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# Withdrawal of application for the marketing authorisation of Tuzodi (midazolam)

Regulatory Pharma Net s.r.l. withdrew its application for a marketing authorisation of Tuzodi for the treatment of convulsive seizures in adults and children from two years of age.

The company withdrew the application on 12 September 2025.

## What is Tuzodi and what was it intended to be used for?

Tuzodi was developed as a medicine for treating prolonged, acute (sudden) convulsive seizures in adults and children from two years of age.

Tuzodi contains the active substance midazolam and was to be available as a nasal spray.

Tuzodi was developed as a 'hybrid medicine'. This means that Tuzodi contains the same active substance as an authorised 'reference medicine' but there are differences between the two. The reference medicine, Ipnovel, is available as a solution for injection, while Tuzodi was to be available as a nasal spray.

## How does Tuzodi work?

The active substance in Tuzodi, midazolam, is a benzodiazepine, which acts as an anti-convulsant. Convulsions are caused by excessive electrical activity in the brain. Midazolam attaches to receptors (targets) for the neurotransmitter gamma-amino butyric acid (GABA) in the brain and activates them. Neurotransmitters such as GABA are chemicals that allow nerve cells to communicate with each other. In the brain, GABA is involved in reducing the electrical activity. By activating its receptors, midazolam increases GABA's effects, which stop convulsions.

## What did the company present to support its application?

The company provided the results of studies looking at how Tuzodi behaves in the body, and how it is absorbed, modified and removed from the body; data from published studies supporting the use of midazolam in the treatment of convulsive seizures was also provided.

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## How far into the evaluation was the application when it was withdrawn?

The application was withdrawn after the European Medicines Agency had evaluated the initial information from the company and had prepared questions for the company. The company had not responded to the questions at the time of the withdrawal.

## What did the Agency recommend at that time?

Based on the review of the data, at the time of the withdrawal, the Agency had some concerns, and its provisional opinion was that Tuzodi could not have been authorised for the treatment of convulsive seizures.

EMA had concerns that the data provided were not sufficient to support the intended use of Tuzodi, including the dose chosen for use in adults and children. There were also concerns about the quality of Tuzodi. A thorough evaluation of the risk of the medicine containing nitrosamines, an impurity, was missing. Furthermore, some information about the control and validation of the manufacturing process, as well as information about the nasal spray device used in the studies, was missing.

Therefore, at the time of the withdrawal, the Agency's opinion was that the company had not provided enough data to support the application for Tuzodi.

## What were the reasons given by the company for withdrawing the application?

In its letter notifying the Agency of the withdrawal of the application, the company stated that they were not in a position to provide responses to the CHMP within the timeframe established in the procedure.

## Does this withdrawal affect patients in clinical trials?

The company informed the Agency that there are no consequences for patients in clinical trials using Tuzodi.

If you are in a clinical trial and need more information about your treatment, speak with your clinical trial doctor.