

Chemotherapy (Ototoxicity) Surveillance Protocol Ear & Hearing | Center for Neurosciences

Please ask your Medical and/or Radiation Oncologist to obtain baseline hearing tests BEFORE beginning any chemotherapy. While testing can be obtained after you notice subjective hearing loss and/or tinnitus, your FIRST set of hearing tests are considered the BASELINE from which we determine whether you have changes that warrant procedural interventions.

You can schedule an appointment by calling Ear & Hearing | Center for Neurosciences at (520) 795-7750. Please let our schedulers know that you are undergoing cancer chemotherapy and that you would like to enroll in our Hearing Surveillance Program.

We recommend evaluation prior to initiating chemotherapy and then after every cycle of chemo. At each visit, you will see both our nurse practitioner (for history/physical exam) as well as our audiologists (for the appropriate hearing tests).

Your hearing test battery at the **first visit** will include:

1. A **comprehensive audiogram** that tests pure tone air conduction from 250-8000 HZ + 10,000-16,000 Hz.
 - a. The **high frequency testing** is unique to our chemotherapy hearing test and not done when routinely testing hearing for other clinical concerns.
 - b. Please note that these high frequency tests are rarely done in other clinical audiology practices around the Tucson community as it requires special equipment
2. **High frequency Distortion Product Otoacoustic Emissions (DPOAEs)** – while DPOAEs are often performed elsewhere, this high frequency diagnostic protocol is unique to our chemotherapy hearing surveillance program
3. **Immittance testing** – this may include tympanometry as well as acoustic reflexes to assess middle ear function
4. **Word recognition scores** – sometimes pure tone hearing remains intact but speech understanding deteriorates. Some chemotherapies can effect brain processing (“chemo-brain”). If speech understanding is deteriorating out of proportion to pure tone hearing, this information will be conveyed to your treating oncologist.

Follow up visits should be scheduled **after completing each cycle of chemotherapy**. During these visits, our **nurse practitioner** will perform a physical exam of your ears, clean them as needed, and review new hearing test data. Our **audiologists** will test pure tone air conduction from 250-8000 HZ + 10,000-16,000 Hz. If there has been a **change in pure tone hearing** (≥ 20 dB decrease at any one frequency; ≥ 10 dB decrease at any 2 adjacent frequencies; or no response at 3 adjacent frequencies), they will also perform word recognition tests and possibly DPOAEs if the latter is clinically appropriate. A change in word recognition is defined as $\geq 12\%$; a change in DPOAEs is defined as ≥ 6 dB.

Treatment: If you have had a change in hearing defined by the above criteria, our nurse practitioner will discuss risks, benefits, and reasonable expectations for **intratympanic steroid injections**. This is an office procedure. Should you elect to proceed with treatment, a visit for this procedure will be scheduled with Dr. Jacob (our neurologist/skull base surgeon). After completing chemotherapy, we advise **long term surveillance testing** 3-months, 1-year, and 2-years following treatment. These visits will be scheduled with Audiology. If hearing aids or implantable hearing devices are appropriate, these technologies will be discussed at those appointments.

Thank you for choosing Ear and Hearing | Center for Neurosciences.