



## TO NEWBORN HEARING SCREENING AND BEYOND: CHILDREN'S REHABILITATION SERVICE AUDIOLOGY PROGRAM

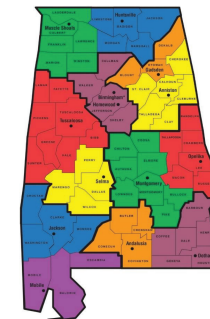
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## ALABAMA DEPARTMENT OF REHABILITATION SERVICES



MISSION: TO ENABLE ALABAMA'S CHILDREN AND ADULTS WITH DISABILITIES  
TO ACHIEVE THEIR MAXIMUM POTENTIAL.

<http://www.rehab.Alabama.gov>



## ALABAMA DEPARTMENT OF REHABILITATION SERVICES



### FOUR DIVISIONS:

- Children's Rehabilitation Service (CRS)
- Early Intervention (EI)
- Vocational Rehabilitation Service (VRS)
- State of Alabama Independent Living Service (SAIL)

## CHILDREN'S REHABILITATION SERVICE



### OUR MISSION STATEMENT

Children's Rehabilitation Service will partner with and empower children and youth with special health care needs, their families, and adults with hemophilia, to promote their health, well-being, and maximum potential.

## CHILDREN'S REHABILITATION SERVICE



- Medical and rehabilitative services to children and youth with special health care needs
- Coordination and support services for their families
- Collaboration with other public and private agencies to provide a network of health, psychosocial, educational and vocational support



## CHILDREN'S REHABILITATION SERVICE PHILOSOPHY



All children and youth in Alabama should have the opportunity to achieve their potential for growth and development.

Parents and families are recognized as the primary caregivers of their children and youth and must be equal partners with professionals in any service delivery system.

Children and youth with special health care needs often require a range of services from multiple providers. These services are most effectively delivered in proper sequence, as well as in a timely and complementary manner.

To the extent possible services should be available in the individual's community in order to assure community involvement and minimal disruption.

All personally identifiable client/family information is maintained as confidential information.

## CHILDREN'S REHABILITATION SERVICE



Children and Families: The Very Heart of CRS

## CRS CLINICS\*



- |   |                                    |
|---|------------------------------------|
| Augmentative Communication and Technology | Optometry                          |
| Cerebral Palsy                            | Orthopedic                         |
| Cleft Lip/Cleft Palate                    | Neurology                          |
| Concussion                                | Neurology/Orthopedic               |
| Craniofacial Orthodontic                  | Neuro-motor                        |
| Genetics                                  | Seating, Positioning, and Mobility |
| Hearing                                   | Seizure                            |
| Hearing Aid                               | Speech Pathology                   |
| Hearing Assessment                        | Spina Bifida                       |
| Limb Deficiency                           | Teen Transition                    |
| Muscular Dystrophy                        |                                    |

\*Clinic availability varies depending on location

## WRAP AROUND SERVICES



- Care Coordinators are social workers and nurses
- School system collaboration and IEP support
- Transition Services (EI-CR-VR)
- Family/client education and support

## ELIGIBILITY



- Any Alabama resident with special health care needs who is younger than 21 years
- Individuals with hemophilia are eligible into adulthood
- Families can receive services regardless of income level
- Financial participation is on a sliding scale based on each family's needs and resources

## ELIGIBILITY



The following programs are available to any resident of Alabama who has special healthcare needs and is under the age of 21 years:

- Information and referral
- Patient/Family Education
- Care Coordination
- Parent Connection
- Youth Connection

## ELIGIBILITY



- Other programs require a CRS defined eligible diagnosis or chief complaint in order to receive services.
  - Shriners Hospital Associated Clinical Medical Program
  - Clinical Medical Program
  - Partnership Clinic Program
  - Specialty Clinic Evaluation Program
  - Hearing Assessment Clinic and Speech Pathology Clinic do not require an eligible diagnosis.
- NOTE: For private insurance or no insurance, income documentation is required to received purchased services/equipment such as hearing aids.

## INSURANCE

- Medicaid
  - PCP referral required
- Private insurance
- No insurance



## AUDIOLOGY SERVICES



## AUDIOLOGY CLINICS



- Hearing Assessment
- Hearing Aid Clinic
- Hearing Clinic

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## ENROLLMENT-HEARING RELATED CLINICS



### Examples of partial/screening enrollment

- 2<sup>nd</sup> tier NBHS (if hearing loss is diagnosed, family will return to complete full enrollment to receive services)
- Suspected hearing loss in early childhood
- ENT needs pre- or post-operative testing due to middle ear involvement

### Examples of full enrollment

- Bilateral or unilateral sensorineural hearing loss
- Conductive hearing loss
- Unilateral hearing loss
- Auditory Neuropathy Spectrum Disorder

## FISCAL YEAR 2017 STATEWIDE HEARING SERVICES



### Hearing and Hearing Assessment Clinics

- 1,878 distinct children served

### Hearing Aid Clinics

- 991 distinct children served

### 2<sup>nd</sup> tier newborn hearing screenings

- 415 infants

### Community based hearing screenings

- 1,780 children and young adults screened

## HEARING ASSESSMENT CLINIC



This clinic is intended to ensure that any infant/child demonstrating delayed auditory and/or communication skills development receives an audiological evaluation. This includes:

- Infants who refer from newborn hearing screening
- Children who have failed a previous hearing screen
- Those who have been identified as having a risk factor(s) for developing delayed onset and/or progressive hearing loss, thus requiring periodic monitoring.

## HEARING ASSESSMENT CLINIC



### REFERRALS:

- Non-physician providers
- Physicians

▪ A CRS eligible diagnosis is not required.

▪ The CRS staff and/or vendor audiologists may refer clients to Hearing Clinic or Hearing Aid Clinic as necessary from this clinic.

## HEARING ASSESSMENT CLINIC-UNHS



- CRS adheres to the Joint Committee on Infant Hearing (JCIH) guidelines for hearing screening, diagnosis, and intervention
- CRS audiologists provide 2<sup>nd</sup> tier follow-up screening for infants referred from the initial screening.
- A screening enrollment is completed for infants referred for 2<sup>nd</sup> tier screening
- All infants enrolled for screening are assigned a care coordinator
- Results are reported to ADPH through electronic databases that were developed to reduce loss to follow-up and loss to documentation.

## HEARING ASSESSMENT CLINIC-UNHS



- Infants are screened before one month of age; any exceptions are documented and reported to ADPH
- Infants who refer the 2<sup>nd</sup> tier screening are sent for diagnostic audiological assessment
- Ideally within one month of 2<sup>nd</sup> tier screening
  - No later than three months
- If the family chooses, diagnostic assessment may be conducted at CRS.
- Diagnostic ABR assessment is available in the following CRS offices:
- Anniston/Gadsden
  - Dothan/Andalusia
  - Homewood
  - Tuscaloosa/Selma

## 2<sup>ND</sup> TIER SCREENING PASS-NO RISK FACTORS



- Parents/caregiver(s) are provided with the screening results and Alabama's Listening hearing development brochure.
- The Alabama's listening brochure:
- Details typical developmental milestones
  - Describes delayed onset and progressive hearing loss
  - Encourages parents to contact the child's primary medical provider or an audiologist to seek further testing if hearing loss is suspected in the future.

## 2<sup>ND</sup> TIER SCREENING PASS-WITH RISK FACTORS



- Parents/caregiver(s) provided with the screening results and given information regarding the possibility of late onset of hearing loss due to the risk indicator(s) present.
- Parents/caregiver(s) are provided with recommendations for follow-up monitoring of hearing status:
- Six months intervals until age 3 years
  - Once yearly thereafter until age 5
  - Sooner should at any time, the parents/primary caregiver(s) voice concern about the client's hearing
- If desired, child may be fully enrolled for monitoring hearing status through Hearing Assessment Clinics at CRS.

## 2<sup>ND</sup> TIER SCREENING-REFER



Parents/caregiver(s) are given the screening results and implications of possible hearing loss are discussed.

The need for a timely diagnostic audiology/medical evaluation is also discussed.

Families are given the opportunity to enroll in CRS for these services.

Enrollment and clinic appointments for those families who elect to receive services from CRS is provided in a timely manner to facilitate meeting target guidelines for diagnostic audiology/medical evaluation

- Ideally, diagnosis within one month of failed 2<sup>nd</sup> tier screening
- No later than 3 months of age

## HEARING ASSESSMENT-BIRTH TO 6 MONTHS



JCIH recommendations:

- Must include physiological measures and when appropriate, behavioral measures
- Battery of audiological test procedures to assess the integrity of the auditory system in each ear
- Estimate hearing sensitivity across the frequency range
- Determine type of hearing loss
- Establish baseline for further monitoring
- Provide information needed to initiate amplification
- A comprehensive assessment should be performed on both ears even if only 1 ear failed the screening test

## HEARING ASSESSMENT-BIRTH TO 6 MONTHS



- Otoscopy
- Tympanometry (utilizing 1000Hz probe tone)
- Acoustic Reflex Thresholds (ipsilateral/contralateral, if obtainable)
- Distortion Product Otoacoustic Emissions (DPOAEs)
- Auditory Brainstem Response (ABR)
  - At least one frequency specific threshold ABR is recommended as part of the diagnostic evaluation for children younger than 3 years for confirmation of hearing loss.
  - Click-evoked ABR using both condensation and rarefaction polarity should be used when there is a risk factor(s) for neural hearing loss or there is no response on tone burst ABR
  - In cases where a "best estimate" of hearing is made, continued observation and assessment of the child are mandatory.

## HEARING ASSESSMENT-BIRTH TO 6 MONTHS



If hearing loss is confirmed:

- Written parent education materials are distributed to augment information given at the time of clinic visits
- CRS supports family choice; therefore, all communication options are discussed
- Infant/child referred to "Child Find" for possible eligibility in Alabama's Early Intervention System
- Family is given information regarding CRS parent connections and Family Voices

## HEARING CLINIC



The purpose of this clinic is to provide otolaryngology and audiologic services to children with hearing loss and/or chronic ear disease.

- ENT + Audiologist + Nurse + SLP + Social Workers + Support Staff
- Medical Clearance for amplification
- Referrals for specialized testing and services
- VRS counselors may be also be available for clients who are over the age of 14 years

## HEARING AID CLINIC



The purpose of HA clinic is to evaluate hearing aid technology needs, fit devices, and provide follow up care.

Services include:

- Dispense hearing aids, earmolds, and accessories
- Hearing aid fitting and programming
- Hearing aid orientation
- Hearing aid follow up
- Audiologic monitoring
- Counseling regarding hearing loss, hearing aids, communication modalities, educational options, assistive technology, communication/compensatory strategies, and other topics as needed
- Provide contact information for additional resources

## HEARING AID CLINIC



Medical clearance is required for hearing aids.

- Hearing Clinic (vendor ENT physicians)
- Non-vendor ENT physicians

Every effort is made to fit hearing aids within one month of the diagnosis, especially for newly identified infants.

## TECHNOLOGY AND SUPPLIES



If a client qualifies for purchased services, insurance is billed and CRS covers any remaining costs

We provide hearing aids (all age-appropriate models) and accessories (only with binaurally fit hearing aids)

Oticon Ponto on soft band for diagnosis of bilateral atresia

Supplies and batteries

- CRS provides 2 packs of batteries per aid at the time of fitting
- Medicaid, ALLKids Plus - full CRS eligible for batteries
- Wax traps, dry kits, tubing changes, hearing aid cleaning and maintenance can be provided at follow up HA clinics

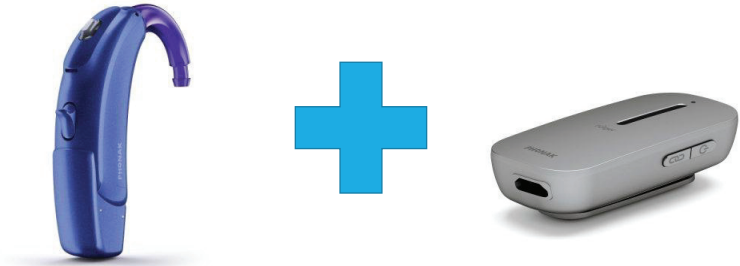


## HEARING AIDS



Sources: Phonak, ADCO Hearing, and Pinterest

## ACCESSORIES



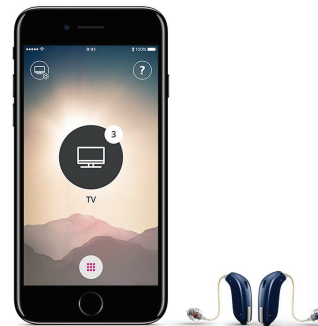
Source: Phonak

## ACCESSORIES

Accessories allow:

- Remote microphones-allow speaker to directly converse with hearing aid user, reducing background noise
- Streamers-allow for remote control of hearing aids and to interface with phones, television (with additional devices), computers, tablets, and audio sources
- FM-allows for direct audio to hearing aid user from speaker of interest (i.e., teacher)

## THERE'S AN APP FOR THAT



If This Then That (IFTT) technology allows:

- E-mail or text notification to parent or teacher that hearing aid battery is low.
- E-mail or text notification that hearing aid maintenance/check is needed.
- Many other applications

Source: Oticon

## THERE'S AN APP FOR THAT

Hearing aid apps can act as remote controls, allowing clients to change hearing aid parameters such as:

- Microphone array
- Volume
- Programs (i.e., noisy environments, music, quiet, telephone)
- Allow for hands free phone conversations directly to hearing aids

## EXTERNAL SOUND PROCESSOR



Sources: Oticon Medical and Hearing First

## PEDIATRIC HEARING AID CARE KITS



## OTHER AUDIOLOGY SERVICES



### Transition Services

Coordination as needed between Early Intervention Counselors working with hearing impaired infants and families to try to meet communication milestones [regardless of communication mode]

Audiologist provides test results, technology assistance, in services to school-aged children and will attend IEP meetings as needed.

## OTHER AUDIOLOGY SERVICES



### Transition Services cont.

Beginning at age 14, care coordinators discuss academic/career planning with the child and family

Audiologist supports self-advocacy for young adults as they take responsibility for their own healthcare with education to increase independence as children transition to young adulthood (type, degree of HL, tech, etc)

CRS Audiologist and Care Coordinator discuss cases with VR Audiologist and Counselor

## SUCCESS STORIES-HELEN HENDRIX



## SUCCESS STORIES-SAM PRITCHETT

