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Abstract

Objectives: A questionnaire was designed to survey veterinarians and nurses/technicians on current methodology, indications, uptake and barriers to blood pressure (BP) assessment in cats, including ocular examination.

Methods: An online questionnaire was produced and promoted to more than 2000 participants, 545 answered all questions, and 85 answered most questions.

Results: 572 (90.8%) participants were based in the United Kingdom and almost all (613, 97.3%) had access to a BP monitor. Most (550, 88.4%) participants had access to a Doppler monitor; 367 (59.0%) participants had access to multiparameter monitors, fewer (202, 32.5%) had access to oscillometric BP monitors. Where applicable, Doppler monitors were most commonly chosen for conscious cat measurements (337, 72.2%) due to the greater 'trust' and 'reliability' of these compared to oscillometric machines. Conscious BP measurement typically involved two members of staff (391, 62.9%). Only 156 (29.1%) participants recommended BP assessment at least several times a week. BP assessment was routinely recommended in cats with ocular target organ damage (365, 87.7%), chronic kidney disease (346, 78.6%) proteinuria (255, 63.0%) and hyperthyroidism (266, 60.9%). Common equipment related barriers included 'cuff frustration' and difficulties hearing the pulse signal for Doppler users (72.2%, 71.6%), and oscillometric machines failing to give a reading at least some of the time (52.8%).

Situational hypertension concerns affected many (507, 92.0%) as did lack of time to do the procedure (402, 73.0%). Significant owner barriers included difficulties persuading the owner to bring their cat in for BP checks (475, 86.2%) and concerns over costs (445, 80.8%). Most participants had access to a direct ophthalmoscope (527, 96.5%) however 399 (73.1%) reported that they struggled to interpret ocular findings.

Conclusions and relevance: Significant barriers exist to successful BP assessment in cats. Education and support of clinics should focus on improving confidence with equipment and eye examination.

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Introduction

Systemic arterial hypertension is considered a common condition of the older cat but is thought to be significantly under-diagnosed in clinical practice.[1] Assessment of blood pressure (BP) is considered an essential component of the physical examination, especially for cats older than ten years[2] since the risk of hypertension is known to rise with increasing age.[3,4] Hypertension can cause a variety of serious, potentially life threatening, consequences associated with target organ damage (TOD), including hypertensive injury to the brain, kidneys, eyes, heart and blood vessels. Clinical consequences of TOD include hypertensive chorioretinopathy (presenting as blindness/visual deficits), left ventricular hypertrophy (presenting as heart murmurs, arrhythmias, gallop sounds), progressive renal injury (manifesting as proteinuria and worsening of serum creatinine elevations), and encephalopathy and stroke (presenting as neurological and/or behavioural signs).[5] When diagnosed, hypertension is often straightforward to manage with a choice of veterinary authorised medications available in most countries.[5]

Current published studies indicate that BP assessment is under-performed in clinical practice. One recent study estimated that just 1.34% of cats presenting at UK primary care clinics over a two year period received BP assessment[1]. In that study, 61% of cats diagnosed with hypertension had their BP assessed due to presenting with clinical signs

of TOD, 31% were assessed due to monitoring of concurrent diseases associated with hypertension and just 4% were diagnosed via a 'geriatric health check'. Many of the cats diagnosed with hypertension were classified with Severe Hypertension (systolic BP 180 mmHg or higher) and the authors of that study highlighted a lack of early diagnosis through more routine BP assessment of cats aged ten and over and those with illnesses known to increase the risk of hypertension. The authors also recommended more research on barriers to successful BP assessment in clinics in order to design educational programs to support clinical practice. A separate questionnaire based survey of veterinarians predominantly based in North America similarly indicated that BP assessment was more likely to be recommended in cats with TOD or concurrent diseases predisposing to hypertension, rather than in healthy older cats.[6]

Very little data exists relating to current knowledge of barriers to performing BP assessment although concerns over the reliability of equipment and impact of stress and anxiety on conscious cat BP readings have been reported in one study. [6]

The aims of the current study were to determine current practise including equipment and protocols, barriers to BP assessment and whether these related to equipment, time, space, the cat, the owner or other factors. This was achieved by designing a questionnaire circulated to veterinary professionals working in small animal clinics.

Materials and Methods

Population of interest

The target population for the questionnaire was veterinarians and veterinary nurses/technicians working in clinical practice with feline patients globally.

Questionnaire design

The questionnaire was made up of 30 core questions with the option to complete an additional four questions if participants were happy to share solutions they had found to commonly encountered challenges to BP assessment. Participants were asked if they were a veterinarian or veterinary nurse/technician, the country they were working in, and further information on their clinic such as whether it was feline only, primary care or referral. Subsequent questions asked whether BP measurement was performed in the clinic or in patients' homes, what sort of monitor was used, how many staff were required for the assessment, and whether owners were typically present. Participants were asked how often they were usually recommending BP assessment, the indications for recommending BP assessment and what proportion of owners allowed them to perform this procedure. Several questions asked about participants experience of barriers to BP assessment relating to the equipment, time, procedure, patients, owners and whether the COVID-19 pandemic had impacted on BP assessment in their clinic. Pre-visit and in-clinic sedation protocols were also asked about, as was ocular examination to look for TOD due to systemic hypertension.

The initial draft of the questionnaire was piloted with a small group of colleagues who suggested amendments prior to launch of the final questionnaire. The final questionnaire was hosted on the Vet Professionals website in full compliance with General Data Protection Regulation (GDPR) (EU) 109 2016/679 and is available as a Supplementary File word document.

Questionnaire distribution

The questionnaire was launched on 16th May 2022. An invitation to complete the survey was emailed to veterinarians and vet nurses/technicians on the Vet Professionals database, consisting of 1223 UK based and 840 non-UK individuals. Snowball sampling, where existing respondents help to recruit further respondents by sharing the questionnaire with their acquaintances, was also conducted. The questionnaire was promoted on social media platforms (*e.g.,* Facebook and Twitter) alongside promotion by International Cat Care, Cats Protection and Vet Times. The questionnaire was closed to all respondents on 30th July 2022. Data collected from the survey were collated and stored using FormSite (Vroman Systems).

Data management and analysis

Data processing and descriptive statistics were carried out in Microsoft Excel.

Ethical approval

Approval was obtained from the Human Ethical Review Committee (HERC) at the Royal (Dick) School of Veterinary Studies, The University of Edinburgh for the collection of data through an online questionnaire, and subsequent analysis of this data (approved 07/04/2022, reference: HERC_2022_28).

Results

In total, 545 completed questionnaires and an additional 85 partially completed questionnaires were received during the study period.

Demographics

Participants were primarily veterinary nurses/technicians (340, 54.0%) or veterinarians (270, 42.9%) with a small number of student nurses, animal care assistants and clinic support staff comprising the remainder (20, 3.2%). The majority of participants were based in England (497, 78.9%), followed by Scotland (48, 7.6%), Wales (20, 3.2%), and Northern Ireland (7, 1.1%). A range of countries outside the United Kingdom (UK) accounted for the remainder (58, 9.2%). Most participants (552, 87.6%) were based in small animal primary care clinics, with a few (26, 4.1%) working in small animal referral clinics or feline only primary care clinics (19, 3.0%). The remaining participants were working in other roles including emergency only, shelter only, small animal and exotics and peripatetic services. Almost two thirds of participants (333, 62.4%) were working in a corporate owned clinic, a third (216, 34.3%) were working in independent clinics. The

remainder were working in University, Charity or employee owned clinics. Most participants (557, 88.4%) shared their clinic postcode district (Figure 1).

Blood pressure equipment

Almost all (613, 97.3%) participants worked in a clinic with access to a BP monitor with nine (1.4%) participants reporting they only 'sometimes' had access to a monitor and the remaining eight (1.3%) reporting that they did not have access to a monitor.

Multiparameter monitors were available to 367 (59.0%) participants and where people knew the brand name or type of their monitor it was possible to determine that 550 participants (88.4%) had access to a Doppler monitor and 202 (32.5%) participants had access to an oscillometric BP monitor. A small number of participants (55, 8.8%) had at least one monitor but did not know the name/type of their equipment. The most frequently cited Doppler monitor was the Thames Medical Cat or Cat+ Doppler (272, 43.7%); the most frequently cited oscillometric BP monitor was the Suntech series (84, 13.5%).

Around a fifth of participants (133, 21.4%) only had one monitor available to use. For the remainder, where they knew what type of monitor they had, a Doppler monitor was most commonly chosen for conscious cat BP measurements (337, 72.2%) versus oscillometric or multiparameter monitors (130, 27.8%). The reasons for selecting one monitor as their 'default' option for conscious cats are shown in Figure 2. Participants

were able to select multiple reasons if they wished. For those choosing to use a Doppler monitor, 66.8% of participants said this was because 'I trust the results the most with this monitor' and 58.1% said the Doppler unit was 'more reliable in getting readings than alternatives'. For those selecting an oscillometric monitor as their default machine, the modal reason was 'easier to use than alternatives' (65.2%) with being able to take readings on my own, speed of obtaining a reading and cats preference also commonly cited (Figure 2). Results were very similar for the two most frequently used Doppler monitors (Thames Medical, n=139; Vet BP, n=94). More variability was observed between the oscillometric monitors; however, the small numbers (12 to 33 participants for each type of monitor) prevented meaningful comparison.

Blood pressure measurement procedure

Conscious BP measurement was reported to most commonly involve two members of clinic staff (391, 62.9%) versus one (220, 35.4%). When asked whether owners were typically present for assessments, there was an even split between those answering no (187, 30.1%) and yes (195, 31.4%) with the remainder reporting that this varied. Where owners were present, they were involved in restraint of the cat some or all of the time (381, 87.6%). Free text comments relating to the presence of the owner typically reported the owner as a soothing presence, 'just stroking/talking to and fussing', 'hands off' rather than actively restraining the cat.

177 Only 47 (7.6%) of participants were currently offering 'at home' BP assessments to their
178 clients. Optional free text comments received from 154 participants indicated that cost,
179 lack of clinic staff and Covid-19 had reduced their ability to offer this service or said that
180 this had never been offered.

181 **Frequency of BP assessment recommendations and success of follow through**

182 Participants were asked, where applicable, how frequently they recommended BP
183 assessment in any of their feline patients and what proportion of cases went on to have
184 a BP assessment. Respondents were asked to answer the question as if working full time
185 at their current clinic. Eighty four participants (13.5%) excluded themselves from
186 answering this question by selecting 'other' with most commenting that as vet
187 nurses/technicians they were not responsible for recommending BP checks, as this was
188 the remit of the vet; or that as a nurse they were not seeing clients themselves.
189 For the remainder, almost forty percent (211, 39.4%) reported that they recommended
190 BP assessment to cat owners attending the clinic once a month or less, 31.5% (169)
191 participants recommended it several times a month and 156 (29.1%) recommended it
192 least several times a week. Less than ten percent (53, 9.9%) participants were reported
193 to be recommending BP assessment at least once a day to owners bringing in their cats.
194 Overall, around a third of participants (182, 31.8%) reported that 76-100% of owners
195 recommended BP assessment for their cat went on to allow this procedure. A similar

196 proportion of participants (186, 32.5%) reported that 51-75% of owners recommended
197 BP assessment for their cat went on to allow this procedure. In total, 68 respondents
198 (11.9%) reported that 25% or fewer of owners recommended BP assessment for their
199 cat went on to allow this procedure. Participants recommending BP assessment at least
200 once a day had the highest 'success' in converting a recommendation to an assessment
201 with 45.3% of these respondents stating that 76-100% of owners who were
202 recommended BP assessment for their cat went on to allow this procedure to be
203 performed.

204 **When is BP assessment recommended?**

205 The most common potential TOD indication for recommending BP assessment was
206 ocular pathology and/or visual deficits whilst the presence of behavioural or
207 neurological signs consistent with TOD were least likely to result in a recommendation
208 for BP assessment (Figure 3). Chronic kidney disease (CKD) was the concurrent disease
209 diagnosis with the highest level of routine BP assessment recommendations made
210 (Figure 4) with 78.6% participants routinely recommending BP assessment in these
211 patients compared to 25.5% of patients receiving erythrocyte stimulating agent therapy.
212 Age-related BP assessment screening of older cats was evident with 44.0% of
213 participants routinely recommending BP assessment in healthy cats aged 15 years and
214 over (Figure 5). Pre-anaesthetic BP screening of apparently healthy cats was routinely

recommended by 18.6% participants. More than 100 participants added further free text comments in which many stated that BP was routinely monitored in sedated and anaesthetised patients.

Barriers to blood pressure measurement

Equipment related barriers to BP measurement are shown in Figure 6. Availability of equipment was not a problem for most participants but 'cuff frustration' (cuffs pinging off) and difficulties hearing the pulse were experienced at least sometimes by 72.2% and 71.6% participants, respectively, when using Doppler machines. Failure of the oscillometric machine to give a reading at least sometimes was reported in 52.8% people using these machines. Around half of respondents (261, 47.4%) found BP measurement a hassle or stressful and/or did not trust the equipment or result obtained. When asked which of these barriers had the biggest impact on them, struggling to hear the pulse using the Doppler method had the highest response (152, 27.6%) although 116 participants (21.1%) reported 'none' for this question. Participants were asked about barriers relating to the procedure such as space, time and access to help from colleagues (Figure 7). Lack of time was most problematic with only 150 (27.2%) participants stating that this was not a problem for them. When asked which of the barriers had the biggest impact on them, 245 (44.5%) participants selected 'I don't have enough time', and 20.0% said 'none'.

234 Participants were asked about practical barriers relating to the patient including
235 concerns over situational hypertension and stress (Figure 8). Situational hypertension
236 was a concern, 'even in cats that appear calm', for 507 (92.0%) participants and 478
237 (86.8%) stated their 'patients don't tolerate BP measurement' at least some of the time.
238 When asked which of the patient-related barriers had the biggest impact, 206 (37.4%)
239 participants stated concerns over situational hypertension causing false high readings
240 whilst 158 (28.7%) selected 'if I see the cat is stressed, I don't check BP as I assume the
241 readings may be affected'.
242 Owner-related barriers to BP assessment were also raised (Figure 9). When asked which
243 of these had the biggest impact on the participants, concerns over cost (168, 30.5%)
244 followed by difficulties persuading owners to bring their cats in for BP checks (140,
245 25.4%) and persuading clients to book a separate appointment for a BP check (104,
246 18.9%) were reported. Longer consultations were least problematic; 48.8% (269)
247 participants reported that longer consultations were not a problem for their clients
248 (Figure 9). Optional free text comments included concerns from respondents regarding
249 'excessive fees', owners not understanding the need for BP assessment and reiteration
250 of previously discussed barriers such as time, stress in the cat and concerns over
251 reliability of the technology.

252 The Covid-19 pandemic was cited by some participants as having had a negative impact
253 on the number of BP assessments performed (211, 37.1%) primarily due to staff and
254 time constraints, clients unlikely to bring in their cat 'just for a BP assessment' and fewer
255 senior clinics.

256 **Pre-visit and in-clinic sedation**

257 Pre-visit gabapentin was being used by 305 (56.6%) respondents, and pre-visit
258 trazodone was used by 57 (10.6%) participants. In-clinic gabapentin and/or butorphanol
259 were used sometimes by 69 (12.8%) participants.

260 **Eye examination**

261 Most participants (395, 72.4%) perform an ocular examination at least sometimes
262 (always in 11.0%) as part of the BP assessment in feline patients. Respondents typically
263 had access to a direct ophthalmoscope alone (527, 96.5%) with fewer having access to
264 a tonometer (294, 53.9%), hand lens and light source (134, 24.5%), slit lamp (53, 9.7%)
265 or PanOptic (27, 5.0%). Access to equipment was not a common barrier with only 17
266 (3.1%) participants reporting this as a consistent issue. However, a lack of confidence
267 and/or ability to interpret ocular findings, at least some of the time, was reported in 340
268 (62.3%) and 399 (73.1%) participants respectively (Figure 10). When asked which of the
269 barriers had the biggest impact, 'I struggle to interpret ocular findings' was reported by
270 139 (25.8%) participants. Lack of time was cited by 104 (19.3%) participants.

Solutions identified by participants

A total of 289 participants contributed their tips and solutions for commonly encountered challenges. Frequent suggestions included performing BP assessment as part of the consultation and not charging extra for this; when short of time to admit the cat to a quiet and calm ward so that measurements could be taken later in the day; empowering nurses/technicians to get involved with BP assessment checks through nurse clinics or by working alongside vets in their clinics. Client education about hypertension and marketing of senior care packages that included BP assessment were also included. A selection of representative comments are included in Table 1. Utilising nurses/technicians was mentioned by 49 participants and admitting patients to facilitate calm BP assessment at a later time was mentioned by 24 participants. Participants were also asked what support they would appreciate in their clinics: 52 participants requested CPD/training on the use of equipment, general education on hypertension, tuition on performing eye examination and interpretation of ocular findings. When asked about joining a Task Force to collaborate on finding solutions for commonly encountered problems, 99 participants indicated they would be interested in doing this.

Discussion

This study set out to investigate what, if anything, was stopping veterinarians and vet nurses/technicians from assessing the BP in their feline patients. Sadly, we found that

290 BP was not being assessed nearly as frequently as needed with 40% of participants
291 currently only recommending BP checks for any of the cats that they saw in their clinic
292 up to once a month.
293 BP assessment recommendations have not been unanimously agreed. The International
294 Society of Feline Medicine recommends BP assessment at least every 12 months in cats
295 aged seven years and over,[7] the ACVIM Consensus panel considers annual BP screening
296 of all animals aged nine years and over to be reasonable[5] and the American Association
297 of Feline Practitioners guidelines consider BP assessment an essential component of
298 consultations for cats older than 10 years[2].
299 Participants in this study are likely to be seeing at least several cats in the above age
300 groups each week as, for example, 30-50% of feline patients in the United States are
301 believed to be seven years of age or older.[8] Medical conditions such as CKD, known to
302 increase the risk of systemic hypertension, are common in clinical practice, especially in
303 older cats and should also prompt a recommendation for BP assessment.[9-13] This study
304 primarily targeted members of the Vet Professionals database to complete this
305 questionnaire, and therefore was biased towards individuals with a particular interest
306 in feline medicine (see below). Although it is not possible to confirm how many of the
307 participants derived from the Vet Professionals database and therefore a response rate
308 cannot be reported, the authors consider it likely that the majority of participants did

309 come from this source since more than half of the responses were received within two
310 weeks of the survey's launch. Participants recruited via snowballing sampling will likely
311 have shared the same interest in feline medicine. Therefore the authors acknowledge
312 bias in the respondents towards vets and nurses enthusiastic in feline clinical work.
313 Nonetheless, overall the authors were disappointed with many of the findings which
314 raises the possibility of even more concerning findings for BP assessment as a whole in
315 clinical practice. For example, whilst 'routine' BP screening of apparently healthy cats
316 aged 15 years and over was evident, fewer cats aged 7-14 years received 'routine' BP
317 assessment and less than half of participants recommended pre anaesthetic BP
318 screening for example prior to dental surgery.
319 Lack of equipment is not a barrier to BP assessment - less than 3% participants indicated
320 that they only sometimes or never had access to a monitor. Whilst the majority of
321 participants had multiparameter monitors available to them, Doppler devices were
322 most commonly selected for conscious cat BP assessment and the prime reasons for this
323 were greater perceived trust and reliability of this equipment compared to alternatives.
324 Where an oscillometric machine was preferred, this was mainly due to this being easier
325 to use. The current study found the preference and reasoning for use of Doppler
326 methodology similar to that reported in a recent survey of US veterinarians. [6] However
327 a recent European survey indicated a more even split between Doppler and oscillometric

328 monitors in conscious cats.[14] Whilst current scientific consensus is that no methodology
329 has been validated for measuring BP in conscious small animals, [5] for many years,
330 Doppler methodology has been the preferred technique, especially for conscious cats.[15-
331 18]

332 Opportunities exist for improved early diagnosis of systemic hypertension by increasing
333 awareness of situations where BP assessment is indicated; primarily in patients
334 presenting with signs consistent with TOD and in patients with underlying
335 diseases/medications/toxicities associated with an increased risk of systemic
336 hypertension.[5] As with other recent studies,[1] the current study indicated that BP
337 assessment is not being recommended or performed as frequently as the authors would
338 wish. Less than ten percent of participants were recommending BP assessment to any
339 cat owners they saw within the course of one day, 156 (29.1%) participants
340 recommended BP assessment at least several times a week. This compares negatively
341 with a recent US survey where 49.5% veterinarians surveyed were recommending BP
342 assessment at least once a week.[6] The current survey found that participants prioritised
343 recommendations for BP assessment for certain situations, most commonly ocular TOD
344 where almost 90% of participants reported they routinely recommended BP
345 assessment. However, it was much less 'routine' to recommend assessment in cats with
346 proteinuria (63.0%), new heart murmurs or arrhythmias (56.1%) or

347 behavioural/neurological signs (42.7%). Similarly, BP assessment was only routinely
348 recommended in 78.6% cats with chronic kidney disease, 60.9% of cats with
349 hyperthyroidism and 40.3% of cats with primary hyperaldosteronism.
350 Much of this study focussed on identifying potential barriers to BP assessment and their
351 relative importance. Whilst access to equipment was not a barrier to participants,
352 technical challenges such as being able to hear a good pulse signal and 'cuff frustration'
353 were reported. Since the majority of participants were using Doppler units to assess BP
354 in conscious cats, equipment frustration was biased towards 'Doppler issues'. Lack of
355 time was a frequent concern (73.0%), and 92.0% of participants expressed concern over
356 situational hypertension, even in cats that appeared calm. Situational hypertension i.e.
357 a transient increase in systolic BP due to excitement or anxiety associated with the clinic
358 visit and/or the measurement process that occur in an otherwise normotensive patient,
359 is unpredictable. [5] It can be severe in some cases with increases in systolic BP readings
360 of as much as 75 mmHg documented in some cases.[19] Incorporating a ten minute period
361 of acclimatization prior to collecting BP readings typically results in a significant
362 reduction in systolic BP readings of around 20 mmHg[20] and thus is commonly
363 recommended. The current study did not ask participants how much time was allocated
364 for the procedure or whether an acclimatisation period was routinely included.

365 Eye examination is helpful in confirming a diagnosis of systemic hypertension. Patients
366 with confirmed ocular TOD in addition to high BP readings are confirmed to be
367 hypertensive and need to start anti-hypertensive therapy. Whilst the presence of ocular
368 TOD routinely resulted in a recommendation for BP assessment, the current survey
369 indicated that lack of confidence and/or ability in eye examination was common and
370 that training and support in this procedure would be of great value to participants.
371 The current study identified the leading owner-related barrier to BP assessment as cost
372 with potential solutions such as including BP assessment in the standard consultation
373 fee and utilising nurses/technicians instead of veterinarians suggested. It is of note that
374 more vet nurses/technicians completed the questionnaire than vets (54% vs 43%),
375 which suggests that vet nurses are engaged and enthusiastic with respect to BP
376 assessment.
377 This study has some limitations in that it was promoted via the author's (SMAC)
378 database and therefore selected enthusiastic feline veterinarians and vet
379 nurses/technicians who are more likely to work in clinics with equipment for BP
380 measurement and practise high standards of feline medicine. Social acceptability bias is
381 likely to further complicate results in that participants may have been tempted to, for
382 example, exaggerate the frequency with which they were recommending BP
383 assessment. Answers depended on participants memory and so recall bias may have

384 featured. Many nurses/technicians participating in the study commented that they did
385 not feel able to make recommendations for BP assessment without a veterinarian's
386 supervision and this impacted on some of the results (Figures 3, 4, 5). Since BP
387 assessment is not in itself a diagnosis it was disappointing to see that some
388 nurses/technicians are hesitant about recommending BP assessment, with many
389 commenting that recommending BP assessment was primarily or solely a veterinarian's
390 remit.
391 Confidence and clinical environment may play a role here since the number of
392 nurses/technicians excusing themselves from answering some questions varied
393 according to indication. For example, in Figure 4 the number of 'eligible' participants
394 ranges from 263 (cats receiving erythrocyte stimulating agents) to 442 (overweight or
395 obese cats) compared to Figure 5 where around 480 participants commented on the
396 frequency of recommendation of BP assessment of healthy older cats and those
397 requiring anaesthesia.
398 The final questions asked for participant solutions and suggestions for improving clinical
399 practice illustrating a demand for more training and support of hypertension assessment
400 for clinics. Further studies are warranted to determine whether client uptake can be
401 increased through strategies highlighted by the participants such as including BP

assessment in a standard consultation fee rather than charging extra, staff training and increased use of nurses/technicians to recommend and perform BP checks.

Conclusions

Whilst this study shows good awareness of hypertension as an issue and excellent availability of suitable measurement devices clear barriers to assessment exist with less than 10% of participants recommending BP assessment in their daily interactions with cat owners. Future support should be orientated towards practical training in obtaining reliable BP readings, performing ocular examinations and recognising the common ocular manifestations of systemic hypertension.

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Ethical Approval

Approval was obtained from the HERC at the Royal (Dick) School of Veterinary Studies, The University of Edinburgh, for the collection of data through an online questionnaire, and subsequent analysis of this data (approved 07/04/2022, reference: HERC_2022_28).

Informed consent

This work did not involve the use of animals (including cadavers) and therefore informed consent was not required. No animals or people are identifiable within this publication, and therefore additional informed consent for publication was not required.

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