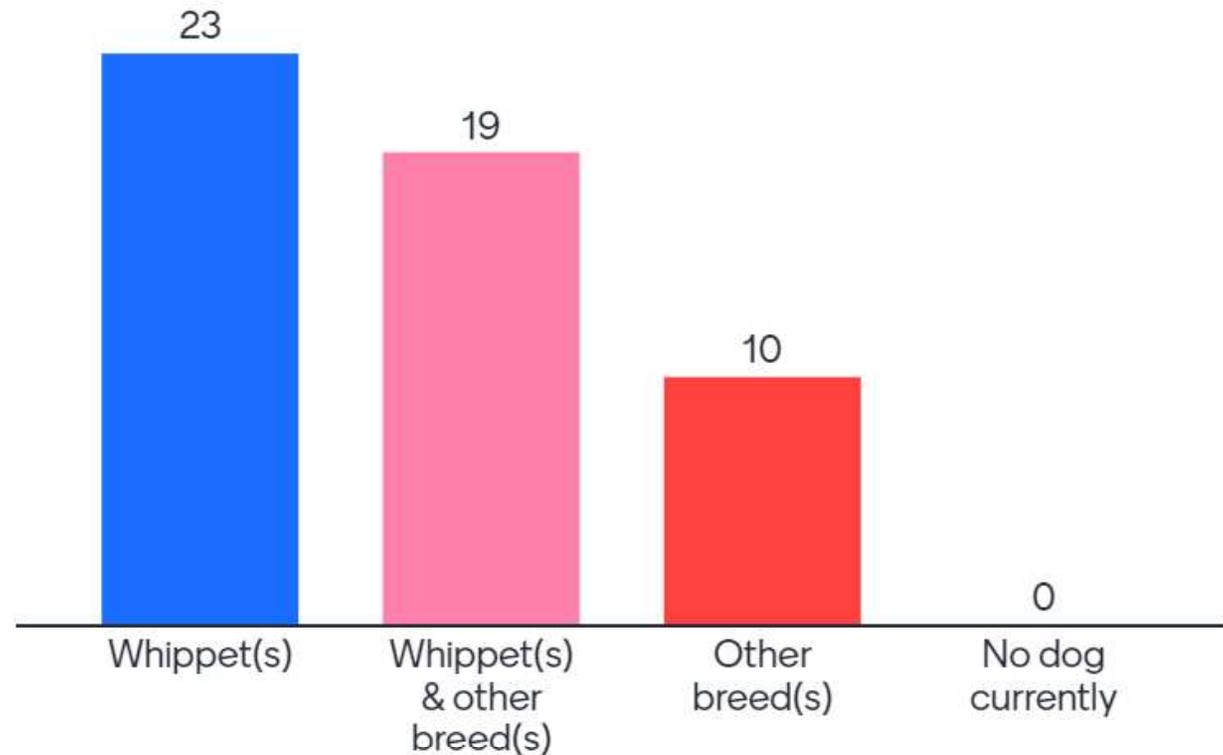


Breed Health Improvement: Finding the balance

In this webinar, Ian Seath will talk about approaches to breed health improvement and why every breed needs a health strategy. The Whippet Breed Health and Conservation Plan is still under development with the Kennel Club and there is useful data already available from previous health surveys. The challenge is knowing where it will be best to put our effort. The presentation will cover areas where it might be useful to focus attention and discuss how breeders can make use of DNA tests and clinical screening programmes, as well as some of the pitfalls to be aware of. There will be an opportunity for a question and answer discussion after Ian's presentation.

Ian Seath is Chairman of the Dachshund Breed Council and a member of their Health Committee. As a KC Director, he also serves on the Breed Standards and Conformation Sub-group of the Dog Health Group. He writes a monthly column: "Best of Health", for Our Dogs.

What breed(s) do you own?





Breed Health Improvement:

Finding the balance

IAN J SEATH

DACHSHUND BREED COUNCIL
CHAIRMAN
KENNEL CLUB DIRECTOR

23RD FEBRUARY 2021



Who am I – in the dog world?

Chairman of the UK Dachshund Breed Council

Trustee, Dachshund Health UK

Director, UK Kennel Club

Lived with Dachshunds since 1980

Judge Dachshunds at championship level

Speaker and Facilitator at 3rd & 4th International Dog Health Workshops (IPFD)

Our Dogs columnist, “Best of Health”

Who am I – in the real world?



Run my own Management
Consultancy business

Performance
improvement
Change management



Career in Manufacturing (R&D, HR, Marketing,
Commercial) & Management Consultancy

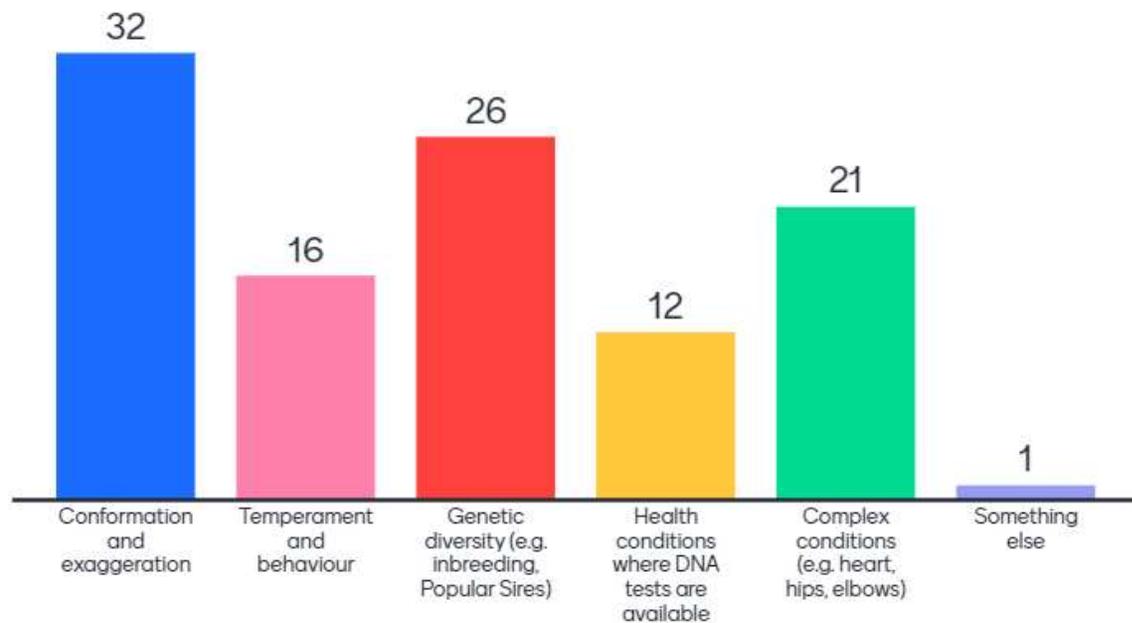


Post-graduate Diploma in Human Resources
Management



BSc (Hons.) Chemistry

What's your biggest concern about Whippet breed preservation for a viable future?





Agenda

Breed Health and Conservation Plans

Why every breed needs a health strategy

Whippet health today

Do you need to do anything?

5 areas to focus on

Q&A



Each breed has, or will have, a Breed Health and Conservation Plan

What's included in a breed health improvement strategy?



Breed History

Function
Conformation & appearance
Registration trends



Current state of the breed

Diseases & genetic diversity
Temperament & behaviour
Exaggerations & visible health conditions



Plans

Objectives
Priorities
Research projects



Guidance

Recommendations & screening programmes
Advice for breeders, judges, owners



Why does every breed need a Health Strategy?

"IF YOU DON'T KNOW WHERE YOU ARE GOING, ANY ROAD WILL GET YOU THERE."

LEWIS CARROLL



Whippets:

2 key questions for owners and buyers

What illnesses
might my
Whippet get?

Morbidity

How long will
my Whippet
live?

Mortality

Whippet morbidity

2014 KC Breed Health Survey (n=707)

80% of Whippets reported no health conditions

Median (average) age of diagnosis of health conditions was 2 years

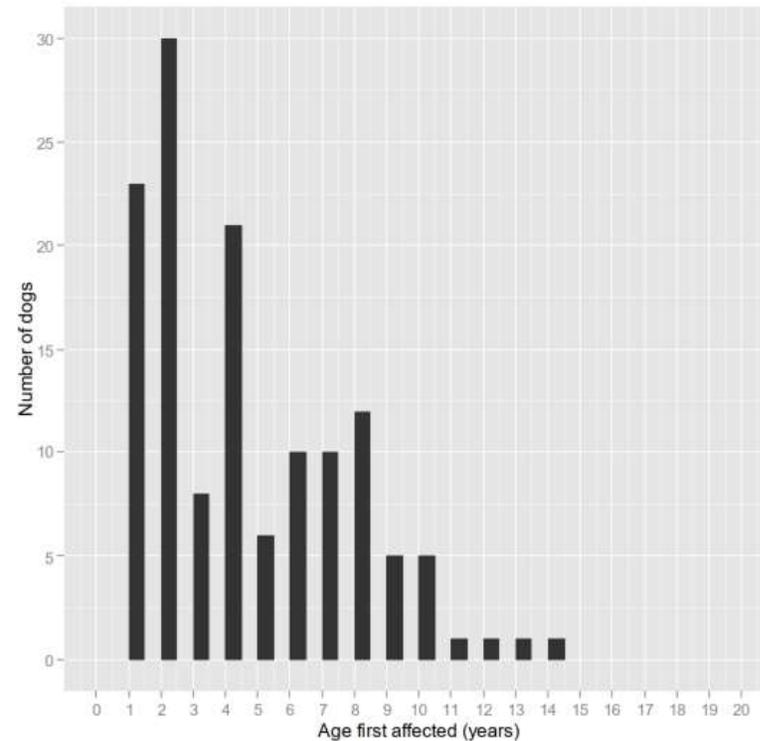
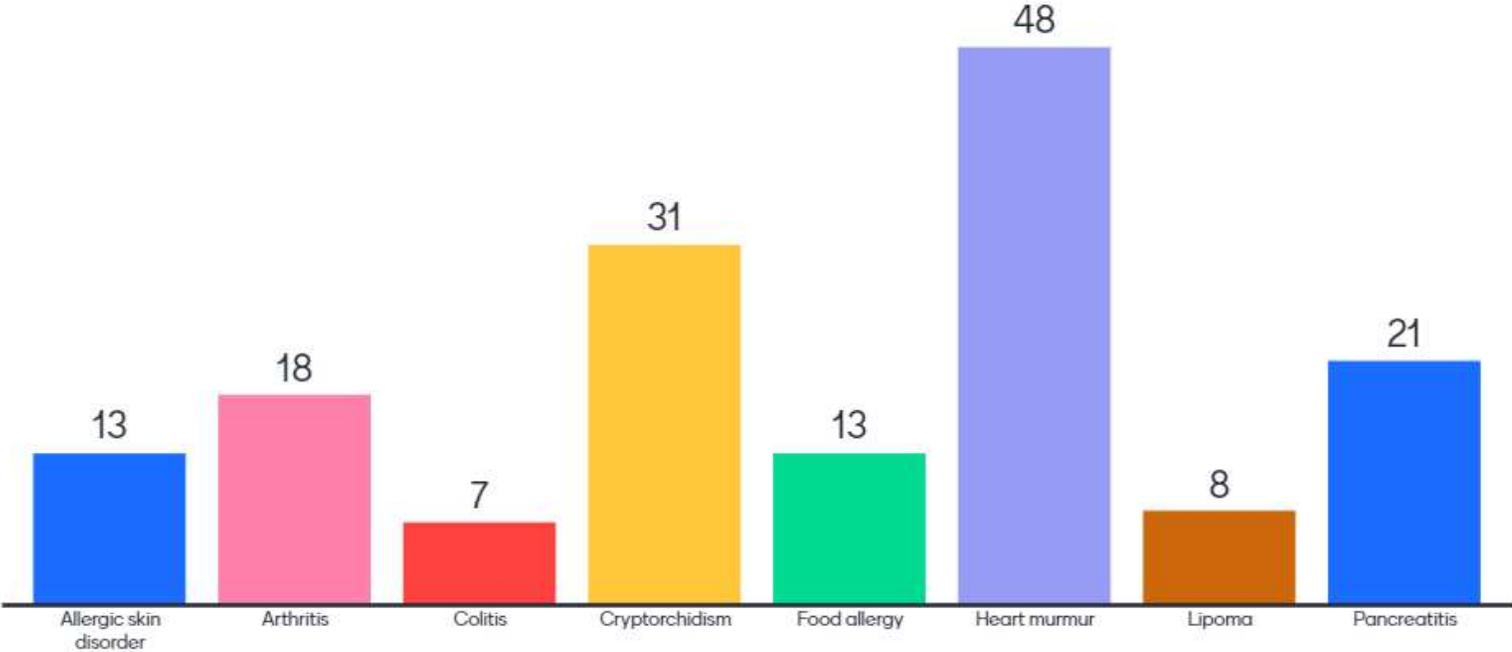


Figure 3: Histogram showing frequency of known age at diagnosis for the disease conditions reported

What were the 3 most common Whippet health conditions reported in the 2014 KC survey?



Top 10 health conditions reported for Whippets

Disease conditions (n=215 reports)	% of reports	Prevalence %
Cryptorchidism	7	2
Lipoma	5	2
Colitis	5	1
Pancreatitis	4	1
Skin (cutaneous) cyst	4	1
Steroid Responsive Meningitis/Arteritis	4	1
Heart murmur	3	1
Arthritis	2	1
Food allergy	2	1
Allergic skin disorder	2	1

Top 10 health conditions reported for Whippets

Disease conditions (n=215 reports)	% of reports	Prevalence %	Prevalence % all dogs in survey
Cryptorchidism	7	2	
Lipoma	5	2	7
Colitis	5	1	1
Pancreatitis	4	1	
Skin (cutaneous) cyst	4	1	5
Steroid Responsive Meningitis/Arteritis	4	1	
Heart murmur	3	1	1
Arthritis	2	1	4
Food allergy	2	1	2
Allergic skin disorder	2	1	4

Whippet mortality

2014 KC Breed Health Survey (n=55)

Median (average) age of death was 10 years

The oldest dog in the survey was 22

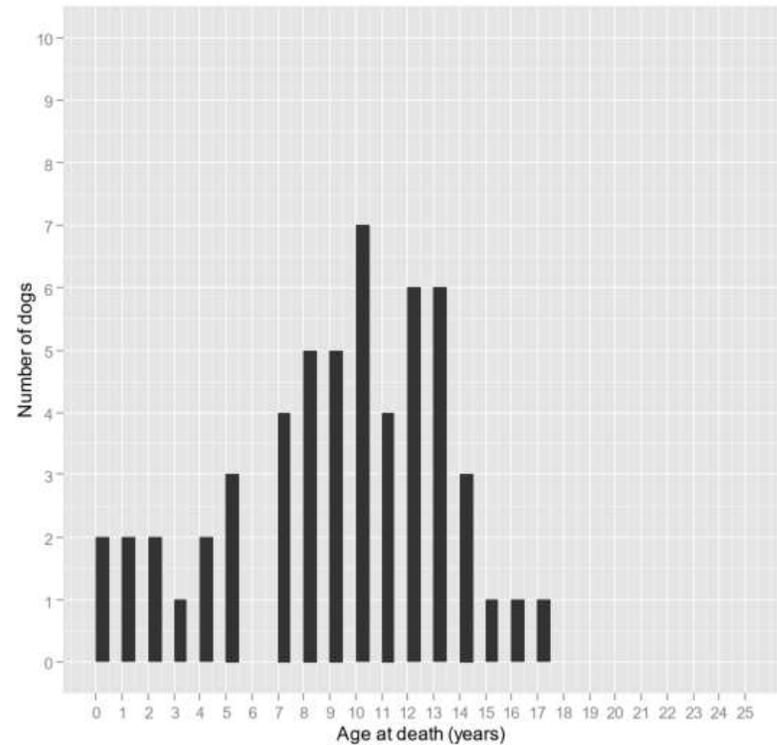
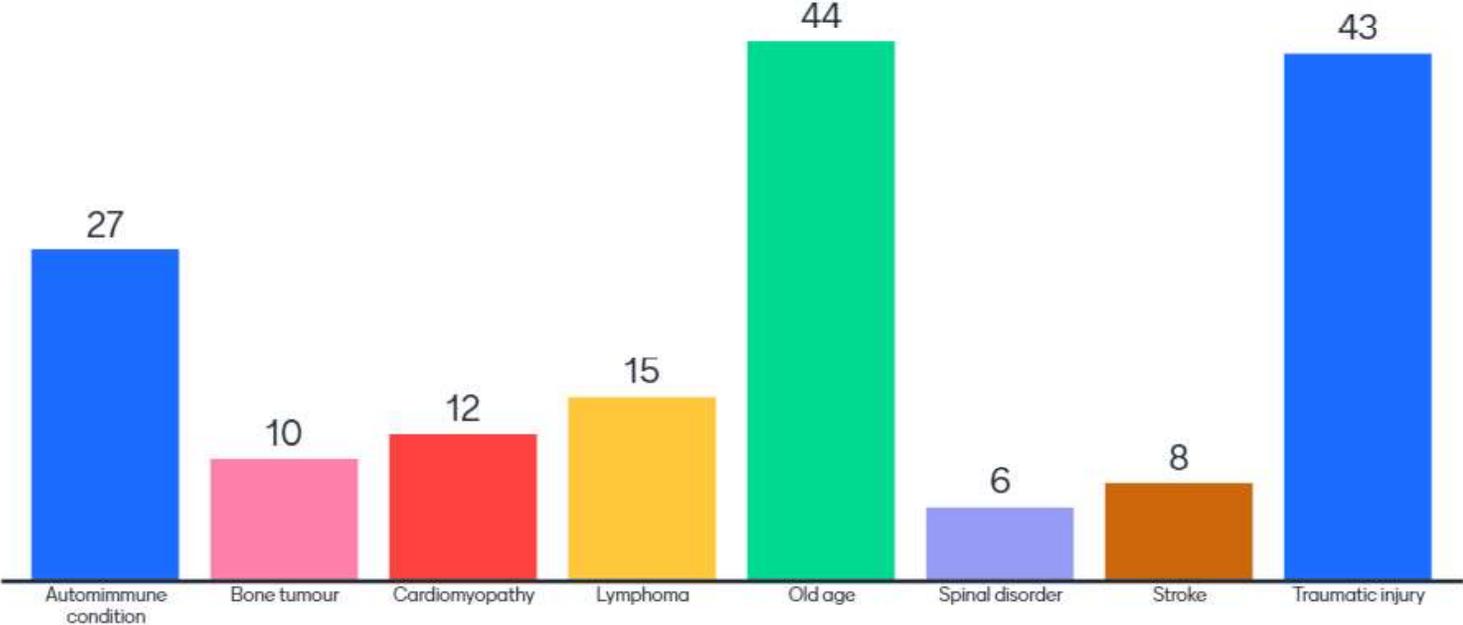


Figure 1: Histogram of the longevity for 55 reported deaths: overall median age at death was 10 years (minimum= 0 years, maximum= 17 years); mean age at death was 9.07 years

What were the top 3 Whippet causes of death in the 2014 KC survey?



Top 10 causes of death for Whippets

Cause of death (n=55)	% of deaths	Median age
Old age	13	15
Lymphoma	7	12
Traumatic injury	7	1
Spinal disorder	5	10
Stroke	5	14
Autoimmune condition	4	8
Bone tumour	4	10
Cancer – unspecified	4	8
Cardiomyopathy	4	10
Hepatic liver tumour	4	11

Top 10 causes of death for Whippets

Cause of death (n=55)	% of deaths	Median age	% of all dogs in the survey	All dogs median age
Old age	13	15	14	14
Lymphoma	7	12	3	8
Traumatic injury	7	1		
Spinal disorder	5	10		
Stroke	5	14	2	14
Autoimmune condition	4	8		
Bone tumour	4	10	3	10
Cancer – unspecified	4	8	9	10
Cardiomyopathy	4	10	3	11
Hepatic liver tumour	4	11	2	11

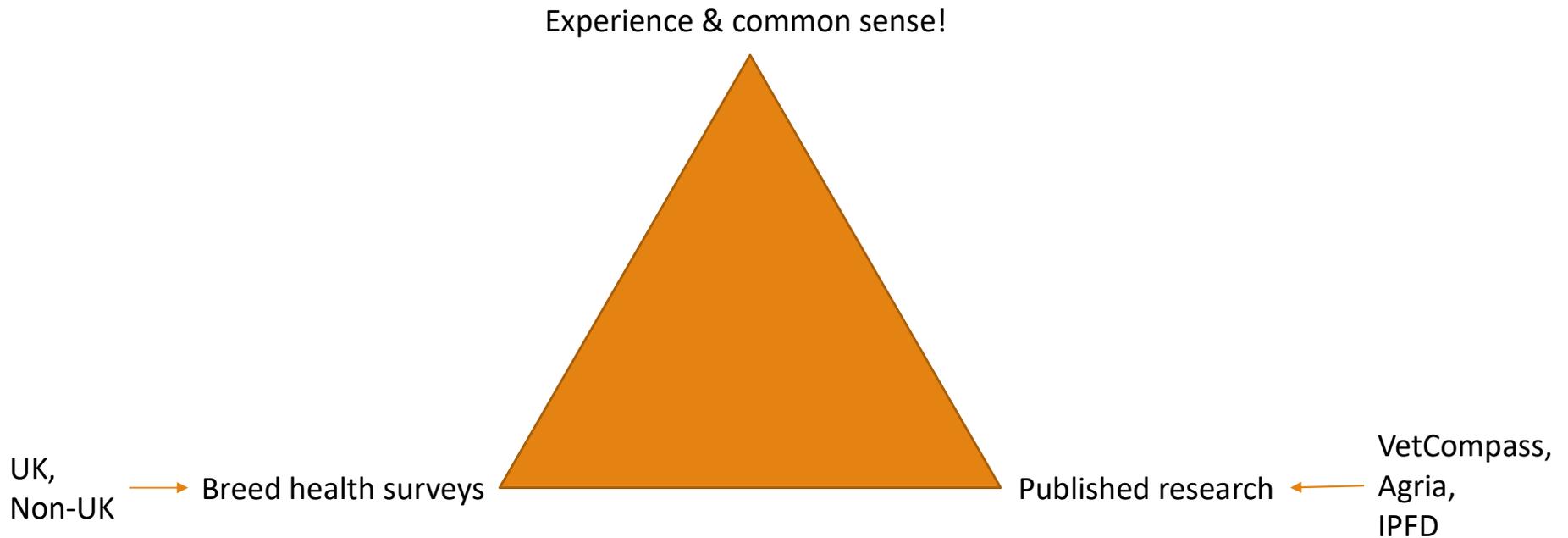
Breed Watch

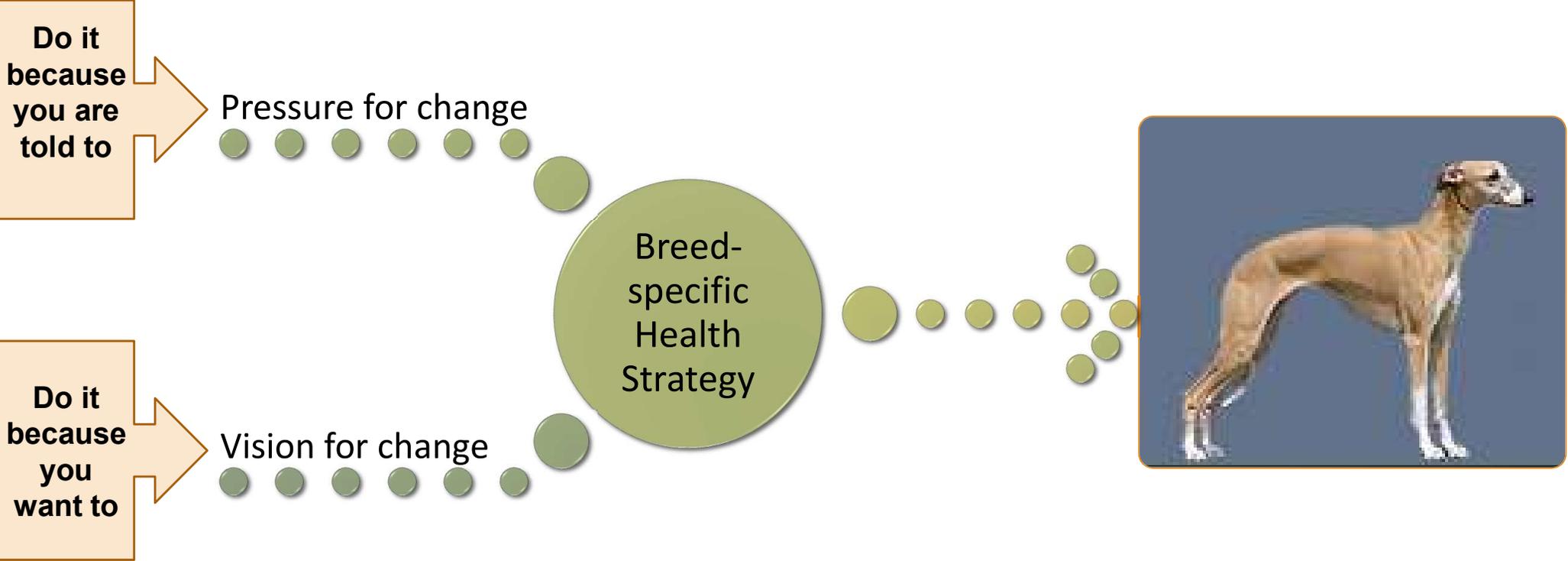


Category 1

Currently no points of concern specific to this breed have been identified for special attention by judges, other than those covered routinely by The Kennel Club's breed standard.

Triangulate in on health priorities





Do you need to do anything?

5 areas for potential focus

Conformation and exaggeration

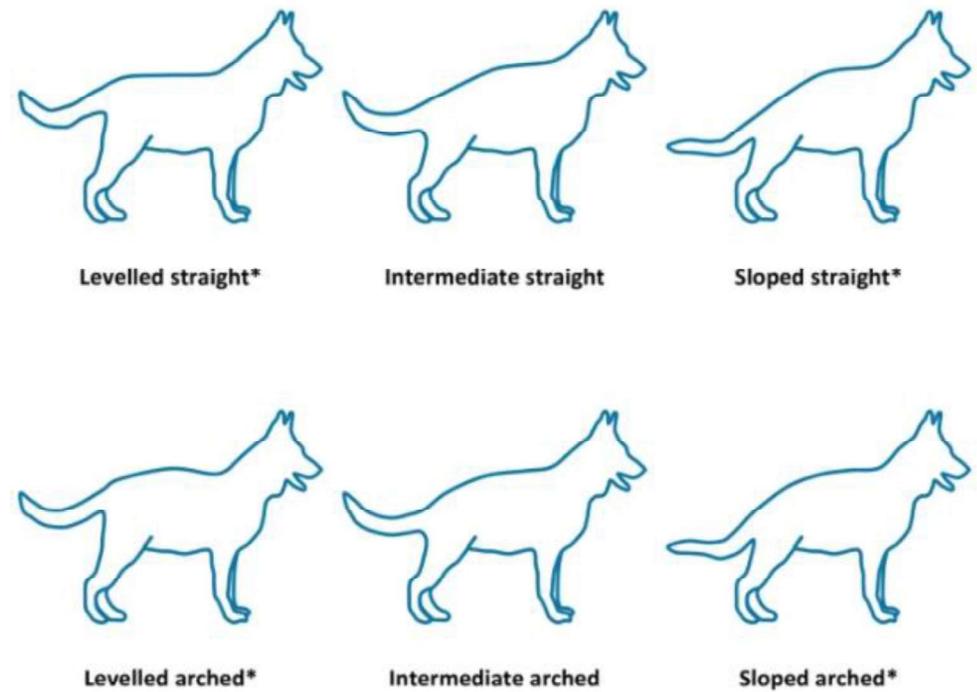
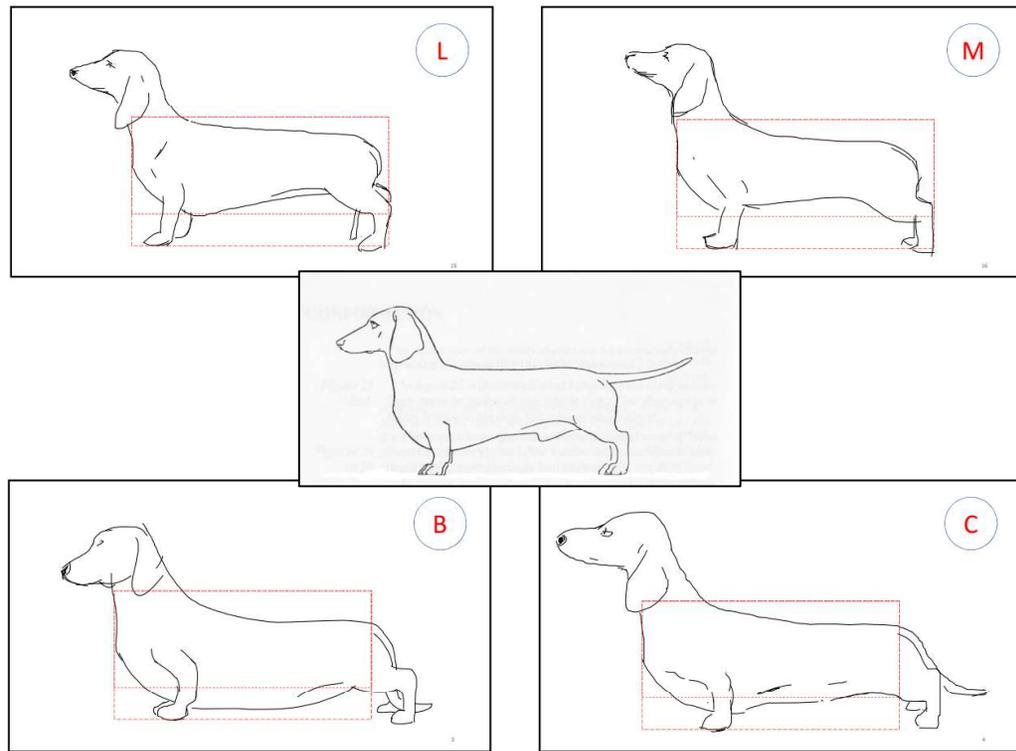
Temperament and behaviour

Genetic diversity

Simple genetic mutations associated with health conditions

Complex, multifactorial conditions

Conformation and exaggeration: Where is the tipping point?



*Modified from Fischer and Lilje² and Winfrow⁴.

Temperament and behaviour

WHIPPET BREED STANDARD

An ideal companion

Highly adaptable in domestic and sporting surroundings

Gentle, affectionate, even disposition

BEHAVIOURAL TRAITS ARE COMPLEX

They are influenced by multiple genes and environmental factors and they can also affect the health and welfare of individual dogs

Genetic diversity



Where possible, you should produce puppies with an inbreeding coefficient which is at, or below, the annual average for the breed and ideally as low as possible (KC website)

In general, the lower the COI, the lower the risk of a dog having health issues caused by recessive mutations (alleles that are identical by descent at a locus)

Current Whippet breed average COI is 9.9%

Consider:

- Imports but beware of Popular Sire syndrome
- Crossing with dogs from sub-populations (e.g. sporting/working vs. showing)

Genetic Inheritance of cord1 Retinal Degeneration (PRA) In Miniature Dachshun

Parents	Puppies (expected proportions)
"Clear" parent + "Clear" parent 	100% "Clear" puppies 
"Clear" parent + "Carrier" parent 	50% "Clear" puppies and 50% "Carrier" puppies 
"Clear" parent + "Affected" parent 	100% "Carrier" puppies 
"Carrier" parent + "Carrier" parent 	25% "Clear", 50% "Carrier", 25% "Affected" puppies 
"Carrier" parent + "Affected" parent 	50% "Affected" and 50% "Carrier" puppies 
"Affected" parent + "Affected" parent 	100% "Affected" puppies 

Green and Orange dogs both appear normal and will never display the symptoms of cord1 PRA. Red are at risk of retinal degeneration from cord1 PRA. Orange and Red dogs must only be mated with G dogs otherwise they will produce puppies (Red) that are at risk of cord1 PRA.

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Simple genetic conditions

All species carry genetic mutations!

Nearly 700 inherited disorders and traits (e.g. coat, colour, behaviour) have been described in the domestic dog

Validated DNA tests are available to identify some of these conditions e.g. PRA(s), vWD, Lafora

DNA tests: key points

The more DNA tests become available, the more difficult it will be for breeders to decide what is relevant and how to use the results

- Has the test been validated (is there evidence that it causes the health condition in your breed)?
- Is the mutation frequency high enough to worry about (are there dogs with clinical symptoms)?
- All 3 genotypes can be bred from (Clear, Carrier, Affected)
- Panel tests can give you results for dozens of mutations
 - Most of these mutations/results are likely to be irrelevant for your breed
- Check out IPFD Harmonization of Genetic Testing for Dogs (www.dogwellnet.com) – relevance ratings

IPFD 
DogWellNet

Harmonization of
Genetic Testing
for Dogs

Complex conditions

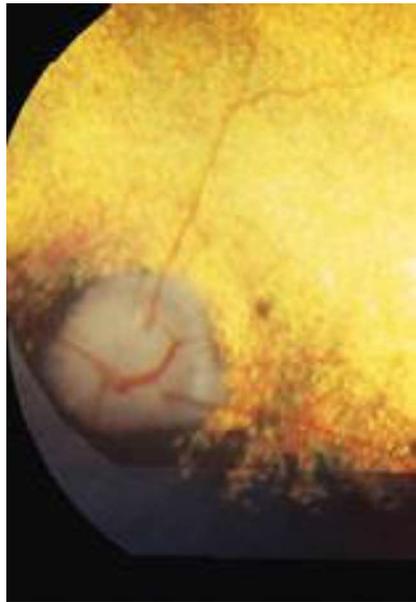
MULTI-FACTORIAL

- May have several genes involved, perhaps interacting with each other
- Environmental and lifestyle factors also play a part:
 - Diet
 - Exercise
 - Rearing/husbandry
 - Neutering

EXAMPLES

- Hip Dysplasia
- Elbow Dysplasia
- Epilepsy
- Intervertebral disc disease
- Cardiac conditions

Screening programmes – assessing risk



- Clinical screening programmes exist for some complex conditions
 - e.g. hips, elbows
- Estimated Breeding Values (EBVs)
 - A more sophisticated way of assessing risk by linking health screening and pedigree information
- Clinical eye screening is strongly recommended prior to breeding and again in mid-life to identify conditions where any genetic association has not yet been proven or they may be multi-factorial

KC schemes and advice

CURRENT SCHEMES

- CM/SM screening scheme (BVA/KC)
- Deafness testing (BAER testing)
- Elbow dysplasia screening scheme (BVA/KC)
- Eye screening scheme (BVA/KC/ISDS)
- Gonioscopy (BVA/KC/ISDS)
- Heart scheme for Cavalier King Charles Spaniels (KC)
- Hip dysplasia screening scheme (BVA/KC)
- Respiratory Function Grading Scheme (KC and University of Cambridge)

MAKE BALANCED BREEDING DECISIONS

As well as considering the implications of a dog's EBV or screening score, there are other equally important factors to consider when deciding whether two dogs should be mated together, such as temperament, genetic diversity, conformation, other available health test results, the general health of the dogs, etc.

Your breeding decisions should always be well balanced and take into consideration the qualities and compatibility of both the sire and dam that you are intending to mate.



Health-tested
does not mean
“healthy”

4 steps to
preserve
your breed
for a viable
future

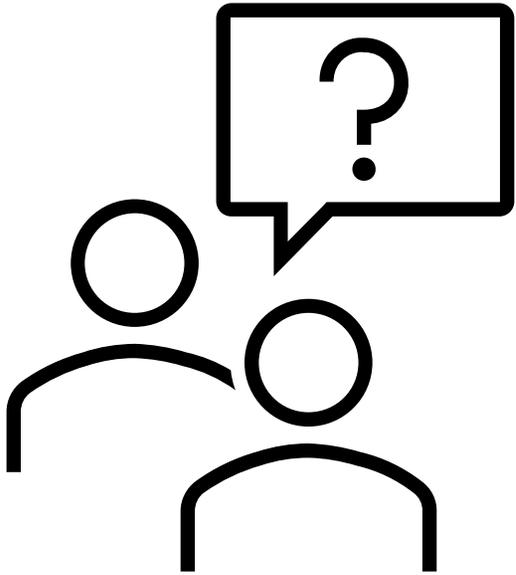




Some final thoughts

- *Without data, you're just another person with an opinion*
- *Everyone is entitled to have their own opinion; however, they're not entitled to have their own "facts"*
- *For every complex problem, there is an answer that is clear, simple and wrong*

Thank you to the Whippet Breed Council for generously making a donation from the webinar ticket sales to Dachshund Health UK.



Q&A
