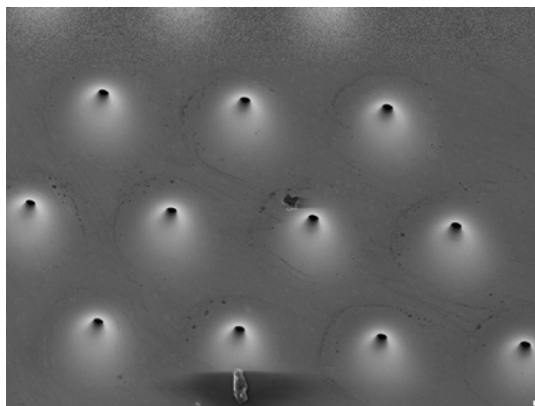


## How the technology works:

The Flexineb aerosol generator technology converts liquids into a fine aerosol for inhalation into the lungs of the horse.

The **medication cup** incorporates a wafer thin metallic membrane with micro holes (*Figure 1*). It is a high quality alloy but it can be damaged if contacted by hard or sharp instruments.



*Figure 1: Magnified picture of membrane showing micro holes*

It is the vibration of this membrane that acts like a micro pump and converts the liquid drug into a fine aerosol.

The performance and life of the **medication cup** is highly dependent on the type of drug or liquid used as the technology has to pump the drug or liquid through these tiny holes to form the aerosol. Its life is also very dependent on how well it is maintained between uses.

If a liquid with a high viscosity (*e.g. like honey*) is placed in the medication cup it may not nebulise. Dilution may help if the liquid is water based. If a liquid is oil based dilution will not help.

Another factor that will affect performance is if the drug or liquid used is a **Solution** or **Suspension**.

**Solution** type drugs have their active agent completely dissolved in the liquid (*like sugar in coffee*). An example of a solution type drug is the bronchodilator Atrovent®.

**Suspension** type drugs have their active agent suspended in the liquid in the form of tiny solid particles (*like sand in water*). An example of a suspension type drug is the corticosteroid Flixotide™.



### Reasons why the medication cup may not nebulise:

Given the nature of the technology as explained it is reasonable to understand that if a drug or substance has a high viscosity or has big solid particles suspended then they may not nebulise and may clog the tiny holes in the membrane.

Suspensions are more erosive because they have tiny solid particles jetting through the holes in the membrane therefore the life of the medication cup may be reduced if suspensions are used. If the drug tends to leak through the membrane it is an indication that the holes have eroded and a replacement is required.

**Natural therapies** that are not finely filtered may also clog the holes in the membrane.

Drugs that have been successfully nebulised using the Flexineb are listed on the Nortev Drug Table.

In some cases it is advisable to dilute the drug with saline to improve nebulisation performance.

If water or moisture gets into the internals of the medication cup mechanism it will stop working because a short circuit will occur.

### Maintenance:

To maintain the performance and life of the medication cup it is very important to check if the drug or liquid you intend to use is suitable for the Flexineb technology.

**If it is not listed on the Nortev published Drug Table please contact Nortev before putting it in the medication cup.**

If the drug is deemed suitable and nebulises successfully it is very important to rinse the medication cup with clean warm water and a few drops of washing up liquid after each use. Alternatively nebulise a few drops of **distilled vinegar** to break down any oil based residue on the membrane.

If the holes are clogged with solid particles it will prove difficult to clean without damaging the membrane and the medication cup will require replacement.

**Do not immerse the medication cup in water when cleaning.**

**It is not advisable to use any chemicals in the medication cup as they may corrode the metallic membrane or remain as a residue in the drug path and may pose a hazard to the horse and caregiver.**