

Conducting bronchioles are smaller extensions of bronchi (little bronchi). Those devoid of alveoli in their walls are nearer the hilum of the lung. These conducting passageways deliver air to passageways that have alveoli. The last generations of conducting bronchioles are called **terminal bronchioles**.

Respiratory bronchioles, continuing from terminal bronchioles, branch nearer to the alveolar ducts and sacs and have occasional alveoli in their walls. These bronchioles capable of respiring are the **first generation of passageways** of the **respiratory portion of the bronchial tree**.

Remember:

- The **conducting zone** of the respiratory system is made up of the nose, pharynx, larynx, trachea, bronchi, bronchioles, and terminal bronchioles; their function is to filter, warm, and moisten air and conduct it into the lungs. It's also called the dead zone because there is no O₂ exchange happens here.
- The **respiratory zone** is the site of oxygen and carbon dioxide gas exchange, and is composed of the respiratory bronchioles, alveolar ducts, and alveoli.

Bronchioles are characterized by:

- A **diameter** of one millimeter or less
- An **epithelium** that progresses from ciliated pseudostratified columnar to simple cuboidal (respiratory bronchioles)
- **Small bronchioles** have non-ciliated bronchiolar epithelial cells (**Clara cells**) that secrete a surface-active lipoprotein
- Walls **devoid of glands** in the underlying connective tissue
- Woven bundles of **smooth muscle** to regulate the bronchiolar diameter
- Walls **devoid of cartilage** (small diameter prevents them from collapsing at end of expiration)