



Overview/description

Not so fast! Is it really hypothyroidism or something else?

Canine hypothyroidism is the most common endocrinopathy in dogs—but also the most frequently overdiagnosed. Because thyroid hormones play a key role in skin and coat health, dermatological signs are common, but misdiagnosis can lead to unnecessary treatments or missed underlying conditions. In this webcast, **Dr. Manon Paradis** will explore the etiopathogenesis, clinical signs, diagnostic challenges, and treatment options for canine hypothyroidism.

Speaker's bio and credentials



Manon Pardis, DVM, MVSc, Dipl. ACVD

Dr. Manon Paradis earned her Doctor of Veterinary Medicine (DVM) from the Faculty of Veterinary Medicine (FMV) of the University of Montréal (U de M) in 1979, followed by an internship in small animal medicine. She completed a residency in small animal internal medicine and a master's degree in reproductive endocrinology at the University of Saskatchewan in 1982, as well as a residency in veterinary dermatology at U de M and Cornell

University in 1990. She also achieved diplomate status with the American College of Veterinary Dermatology (ACVD) in 1990. For over 30 years, Dr. Paradis worked as a professor of dermatology in the Department of Clinical Sciences of the FMV at U de M. She has published over 160 peer-reviewed scientific articles and book chapters, contributed to approximately 30 abstracts, and delivered over 400 scientific lectures in more than 25 countries. Her outstanding contributions to veterinary medicine have been recognized with numerous awards, including the SmithKline Beecham Award for Excellence in Research (1994), the Damase-Généreux Award from the AMVQ (2000), the Small Animal Practitioner Award from the CVMA (2003), and an award from the Fédération des associations francophones des vétérinaires d'animaux de compagnie (FAFVAC, 2008). In recognition of her distinguished career, Dr. Paradis was granted Professor Emeritus status in 2019.



Questionnaire

1. You suspect a diagnosis of hypothyroidism in a dog where you have measured total thyroxine (TT4) and get a result of 10 nmol/L (reference values 15 to 45 nmol/L). What can you conclude?
 - ☐ The dog is hypothyroid because the result is below normal TT4 reference values
 - ☐ He is not hypothyroid because the value is not low enough
 - ☐ He is probably euthyroid, but his TT4 is a little low as he was definitely on glucocorticoids
 - ☒ Nothing can be concluded
 - ☐ It is completely useless to measure TT4 alone because much more reliable tests are currently available

2. Sighthounds are known to have different circulating thyroid hormone concentrations. Of the following, which is the more common?
 - ☐ Often underdiagnosed for hypothyroidism
 - ☒ Often overdiagnosed for hypothyroidism
 - ☐ Difficult to treat
 - ☐ Often show an elevated thyroid-stimulating hormone (TSH)
 - ☐ Always have thyroglobulin antibodies

3. Regarding canine hypothyroidism, which of the following statements is TRUE?
 - ☐ Clinical signs usually appear between the age of 1 and 2 years
 - ☐ Most common cause is secondary hypothyroidism (pituitary origin)
 - ☐ In addition to skin changes, the presence of hepatomegaly and a pendulous abdomen is quite common
 - ☒ Thyroxine test (T4T) or free thyroxine test (FT4) combined with canine endogenous TSH is most commonly used to assess thyroid function
 - ☐ The treatment of choice is levothyroxine, administered for a minimum of 3 months and/or up to 1 month after resolution of clinical signs



4. Regarding canines, which of the following statements is FALSE?

- Most cases of hypothyroidism are due to lymphocytic thyroiditis
- Nonregenerative anemia with a hematocrit of about 20%–25% is commonly seen during hypothyroidism
- Some breeds, such as greyhounds, have lower TT4 reference values than other breeds
- TT4 within reference values strongly suggests the dog is euthyroid
- TT4 is often decreased to values consistent with hypothyroidism in dogs with systemic illnesses

5. Regarding canine hypothyroidism, which of the following statements is TRUE?

- Measurement of TT4 must be done using an equilibrium dialysis technique to be reliable
- A screening test for congenital hypothyroidism is available through Orthopedic Foundation for Animals (OFA)
- Flank alopecia and chronic or recurrent external otitis are common clinical signs
- Endogenous serum thyrotropin, (cTSH) concentration within reference limits does not rule out hypothyroidism
- Most hypothyroid dogs will require thyroid hormone supplementation every 12 hours for life

6. Regarding canine hypothyroidism, which of the following statements is FALSE?

- Glucocorticoids, phenobarbital and sulfonamides are known to affect thyroid function test results
- Pomeranians and miniature poodles are at high risk of developing congenital hypothyroidism
- Most hypothyroid dogs are well controlled with q24h levothyroxine administration
- When measuring TT4 for treatment monitoring, always verify if and when levothyroxine was administered
- Avoid supplementing dogs which have nonthyroidal illness syndrome (euthyroid sick syndrome)



7. Regarding thyroid hormones, which of the following statements is FALSE?

- They have a profound effect of increasing the body's metabolic rate
- They have inotropic and chronotropic effects on the heart
- They have a catabolic effect in physiological quantities
- They stimulate erythropoiesis and regulate cholesterol synthesis and degradation
- All circulating thyroxine (T4) and 90% of circulating triiodothyronine (T3) are produced by the thyroid glands

8. Regarding euthyroid sick syndrome in dogs, which of the following statements is FALSE?

- It is a frequent source of misdiagnosis of hypothyroidism
- Causes a ↓ TT4, TT3 and a ↑ rT3
- Metabolic change often observed in sick animals that is believed to prevent excessive calorogenic effect of T3 in a catabolic state
- Levothyroxine supplementation at half the regular dose is required for up to 3 months
- Reverse T3 (rT3) is the metabolically inactive form of T3 produced in times of severe illnesses

9. Regarding congenital hypothyroidism in dogs, which of the following statements is FALSE?

- Can be primary, secondary or tertiary
- A mutation in the thyroid peroxidase (TPO) gene has been identified in wire fox terriers and rat terriers
- Congenital hypothyroidism with goiter in fox terriers has an X-linked dominant mode of inheritance
- A genetic test is available to identify carrier dogs
- Disproportional dwarfism and cretinism are common clinical signs

10. Regarding thyroglobulin, which of the following statements is FALSE?

- Large iodinated glycoprotein is synthesized and secreted by the pituitary gland
- Major constituent of colloid
- Serves as a synthesis and storage site for thyroid hormones and their precursors in the thyroid follicles
- Each thyroglobulin molecule contains ~70 tyrosine amino acids
- Major substrates that combine with iodine to form thyroid hormones



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PERSONAL INFORMATION:

First name:

Last name:

Type:

(Veterinarian, Technician)

Licence number:

Province where you practise:

Email:



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CERTIFICATE OF COMPLETION

Educational webcast

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Presented by

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This document confirms that

Dr. Lorem Ipsum

has viewed the above-mentioned webcast and has answered and submitted the questionnaire meant to evaluate the understanding of the content.

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