

First Drug for Sleep Apnoea

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Context : The **United States Food and Drug Administration (US FDA)** has approved **Tirzepatide**, marketed as **Zepbound**, as a treatment for **Obstructive Sleep Apnoea (OSA)**. This marks the first drug-based option for certain patients with OSA, a condition previously treated primarily through mechanical interventions and lifestyle changes.

The approval recommends **Zepbound** in combination with a **low-calorie diet** and **increased physical activity**, targeting individuals with **moderate to severe OSA**. This milestone highlights Tirzepatide's versatility, extending its applications beyond managing **type 2 diabetes** and **obesity**.

Understanding Obstructive Sleep Apnoea (OSA)

Types of Sleep Apnoea

- 1. Obstructive Sleep Apnoea (OSA):**
 - The most prevalent form, caused by **physical blockage** of the airway during sleep.
- 2. Central Sleep Apnoea:**
 - Results from the **brain failing to signal breathing muscles** correctly.
- 3. Complex Sleep Apnoea Syndrome:**
 - A combination of **OSA and central sleep apnoea**.

What is OSA?

OSA is a **sleep disorder** characterized by **repeated interruptions in breathing** during sleep, often caused by the **relaxation of throat muscles**.

- These interruptions, or **apneas**, can lead to:
 - A choking sensation.
 - Brief awakenings that **disrupt sleep quality**.
 - Individuals with OSA may feel **excessively fatigued during the day**, despite spending sufficient time in bed.
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Link Between Obesity and OSA

How Obesity Contributes to OSA

- **Fat accumulation** around the neck and tongue causes airway obstruction.

- **Abdominal fat** reduces lung size, increasing the risk of airway blockage.
- Studies reveal that over **50% of OSA patients are obese**, and **25% are overweight**.

Additional Risk Factors

- **Aging**
- **Smoking**
- **Family history** of sleep apnoea

Current Treatments for OSA

- **Positive Airway Pressure Machines:**
 - Devices like CPAP (Continuous Positive Airway Pressure) deliver pressurized air to keep airways open during sleep.
- **Lifestyle Modifications:**
 - Weight loss, exercise, and dietary changes.
- **Medications:**
 - Prescribed to improve sleep quality, though none were specifically designed for OSA—until now.

How Zepbound Works

- **Mechanism of Action:**
 - Zepbound activates intestinal hormone receptors like **GLP-1 (glucagon-like peptide)** and **GIP (glucose-dependent insulinotropic polypeptide)**. These hormones:
 - **Reduce appetite.**
 - **Limit food intake**, aiding weight loss.
- **Target Population:**
 - Individuals who are obese or overweight with conditions like **type 2 diabetes**, **high cholesterol**, or **high blood pressure**.
- **Effectiveness in Treating OSA:**
 - Studies indicate that **reducing body weight** with Zepbound significantly improves OSA by decreasing **fat accumulation around the neck and abdominal fat**, which obstruct airways.

Significance of FDA Approval

1. **First Drug for OSA:**

- Zepbound is the first medication specifically approved for **moderate to severe OSA**,

addressing a critical gap in treatment options.

2. Expanded Applications of Tirzepatide:

- Initially developed for managing **type 2 diabetes**, the drug now demonstrates potential in treating a range of conditions linked to **obesity**, including OSA.

3. Broader Health Impacts:

- Zepbound's ability to reduce body fat opens possibilities for treating multiple obesity-related disorders, with ongoing studies exploring additional mechanisms.

Conclusion

The FDA's approval of **Zepbound** is a game-changer in the treatment of **obstructive sleep apnoea**. By targeting the root cause—excess fat—Zepbound offers an innovative approach to managing OSA, potentially improving the lives of millions. This development underscores the growing recognition of **obesity's role** in chronic conditions and highlights the importance of holistic treatment strategies. As research continues, Zepbound's applications may expand, benefiting a wider spectrum of patients.



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