WHY SPRAY?

Absorption – Oral Absorption is the process that occurs when nutrients or other molecules are taken up into the capillaries and veins that line the mouth. To do this, the nutrient molecules must cross the buccal membrane, which lines the inside of the mouth. Once across this membrane the nutrient enters the blood vessels, which drain into the jugular vein and from there they enter the systemic circulation, which distributes blood, and the nutrients it is carrying, throughout the body. This is a rapid process, taking place in the space of a few seconds.

Nitroglycerin is perhaps the best-known example. (The first recognition of the ability of a substance to cross the oral mucosa was reported by Braunton in his Gaulstonian Lectures delivered at the Royal College of Physicians in 1877)

In addition to nitroglycerin, there are numerous other drugs and vitamins that

have been shown to absorb across the buccal membrane. There are literally

thousands of published research papers on oral absorption (both buccal and

sublingual) of vitamins, minerals and drugs.

Oral absorption is a simple concept – with massive repercussions throughout the health industry. Drug delivery is a highly active research field and in the next few years we can expect more and more drugs to be developed for delivery by buccal absorption.

<u>Formulation</u> – we have taken great care to create excellence.

- There are no artificial flavours or colours
- We use no sugar, starch, wheat, soy, gluten, eggs, salt, or dairy
- The product contains Xylitol (which is known for cavity protection and it is diabetic-safe)
- The flavours are natural mints or fruits.
- The product is suitable for vegetarians

Dosage - Each oral spray gives a precise, metered dose of product with every pump, which allows the user to feel secure that she/he is receiving the correct dose each time.

<u>Convenience</u> – The spray tube will easily fit in your handbag, pocket, or briefcase. There is no need to look for a glass of water to take a tablet, or to measure spoonsful of liquid or powder into water, or count the number of drops under the tongue.

Bioavailability - As discussed by Srinivasan (reference 1), when referring to tablets, "Good quality is associated with the ability to disintegrate and dissolve". In the case of our spray vitamins the active components are already in solution or suspension; in other words, the nutrient is already dissolved and just waiting to be absorbed into your system.

Vitamin D3, for example, is an oil-soluble vitamin, so there can be challenges in developing a truly beneficial formulation. Our product, as well as being a fine mist spray, is also an emulsion, meaning that the vitamin is fully mixed with the water with which it is sprayed – this again helps the absorption and bioavailability within the body.

The container we use protects the liquid from light and air, keeping the ingredients potent, with a much longer shelf life.

<u>Safety</u> - Our sprays contain no fillers, like tablets do; therefore the chance of an allergic or nauseous reaction is nearly zero.

- 1. Srinivasan, V.S. 2001. *Bioavailability of Nutrients: A Practical Approach to In Vitro Demonstration of the Availability of Nutrients in Multivitamin-Mineral Combination Products.* J. Nutr. 131:1349S-1350S.
- 2. Hoag, S.W., Ramachandruni, H. and Shargraw, R.F. 1997. Failure of Prescription Prenatal Vitamin Products to Meet USP Standards for Folic Acid Dissolution. J. Am. Pharm Assoc. 37:397-400.
- 3. Stamatakis, M.K. and Meyer-Stout, P.J. 1999. *Disintegration Performance of Renal Multivitamin Supplements*. J.Renal Nutr. 9:78-83.

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