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# A-OK9<sup>®</sup>

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## Balancing K9 Mental & Physical Health





**How your dog's brain health and gut health  
could be causing their "reactivity"**

**And how to rebalance their bodies and  
behaviour to make them a crazily enjoyable,  
healthy and stress-free companion!**

# Naughty or 'reactive' dog?



# How is their Brain and Gut Health?



**And what you  
can do about it!**



# Reactivity

Behaviour struggles like “reactivity”, barking in and out of the house, pulling on lead and generally being distracted represent a complex interaction between:



**YOUR DOG'S  
BRAIN HEALTH**



**YOUR DOG'S  
GUT HEALTH**



**YOUR DOG'S  
TRAINING**

And when things get bad, it can sometimes seem tricky to know which to tackle first.

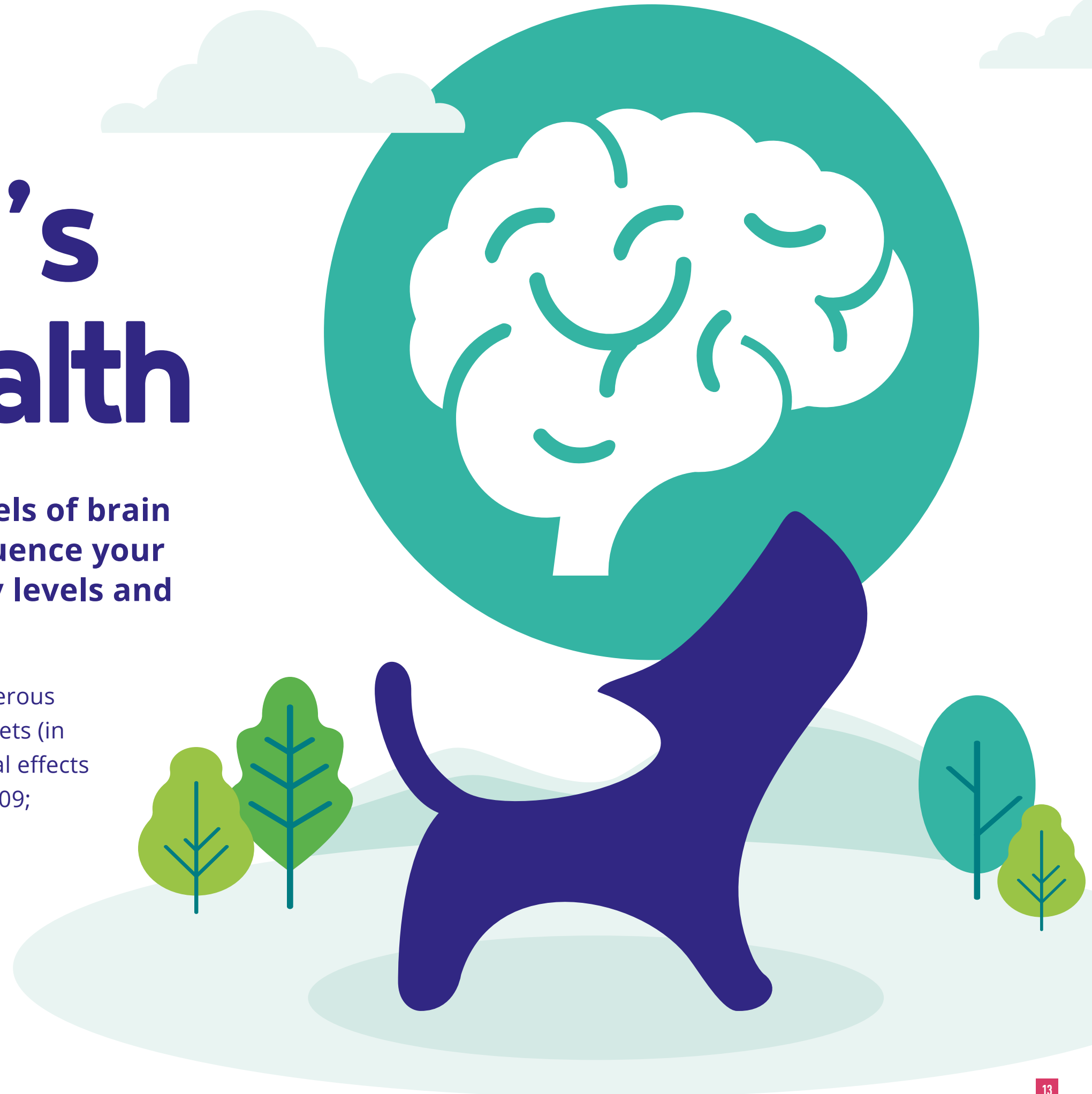
The often forgotten influencers of whether your dog is a stressed-out canine or chilled companion are their brain and gut health!



# Your dog's **BRAIN** health

As often discussed in humans, levels of brain chemicals (such as serotonin) influence your mood, your calmness, your energy levels and the choices you make.

It's exactly the same for animals too - in fact, numerous studies supplementing these chemicals to dogs' diets (in their precursor form) have shown transformational effects on their behaviour with this alone (Bosch et al., 2009; DeNapoli et al, 2000; Kato et al., 2012).



# Your dog's GUT health

The gastrointestinal (i.e. the gut) nervous system and the central nervous systems (i.e. the brain) have been shown to be closely linked and interacting, and this has been implicated in a variety of stress related conditions, such as lack of calmness, fear and anxiety - the most common causes of behaviour struggles in dogs (Heijtz et al 2011; Kirchoff et al 2019; Yang et al., 2019) -

## Ever Felt "HANGER?"

**Even more exciting?** There's increasing evidence showing that the microbiome (i.e. the community of tiny microbes that live inside your dog's gut) directly creates neurotransmitters (like serotonin) as well as well as influences production of these chemicals in other body areas. This, in turn has a huge direct impact on brain health!



## Symptoms of Mental Health, Gut Health Breakdown in Your Dog:

- Barking
- Lunging
- Pulling on Lead
- Being Distracted on Walks
- "Reactivity" to dogs, people or other animals
- Aggression
- Noise Phobia
- Separation Anxiety
- General Anxiety
- Shyness
- Lack of Motivation for Interaction or Training
- General Lethargy



# Dog Behaviour Transformation Happens with Optimal Brain and Gut Health!

So - you are probably thinking,  
how can I make this happen for my dog's behaviour?



# BRAIN-GUT-BEHAVIOUR BALANCERS

## BALANCER 1

# You Get Out What You Put In!

Well, you can actually ensure peak mental and physical health by what you feed your dog! What we feed our dogs represents the building blocks by which they maintain a calm, confident and balanced approach to life.

In fact in humans, a “junk food” based diet has been found to be harmful to the gut microbiome. But, aside from not feeding your dog the equivalent of artificial “junk” food - what could you feed instead to promote brain and gut health?

Well, the gut microbiome is closely involved in the metabolism of tryptophan, an essential amino acid for dogs (i.e. it cannot be made and has to be supplied by diet), and tryptophan is a biochemical precursor of the neurotransmitter serotonin! Low serotonin levels have been linked with increased depression and anxiety in humans, and increased behaviours associated with aggression in dogs, cats, rats and pigs.

Therefore, key to enhancing this process is firstly ensuring peak microbiome health and, secondly, to ensure adequate sources of dietary tryptophan are being provided.

## Natural Sources of Tryptophan-rich Brain-Gut-Behaviour Balancers:



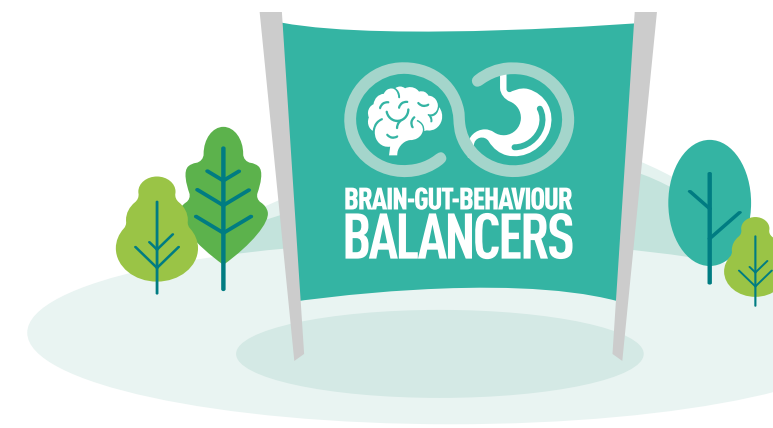
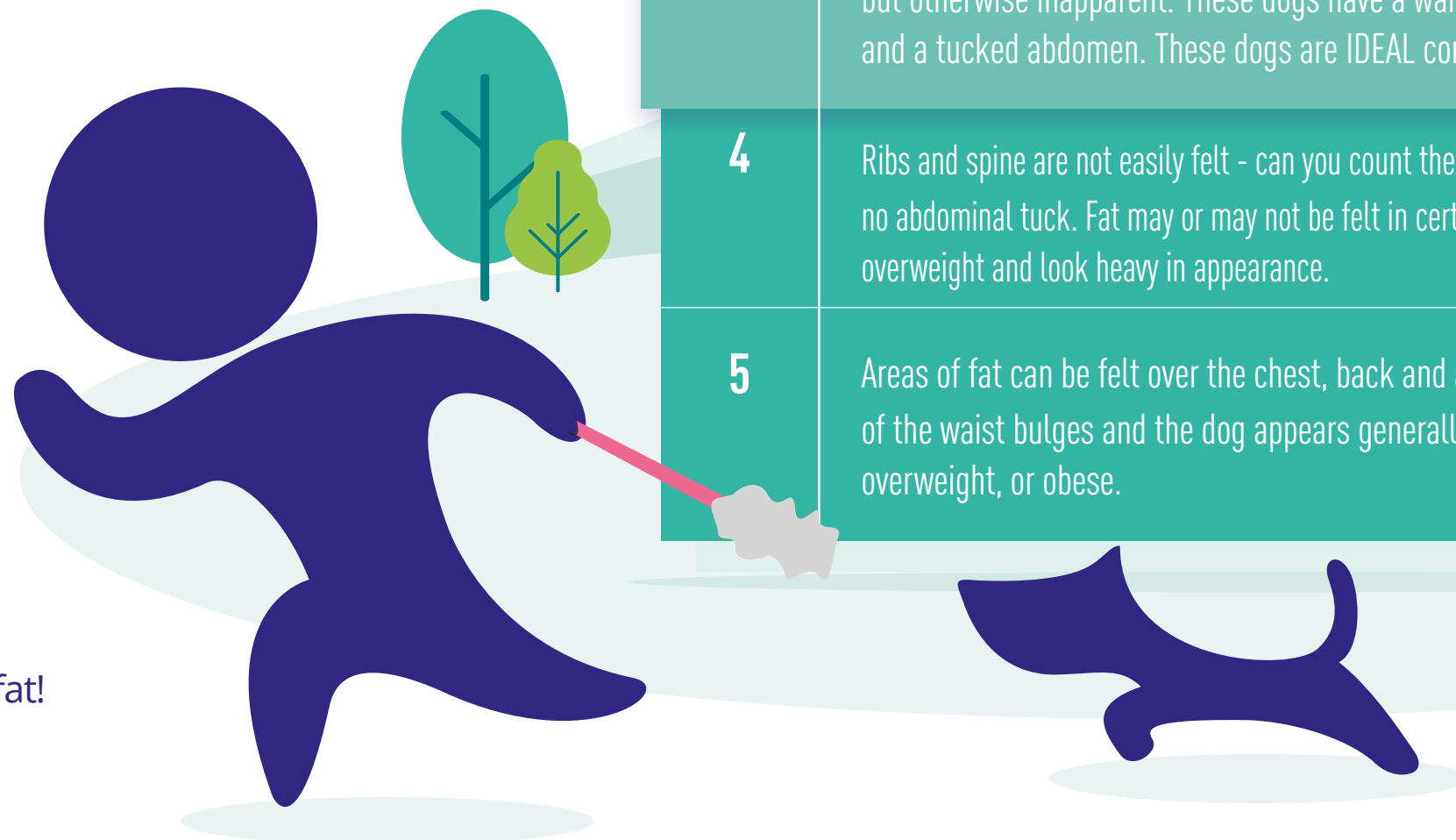
## BALANCER 2

# Exercise & Fitness

## Exercise & Physical Fitness Promote Microbiome Diversity!

Exercise has been found to boost microbiome diversity in humans and avoids the negative impacts of obesity on gut and brain health too (Clarke et al., 2014)

A simple temperature check on where you are with this one is to do a “body condition score” on your dog by following the score calculator on the right of this page!. You are aiming for a 3 for optimal brain and gut health! Each point represents a 10% change in body fat!



## BODY CONDITION CALCULATOR

SCORE!	DESCRIPTION!
1	Ribs, spine and hips are easily seen at distance and the bones feel sharp to touch. Dogs in this condition appear emaciated.
2	Ribs, spine and hips are easily felt and can be seen when close. These dogs have an obvious “waist” when looking from above and a very tucked abdomen (tummy). These dogs appear skinny.
3	Ribs, spine and hips are easily felt and may be seen easily when stretched out but otherwise inapparent. These dogs have a waist when viewed from above and a tucked abdomen. These dogs are IDEAL condition and often muscular.
4	Ribs and spine are not easily felt - can you count them?! There is no waist and no abdominal tuck. Fat may or may not be felt in certain areas. These dogs are overweight and look heavy in appearance.
5	Areas of fat can be felt over the chest, back and at the base of the tail. The area of the waist bulges and the dog appears generally swollen! This is extremely overweight, or obese.

BALANCER 3

# A lack of Calmness Kills the Microbiome!

Frequent excitement, fear and so-called “reactivity” cause a reduction in blood flow to the gut, making it a less hospitable environment for the gut bacteria community, as well as directly negatively impacting the gut microbes themselves. This leads to a vicious cycle of worsening gut health, brain health and behaviour.



## BALANCER 3

# What to do about it?

Promote calmness with this 3-step Calmness Protocol!

## STEP 1

Offer your dog a medium-value treat when they are settled and relaxed. If they get up from position after you have walked away, ignore them. If they have stayed settled and relaxed, then return and give them another one. Do not use a clicker or other excitable marker for this - we find that silence is most effective! Give the treat calmly and deliberately.

## STEP 2

Ignore your dog (especially for attention-seeking behaviours), wait for him to settle and relax and call him over for attention.

Do not do this too regularly or you risk the dog yoyo-ing between the floor and you!

## STEP 3

Time the rewards (treat or attention) with external distractions. For example, a person walking past the house, a noise outside, a dog barking in the distance, someone cheering in the next agility ring, etc. This will reward your dog for remaining calm in the face of distraction and also change their emotional response from a negative one of anxiety or increasing arousal to a positive one of calmness (low arousal) with the external distractions.



## TOP TIP:

Use a reward dispenser (a toy containing treats, e.g. a kong), especially in the face of distraction, as a long-lasting reinforcement! The chewing and licking action will further promote calmness and relaxation.

These are especially useful when your full attention can't be on your dog and rewarding calmness.

Suitable fillings might include some salmon or turkey-based food for a tryptophan boosting calmness activity!

OM  
NOM  
NOM!





## BALANCER 4

# Sleep is POWERFUL!

Sleep pattern changes and disruption have been shown to have negative effects on both brain health and gut health, causing a double whammy negative impact on behaviour (Voigt et al., 2014)!

Making sure your dog has plenty of sleep and makes up for it when they miss out on it after busy periods is vital to optimal brain-gut-behaviour balance!

Your dog won't necessarily make the choice to sleep in exciting or stimulating or busy environments (They clearly don't know about the negative impacts on their gut microbiota ;-)), and this is where as owners we need to help them out by providing them with a calm, quiet and secure environment to settle down.



# The POWER of a Whole Dog Approach

As you have probably guessed from all the ways that **brain-gut-behaviour** balance can become disrupted, these problems are self-perpetuating - entering a vicious cycle of worsening behaviour and health and, in turn, even worse behaviour.

Whether your dog struggles with pulling on lead, barking and lunging or simply being a little overexcited, a whole dog approach, factoring in rebalancers of the brain-gut-behaviour interaction ensures a long, happy, healthy and stress-free life for your dog (and you!)



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