ACTIVITY

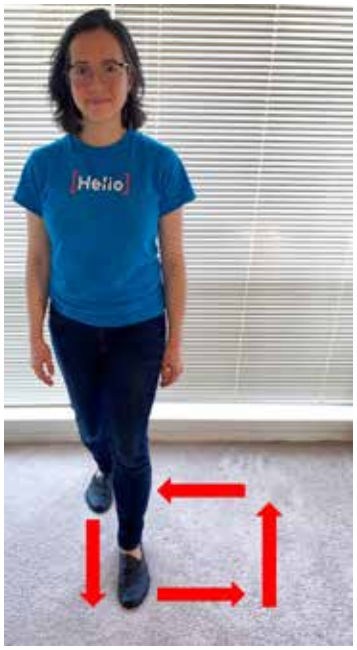
ALL AGES

BALANCE IT OUT

The ear is involved with more than just hearing. Test these disorienting activities to experience how it affects your ability to do sports, as well as how connected it is to your jaw.

INSTRUCTIONS

1. Clear a space for yourself to move and where you will not hurt yourself if you fall.
2. Move in a square. This may mean you step forward, to the side, to the back, and then return to where you started.



3. **Easy:** As you move in a square, move your body up-and-down. This may be done by alternating between bending your knees and standing on your tiptoes. You have activated sensory cells in the vestibule of your ear!

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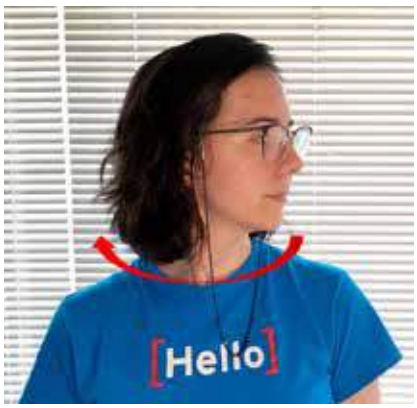
BALANCE IT OUT (CONT.)

INSTRUCTIONS

4. **Medium:** Add another motion. As you move in a square and up-and-down, alternate between turning your head side-to-side by bringing your chin to one shoulder then the other and then looking up-and-down by bringing your chin to your chest and back up. You have activated sensory cells in the semicircular canals of your ear!



5. **Difficult:** Add another motion. While moving in a square and up-and-down and turning your chin, spin your body in a circle. You are asking the entire vestibular system, containing both the semicircular canals and vestibule, to work hard!

Bonus: Try repeating these motions with your eyes closed. Our eyes and are ears often work together to help us balance and play sports.

WHAT'S HAPPENING?

Balance is largely dependent on a part of your ear called the vestibular system. The vestibular system contains fluid and hair-like sensory cells in two main regions: the semicircular canals and the vestibule. Cells in the canals help detect rotational movements of the head, like tilting and turning. Cells in the vestibule help detect linear movements related to gravity, like moving forwards-and-backwards, or up-and-down. Together these parts communicate with the brain, telling it where your body is and how to balance.

The ear does not work alone. Not only does it affect the brain, but other parts of the head can also have an effect on the ear. For example, inflammation of the part of the jaw closest to the ear can lead to changes in hearing and balance.

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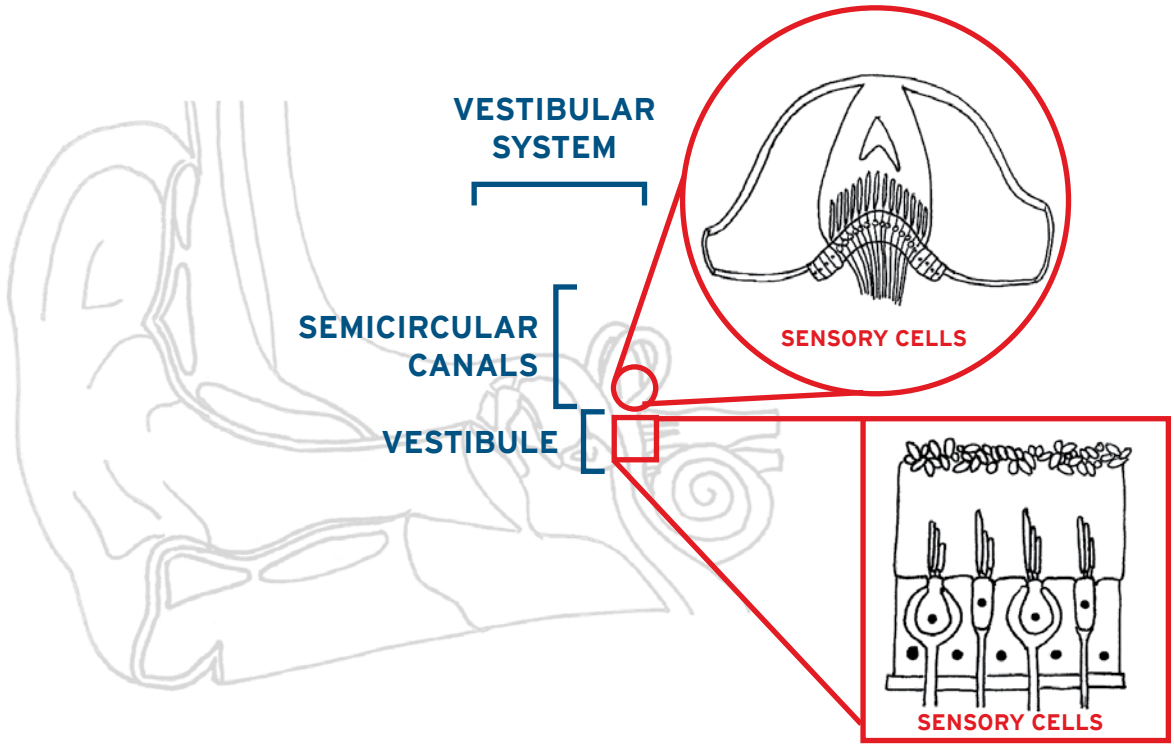
BALANCE IT OUT (CONT.)



Vestibular system: part of our ear involved with balance.

Semicircular canals: a part of the vestibular system composed of three looping tubes containing fluid and sensory cells. Heavily involved in sports like baseball, when you turn your head to follow a ball.

Vestibule: a part of the vestibular system located just below the semicircular canals and containing fluid and sensory cells. Heavily involved in sports like running, when you move forward and up-and-down.

Sensory cells: cells in the semicircular canals and vestibule that have hair-like protrusions to detect the movement of surrounding fluid. Can get overstimulated, which can confuse our bodies when we do things like spin too fast for too long. Sports like dance rely heavily on input from these cells.