

CPD article

COVID-19: implications of self-isolation and social distancing for the emotional and behavioural health of dogs

As the COVID-19 pandemic sweeps across the world, governments are taking unprecedented steps to achieve control and reduction of its affects. Although the potential mental and behavioural health challenges of social isolation for the human population has been widely discussed within the media, less has been said of the concurrent challenges faced by the companion animals that are also experiencing the regulations associated with 'lock-down' and 'self-isolation'. This article considers the immediate consequences for dogs of reduced access to environmental and social stimulation outside the home and increased social exposure within the home, as well as considering some of the potential long-term effects of such measures.

<https://doi.org/10.12968/coan.2020.0032>

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Key words: anxiety | behaviour | dogs | emotions | fear | frustration | resilience | welfare

At the time of writing, the human population is restricted to one session of outdoor exercise per day and it is inevitable that these exercise restrictions are going to affect the canine population that are used to a routine associated with exercise opportunities and/or social exposure to the wider human family. The British dog population is not yet as restricted as pets in European countries, nor is there any mention of regulations as draconian as those of South Africa, where outdoor exercise is altogether banned for the next 3 weeks.

With so many dog owners living in towns and cities and many without access to gardens, the sudden change in a dog's routine will inevitably leave it confused, frustrated and distressed.

It is the opinion of this author that it is inevitable that the above changes to the life of dogs in Britain will have profound implications for their current emotional and behavioural health, implications that are likely to extend into their future welfare.

Should our dogs be subject to exercise and handling restrictions intended for humans?

Is it actually necessary for dogs to have their exercise restricted by their human companion's need to self-isolate or for dogs to be subjected to limitations to outdoor exercise because of

human-centred self-distancing regulations? Is it appropriate for family members or volunteers to collect dogs from friends, relatives or neighbours' homes to enable dogs to have access to exercise that exceeds their owner's single daily session? The answer lies in whether, if given greater opportunities for exercise, this option carries with it a risk of the animal becoming a vector for COVID-19 to be passed on to a greater number of humans. In an interview (Weese, 2020), Dr Weese, a veterinary infectious disease expert from Ontario Veterinary College, explained that COVID-19 was likely to be a largely human disease, but that, as yet, there is insufficient evidence regarding the host range and whether domestic dogs can become infectious. At the time of writing, there has been one case, in Hong Kong (where pets of infected owners are routinely quarantined and tested), of a dog being infected by an infected owner. The infection proved to be of a low level in the dog, who tested positive for a few days, with no serum antibodies and the dog showed no sign of being unwell. It is unknown whether the dog was infectious, although it is considered that dogs are not good hosts for severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) (the virus which causes COVID-19) in a similar manner to human influenza, which can be transferred to cats, dogs and ferrets if handled by an owner with flu, but the animals do not, themselves,

become unwell), hence dogs are likely to be ‘dead-end hosts’ for the virus.

However, as infected dogs are unlikely to show signs of illness and until more is known about COVID-19, it should be assumed that COVID-19 may be transferrable via animals because of a degree of risk associated with handling the hair of an infected animal or an animal that has been in contact with an infected human. As a consequence, it has been suggested that if an owner has been exposed and is self-isolating, that they should keep their pet with them so that the pet does not come into contact with other people, as the COVID-19 virus may live for a few days on the hair of the animal.

As dogs may become infected by their owners, it is advisable that infected owners do not handle their pets. Although this may be difficult for some isolated owners, this includes limiting the amount of direct contact such as petting, snuggling, being kissed or licked, and sharing food.

The World Small Animal Veterinary Association (2020) suggest that if people have to remain with their dog while ill with COVID-19, they should ensure they maintain good hygiene practices, such as washing hands before and after interacting with a pet and they should wear a face mask.

Following on from these assumptions, it is important that both owners and veterinary staff maintain strict hand-hygiene routines when handling dogs during the current public health crisis.

In addition, it is important that all dogs remain with and, where it is normal to do so, take exercise with, their human companions and that they are not exercised by volunteers.

Are the social distancing and self-isolation regulations likely to pose immediate or future problems to the emotional and behavioural welfare of dogs?

It is the opinion of this author, that there is a likely negative emotional and behavioural welfare outcome of the human-centric social isolation regulations for companion dogs. The short- and longer-term emotional and behavioural effects on our dogs are likely to be highly dependent on:

- An individual animal’s ethology (the fact that they belong to a social species — Bradshaw and Rooney, 2017)
- An individual’s genetic capacity for sociability and general social and environmental resilience
- The dog’s early and subsequent learning opportunities (Serpell et al, 2017)
- The dog’s current state of health
- The individual dog’s expectation of access to the outdoor environment.

All of these parameters will influence whether an individual dog will benefit from increased access to human companions and whether their wellbeing will be impaired by restricted opportunities to engage with the outdoor environment.

In addition, the emotional advantages of increased social contact with owners will be determined by whether an individual dog has options for choice regarding avoidance of, or access to, the social environment and the availability of alternative mental

stimulation within the confines of the dog’s home and garden, if available.

The effects on dogs of restricting human access to outdoor exercise

Exercise and environmental enrichment (through access to a diverse and stimulating environment) is a basic health requirement for all animals; but the amount of exercise and the level of stimulation required will vary markedly between individuals.

Dogs are social obligates (Heath, 2018) and have an innate expectation of social companionship either from other dogs or humans. However, individual dogs may have very limited social skills when it comes to meeting other dogs, becoming anxious, fearful and/or frustrated on such encounters (Mills et al, 2013).

As owners are currently encouraged to exercise in areas where they can maintain a considerable distance from other walkers, the immediate emotional welfare of such dogs will benefit from reduced or no close encounters with other dogs. However, in the longer term, once COVID-19-related exercise restrictions are relaxed, unless owners are willing to engage with a staged reintroduction to the social environment outside their home, such dogs are likely to become increasingly distressed on encountering other dogs at closer proximity.

In addition, during the current social distancing requirements, highly sociable dogs are likely to become increasingly frustrated about their inability to engage with both other dogs and the unknown dog’s owners, leading not only to current control problems but learned associations that, once distancing restrictions are relaxed, may lead to more fervent attempts to gain social contact that can be off-putting for other, previously socially confident but ambivalent dogs, who may experience a motivation to engage in aggression-related communication to maintain a safe distance between themselves and over-enthusiastic conspecifics.

A related problem to these changes in social competence may be a loss of general habituation to the environmental complexity met outside the home. If dogs’ owners have, because of reduced time and distance from home, been forced to exercise their dog in areas that are less complex and stimulating than would be normal, then many of these dogs may experience dishabituation. Although habituation enables an animal to learn to accept stimuli as non-threatening and hence safe and not requiring the initiation of emotional arousal, habituation also requires continual and regular exposure to those stimuli (Seksel, 2012). Consequently, dogs experiencing prolonged periods of lack of exposure to complexity following reduced levels of environmental stimulation during exercise, may lose previous environmental competencies. This may result in individual dogs experiencing distress on subsequent re-exposure to environmental complexity — distress that may also lower the individual animal’s capacity to cope with further environmental and social stressors met subsequently during exercise periods.

Further to these issues will be the expectation of exercise to be provided at specific stages of the day, often recognisable and predicted by the behaviour of the human carer. A state of

expectancy and anticipation is the definition of the emotion of anxiety (Mills et al, 2013) and consequently owners can expect their dogs to experience several bouts of anxiety throughout the day, associated with the expectation of exercise or access to the outdoor environment. When this expectation results in failure, a likely outcome is frustration and an invigoration of the dog's physical or verbal behaviours (such as pawing owners or whining). Such behaviours can prove difficult for even the most patient of carers to cope with and any lack of calm or change in demeanour of the owner will only increase the dog's distress. This situation may severely reduce the dog's capacity to cope with further stressors, with the potential for aggression. Any subsequent punishment from the owner (whether verbal or physical) may result in the dog learning to be wary of their owner, a situation that may persist post the relaxation of COVID-19 restrictions (Figure 1).

An inability to engage in the previous pattern of toileting behaviour is an issue that may result in considerable emotional distress for dogs. Most dog owners consider their dogs to be toilet trained (trained to seek out a specific substrate for toileting and to withstand the discomfort of the stretch receptors in their bladder or bowels for a requisite period of time), whereas the dog may merely have learnt to expect that the owner will regularly take it to an acceptable toileting environment. Consequently, reduced opportunities to engage with the outdoor environment may result in indoor toileting that the dog cannot avoid (Figure 1). With the increased frustrations associated with human isolation from their wider social group and increased social exposure to immediate family within a confined space, owners may already be lacking in tolerance. Such toileting accidents may lead to inappropriate responses from owners that will cause immediate distress to the dog and long-term learning about a lack of safety and lack of predictability when in the presence of humans, learning that may result in aggressive incidents being directed towards humans (Zulch, 2017).

The effects upon dogs of increased social pressure within homes

The immediate impact upon dogs of enhanced exposure to family members, and the range of activities that they engage in, will be highly dependent upon the innate sociability of the species and the individual's previous experience of social exposure to the family.

Most owners have an expectation that the domestic dog will live within the family home with a clear understanding of human social requirements regarding the dog's social behaviour and, in normal circumstances, the majority of dogs seem to fulfil these human expectations. However, this is largely enabled by the dog being able to experience periods of the day outdoors (albeit, for some dogs, relatively few and sometimes short), when the dog can experience the freedom to 'be a dog', to engage in investigative behaviours and to use its sensory system with only minimal interference from humans. In short, it is this author's opinion that the quality of the social relationship with human carers is largely dependent upon the dog's capacity to exercise choice regarding whether the dog interacts with its carers, in



Figure 1. Altered routines can easily result in a breakdown in housetraining that may result in frustrated owners using inappropriate methods to resolve problems.

what way it interacts and for how long. For some dogs, their individual preference and need for social interaction with carers is considerable; at its extreme this may result in behaviours that owners may consider to be problems such as excessive attention seeking or separation-related problems. Other dogs are circumspect in their relationship with owners and other humans, preferring to remain within the general environment of their carer, but remaining at a distance that may vary dependent upon owner request or the dog's desires. However, the dog's 'normal' daily association with the human members of the family mostly involves an element of choice for the dog — a level of choice that is currently unavailable for many household pets.

COVID-19 regulations have brought about considerable changes in the daily routine for many dogs. With children being educated and entertained within the home while owners are either furloughed or attempting to continue to work within the house, the level of activity and social stimulation experienced by companion dogs has increased exponentially. For some dogs this will be a considerable improvement in their desired levels of contact with humans, but for other dogs this will not be the case. As a considerable part of the family dog's coping strategy for dealing with family life will be its ability to rest during family absence from the home, this strategy for enhancing coping will have been removed. For those dogs with established 'quiet' areas of the home where they could seek refuge and privacy, many will no longer be able to benefit from these resources because

Table 1. Potential canine behaviour problems associated with increased time spent within family homes and suggested preventative actions or first aid advice

Potential problem	Potential reason for behavioural change	Likely presentation	Advice for owners
Aggression to other social stimuli (human family members and other pets within the household)	<p>Inability to engage in avoidance behaviours, as</p> <ul style="list-style-type: none"> The dog has no specific place of safety where it can avoid family activity and noise Previous places of safety are unavailable due to increased family activity 	<p>Barking, growling, lunging, snapping and/or biting</p>	<p>Separate the dog from specific targets of aggression or stimuli that initiate aggression</p> <p>Gently introduce a muzzle (see PDSA advice) and ensure the dog wears this when the target is in the home</p> <p>Introduce the use of house-lines to enable gentle and calm interruption of a dog's behaviour</p> <p>Ensure that the dog's normal 'resting/hiding' place is identified, preferably always accessible but away from family activity. Enhance the quality of this safe place by making it dark and soundproofed (using a thick covering)</p> <p>Encourage use of the 'safe place' at quiet times, placing tasty treats within and enhancing with an ADAPTIL diffuser</p> <p>Once the dog is in the safe place it should not be disturbed</p> <p>Seek the advice of a clinical behaviourist</p>
Attention seeking	Alterations in the predictable routine of the dog's day, resulting in attempts to gain re-assurance and mental stimulation from human companions	Whining, barking, pawing, mouthing	<p>Attempt to maintain a daily pattern to events</p> <p>Encourage the dog to make use of a den to settle with problem-solving puzzle feeders</p> <p>Attempt to identify triggers to attention seeking and pre-empt these activities/stimuli by providing quiet, engaging puzzle feeding and other environmental enrichment, preferably of a type that doesn't involve constant human involvement</p>
Post COVID restrictions separation-related problems	A learnt expectation that owners will be present to provide comfort, attention and/or mental stimulation, or a learnt association that anxiety, fear or frustration initiating situations or stimuli do not manifest during owner presence	Vocalisation, destructive behaviour, self-mutilation, vomiting, urination and/or defecation during owner absence	<p>Attempt to maintain a structure to daily activities</p> <p>Try to leave the house daily for several short departures, without the dog, even to go from the front door to the back door</p> <p>Ensure that the dog is given several daily opportunities to spend time in solitude, enjoying calm problem-solving activities</p>
Post-COVID territorial responses to stimuli passing the home	Dishabituation due to a period of exclusion from normal stimuli passing the home. More likely to occur due to concurrent stressors in the environment (eg heightened family activity and lack of 'choice' regarding avoidance)	Barking at stimuli passing the home Increased agitation when social stimuli enter home Potential redirected aggression towards other social stimuli in home	<p>Investigate the Dogs Trust 'Sound Therapy for Pets' recordings and play short bursts each day, in differing areas of the home and garden (gradually raising the volume for very quiet to 'normal' volume while the dog relaxes with a calming problem-solving activity</p> <p>Separate targets of aggression</p>
Post-COVID heightened sensitivity to stimuli met outside the home	Dishabituation due to a period of exclusion from normal stimuli passing the home. More likely to occur due to concurrent stressors in the environment	Increased handling problems during exercise on approaching and passing stimuli, including the potential for aggression (barking/growling/lunging/snapping) to unknown social stimuli met outdoors	<p>As long as the dog can relax and if a garden is available, involve family members in creating 'unusual' sights, for example using garden tools, old toys, bikes – some of which can be initially used at a distance from the relaxed dog and gradually moved closer. Mix the stimuli and change daily</p>

of the activity and noise of children who require entertainment throughout the day. As a consequence, there is a considerable potential for an increase in levels of anxiety (and potentially also, fear) in many companion dogs. If these dogs are unable to experience a level of control over their exposure to household stressors, the developing emotion of frustration may also result. Consequently, owners may expect to see an increase in anxiety, fear and frustration-related behaviours in their dogs (Table 1).

Whether behaviour problems continue post COVID-19 regulation relaxation will depend largely upon how these behaviours are dealt with by owners. Families who provide alternative opportunities for quiet environmental enrichment and problem solving for their dogs in combination with accessible and quiet places to avoid stressors, are likely to retain a relaxed relationship of mutual trust between family and dog. However, those families relying on verbal or physical punishment are likely to see a long-term relationship breakdown.

The government has sanctioned the housing of the homeless and their canine companions within some hotels and hostels (Westgate, 2020) and in response to the predictable behaviour problems that owners may experience with their dogs in these unfamiliar environments, charities such as Streetvet have been providing muzzles and crates. However, as these dogs will be unfamiliar with these aids to safe housing, it is likely that canine welfare will suffer from a lack of appropriate introductions to these behavioural management tools, resulting in reduced levels of coping within an environment that is already alien, restricting and subsequently distressing. Consequently, when advising the use of management tools that will enhance the safety of family members living alongside a distressed dog, veterinary staff should also ensure that such tools can be safely applied. The websites of the major charities at the end of this article provide advice on such issues.

Increasing mental stimulation as an aid to coping with social and environmental changes

All dogs will benefit at this time from increased opportunities for mental stimulation through the provision of simple problem-solving activities that involve a mix of human interaction — involving increased training and enrichment opportunities, inside and outside the home, and without excessive human intervention, encouraging independent activity and reduced reliance upon humans for the provision of mental stimulation and emotional support.

Increased mental stimulation can be realised through maintaining a varied supply of specifically designed, problem-solving toys; however, some ideas for home-made activities can be found at the end of this article, but readers may also wish to investigate the websites of the major companion animal charities for other ideas.

In addition to problem-solving activities within the home and garden, simple environmental enrichment techniques can be used to turn a relatively boring walk around a tarmacked, empty, car park into an interesting and rewarding experience through the use of a portion of a dog's daily food allowance to create an



Figure 2. Unless also exposed to an enriched yet not over-stimulating environment, young animals will not benefit from remaining with their mothers for longer periods than would be normal.

olfactory 'hide and seek sniffari' game following the scent of trails of food. Environmental enrichment does not need to be difficult, merely varied and fun.

A special case — young animals that need to develop social and environmental resilience

Very young dogs intended for the companion animal market are currently in a particularly vulnerable position regarding emotional welfare. Puppies are spending increasing amounts of time within their breeding environment, time that would ordinarily be spent in acclimatising to, and developing resilience within, their new homes. This author has spoken to several puppy breeders, all of whom have assured her that business is booming. With COVID-19 social restrictions emphasising the value of social contact to many people who are currently forced to spend their days alone, this appears to be prompting many to make enquiries regarding the purchase of a puppy. Many of the puppies being currently sold to new owners via the internet are well past the age at which they would normally have joined their new homes, yet for many more weeks they will remain in relatively barren breeding environments, many in rural locations, receiving even less sensory stimulation than would normally occur as sounds from road and air traffic declines. If breeders are filling this emotional developmental gap in the puppies they have produced through providing appropriate learning opportunities, then the opportunity to remain with a calm mother in a rich and diverse environment that enables young puppies to spend increasing amounts of time spent in quiet and gentle stimulation away from the mother, can be an advantage (Figure 2). But if this possibility is not available, then the situation can only be detrimental to young dogs intended for the domestic market.

Potential owners may still be contacting veterinary practices with queries regarding the cost and care routine associated with vaccination and neutering. This is an excellent opportunity for staff to engage in discussions regarding the source of the new dog and to give advice regarding the type of experiences the purchaser

should ensure that breeders are undertaking with their new pets. Hargrave (2018a, 2018b) published a detailed summary for dogs.

While talking to owners who have recently taken on the care of a puppy, it is important for veterinary staff to both stress the need to engage in expanding their new companion's resilience to the domestic world, while also remembering that young dogs require frequent and extended opportunities for quiet rest and sound sleep. Hence, it is necessary to emphasise the need to provide regular opportunities for 'quiet' times of separation from the family that will enhance the current emotional welfare of the new pet, but that will also start to prepare the companion animal for periods of social isolation once COVID-19 restrictions are lifted.

Immediate veterinary first aid response to COVID-19 related emotional and behavioural welfare problems

It will considerably improve the resilience of young animals if practices can try to continue virtual contact with puppy owners via virtual individual or group sessions with the practice 'behaviour' team. There are a variety of 'free to use' platforms that can accommodate small groups and provide high quality images along with the capacity to share documents such as handouts — please see the websites of organisations such as the Fellowship of Animal Behaviour Clinicians and the major charities for good-quality, free handouts. In addition, at this time of reduced natural background noises such as traffic and planes, the 'Sounds Sociable' soundtracks (see Dog's Trust's 'Sound Therapy for Pets') will be particularly essential to helping young dogs to develop resilience to the domestic environment.

KEY POINTS

- Dogs thrive in a consistent and predictable environment — the current COVID-19 restrictions have removed that essential welfare element.
- Although the majority of companion animals will be highly bonded to their human carers, increased social activity is likely to cause at least occasional distress to dogs.
- Dogs cope with the stressors within a domestic environment through the use of choice — to engage or not to engage with ongoing activity. Current restrictions are reducing the companion animals' options of choice.
- Without the choice to avoid stressors, dogs are likely to engage in a range of frustration-related behaviours that may include aggression to other social stimuli or self-harming repetitive activities.
- As dogs belong to a social species, they will be predisposed to increased dependency upon owner companionship during COVID-19 restrictions — this may lead to future separation-related problems when social movement restrictions are lifted.
- The inability to escape distress-inducing social encounters may result in the physical abuse of dogs by some owners.
- Without veterinary intervention to encourage owners to initiate efforts to enhance environmental and social resilience, young dogs are likely to pay the highest price for the COVID-19 related environmental and social restrictions.

Although often overlooked in the busy veterinary practice routine, it will remain important to take time to discuss the behaviour of dogs during telephone triage discussions for medical problems, as any dog that is not in peak health will have a concurrent reduced capacity for coping with the current environmental and social stressors. The resulting behaviours may be dangerous for the patient, owners and other animals within the household and hence such discussions should not be optional. Additionally, it will be helpful if veterinary staff can check medical records and ask pertinent health-related questions when clients report behaviour change in their dog, as the link between ill health, pain, discomfort and behaviour change is strong (Zulch, 2017). If staff feel unable to offer appropriate first-aid behavioural advice, then clients should be encouraged to contact their nearest Animal Behaviour and Training Council-registered clinical animal behaviourist.

Of considerable importance during this period of heightened social tensions within family homes, will be the need to remind clients with children who contact the surgery to make use of the 'Dogs and Children' advice that is available on the websites of all major animal charities. As a result of school closure, the normal school-based education that helps children to remain safe around dogs has been interrupted, but parents can help to entertain children and educate them while using these child-centric resources that are available on the websites of the major pet charities (see *Other useful contacts and resources*).

Longer-term veterinary first aid response to COVID-19 related emotional and behavioural welfare problems

When clients contact the practice with medical queries, if not an immediate emergency, staff may wish to try to initiate a short conversation about how the client's family and dog have coped with the restrictions associated with COVID-19. If the behaviour of the dog is mentioned, such conversations could be triaged towards the practice behaviour advisor. The *Veterinary Nurse* journal has printed a series of articles on first aid behavioural advice for a range of companion animal species and these articles will form a useful tool to keep close to the reception desk telephone (Hargrave (2019) includes behavioural first aid advice for dogs), to enable staff to refresh their memories regarding appropriate first-aid behavioural advice. In addition, if practices do not have a designated behaviour specialist on their staff, clients should never be left with the feeling that help and support is not available, but should be referred on to the nearest Animal Behaviour and Training Council-registered clinical animal behaviourist.

Conclusions

Historians are already speaking of post-Second World War history being discussed as BC (before COVID) and AC (after COVID) and there is a chance, when normality returns, that both for ourselves and our dogs, life will involve a very different normality to the one that we previously experienced. Increased social pressures upon families will have been a hot-bed for emotions and the potential for psychological and physical abuse of family members and family pets should not be swept under the carpet; veterinary staff will need to remain vigilant for signs of

such abuse following such intense family tensions. As the period of social isolation continues, there is likely to be an inevitable rise in pet relinquishment, either because of families experiencing an inability to continue to afford pet care or an inability to cope with their pet's behaviour (Bonner, 2020). We live in worrying times and all we can do is hope that we emerge with our empathy and capacity to care and help others to care, intact. **CA**

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Useful ideas for problem solving and environmental enrichment

Boredom Busters from Karen Wild: <https://www.youtube.com/playlist?list=PLwZbsct-laGvmWwdSMDTDZsa0r47Mrzbn>

Boredom Busters from Susan McEuan: <https://happyhoundstraining.co.uk/boredom-busters/>

Other useful contacts and resources

Animal Behaviour and Training Council:
<http://abtcouncil.org.uk/>

Association for the Study of Animal Behaviour accreditation: <https://www.asab.org/ccab-register>

Fellowship of Animal Behaviour Clinicians:
<https://fabclinicians.org/covid-19>

Dogs Trust: <https://www.dogstrust.org.uk/news-events/news/2020/covid-19-statement>

Dogs Trust Sound Therapy for Pets — Sounds Sociable: <https://www.dogstrustdogschoool.org.uk/behaviour/noise-fears/sound-therapy-for-pets/>

People's Dispensary for Sick Animals: <https://www.pdsa.org.uk/what-we-do/blog/vet-qa-coronavirus-covid-19-advice-for-self-isolating-pet-owners>

Royal Society for the Prevention of Cruelty to Animals: <https://www.rspca.org.uk/whatwedo/latest/blogs/details/-/articleName/how-to-care-for-your-pets-if-you-re-ill-or-have-to-self-isolate-due-to-coronavirus>

World Small Animal Veterinary Association:
<https://wsava.org/news/highlighted-news/the-new-coronavirus-and-companion-animals-advice-for-wsava-members/>

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