



PURINA® PRO PLAN® Vet Nurse Symposium 2024

Empowering the Vet Nurse Journey

Practical Uses of Probiotics - How to Include Probiotics in your Daily Life in Clinic

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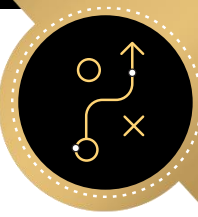
Learning objectives:

1. What are probiotics?
2. How are they different to pre-biotics and post-biotics?
3. What products are available and how are they made?
4. Which one to choose, what is the evidence and can a nurse recommend them?
5. How do we monitor a patient's response to treatment?



Probiotics

- “good” gut bacteria
- Microbiome
- balance can be disrupted by illness, medications, stress or nutrient/food/water intake changes
- balance can be disrupted by illness, medications, stress or



Prebiotics

Dietary fibres
Digested, broken down
into SCFA
Growth and activity of
when they ferment prebiotic
beneficial bacteria
fibres
within the colon
Energy source for
enterocytes

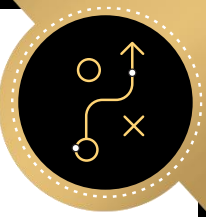
REVIEW

Postbiotics

Bio-active by-products
Created by probiotic
bacteria in the gut



Probiotic products available



- Natural, foods
- Manufactured; human, animal
- Storage



VET

Probiotic manufacturing



- Laboratory
- Manufacturing
- Packaging
- Storage
- Shelf-life
- Palatability

Great taste

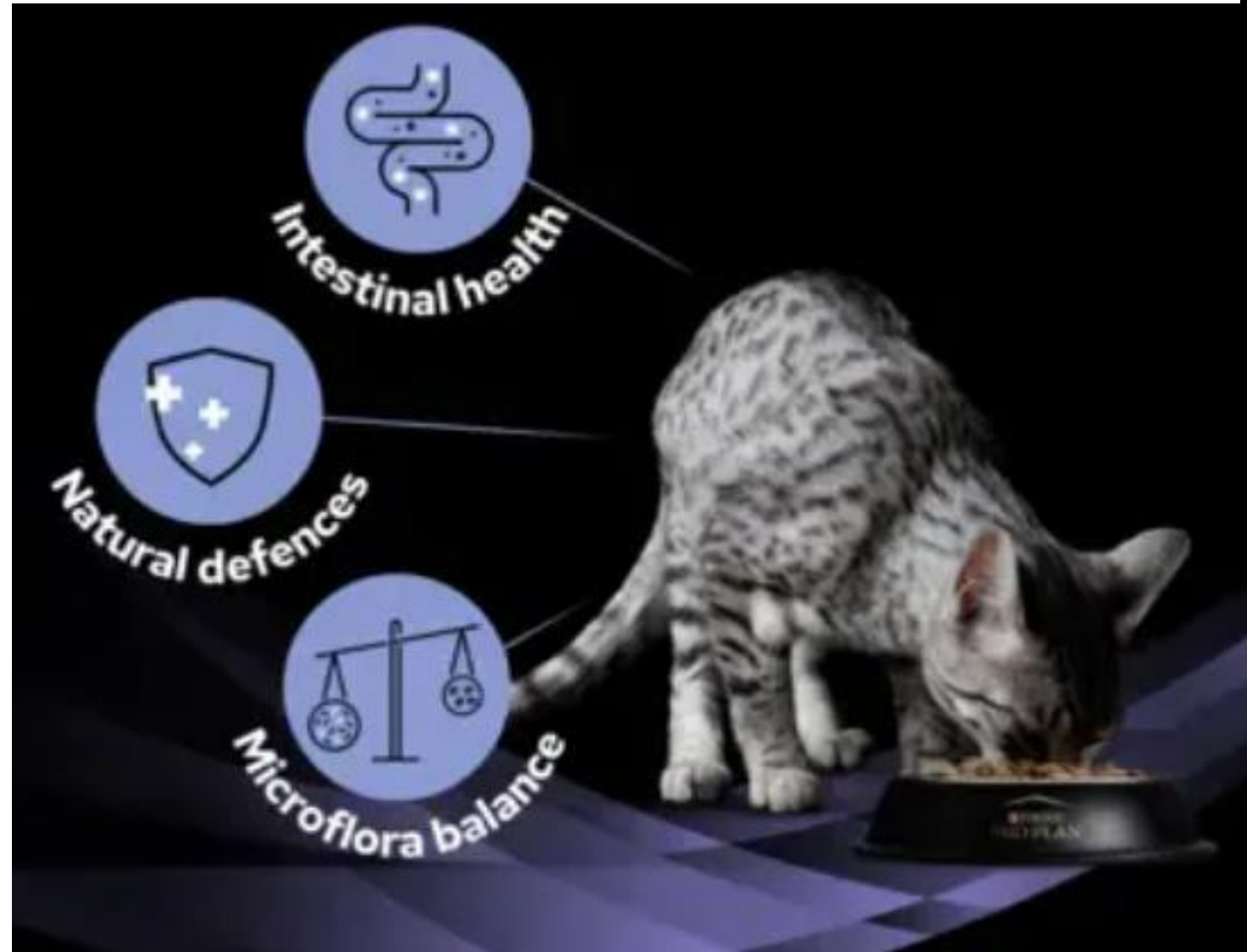
**With a great tasting formula
your dog will enjoy**



Probiotic protocol for your clinic



- GMP
- EBVM
- RVN role



Probiotic treatment monitoring












- PE, BW, BCS, MCS, CC
- Faecal score
- CIBDAI score
- RVN clinic



Body condition score












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BODY CONDITION SYSTEM

TOO THIN	1	Ribs, lumbar vertebrae, pelvic bones and all bony prominences evident from a distance. No discernible body fat. Obvious loss of muscle mass.	
	2	Ribs, lumbar vertebrae and pelvic bones easily visible. No palpable fat. Some evidence of other bony prominence. Minimal loss of muscle mass.	
	3	Ribs easily palpated and may be visible with no palpable fat. Tops of lumbar vertebrae visible. Pelvic bones becoming prominent. Obvious waist and abdominal tuck.	
IDEAL	4	Ribs easily palpable, with minimal fat covering. Waist easily noted, viewed from above. Abdominal tuck evident.	
	5	Ribs palpable without excess fat covering. Waist observed behind ribs when viewed from above. Abdomen tucked up when viewed from side.	
TOO HEAVY	6	Ribs palpable with slight excess fat covering. Waist is discernible viewed from above but is not prominent. Abdominal tuck apparent.	
	7	Ribs palpable with difficulty; heavy fat cover. Noticeable fat deposits over lumbar area and base of tail. Waist absent or barely visible. Abdominal tuck may be present.	
	8	Ribs not palpable under very heavy fat cover, or palpable only with significant pressure. Heavy fat deposits over lumbar area and base of tail. Waist absent. No abdominal tuck. Obvious abdominal distention may be present.	
	9	Massive fat deposits over thorax, spine and base of tail. Waist and abdominal tuck absent. Fat deposits on neck and limbs. Obvious abdominal distention.	

The BODY CONDITION SYSTEM was developed at the Health Partner Pet Care Center and has been validated as documented in the following publications:
 Hawley D, Bergman DJ, Waters E, et al. Comparison of body fat estimates by dual energy x-ray absorptiometry and ultrasonic axilla thickness in client owned dogs. *Comparative* 2011; 22 (54): 71
 Lullmann CP. Development and Validation of a Body Condition Score System for Dogs. *Canine Practice* July/August 1997; 22:10-18
 Yarb, et al. Effects of Diet Restriction on Life Span and Age-Related Changes in Dogs. *JNMA* 2002; 250:1315-1320
 Call 1-800-222-VETS (8387), weekdays, 8:00 a.m. to 4:30 p.m. CT

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BODY CONDITION SYSTEM

TOO THIN	1	Ribs visible on shorthaired cats; no palpable fat; severe abdominal tuck; lumbar vertebrae and wings of ilia easily palpated.	
	2	Ribs easily visible on shorthaired cats; lumbar vertebrae obvious with minimal muscle mass; pronounced abdominal tuck; no palpable fat.	
	3	Ribs easily palpable with minimal fat covering; lumbar vertebrae obvious; obvious waist behind ribs; minimal abdominal fat.	
IDEAL	4	Ribs palpable with minimal fat covering; noticeable waist behind ribs; slight abdominal tuck; abdominal fat pad absent.	
	5	Well-proportioned; observe waist behind ribs; ribs palpable with slight fat covering; abdominal fat pad minimal.	
TOO HEAVY	6	Ribs palpable with slight excess fat covering; waist and abdominal fat pad distinguishable but not obvious; abdominal tuck absent.	
	7	Ribs not easily palpated with moderate fat covering; waist poorly discernible; obvious rounding of abdomen; moderate abdominal fat pad.	
	8	Ribs not palpable with excess fat covering; waist absent; obvious rounding of abdomen with prominent abdominal fat pad; fat deposits present over lumbar area.	
	9	Ribs not palpable under heavy fat cover; heavy fat deposits over lumbar area, face and limbs; distention of abdomen with no waist; extensive abdominal fat deposits.	

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Muscle condition score



Muscle Condition Score

Muscle condition score is assessed by visualization and palpation of the spine, scapulae, skull, and wings of the ilia. Muscle loss is typically first noted in the epaxial muscles on each side of the spine; muscle loss at other sites can be more variable. Muscle condition score is graded as normal, mild loss, moderate loss, or severe loss. Note that animals can have significant muscle loss even if they are overweight (body condition score > 5/9). Conversely, animals can have a low body condition score (< 4/9) but have minimal muscle loss. Therefore, assessing both body condition score and muscle condition score on every animal at every visit is important. Palpation is especially important with mild muscle loss and in animals that are overweight. An example of each score is shown below.



<p>Normal muscle mass</p> <p>Normal muscle mass</p>	<p>Mild muscle loss</p> <p>Mild muscle loss</p>
<p>Moderate muscle loss</p> <p>Moderate muscle loss</p>	<p>Severe muscle loss</p> <p>Severe muscle loss</p>



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<p>Moderate muscle loss</p> <p>Moderate muscle loss</p>	<p>Severe muscle loss</p> <p>Severe muscle loss</p>










Faecal score

Fecal Scoring Chart

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VETERINARY
DIETS



SCORE	SPECIMEN EXAMPLE	CHARACTERISTICS
1		<ul style="list-style-type: none">- Very hard and dry- Often expelled as individual pellets- Requires much effort to expel from body- Leaves no residue on ground when picked up
2	IDEAL 	<ul style="list-style-type: none">- Firm, but not hard, pliable- Segmented in appearance- Little or no residue on ground when picked up
3		<ul style="list-style-type: none">- Log shaped, moist surface- Little or no visible segmentation- Leaves residue on ground, but holds form when picked up
4		<ul style="list-style-type: none">- Very moist and soggy- Log shaped- Leaves residue on ground and loses form when picked up
5		<ul style="list-style-type: none">- Very moist but has a distinct shape- Present in piles rather than logs- Leaves residue on ground and loses form when picked up
6		<ul style="list-style-type: none">- Has texture, but no defined shape- Present as piles or spots- Leaves residue on ground when picked up
7		<ul style="list-style-type: none">- Watery- No texture- Present in flat puddles

Chronic inflammatory bowel disease activity index score



GASTROINTESTINAL: Normal: Abnormal: N/A:

Sign	Score	Score/Comments (describe abnormalities)	
CIBDAI SIGNS			
Attitude/activity		0 = Normal	3 = Marked decrease
Comments			
Appetite		0 = Normal	3 = Marked decrease
Comments			
Vomiting		0 = None	3 = > 3x weekly
Comments			
Faeces consistency		0 = Normal	3 = Watery diarrhea
Comments			
Faeces frequency		0 = Normal	3 = >5x daily
Comments			
Hematochezia		0 = None	1 = Present
Comments			
Mucus in faeces		0 = None	1 = Present
Comments			
Weight change		0 = None	3 = >10% loss
Comments			
CIBDAI score		0-3 = Insignificant 4-5 = Mild 6-8 = Moderate 9+ = Severe	





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Thank you!

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