Diagnostic Services

The diagnostic services offered at The South Bend Clinic include:

Acoustic Reflex Testing

Acoustic reflexes measure the movement of the eardrum caused by reflexes of the tiny muscles in the middle ear in response to sound. These reflexes help in the identification of hearing loss, but can also help identify central nervous system pathology.

Auditory Brainstem Response (ABR) Testing

The ABR test records the electrical potentials along the auditory neural pathway in the brainstem that occur in response to auditory stimuli through the use of electrodes placed near the ears and on the forehead. Click sounds and frequency specific tone burst stimuli are used to determine the softest decibel level need to elicit a response and to assess the status of the auditory pathway within the nervous system. This test helps determine the presence of hearing loss, as well as where along the auditory pathway the pathology is occurring.

Distortion Product Otoacoustic Emissions (DPOAE) Testing

DPOAEs measure a sound that is produced by the outer hair cells in the cochlea as a response to sound that is introduced to the outer ear. This test helps determine the integrity of the cochlea.

Electrocochleaography (ECochG) Testing

ECochG testing records the cochlea's electrical potentials that are induced by click sounds. These responses are measured by electrodes near the ears and on the ear drum. This test is helpful in the diagnosis of Meniere's disease.

Electronystagmography (ENG) Testing

ENG testing records eye movements through the use of several electrodes around the eyes to assess for involuntary eye movements called nystagmus. Eye movements are recorded while following a target on a light bar, in several body and head positions, as well as in response to cool and warm air being put into the ears. This test battery helps in the diagnoses of vestibular or central nervous system pathologies.

Hearing Evaluation

A standard audiometric evaluation tests a patient's subjective response to frequency specific tones presented at different intensity levels through speakers or earphones in a sound

treated room. Speech testing through word repetition is also a part of the standard test battery. A hearing evaluation is completed to determine the softest decibel level needed to elicit a response for each type of stimuli and helps to define the type and degree of hearing loss. The hearing evaluation also helps determine candidacy for hearing aids, bone anchored implants or cochlear implants.

Tympanometry

Tympanometry is used to measure the response of the eardrum, also called the tympanic membrane, in response to a low frequency tone presented along with changes in air pressure in the ear canal. This test is used to assess the integrity of the middle ear system and eustachian tube by measuring the mobility of the eardrum, the volume of the ear canal, as well as the positive or negative pressure needed to elicit movement.