

# Audiology Clinic

650 Memorial Dr. Bldg 68, Pocatello, ID 83209

Phone: 208.282.3495 / Fax: 208.282.4571

**Idaho State**  
**UNIVERSITY**

Date:

Re: (Owner's name and Pet's Name) \_\_\_\_\_ Phone \_\_\_\_\_

Dear Referring Veterinarian:

Your client has requested that his/her dog receive a hearing screening / comprehensive hearing assessment. The results of the tests performed will provide a threshold estimation of their hearing. If a hearing loss is present, the test will, in most cases, delineate the nature of the hearing loss. Depending upon the request, the dog will receive either a hearing screening or a comprehensive hearing assessment. The dog may be required to be sedated for this procedure at your discretion. The report of auditory status will then be provided to you and your client.

Attached is a history form which is required prior to booking the appointment. Your completion of this form will provide us with important facts about the present health of this dog that will assist us in assessing the dog's hearing health. **If required, you, as referring veterinarian will provide the sedation, either administered by you or by the owner under your direction prior to arrival at the ISU clinic.** The dog will then simply lie on a small table or the floor in either the sternal or lateral recumbant position and rest during the procedures. Both you and the owner will receive a report on the state of the dog's auditory health and any recommended follow-up activities necessary.

The owner/dog's participation is voluntary and the owner may opt to withdraw this dog from the test at any time. The owner has also been informed that he/she remains responsible for the dog's health and behavior and that ISU will not be responsible for injuries to the dog or injuries or property damage caused by the dog.

## REFERRING VETERINARIAN

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

The test requires the dog to stay relatively still so consult with your client regarding the necessity for sedation (a mild oral sedative). Sedation is not required nor desired for puppies.

**Referring Veterinarian History Page for Audiometric Evaluation**

Date: \_\_\_\_\_

Owner Name: \_\_\_\_\_ Phone \_\_\_\_\_

Pet Name: \_\_\_\_\_

Pet History:

Age: \_\_\_\_\_ MALE / FEMALE SPAYED / NEUTERED

Weight: \_\_\_\_\_ Color: \_\_\_\_\_ Breed: \_\_\_\_\_

**Vaccinations: Please check all that have been given and date**

\_\_\_ Rabies \_\_\_\_\_  
Date Given

\_\_\_ Distemper \_\_\_\_\_  
Date Given

\_\_\_ Parvovirus \_\_\_\_\_  
Date Given

\_\_\_ Adenovirus \_\_\_\_\_  
Date Given

\_\_\_ Bordetellosis \_\_\_\_\_  
Date Given

Known allergies: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Otosopic exam to verify free from debris, foreign object, or active infection \_\_\_\_\_

Date of Exam

Critical health history items:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Current medications or treatments that this dog is taking / undergoing:**

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**How will this pet be sedated for the hearing evaluation? (*With what agent, amount, and when*)**

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**Referring veterinarian statement of authorization:**

By signing this page I am acknowledging that this dog is a safe candidate for audiometric testing.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Dr. and/or Veterinary Clinic Name: \_\_\_\_\_

Address: \_\_\_\_\_

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Phone: \_\_\_\_\_ Email: \_\_\_\_\_

FAX: \_\_\_\_\_

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## **Assessing Hearing & Audiological Impairments Health in Dogs**

Two types of hearing assessments are available from the Animal Audiology Clinic at the University of Cincinnati, hearing screening and a comprehensive hearing assessment. Currently there are no universally accepted clinical standards in the veterinary world that describe either of these procedures; therefore we are providing this to describe our procedures.

### ***Hearing Screening***

A hearing screening is usually done to determine if a puppy/adult dog can hear or has a hearing problem. Most often this procedure is requested by breeders, prior to registering and selling their dogs. The screening is a quick and easy procedure that does not require sedation when done early. The first stage is to perform an otoscopic examination of the ears. Most Clubs that utilize hearing screening as part of their registration, require an Auditory Brainstem Response (also known as a Brainstem Auditory Evoked Response or BAER) test. This test requires using very tiny subdermal needle electrodes placed in three (3) different locations on the dog's head and a foam eartip inserted into the ear canal of the ear being tested. The stimulus will be presented at a loud and soft level. This quick screening is to provide information that the puppy is assumed to have normal hearing at birth.

### ***Comprehensive Hearing Assessment***

A comprehensive hearing assessment is conducted to determine the hearing health of any dog or to identify specific hearing issues or to fit/tune K9 hearing aids. As with the hearing screening, there currently are no standards for this assessment. Our assessment battery will determine the type and degree of hearing loss across the frequency range from X to Z. It has three components: otoscopy, Distortion Product Otoacoustic Emissions (DPOAE) and Auditory Brainstem Response (ABR). This protocol can only take a maximum of 120 minutes after which the dog can go home. We require the dog to be sedated in order to get accurate results of these tests.

### **Otoscopy**

A general ear examination to assess the canal for debris and to make sure that it is safe to place the ear tip in the canal.

### **Distortion Product Otoacoustic Emissions (DPOAE)**

The DPOAE is a test of cochlear function specifically the outer haircells. As shown in Figure 2, this is accomplished by placing a probe in the ear canal and playing a number of pairs of tones into the ear. When the cochlea is stimulated by a pair of tones it creates additional tones which are transmitted back into the ear canal and can be recorded by a microphone. If the new tone (cubic distortion tone) is present above the background noise then that portion of the cochlea is functioning normally. Absent DPOAEs can mean either a conductive or cochlea hearing loss.

### **Auditory Brainstem Response (ABR)**

The Auditory Brainstem Response or ABR is sometimes referred to in the literature as a Brainstem Auditory Evoked Response (BAER) or Auditory Evoked Potential (AEP) test. Three subdermal needle electrodes are placed under the skin on the dog's head and a foam ear tip is placed in the ear being tested. A sound is sent to the ear and the EEG waveform in response to that sound is recorded by the electrodes.

When being used to determine hearing ability, it is best to assess the system at various frequencies to determine if there is hearing across the frequency range since we know that hearing loss can be present at any frequency, especially in hearing loss due to noise or presbycusis. Frequency specific tone bursts are used to elicit a response at each frequency tested. If a hearing loss is noted, then bone conduction testing will be done to determine the type of hearing loss.

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