Rigshospitalet

REGION

CI-netværk 2021

Auditory Skills Training - AST

Fredericia 5. oktober 2021

Trine Malig Svoldgaard

Addie Brøste Gugolka

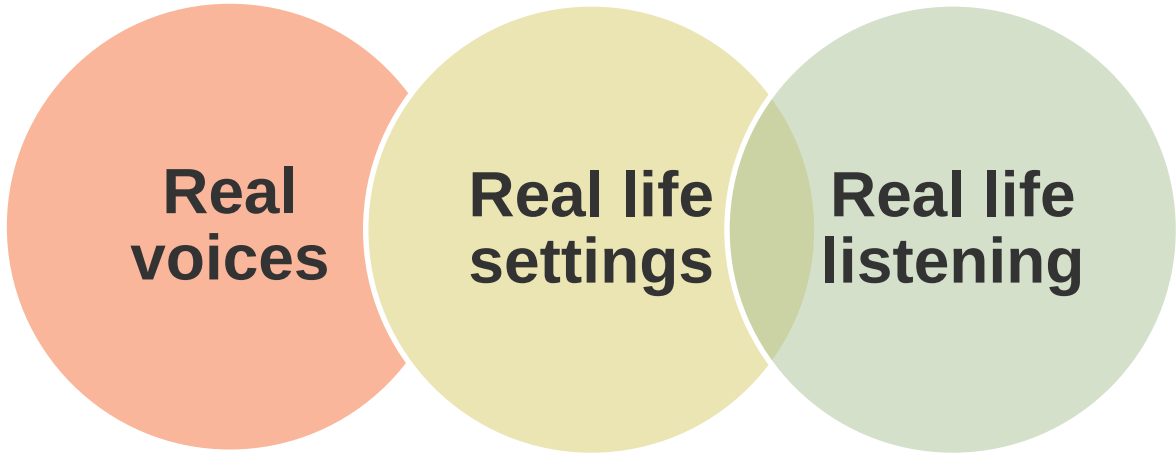
Matilde Grønborg Sandvej

Dagsorden

- Introduktion til AST (Matilde)
- Case 1: (Addie)
- Case 2: (Trine)
- Spørgsmål (15 min)

Formålet med AST (Auditory Skills Training)

- *AST er anvendelsen af teknikker, strategier, betingelser og procedurer, som fremmer tilegnelsen af lyttefærdigheder, så det nyerhvervede auditive potentiale kan blive udnyttet maksimalt*



(MacIver-Lux, 2009; Estabrooks, MacIver-Lux & Houston, 2014).

AST er baseret på 9 principper

- 9 AVT-inspirerede principper
- - AST-terapeuten skal kunne guide og coache CI-brugeren og dens pårørende:
  - Målsætning for det ønskede høreudbytte og opnåelse af dette
  - Anvendelse af hensigtsmæssige strategier og teknikker i hverdagen
  - Høreselvtillid
  - I forhold til at kunne takle evt. socioemotionelle udfordringer.

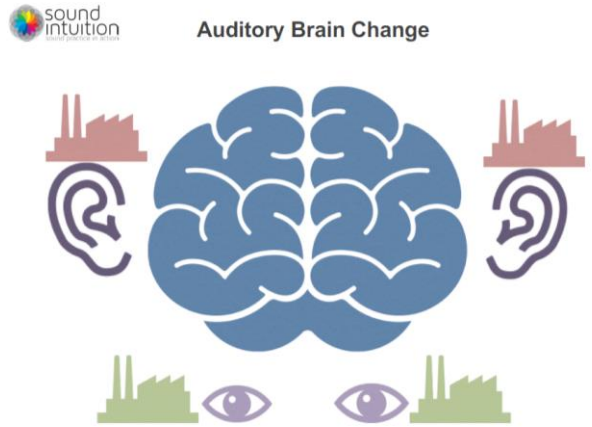
  - AST-terapeuten skal løbende kunne:
  - Diagnosticere og monitorere høreudbyttet, for bl.a. at kunne udvikle en individualiseret træningsplan
  - Opfordre til anvendelsen af relevante høretekniske hjælpemidler

(MacIver-Lux, 2009; Estabrooks, MacIver-Lux & Houston, 2014).

De 9 AST principper

1. Guide and coach adolescents/adults and their family/significant others to develop specific goals that will help meet desired listening and spoken communication outcomes with the hearing aids and/or CIs.
2. Guide and coach adolescents/adults and their families/significant others to use techniques and strategies during daily life situations that promote optimal use of their auditory potential through hearing aid(s) and/or CIs.
3. Guide and coach adolescents/adults to help (re)integrate listening, develop listening confidence, and use of assertive, effective communication competence into all aspects of life.
4. Guide and coach family members/significant others to encourage and celebrate the development of new and effective listening skills and listening independence in all aspects of the adolescent/adult's life.
5. Administer periodic formal and informal diagnostic assessments to develop individualized auditory rehabilitation treatment plans, to monitor progress, and to evaluate the effectiveness of the plans for the adolescent/adult and his/her family/significant others.
6. Promote the use of the latest technological developments in CI/processor programming options and its accessories, assistive listening devices, and telecommunication technology that will improve auditory access during all listening situations.
7. Guide and coach the adolescent/adult in obtaining aggressive audiological and hearing health management to maximize hearing health with the hearing aids and CIs.
8. Guide and coach the adolescent/adult in when to use alternative methods to overcome listening difficulties.
9. Guide and coach the adolescent/adult in ways to positively address socio-emotional strengths and challenges, and to seek support when appropriate.

(MacIver-Lux, 2009; Estabrooks, MacIver-Lux & Houston, 2014).



Understøttende rammer for AST

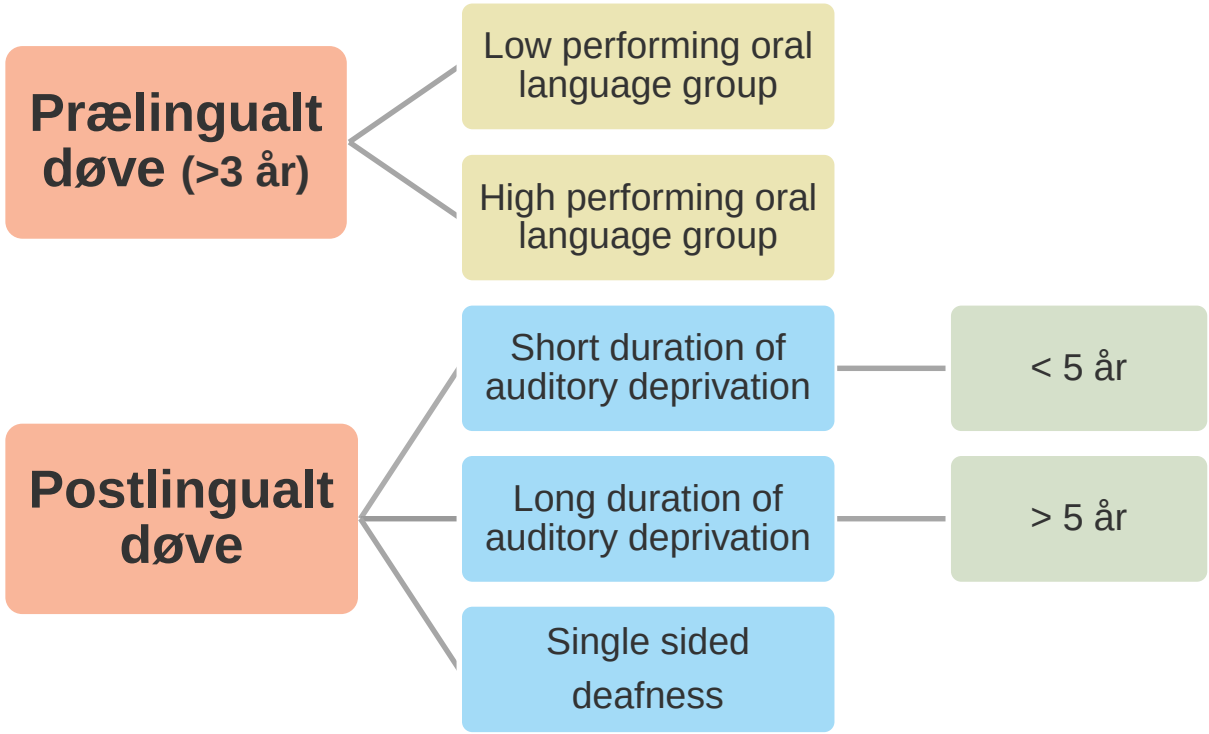
- Auditiv intervention til unge og voksne
- Auditiv deprivation: chokoladefabrikken



Understøttende rammer for AST

- Brug af teknologi på ét øre alene: (Ca. 20-30 min. af gangen)
  - *For at få de to ører til at fungere som ét*
  - *For bedre at kunne lokalisere*
  - *For bedre at kunne høre lyde og tale i støj*
  - *For at optimere musikoplevelsen*
    - Better base, richness, timbre, depth in the sound with two ears
  - *To ører reducerer lytteanstrengelsen, og øger dermed muligheden for læring*
- Isolering af ét øre → når vi ønsker diagnostisk information

Kohorte-definition og forventet udbytte

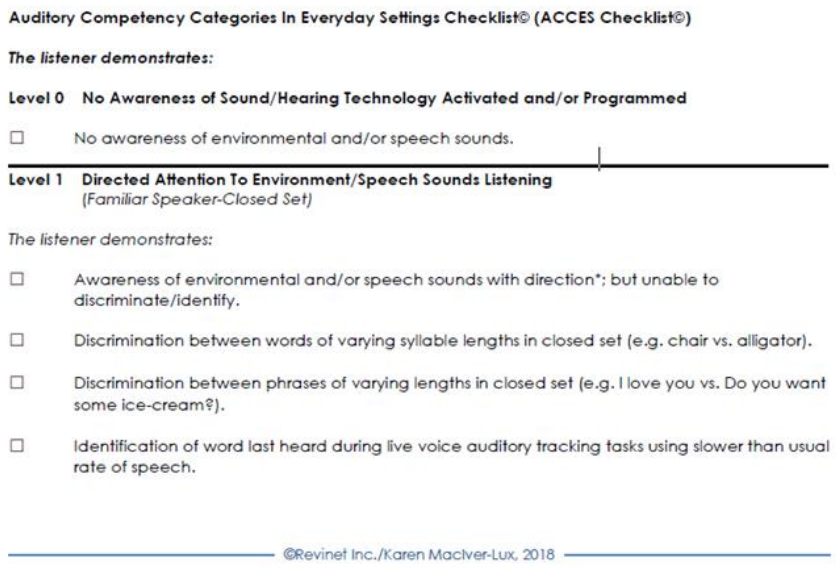


Understøttende rammer for AST

- Inklusion af pårørende
- Audiologopædens rolle
  - Tæt samarbejde med CI-tekniker.
  - Skyldes fejlhøringer problemer med MAP'en eller er det almindelige ABC-errors (Auditory Brain Changes)?
- Korttidsmål – ikke langtidsmål
  - Ny måde at lave individuel målsætning for auditiv udvikling vha. ACCESS-skema
- Anvendelse af auditive betingelser og auditive strategier fremfor "materialer"

Vurdering af auditiv udvikling

- Et nyt værktøj: ACCESS
  - Står for ”Auditory Compentency Categories in Everyday Situations and Settings”



Auditory Competency Categories In Everyday Settings Checklist© (ACCES Checklist©)

The listener demonstrates:

Level 0 No Awareness of Sound/Hearing Technology Activated and/or Programmed

☐ No awareness of environmental and/or speech sounds.

Level 1 Directed Attention To Environment/Speech Sounds Listening
(Familiar Speaker-Closed Set)

The listener demonstrates:

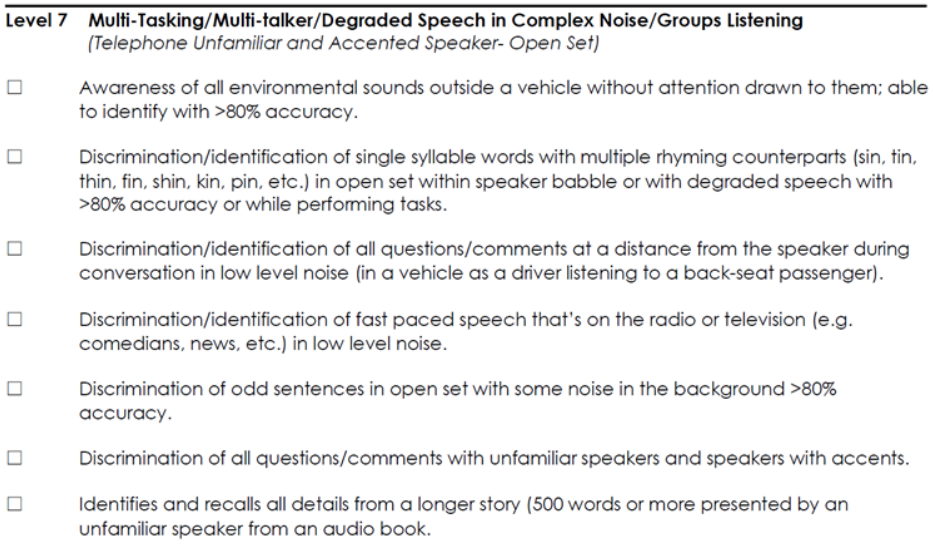
☐ Awareness of environmental and/or speech sounds with direction*; but unable to discriminate/identify.

☐ Discrimination between words of varying syllable lengths in closed set (e.g. chair vs. alligator).

☐ Discrimination between phrases of varying lengths in closed set (e.g. I love you vs. Do you want some ice-cream?).

☐ Identification of word last heard during live voice auditory tracking tasks using slower than usual rate of speech.

©Revinet Inc./Karen MacIver-Lux, 2018



Level 7 Multi-Tasking/Multi-talker/Degraded Speech in Complex Noise/Groups Listening
(Telephone Unfamiliar and Accented Speaker- Open Set)

☐ Awareness of all environmental sounds outside a vehicle without attention drawn to them; able to identify with >80% accuracy.

☐ Discrimination/identification of single syllable words with multiple rhyming counterparts (sin, tin, thin, fin, shin, kin, pin, etc.) in open set within speaker babble or with degraded speech with >80% accuracy or while performing tasks.

☐ Discrimination/identification of all questions/comments at a distance from the speaker during conversation in low level noise (in a vehicle as a driver listening to a back-seat passenger).

☐ Discrimination/identification of fast paced speech that's on the radio or television (e.g. comedians, news, etc.) in low level noise.

☐ Discrimination of odd sentences in open set with some noise in the background >80% accuracy.

☐ Discrimination of all questions/comments with unfamiliar speakers and speakers with accents.

☐ Identifies and recalls all details from a longer story (500 words or more presented by an unfamiliar speaker from an audio book.

Auditive betingelser

- Auditive betingelser, der faciliterer/udfordrer evnen til at lytte
  - Type af auditiv stimulus (omgivelseslyd, tale, musik)
  - Kendt/ukendt stemme
  - Antal samtalepartnere
  - Længden på ord/sætning (enstavelsesord, sætning)
  - Kontrast i stimuli
  - Opgavetype (closed, bridge eller open set)
  - Præsentationsmåde (live stemme, optaget tale eller telefon)

(Estabrooks, W., MacIver-Lux, K., &Rhoades, 2016; Estabrooks, MacIver-Lux & Morrison, in press)

Omgivelser og Auditive strategier

- Auditive strategier, der faciliterer/udfordrer evnen til at lytte
  - At acceptere fejl og at høre forkert (hørefejl er altid gode fejl, der faciliterer ny læring)
  - Acoustic highlighting (hviske, forlænge, lægge tryk på, synge)
  - Tilpasse og modificere lyttemiljøet
  - Spørge ”hvad hørte du?”
  - Fokusere på, hvad den voksne ved
  - At placere sig indenfor høre-rækkevidde
  - Se på den voksne med forventning om svar med en verbal promt eller en auditiv hook
  - Promte til auditory closure
  - Promte til at lytte først og sidst (auditiv sandwich)

(Estabrooks, W., MacIver-Lux, K., &Rhoades, 2016; Estabrooks, MacIver-Lux & Morrison, in press)

Auditive betingelser forsat

- Lydens/talens niveau (almindeligt, meget lavt (hvisken))
- Taletempo (meget nedsat, nedsat, almindelig, hurtigt)
- Lydens/talens retning (forfra, fra siden, bagfra)
- Afstand mellem den, der lytter, og den, der taler
- Omgivelseslyde (ro, baggrundsstøj, indendørs, arbejdsplads, bil)
- Baggrundslydens varighed (konstant eller pludselig)
- Andel af succesfuld forståelse af lyden/talen, når den høres første gang

(Estabrooks, W., MacIver-Lux, K., &Rhoades, 2016; Estabrooks, MacIver-Lux & Morrison, in press)

Igangværende Phd-projekt på Rigshospitalet

- **Projektets titel**: Voksne med Cochlear Implant: Udbytte og auditiv træning /Ved Line Husted Baungaard