

The Importance of Vitamin D & Sunshine for Pet Birds: HiCal-D

Carlingford Animal Hospital

The Function of Vitamin D & Sunshine

Direct sunshine initiates the production of Vitamin D in the body and is vital to health and happiness in pet birds. This active form of vitamin D is then used by the body to regulate the absorption of calcium and promote strong natural immunity. Alongside good immune function, the principal health benefits of direct sunshine and vitamin D are strong bones, muscles and beak, good nerve function, healthy skin and feathers and healthy digestion. Birds living in an open-air environment enjoy the full benefits of sunshine - heat, light and sunrays falling onto their feet, whereas those housed indoors behind closed windows receive the heat and lighting advantages of the sun but are often deprived of the benefits imparted by direct sunshine. Pet birds without regular exposure to the full benefits of sunshine frequently experience conditions associated with vitamin D deficiency including stiff joints, muscle soreness, recurrent infections, dull feathers, moulting irregularities and digestive disorders. These birds often become introverted, fail to interact properly with their owners and have difficulty learning to talk or sing.

Bone Strength & Healthy Digestion

Vitamin D is essential for bone strength and healthy digestion. Without vitamin D, indoor birds cannot absorb calcium normally found in their food. Vitamin D also regulates calcium metabolism and is vital for good muscle and muscle-nerve function. In order to gain the full benefits of direct sunshine, calcium is required and usually added in the form of a mineral supplement (F-Vite) to the food or into the drinking water (HiCal-D). The subsequent action of vitamin D and direct sunlight is to mobilise the calcium and promote its absorption for the formation and growth of bones in young birds and the maintenance of strong bones in adult birds.

Vitamin D and calcium also aid the function of muscles in the digestive system. Without adequate vitamin D and calcium the function of the digestive system often becomes impaired leading to a variety of gastrointestinal problems related to eating paper, ropes etc. or engorging on grits and dirt (see brochure on gizzard problems).

Health & Immunity

Direct sunshine and vitamin D impart a strong natural immunity and are necessary for ongoing health and happiness in pet birds. Birds with a vitamin D deficiency lack the physical and mental capabilities that allow them to be energetic, inquisitive and capable of speech and interactive cognitive learning. They also become susceptible to environmental infections because the function of the immune cells is compromised. To counteract vitamin D deficiency related health problems in pet birds housed indoors, a vitamin D supplement should be incorporated into the diet. HiCal-D has been developed for exactly this purpose and is included in the Vitamin D and Calcium Maintenance Programme (over page).

Vitamin D Supplementation

HiCal-D has been developed as a potent source of vitamin D for those birds who do not have regular and sustained access to the benefits of direct sunlight. It is not always possible to provide daily sunbathing opportunities due to a variety of circumstances. These include overcast weather, an owner's work routine, fear of escape or wild bird attack, restricted space and difficulties associated with moving the birdcage outside during the day. Often weekday work commitments mean that weekends provide the only midday sunbaking prospect for birds kept inside. For these birds, a dietary source of vitamin D is required as an alternative or supplement to direct sunshine.

It is important to ensure the correct balance of vitamin D supplementation and access to direct sunlight are achieved so that oversupplementation does not occur. This is done by carefully monitoring your bird's response to the programme and evaluating its effect with a repeat blood test after 4 weeks on the programme. The dose and frequency of HiCal-D in the diet may be adjusted based on these results. Wherever possible, it is advised to load up vitamin D levels in the skin via direct sunlight - the most potent form of vitamin D. **This is best achieved by placing your bird's cage outside in the midday sun under supervision to provide access to direct sunlight for 10-20 minutes twice weekly.** Supervision during this time is vital to ensure protection from predator birds.

Inca Honey as an Alternative to HiCal-D: Inca Honey is an alternative product containing vitamin D. It is used as part of a treatment plan for birds with digestive dysfunction associated with vitamin D deficiency. Inca Honey also contains soluble fibre to improve digestive function and antioxidants to boost immunity. Birds will benefit from Inca Honey as a source of sustained energy and to promote a rapid recovery from illness. It helps to maintain bone strength and muscular agility and is an important addition to the diet of pet birds diagnosed with digestive dysfunction.

Sunshine, Vitamin D & Calcium Programmes

When a vitamin D and calcium deficiency has been identified, an initial loading treatment of HiCal-D is given in the drinking water in combination with any antibiotic treatments prescribed. This treatment immediately boosts your pet bird's calcium levels and introduces vitamin D to the diet to allow the proper absorption of the Calcium, restore muscle function and begin the journey to good health. Direct sunlight is the most potent source of vitamin D and supervised access to outside sunshine should be encouraged as much as possible during this treatment programme.

Vitamin D Loading Treatment (5 Days)

	Optional Medication	In Drinking Water	On Sterile Seed	Dietary Recommendations
Day 1		HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked rice
Day 2		HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked beans
Day 3		HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked vegetables
Day 4		HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Apple/Orange
Day 5		HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Apple puree
Day 5	*Medications are mixed with drinking water supplements	HiCal-D ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Other _____

¹ Mix 2mL HiCal-D thoroughly into 100ml drinking water. May also be given with fruit, vegetables or nectar, or on seed.

² To 100gm of sterile millet mix (no sunflower for birds diagnosed with concurrent Fatty Liver Disease) add 6 drops of Turbobooster and mix thoroughly. Then, add 1gm (white spoon) each of E-Powder and F-Vite and mix again so that these powders stick to the Turbobooster oil impregnated seed.

The HiCal-D Maintenance Programme immediately follows the 5 day loading treatment. It is important to monitor your bird closely whilst on this programme and ensure the correct amount of vitamin D is being received. In most cases, a combination of daily direct sunshine and 2-3 days of HiCal-D in the drinking water will provide the right amount of vitamin D for birds diagnosed with a deficiency. Excessive use of HiCal-D can have an adverse effect on kidney function, and repeat blood tests are recommended 3-6 months after starting to this programme. This allows us to check that the right level of vitamin D supplementation is being used. The key to this programme is achieving the correct balance of direct sunlight and vitamin D supplementation. Once this balance is established, calcium will be absorbed properly and bone density and muscle strength will be restored.

Vitamin D Maintenance Programme

	In Drinking Water	On Sterile Seed	Dietary Recommendations
Day 1	KD Powder ¹	Turbobooster, E-Powder & F-Vite ⁴	Provide beans, rice and/or fruit as directed by Dr Marshall as daily shared meals in the morning and evening. <input type="checkbox"/> Cooked rice <input type="checkbox"/> Cooked beans <input type="checkbox"/> Cooked vegetables <input type="checkbox"/> Apple/Orange <input type="checkbox"/> Apple puree <input type="checkbox"/> Other _____
Day 2	Ioford & Dufoplus ²	Turbobooster, E-Powder & F-Vite ⁴	
Day 3	Ioford & Dufoplus ²	Turbobooster, E-Powder & F-Vite ⁴	
Day 4	HiCal-D ³	Turbobooster, E-Powder & F-Vite ⁴	
Day 5	HiCal-D ³	Turbobooster, E-Powder & F-Vite ⁴	
Day 6	Fresh water/HiCal-D*	Turbobooster, E-Powder & F-Vite ⁴	
Day 7	Fresh water/HiCal-D*	Turbobooster, E-Powder & F-Vite ⁴	

¹ Mix 1gm KD Powder (white spoon) into 1 litre of drinking water. Fill the water vessel and use the remainder to clean the cage.

² Mix 10 drops Ioford & 5 drops Dufoplus thoroughly into 100ml of drinking water.

³ Mix 2ml Hical-D thoroughly into 100ml drinking water. May also be given with fruit, vegetables or nectar or on seed.

⁴ To 100gm of sterile seed add 6 drops of Turbobooster and mix thoroughly. Then, add 1gm (white spoon) each of E-Powder and F-Vite and mix again so that these powders stick to the Turbobooster oil impregnated seed.

* Days 6-7 are optional HiCal-D days. For birds housed indoors with no access to direct sunlight, HiCal-D should be given on these days. For birds with limited access to direct sunlight (i.e. on weekends), fresh water should be given.

For birds with no access to direct sunlight, a recheck blood test is recommended after 3 months on this programme. This ensures the correct level of vitamin D and calcium supplementation is being given. Over-supplementation of vitamin D can have an adverse effect on the kidneys and this repeat blood test allows us to fine tune the frequency of HiCal-D for your bird. For birds with limited access to direct sunlight who receive two days of HiCal-D each week, a repeat blood test is recommended after 6 months.