



Techno Savvy or Tech No-Savvy

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agenda

PATIENT CENTERED
HEARING AID ASSESSMENT

SUSTAINABLE CLINICAL
PRACTICES

ESSENTIAL PATIENT
PERFORMANCE DATA

PROMOTING BEST
COMMUNICATION

QUESTIONS / SUMMARY

Techno-Savvy?

My big brother!

Has smart phone -- mostly for
texting and games; sometimes
he calls!

Won't use Facebook on his
iPhone

Finally figured out group video
calling during pandemic



Techno-Savvy?

My 91 year old father

Flip phone user until 6 years ago

Not interested in hearing aids (his daughter had a different opinion!)

Gateway technology: iPad for video calls

Second gateway tech: Stand-alone TV headset

Currently: iPhone user; Bluetooth-enabled hearing aids connected to iPhone, iPad and TV streamer

Requires regular family support of technology



The background features a light grey base with several overlapping organic shapes. On the left, there is a large, semi-circular shape in a dark brown color. To its right, a smaller, rounded shape in a muted olive green is visible. A white, wavy line starts from the bottom left and curves across the lower right portion of the image. In the top left corner, there are faint, stylized grey patterns resembling pine needles or fern fronds.

Patient-Centered Hearing Aid Needs Assessment

Elements of Person-Centered Assessment



Assess Motivation



Assess Current Communication Abilities



Assess Most Important Listening Environments / Communication Partners



Assess Technology Interest



Assess Technology Comfort

Value of Overall Health

Consider mind, body and spirit

Value of Experiences

- Participation with family and friends

Value of Individualization

- Approach is personalized
- Patient feels special / feels considered

Impairment / Handicap Scales

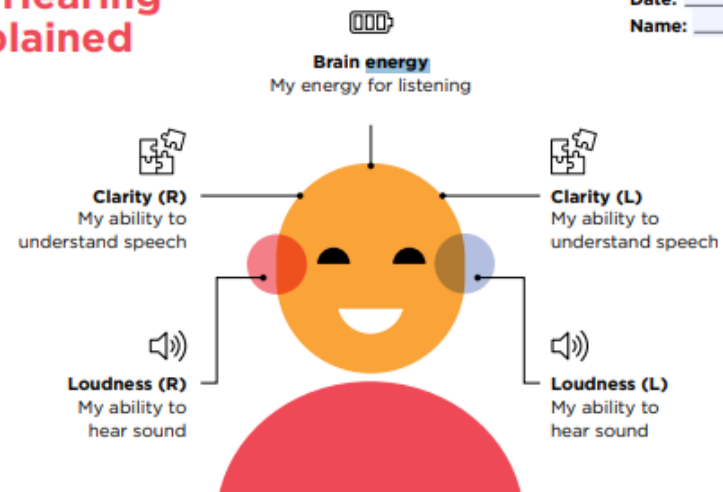
- HHIA / HHIE
- Do they fit in with Positive / Patient Centered Approach?
- The words we use are important
 - Hearing Loss versus Hearing Concerns
 - Impairment / Handicap versus Communication Challenges
 - Audiogram versus SpeechMapping / Speech Audibility

Ida Institute Clarity Loudness Brain Energy

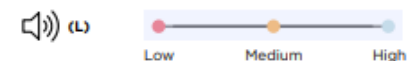
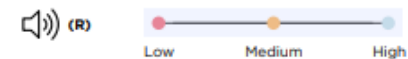
My Hearing Explained

Date: _____

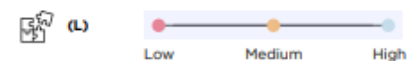
Name: _____



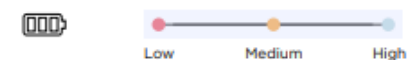
My ability to hear sound is:



My ability to understand speech is:



My energy for listening is:



My everyday life

What I struggle with:

What I can hear:

My most important communication situations:

- _____
- _____
- _____

My next steps

Technology to help me:

My communication strategies:

- _____
- _____
- _____

Other:

COSI

- Client Oriented Scale of Improvement
 - Important communication situations identified by patient/client
 - Ratings of ability in those situations can be tracked
- Patient motivation is not rated
- Intake and Outcome Tool

- Dillon, et al, 1997

COAT

- Characteristics of Amplification Tool
 - An Intake Tool
 - Assesses Top 3 Listening Situations identified by patient
 - Assesses patient's priorities (cost, size, benefit)
 - Assesses person's motivation, confidence and style preferences
 - Provides overview of HA styles and costs
- Sandridge & Newman, 2006

PACA

- Personal Assessment of Communication Abilities
 - 12 Item Self-Report Questionnaire
 - Patient's self-assessment of communication abilities in common listening situations
- Patient motivation is not evaluated
- Offered online via EarTrak (Australia / USA) and incorporated into several clinic's online resources

PACA – Ratings of 12 Listening Situations on 5-point scale

- One-to-one Conversation
- Conversation in Small Groups
- Conversation in Large Groups
- Outdoors
- Concert / Movie
- Place of Worship / Lectures
- Watching TV
- In a Car
- Workplace
- Telephone – Landline
- Telephone – Mobile
- Restaurant / Cafe

BOAT – An “Etsy” Approach!

- Benefits of Amplification Tool (BTNRH)
 - Brainchild of Kathryn Beauchaine @ BTNRH
- Incorporates ratings of patient’s motivation to improve hearing & use devices
- Assesses areas of listening difficulty on 4-point scale (see PACA)
- Reviews communication priorities (see COAT)
- Selection of desired hearing aid features rather than specific styles

How important is it to you to improve your hearing? Mark an X on the line.

0-----5-----10
Not at all *Somewhat* *Very important*

How willing are you to try hearing aids or other devices to improve your hearing? Mark an X on the line.

0-----5-----10
Not at all *Somewhat* *Very interested*

Below, check the amount of hearing difficulty you have in each situation:

	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Very Much</u>	<u>N/A</u>
One-on-one	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small groups (2-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Large groups (6-12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concerts/movies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Place of worship/meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In car	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone:					
Landline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restaurant/café	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Next, circle your top 3 priorities in the above list.

What hearing aid features are important to you? (select as many as like)

- size of device
- rechargeable batteries
- moisture resistance
- streaming cell phone calls – phone make/model: _____
- streaming from other devices (e.g., TV, iPad, computer)
- cost
- tinnitus program

Clinical Challenges

Fast Pace of
Clinics

Preparing Patient
for Assessment
Process

- Make simplified steps/explanation available during initial evaluation or intake

NEXT STEPS FOR HEARING AIDS

Make Hearing A Priority



1 EXPLORE YOUR OPTIONS

Schedule a Hearing Aid Evaluation to review listening challenges and hearing aid technology options with an Audiologist



2 INCLUDE YOUR FAMILY

Include family members in appointments to discuss listening challenges, hearing aid options and technology needs



3 CONFIRM YOUR INVESTMENT

At the evaluation, costs of devices and services are reviewed and insurance benefits confirmed by your audiologist



4 START A TRIAL

At the next appointment, hearing aids are fit. Get ready to explore the new world of sound around you during a 50 Day trial.



5 EVALUATE AND TUNE

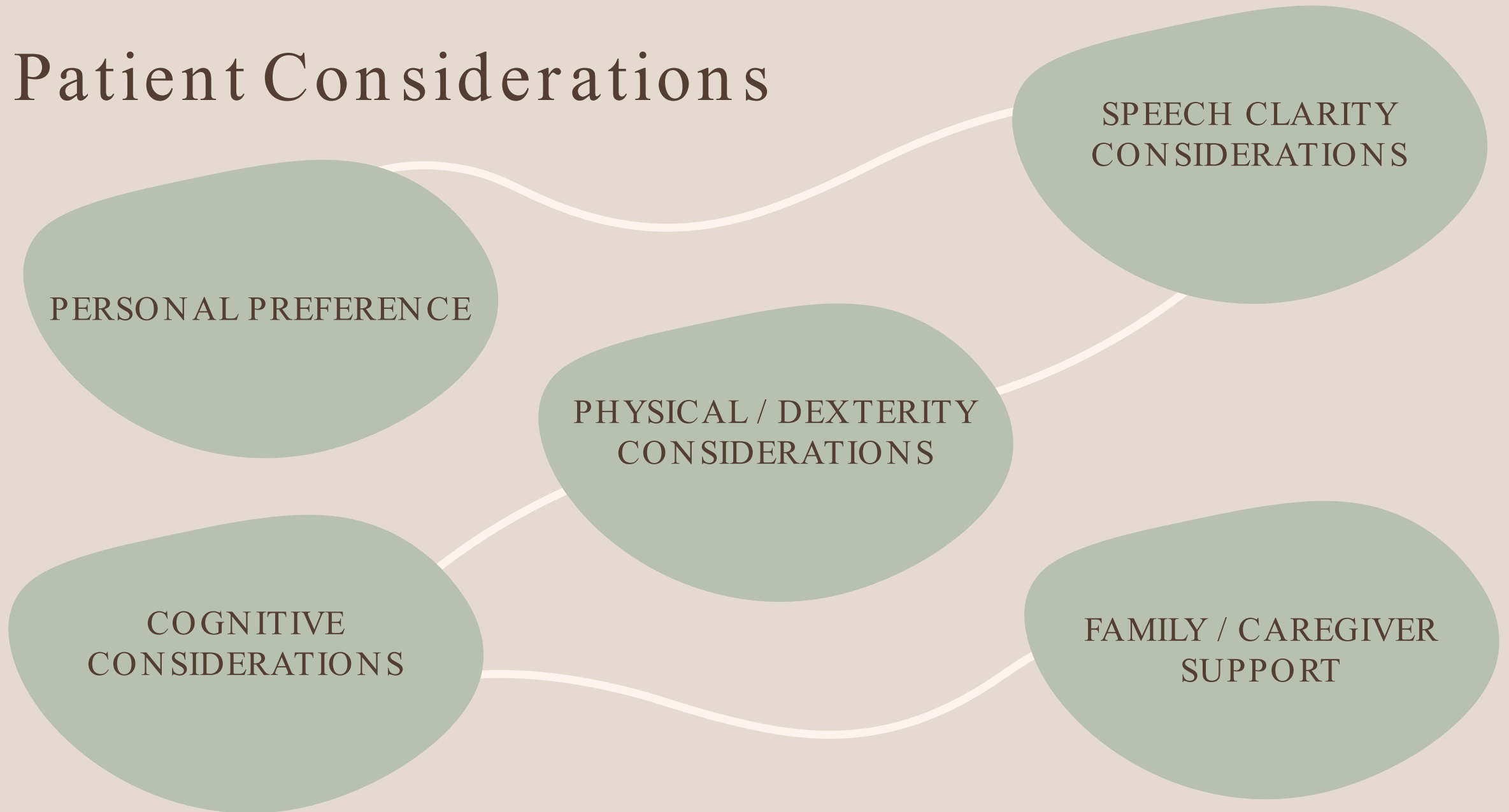
Research based measures are used to verify hearing aids on your ears. Settings are fine-tuned for you at the fitting, during the trial period and beyond



6 KEEP IN TOUCH

Follow up at least annually or more often for cleaning and maintenance. There is no charge for adjustments, cleaning or repairs during the 4 year warranty period

Patient Considerations




The background features a light grey base with large, overlapping organic shapes in muted green and brown. In the top left, there are stylized, layered patterns of foliage in shades of grey and brown. A thin white line curves across the bottom right, overlapping the green and grey shapes.

Elements of Speech Clarity

Limitations of Standard Word Recognition

- It doesn't predict how people perform in the real world.
 - It doesn't predict how people understand speech in background noise.
 - Unless the scores are *very* poor, it doesn't predict who will benefit from amplification.
-
- Mueller & Hornsby, 20Q, Audiology Online 2/17/20



Using Speech Testing Results

Testing Word Recognition in Quiet

How is it used?

- Diagnostic assessment standard?
- Evaluation of Hearing Aid Candidacy?
- Testing at Best Performance Levels
 - SRT +40 dB
 - PBMax
 - LDL -5 dB
 - 2000 Hz + SL
- Testing at Typical Conversational Levels

Testing for Best Performance: 2000 Hz + SL

- 2000 Hz Threshold <50 dB HL: 25 dB SL
 - 2000 Hz Threshold 50–55 dB HL: 20 dB SL
 - 2000 Hz Threshold 60–65 dB HL: 15 dB SL
 - 2000 Hz Threshold 70–75 dB HL: 10 dB SL
-
- Guthrie & Mackersie (2009)

Testing at Typical Speech Inputs

- How is it used?
 - Evaluating people who are “doing fine” as they are (counseling)
 - Tracking outcomes – unaided versus aided results
- What Levels Should I Use?
 - HL to SPL conversions for 65 dB SPL (average speech)
 - Headphones (HL minus ~ 20 dB = 45 dB HL)
 - Soundfield (HL minus ~ 13 dB = 52 dB HL)
 - HL to SPL conversions for 55 dB SPL (softer speech)
 - Headphones (HL minus ~ 20 dB = 35 dB HL)
 - Soundfield (HL minus ~ 13 dB = 42 dB HL)

Testing in Noise

- SNR Loss (QuickSIN)
- Overall % Correct at specific SNR – AZBio
- SNR-50
- Binaural versus Monaural Testing Options
- Can be Intake and Outcome Tracking
 - Soundfield options must be considered

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Physical/ Dexterity Challenges

Physical Considerations

Rechargeability

Separate Remote Controls

Audible Signals (“Right” “Left” “Noise”)

Extra grips / handles

Custom Earpieces

ITC / ITE versus RIC design

Caregiver Support

Visual challenges

- Seeing smartphone screens
- Changing programs
- Right / Left ID
- Changing batteries

Neuropathies / Tremors

- Feeling buttons / switches
- Changing batteries
- Inserting & Removing small devices / RIC receivers

Arm / Hand / Joint Impacts

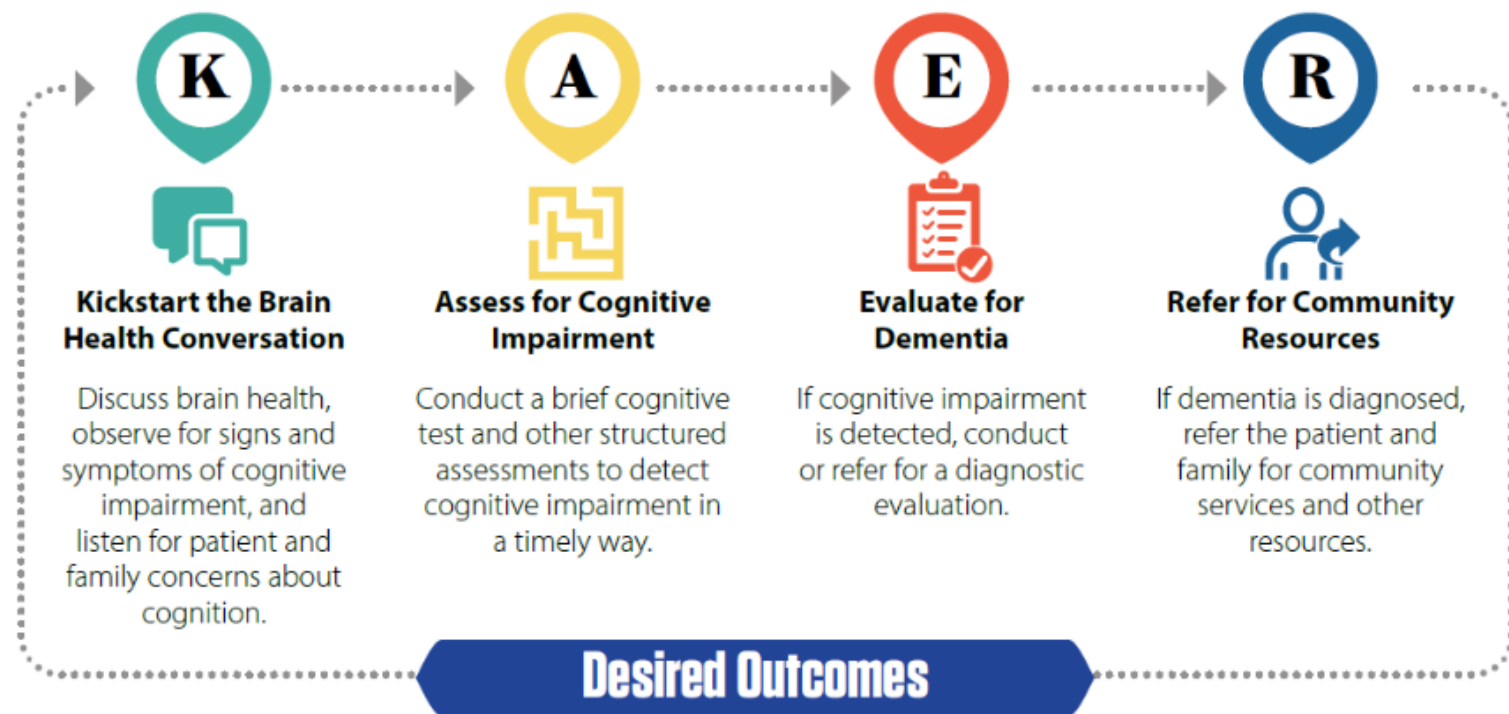
- Changing batteries
- Inserting & Removing devices at ear level

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Dementia Challenges

Gerontological Society of America Toolkit

The Toolkit is based on the KAER Framework, which consists of four steps: Kickstart, Assess, Evaluate, and Refer.



Desired Outcomes
Well-being and positive health-related outcomes for people living with dementia and for their families

Dementia

- Is Dementia Screening appropriate with your patient population?
- Do you have supports in place to:
 - review screening results
 - counsel patient/family on implications of results
 - refer patients for further testing when appropriate

Screening Options

- Mini-Cog
- Memory Impairment Screen (MIS)
- General Practitioner Assessment of Cognition (GPCOG)
- Computerized Screening Systems (e.g. Cognivue System)

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General Tech Preferences

What are common adult patient characteristics



GEN XERS

Middle Adulthood 50-60



BABY BOOMERS

Early Elderly 60-76



SILENT GENERATION

Late Elderly 77+

- **Gen X** was first generation to use computers at home and school regularly – 86% using smartphones (AARP 2020)
- **Early Elderly** – 81% have smartphones (AARP 2020)
- **Late Elderly** – 62% of elders 70+ have smartphones (AARP 2020)
- COVID has had significant impact on device implementation

Focusing on Tech No-Savvy Approaches

Limited Smartphone Use: email, directions and/or social media only

- Top tier amplification technology
 - **No Remote / No Streaming Technology**
- Standard tier amplification technology
 - **Possible Remote / No Streaming Technology**

Top Tier Technology

PROS

- Using Higher/Highest Technology so that manual changes eliminated
- Best for adapting to noisy environments
- Consider what can be managed with limited dexterity
- Best sound cleaning/processing for users with poor word recognition

CONS

- Cost to patient/family (if out of pocket costs incurred)
- Possible Cost/Benefit perceived by patient
- Patient may still need Remote Microphone to hear/understand
- Third party funding will not cover Top Tier tech

Standard Tier Technology

PROS

- Introduce tech as amplification *system*: HA plus remote control, remote microphone or streaming “hub”
- External accessories may be more manageable for vision, mobility or dexterity concerns
- Remote may pair to “Flip” phone
- Overall cost of system

CONS

- Less complete noise reduction when in noisy environments
- Special speech / sound processing not available (e.g. Pure Sound, Sound Intelligence, Speech Enhancer, SmartSpeech, etc)
- Patient/Caregivers may not be able or available to manage accessories

MANUFACTURER FEEDBACK

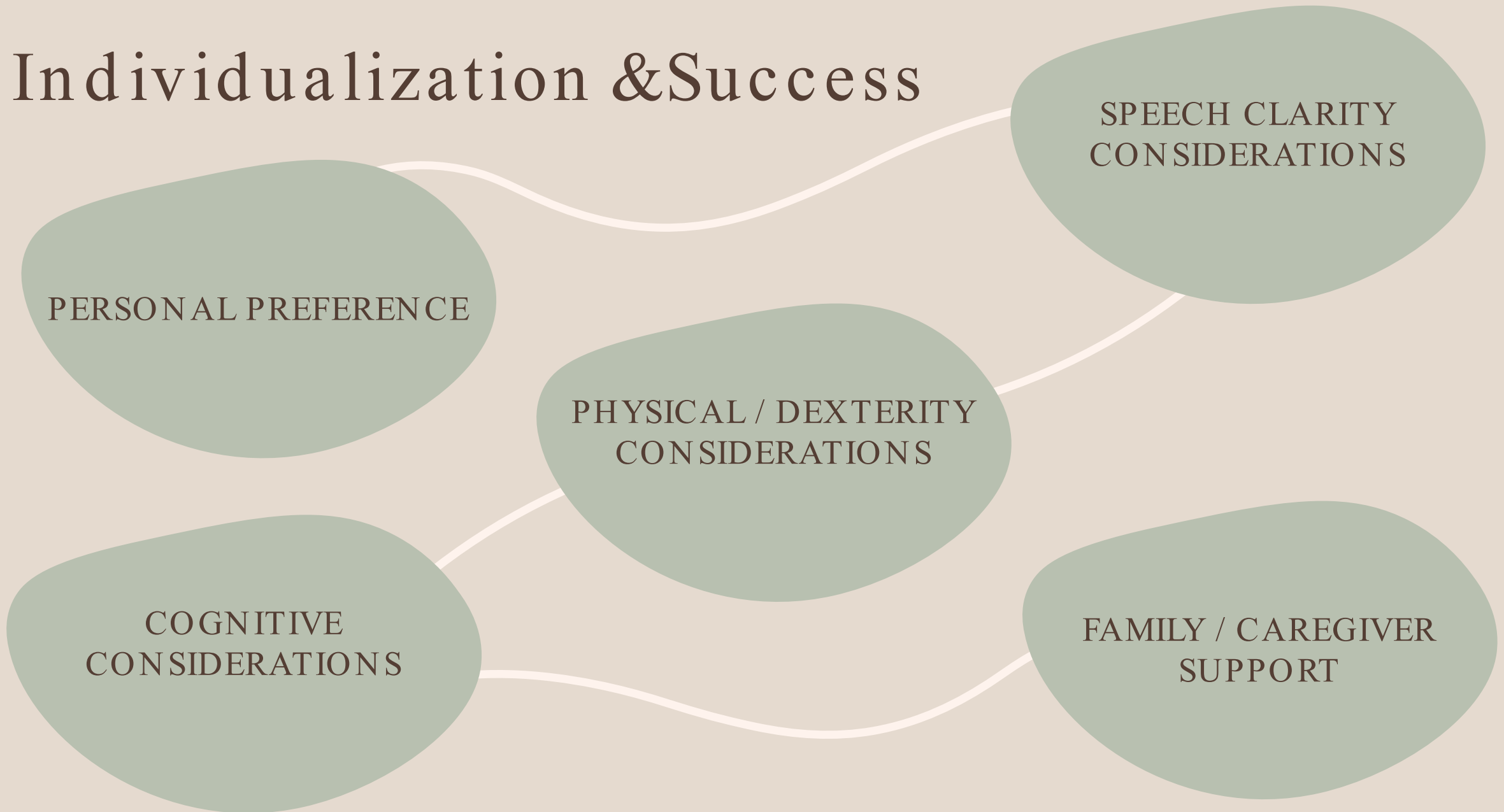
Phonak demographic data generally indicates that patients 90+ years of age show **Bimodal** distribution of technology use: ~ 50% use Highest Tech Tier; ~50% use Basic Tech Tier

For all other patient age ranges, Highest Tech Tier is most common

MANUFACTURER FEEDBACK

Oticon general adult sales data indicates **Bimodal** distribution of MORE technology use: ~ 50% use Highest Tech Tier (MORE 1); ~50% use Standard Tech Tier (MORE 3)

Individualization & Success



Developing more Techno-Savvy Patients

What is a “Gateway”
Technology that
could be effective?

- TV Amplification Systems
- iPad / Grand-Pad Tablet for phone calls

Providing
“Technology Days”
or Classes?

- Aural Rehab Plan for your patients & caregivers
- Consulting with a Smart Phone Expert
- Hands-on with Accessory Technologies

Summary

Patient-centered care includes assessment of patient's comfort with and management of technology

Individualization of care has many facets and considerations

Techno-Savvy AND Tech No-Savvy patients can greatly benefit from current amplification options





Questions?

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