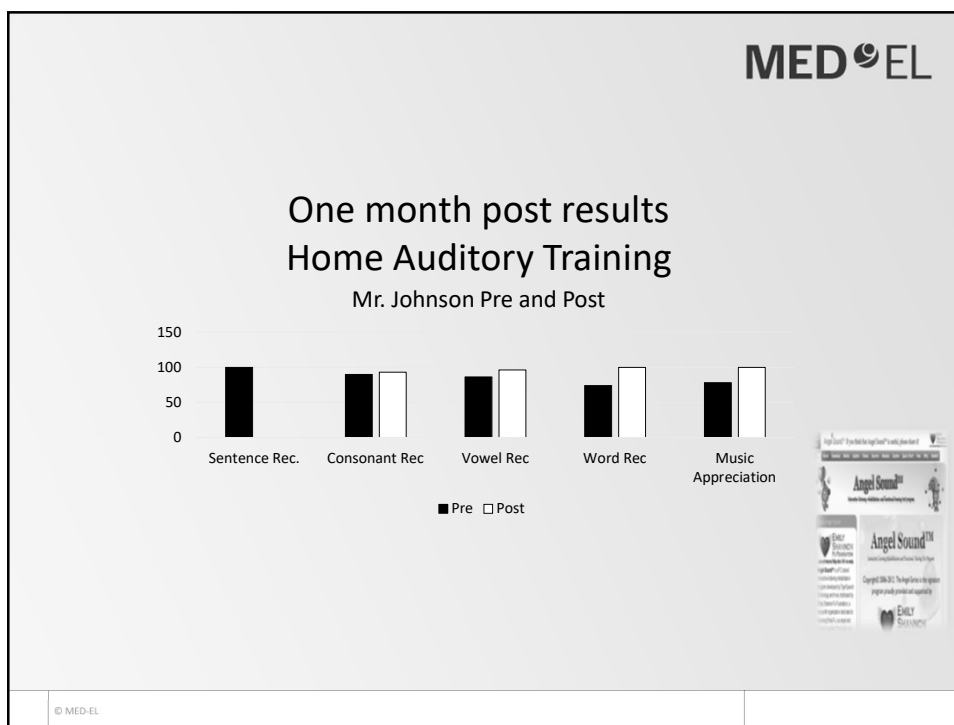
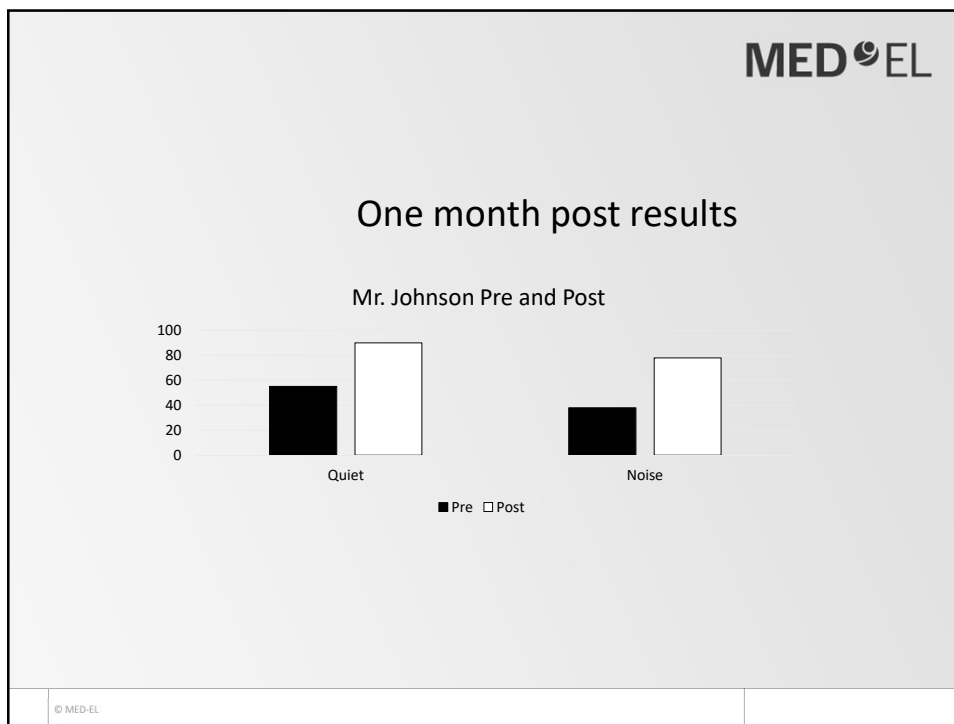
hearLIFE

Angel Sound™ If you think that Angel Sound™ is useful, please share it!

Angel Sound™ is a CD-based interactive listening rehabilitation program developed by TopDown Technology and the University of Illinois at Chicago. It is a copyrighted program and is not to be distributed without the permission of the University of Illinois at Chicago.

Copyright © 2004-2012. The Angel Series is the signature program proudly provided and supported by

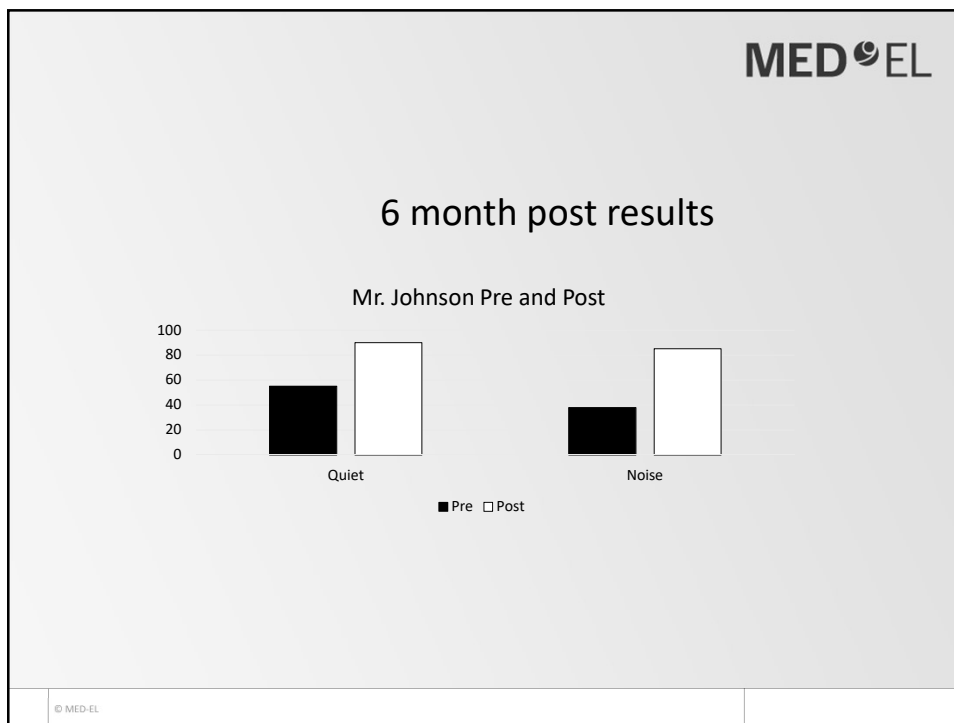
EMILY SHANNON
Ph.D. President

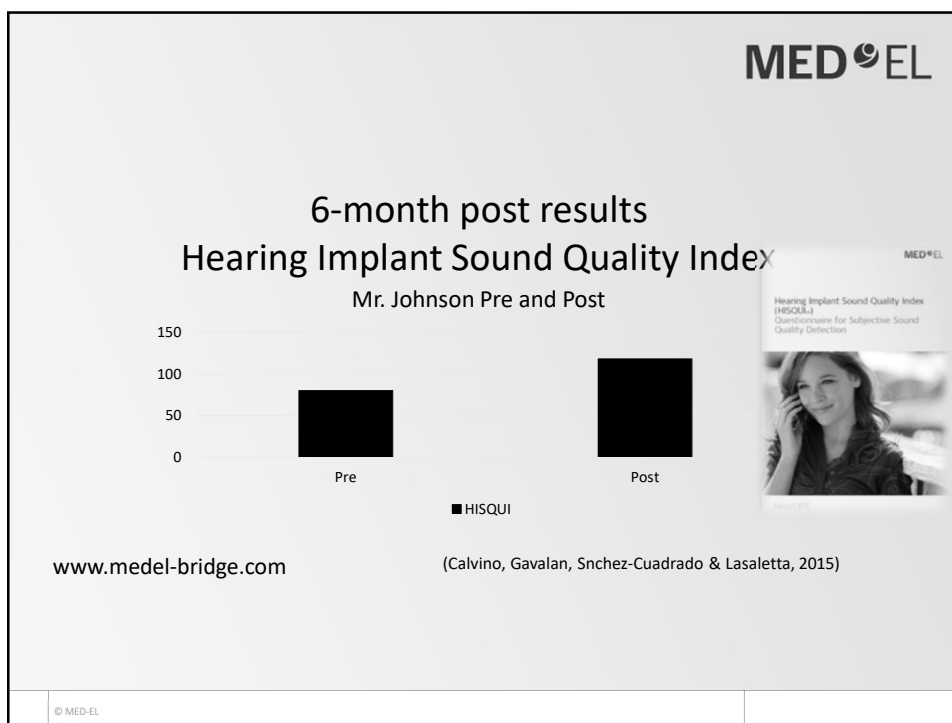


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Plan Modification

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Mr. Johnson's Potential Future Activities



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(Tye-Murray, 2014)

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Objectives



Understand activity limitations and participation restrictions in the older adult


Describe Assessment Considerations

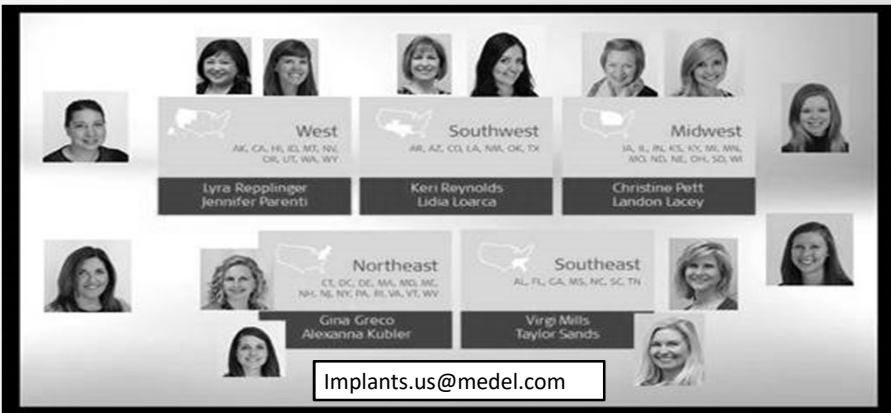
List Intervention Strategies

Relate to a Case Example

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Final Considerations





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