
THE NEXT EVOLUTION IN HYDRATION

Introducing PURINA® PRO PLAN® HC Hydra Care™
Its innovative, great tasting formula is proven to
increase a cat's water intake and urine dilution.



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PRO PLAN®



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Your Pet, Our Passion.®



Introducing **PURINA® PRO PLAN® HC Hydra Care™**, a new concept in hydration for cats. This revolutionary **supplement** has been created to help cats consume on average **27% more water every day** than water alone* and helps to increase urine dilution.¹

* Compared to cats consuming only water in addition to dry feeding. Cats must consume at least 26mL/kg of bodyweight daily for benefit.



The importance of feline hydration

Water is vital to life and it is considered an essential nutrient because it supports a multitude of physiological functions including metabolic regulation and elimination of waste products through the kidneys. For that reason, correct hydration is necessary in order to maintain a proper equilibrium of electrolytes, minerals and fluids within the body¹.

Cats are poor drinkers due to their natural behaviour, as cats have a low thirst stimulus, and consequently, they produce very concentrated urine. These adaptations might trigger long-term health implications, like increased risk of suffering Feline Lower Urinary Tract Disease (FLUTD) as urinary stones or Feline Idiopathic Cystitis (FIC)².

Providing a correct hydration might represent a challenge for pet owners not only because cats are naturally poor drinkers but because they are also very sensitive to the taste of water and the type of bowl used to serve it. Moreover, in some specific situations, such as cats suffering from FLUTD, a greater liquid intake and more urine dilution is beneficial³.

Therefore, increasing a cat's liquid intake should be considered as a key factor to reach a correct level of hydration, together with a healthy diet and proper environmental management.

1. Stanton C.A, et al., (1992): Bioelectrical impedance and zoometry for body composition analysis in domestic cats. American Journal of veterinary Research, 251-57.

2. Buckley C.M.F, et al., (2011): Effect of dietary water intake on urinary output, specific gravity and relative supersaturation for calcium oxalate and struvite in the cat. British Journal of Nutrition, 106, S128-S130.

3. Brian M. Zanghi, (2017): Water need and hydration for cats and dogs. Nestlé Purina Comp Anim Nutr summit. Proceedings, 15-23.

Introducing a third bowl as a simple solution

PURINA® PRO PLAN® HC Hydra Care™ is a complementary pet food and offers a tasty, soft textured jelly which is served on its own, as an extra third bowl.

The formula will engage cats to happily lick it up due to its great taste, helping to increase their total water intake and helping to decrease urine specific gravity and osmolality.

- Shake well before feeding
- Feed 1 pouch per each 2kg of body weight per day
- **Low in calories:** only 19kcal per pouch
- Clean, fresh drinking water should always be available
- Serve at room temperature

Ingredients

Milk and milk derivatives, glycerol, meat and animal derivatives, various sugars, minerals.



PURINA® PRO PLAN® HC Hydra Care™ makes the difference

The addition of PURINA® PRO PLAN® HC Hydra Care™ to the cat's diet can increase the consumption of water intake. This effect may offer health benefits to cats in need of greater water consumption for their overall health.



Key nutrient values

% fed

Moisture	94.5
Protein	3.2
Fat content	0.22
Crude ash	0.16
Crude fibre	0.018
Metabolisable Energy*	22 kcal/100g

*Calculated following NRC 2006 equations

Recommended for

- Cats who would benefit from additional water intake

Key Benefits

INCREASED LIQUID INTAKE



Shown to increase total water intake and promote hydration**

URINE DILUTION



Helps to increase urine dilution

GREAT TASTE



Great taste

** Compared to cats consuming only water in addition to dry feeding. Cats must consume at least 26mL/kg of body weight daily for benefit.



The science behind the Nutrient-Enriched Water

Multiple studies have shown the benefits of providing cats with Nutrient-Enriched Water. The products used in the following studies^{4,5,6,7} have similar properties to PURINA® PRO PLAN® HC Hydra Care™.

Introduction

While healthy cats are able to self-regulate the total water they require through drinking, a difference in the daily water-to-calorie intake ratio is observed depending on the type of food ingested. In general terms, cats drink less water when fed dry food, whereas when eating wet food, they ingest water through dietary moisture instead. These differences in water consumption may be relevant in cats suffering from Lower Urinary Tract Disease (FLUTD) who would benefit from an increased total water intake and urine output⁵.

Different studies have evaluated the effects of Nutrient-Enriched Water (NW) intake on measures of hydration. For instance, cats undertaking a dental cleaning, which required anaesthesia, showed a significant increase (0.9%) of total body water (TBW) prior to intervention, when they were offered to drink NW compared to cats drinking only tap water (TW). After the procedure, NW cats appeared to be equally hydrated compared to cats administered intravenous (IV) fluids during the anaesthesia or better hydrated in the case of no IV administration⁶.

We present three additional studies^{4,5} which evaluated the effects of drinking NW on water intake and indices of hydration in healthy domestic cats fed with a dry kibble diet ad libitum.

Methodology

The main study in the field was carried out by Zanghi B.M. et al. (2017)⁴. It consisted of monitoring 18 healthy adult domestic shorthair cats fed ad libitum dry diets for 56 days. Firstly, during a one-week baseline period, all cats were offered TW as their only water source. Following the baseline week, 9 cats were offered only NW for 10 days and afterwards, were offered both TW and NW in separate bowls and alternating locations, until the end of the study. The remaining 9 cats were offered only TW during the whole length of the study (Figure 1). Blood and urine samples were collected, and qualitative magnetic resonance imaging was performed to assess total body water, lean body mass and fat mass at intervals throughout the study.

Similar methodology was applied in an internal Nestlé study⁷ that consisted of monitoring 22 healthy adult domestic cats fed ad libitum dry diet for 27 days. Urinary and feces samples were collected during the study.

For further evaluation in a complementary study run by Wils-Plotz et al. (2019)⁵, two similar NW differing only in the gum content to influence liquid viscosity were analysed.

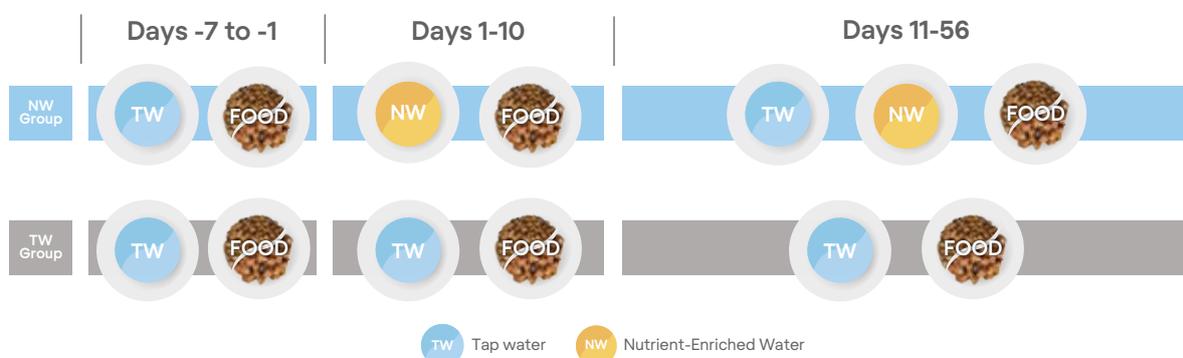


Figure 1. Graphical representation of the study's methodology.

4. Zanghi B.M, Gerheart L, Gardner C.L. (2017): Effects of a nutrient-enriched water on water intake and indices of hydration in healthy domestic cats fed a dry kibble diet. From Nestlé Purina Research. American Journal of Veterinary Research 79(7):733-744.

5. Wils-Plotz E, DeGeer S, Zanghi B.M. (2019): Nutrient-enriched water supplements nutritionally support hydration in the domestic cat. From Nestlé Purina Research. 2019 ACVIM Forum Research Abstract Program.

6. Zanghi B.M, McGivney C, Eirmann L, Barnes M. (2019): Hydration measures in cats during brief anesthesia: intravenous fluids versus pre-procedure water supplement ingestion. From Nestlé Purina Research. 2019 ACVIM Forum Research Abstract Program.

7. Colliard et al. (2019): Nestlé Internal Report

Results

In the first study⁴, cats offered both TW and NW preferentially drank NW, and the higher liquid intake maintained a more dilute urine over the 2-months (Figure 2). Urine parameters were affected reflecting a greater hydration status such as decreased urine specific gravity (33% lower); decreased urine osmolality (30% lower); light urine colour; and lower urinary concentration of phosphate, creatinine and urea nitrogen relative to baseline.

The results from the Nestlé internal data⁷ report also confirmed the previous results, increasing the total water intake by 27% in mL/day and decreasing by 12.5% the urinary osmolality.

Results obtained in the complementary study⁵, concluded that both types of NW, regardless of gum content, increased similarly to the total daily liquid intake (35.1 and 33.0 g/kg BW/d, respectively) compared with cats drinking only TW (25.8 g/kg BW/d), and significantly improved urine measures of hydration.

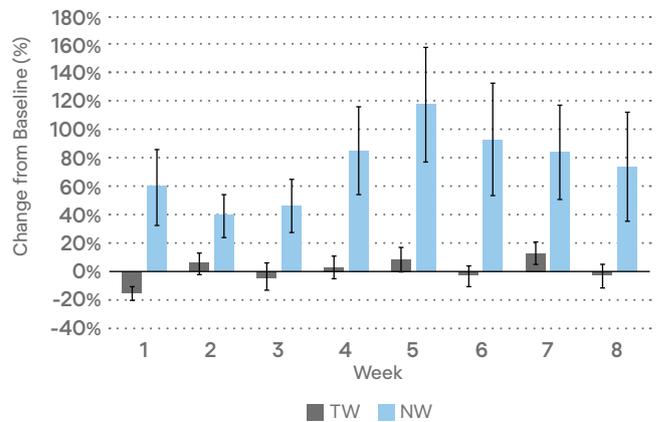


Figure 2. Mean weekly liquid intake (vs. baseline). Tap (TW) vs Nutrient-Enriched Water (NW).

Clinical outcomes

The consumption of Nutrient-Enriched Water significantly affected urine parameters that reflected greater hydration status relative to the baseline:

- Decreased urine specific gravity^{4,7}
- Decreased urine osmolality (30% and 12.5% lower)^{4,7}
- Lighter urine colour⁴
- Improved daily water consumption^{5,7}

Cats drinking Nutrient-Enriched Water produced:

- Higher daily urine volume compared to TW cats (48% higher)⁴ and 23.1 and 21.1 mL/kg/day increase in both types of NW study⁵.
- Glomerular filtration rate did not differ significantly between the groups⁴
- The cat's total body water, lean body mass and fat mass remained stable⁴

Conclusions

The studies suggests cats that drank a Nutrient-Enriched Water had a higher daily water intake, increased urinary output, and improved measures of hydration compared to cats offered only tap water.





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