Lubbock
SINUS DOCTOR

Otolithiasis

Otolithiasis is an inner ear problem that causes repeated episodes of vertigo lasting for seconds. It occurs with position changes. Commonly occurs when rolling over in bed, bending over, or looking upward. This problem occurs when inner ear calcium particles fall into an inner ear semicircular canal. The problem may occur with or without a history of head trauma. In the normal situation, the particles sit on a membrane in an inner ear sac called the utricle. These microscopic particles and the membrane help maintain normal balance. If the particles separate from the membrane, they may fall into attached semicircular canals. When particles are in these canals, the canals are abnormally stimulated. This causes brief episodes of room or head spinning as the particles move in the canal during position changes. There are three canals on each side (posterior, horizontal, superior). The posterior canal is most frequently involved followed by the horizontal. I have never seen a case of superior canal otolithiasis. Occasionally, the particles will fall out of the involved canal before the office appointment and the episodes of vertigo will resolve. If the positional vertigo is still present, the side and canal involved will be determined with positional testing in the office. Most of the time, the particles are free floating in the canal (canalithiasis). Sometimes, they are stuck to a part of the canal called the cupula (cupulolithiasis). Frenzel eye goggles are worn during testing to examine eye movements during the positional testing. The direction and type of eye movement will determine which side and canal are involved. It will also determine canalithiasis versus cupulolithiasis. Particle repositioning maneuvres are then required. Repositioning maneuvers attempt to move the particles out of the canal and back into the utricle. Different maneuvers are required for each different type of otolithiasis. Epley maneuvers are used for posterior canalithiasis. Log roll maneuvers are used for horizontal canalithiasis. Cupulolithiasis is more difficult to resolve. Different maneuvers in the opposite direction are used. A vibration device is applied behind the ear to attempt freeing of the particles off the cupula. Over 90% of the time, one set of maneuvers will correct the problem. Sometimes, the maneuvers need to be repeated during a follow up appointment. The chance of recurrence is 15%.