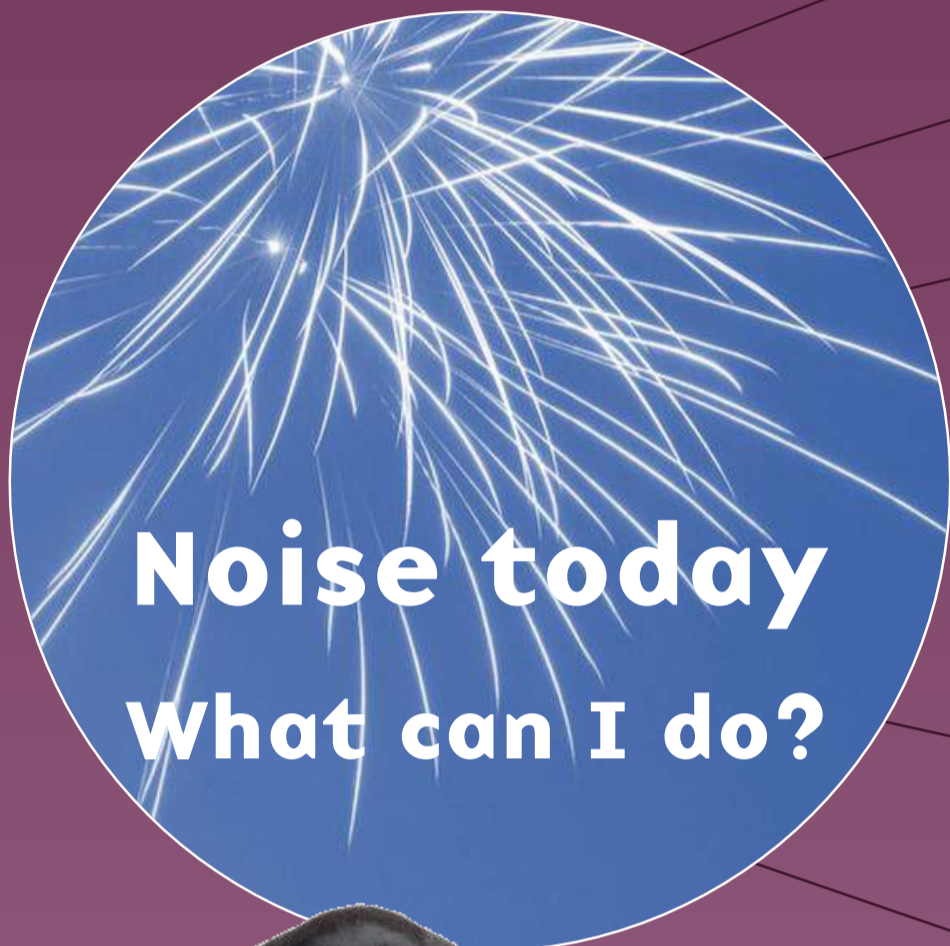


Dealing with noise phobia in dogs

A summary of current best practice and latest research

ILLIS ABC
ANIMAL BEHAVIOUR CONSULTING



20% of dogs develop fear of noise



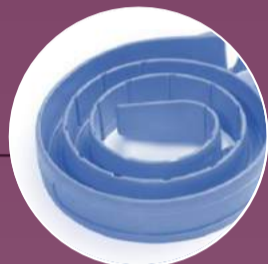
Arrange the environment
Provide shelter, masking noise, familiar smells and non-fearful friendly dogs



Distractions
Give the dog a task: solving puzzles, playing games, gnawing bones



Owner behaviour
Don't punish, be observant, give treats after noise, stay calm, use jolly voice



Pheromones and smells
Adaptil is calming but not sedative and available as collars or sprays. Try *aromatherapy* (lavender, chamomile)



Pressure
Use close-fitting garment: *Thunder shirt*, *Anxiety wrap*, or the *Storm Defender*



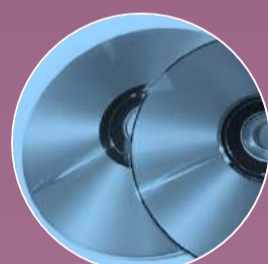
Exercise and massage
Drain energy – take a long walk before the event.
Tellington TTouch may soothe both owner and pet



Diet and medication
Try the *Calm Canine* diet, *Rescue Remedy*, or the fast acting *Sileo* prescriptive drug



Owner behaviour
Don't ignore a small problem – it likely won't get better!



Learning
Use SD/CC: gradually increase exposure to noise combined with treats / play / attention*



Medication
Some drugs take time to kick in – consult your vet



Training



90% of fearful dogs may be helped

BEFORE problems develop: * Try the *Canine Noise Phobia CD* where fireworks / thunder is masked by soothing classical music. This graduated exposure is systematic desensitization. Combine with counterconditioning by pairing it with fun and food (SD/CC).
Avoid flooding the animal with noise.

Fireworks and dogs - the definitive guide to prevent, reduce and eliminate fear

Everything you need to know to help your dog stay calm during fireworks and thunderstorms.

Is your dog afraid of fireworks? How about thunder?

Keep reading, this blog post contains everything you need to know.

Is your dog **not** fearful of fireworks, thunder or other loud noise?

Keep reading anyway. That may change, and you should be prepared.

20% of dogs develop
fear of loud noises



90% of fearful dogs
may be helped



Fear of fireworks and thunder often lead to similar reactions in dogs ranging from milder symptoms like cowering, pacing or whining, to house soiling, tearing up the furniture, and even vomiting.

Noise phobia could potentially have very serious consequences - more pets go missing around the fourth of July than any other time of the year.

Not all find their way home again.

In this blog post, you'll learn:

- how to help your anxious dog on the same day of the fireworks or thunderstorm,
- how to prepare your poor pooch when there's more time,
- how to prevent your puppy from developing fear of noise, and
- how to recognize the early signs of anxiety.

This is a long blog post.

A very long blog post. Over 4900 words, actually.

Are the dreaded fireworks expected for tonight, or dark clouds at the horizon foreboding a thunder storm? There may not be time to get a vet appointment, but a visit to the pharmacy or grocery store may be doable if you have some time.

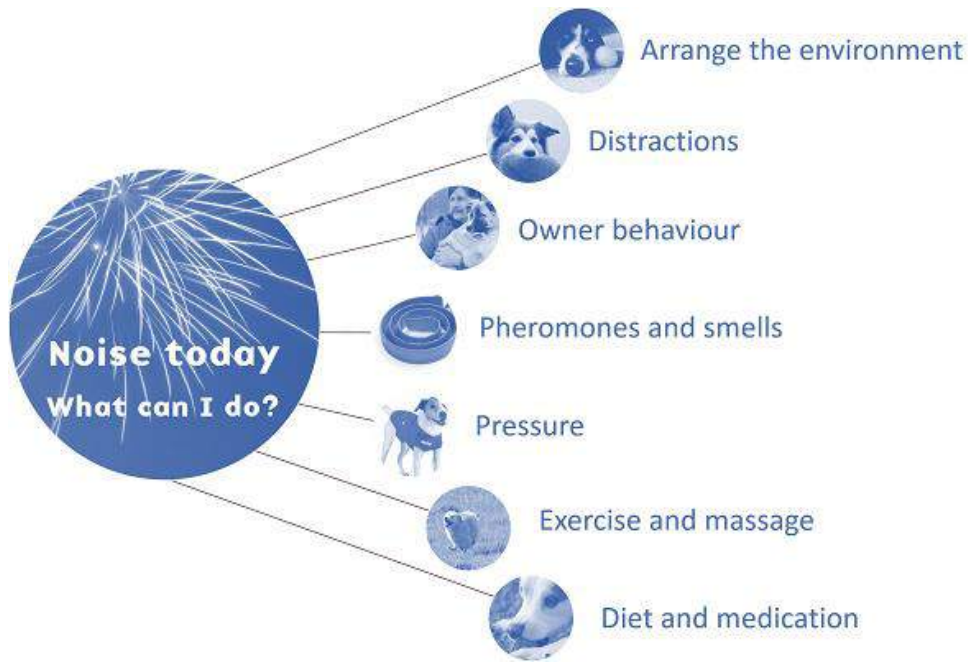
Don't panic.

Part 1 – fireworks/thunder today

What to do if there's no time

There are a large number of things you can do on the day of the fireworks / thunderstorm to make things easier on your dog.

Is it starting now, as you're reading this? OK, here is what you need to do **now**, with absolutely no time to spare:



ARRANGE THE ENVIRONMENT:



Don't confine the animal, but provide free access to a favourite hiding place. This is probably the single most important thing you can do at this time.

Image: pexels.com

Reduce the amount of incoming stimuli (aversive noise / light / smell) by padding the hideout with pillows or cloth.

This should be a calm, cosy, inviting place. If light flashes are coming through the door frame, the hideout room shouldn't be dark but brightly lit instead.



Consider adding some clothing that the animal's favourite person has worn to provide some added smelly comfort. Ideally, stay with the animal (more on what to do below).

Add worn clothing if you can't be present.

The presence of non-fearful, familiar, friendly dogs may also buffer stress.

[Calming Caps](#) reduce the amount of visual information, which may also be calming (although they are most commonly used to reduce arousal during car rides).



*Leo wearing calming cap.
Image: Kari Neumeyer,
<http://www.karineumeyer.com/>*

Mask incoming sound by running electrical appliances such as a washing machine, or playing classical music. [Through a Dog's Ear](#) have prepared CDs that have shown to relax dogs even better than ordinary classical music ([Leeds & Wagner 2009](#)).



Mutt muffs are ear covers for dogs that reduce incoming noise – they are commonly used during noisy airplane rides.

Sunny wearing mutt muffs.

Your dog shouldn't be worried by the arrangements per se. For instance, if he's never worn mutt muffs, that might not be a good idea. These ideas are all meant to calm the animal, not make things worse.

DISTRACTIONS:

Do what you can to keep the dog under threshold, meaning that his alarm systems don't go off.

I can't emphasize enough the importance of keeping the animal under threshold - check out [this blog post](#) by Jennifer Cattet.

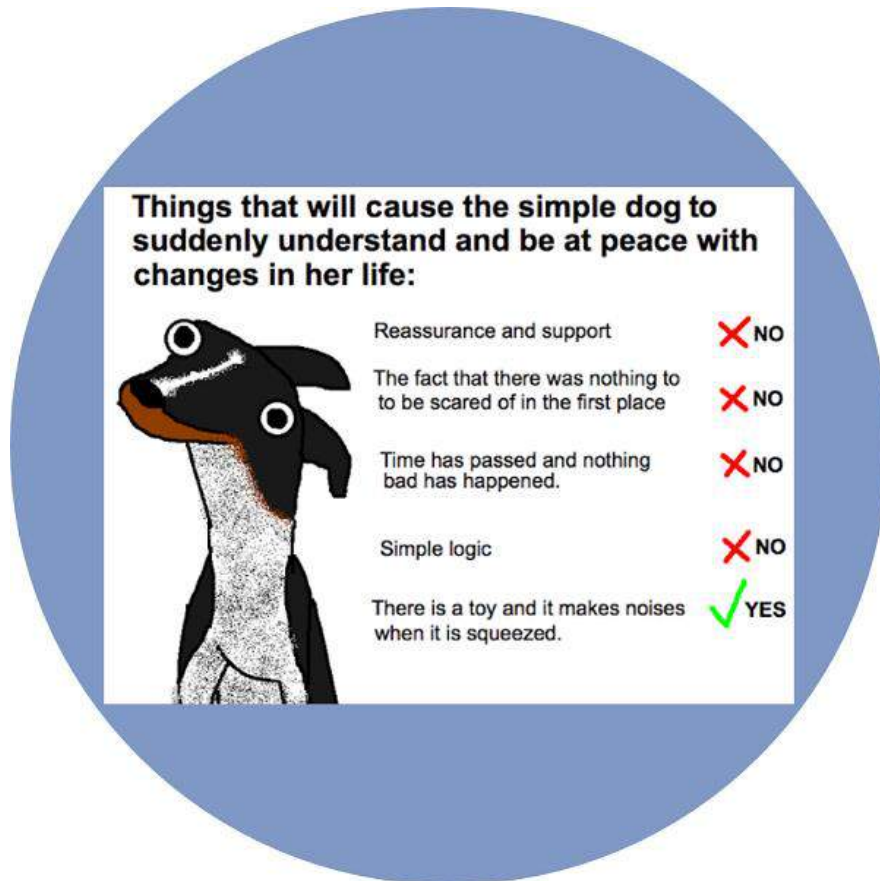


Image: Allie Brosh, <http://hyperboleandahalf.blogspot.se/>



One efficient way of doing this can be to distract him with something that usually gets his attention and focus.

Doing a training session, playing or giving him a marrow bone or a problem solving puzzle may get him so focused so that he tunes out distracting noise.

Image: Alyona DelaCoeur, www.whyydoesmydog.com

Indeed, problem solving has been shown to reduce fear - perhaps because the animal learns to control certain aspects of the environment.



Image: 123rf.com

In a study on German shepherds, it was found that dogs that had a lifestyle involving a lot of play were generally less stressed than dogs who played less - play is very beneficial also outside the noise-phobia context! ([Roth et al., 2016](#))

OWNER BEHAVIOUR:

It may be difficult to remain calm if you're concerned about your animal, but remember that your demeanor will influence your dog.



Stay calm.

The owner's frame of mind is very influential to dogs, and it's been shown that anxious dog owners are more prone to have dogs that develop noise phobia.

Image: Spirit-fire, flickr.

Whoever is engaging in the dog should appear content and calm rather than nervous - using a jolly voice could be risky as the dog may confuse that with fear. Beware of consoling the animal by using a sad voice as this may make things worse.

Punishment: admonitions, painful stimuli such as ear twists, or even a harsh tone of voice may increase fear, especially if the animal is sensitized.

Throw the dog a favourite treat immediately after each thunder clap or fireworks noise – he then learns to associate the sounds to something he really likes.

"During and after the treat tossing, visualize your most pleasant memory/fantasy in great detail. It can be rated G, like thinking about world peace or the taste of chocolate on your tongue, but it doesn't have to be." ([Grisha Stewart, author of BAT 2.0.](#))

The technique is illustrated in the video below. Though the environment is full of distractions and a ton of other noises, each gun shot is followed by "yes!" and a treat. Though the dog is somewhat uncomfortable in this situation, the focus is on the owner and he eagerly takes each treat. The alternative could have been much worse.

<https://www.youtube.com/watch?v=ILX8kvqWigo>

If your dog doesn't take the food, stop feeding and see if you can block out more of the noise / lights / static – perhaps try the bathroom? Running the shower may block out some sounds, too. Metal pipes typically supply the sink so they're potentially a grounding device – many dogs press against the pipes, perhaps to reduce static electricity. Eileen Anderson [warns against taking refuge in a bathroom](#) with metal pipes during thunderstorms due to the small but significant risk of lightning strikes.

Should you pet a frightened dog? Be cautious of petting a frightened dog during a noisy event (especially fireworks). It **may** make both of you feel better, but pay attention to the animal. Stop if you see that petting makes things worse (which could occur [through three different mechanisms](#)).

PHEROMONES AND SMELLS:

Adaptil (previously called DAP) is a synthetic version of scents emitted by mother dogs to comfort their pups, and may be worn as collars or used as diffusers or sprays. Adaptil collar-wearing dogs scored only half the positive anxiety that controls did during thunder claps in one study ([Landsberg et al., 2015](#)).

Studies indicate that some smells have relaxing and anxiolytic effects, such as the diffusion of diluted [essential oils of lavender](#) or chamomile.



Image: Pixabay.com

In a study of travel-induced excitement, dogs vocalized and moved less and rested more when exposed to an ambient odor of lavender than if there were no added smells.

In a shelter environment lavender and chamomile resulted in much the same observation; in contrast, rosemary and peppermint produced the opposite effect ([Graham et al., 2005](#)).

PRESSURE:

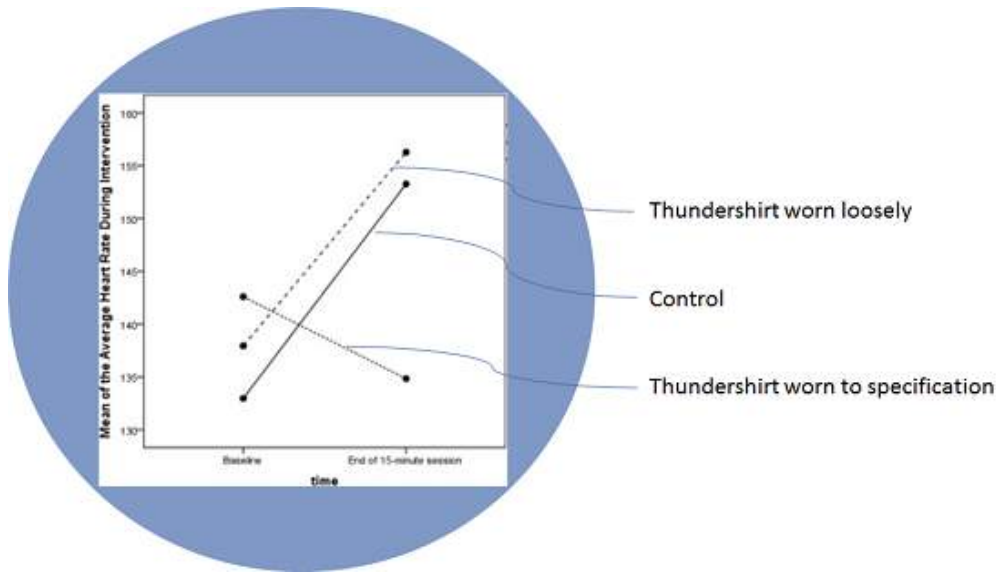
Watch how your dog responds to petting during the actual noise- be careful as petting might either improve things or make it worse: if in doubt, don't pet the animal! One option is putting gentle continuous pressure on the animal with your arm, or even leaning against the dog until you feel him relax and exhale.

This is obviously not a good idea if the animal gets even more frantic.

There are several close-fitting garments that can be used to provide calming deep pressure ([Grandin, 1992](#)): [Thundershirt](#) was found to reduce heart rate in dogs suffering from separation anxiety in a recent study, and the manufacturers boast that it works in 80% of dogs.

<https://www.youtube.com/watch?v=pmw gw2actJg>

It's important to put it on tightly, according to specifications – if worn loosely, Thundershirt hardly makes a difference. ([King et al., 2014](#))



Heart rate at baseline and after 15 minutes alone in the kennel. King et al., 2014



[The Anxiety wrap](#) covers more of the chest and shoulders in larger dogs than the Thundershirt and was found to reduce thunder anxiety score by 47% in dogs, [helping 90% of dogs](#).

The Anxiety wrap. Image: Kimberly Ring, Wikimedia

[The Storm Defender](#) is a cape that doesn't apply pressure but has metallic lining that allegedly protects the wearer from static electricity during thunderstorms.

The Storm Defender.



It's a bit unclear at present whether the documented effect of the storm defender cape is due to placebo or not: in the only scientific study carried out to date, the sole method of collecting data was by owner ratings, which vastly increases the risk of placebo confounds. After 4 thunderstorms the dogs wearing the storm defender had reduced their median anxiety score by 63%, and the placebo group by 36%. Though this difference seems large, it was statistically insignificant. ([Cottam & Dodman, 2009](#))

Nerdy comment: *Since the sample sizes were small and there was much variability, I suspect that the statistical power of the study (the likelihood of finding a true difference) was small. Repeating the study with a larger sample and adding objective behavioural observation would perhaps shed more light on the usefulness of this device.*

If you don't have a handy pressure wrap, [make one yourself](#).

<https://www.youtube.com/watch?v=N83oXBzy0KM>

"Please note-this wrap is only to be left on an animal for up to about 15 minutes at a time for a dog, and only up to a minute or two for a cat, and NEVER should be left on an animal unsupervised. A 2" ace bandage is good for a small dog, and a 3" bandage is good for a bigger dog. This is a demo of a TTouch wrap, one of the TTouch tools which is extremely useful especially or frightened or shy animals. It is also good to give general body awareness for animals who may have limited body awareness in some parts of their body." ([Sarah Houser](#))

EXERCISE AND MASSAGE:

Take a long walk with your dog before the event to drain some energy. Make sure that the dog can relieve himself as late as you dare before the event. If it's already started, don't inadvertently - or intentionally! - bring your dog outside into a thunderstorm or firework event.

If you're familiar with [Tellington TTouch](#), it may be a good idea to practice it. If you're not familiar with it, don't fret. Body contact releases feel-good-hormones such as oxytocin into the blood stream and could calm both the dog and the owner.

<https://www.youtube.com/watch?v=BUSDe-KFTwk>

However, be careful with petting during the actual noise if the dog is very stressed, as [this may inadvertently make things worse](#): if you're unsure it is recommended that petting is either done before the noise starts to relax the dog, or if the dog isn't showing any signs of fear (including freezing, panting or being hyper-vigilant).

DIET AND MEDICATION (AVAILABLE WITHOUT VETERINARY CONSULTATION):

Certain types of diets contain tryptophan, which is a precursor to serotonin in the brain and may have a calming effect on anxious dogs. The [Calm Canine diet](#) has been found to reduce anxiety-related behaviour in dogs and increase their ability to cope with stress. ([Kato et al., 2012](#))

[Adaptil tablets](#) have been shown to reduce fireworks' fear scores in dogs by 50% over a 7-day period - they take effect in two hours. (Giussani et al., 2014)The [Rescue](#)



[Remedy](#) is a herbal tincture applied to the ears or added to the drinking water. Recent studies in people have shown that people with certain temperaments may be relieved of anxiety by the human version of this remedy (Yang, 2012).

In dogs, it takes effect within an hour of administration.

Melatonin is another fast-acting choice but that should be used with vet consultations - for one, it might interfere with female dog's reproductive cycles

These steps comprise the acute interventions that may be implemented only hours before a thunderstorm or fireworks.

If your dog panics when exposed to sharp noises, he is suffering badly and being exposed to neurocytotoxic damage, so he will thank you for taking steps to intervene.

Part 2 – planning / training stages

Animal perception differs from ours, so it could be that our poor pooches have a completely different experience than we do. For instance, they may sense the electrical discharges in the air during thunderstorms, changes in barometric pressure or smells associated with fireworks.

For this reason, it's difficult to address some of the issues that animals may have with thunder/fireworks, and treatment success is not guaranteed. It is most difficult to help animals that have had established fears for years and if those fears have generalized to multiple situations.

So, work preemptively and assume that things will get worse, because they likely will unless countermeasures are taken.

Off-season – don't waste it!



Maybe you're not reading this post in the early morning of New Year's Eve, Independence Day or Guy Fawke's Day? Maybe there's no fireworks or thunderstorm forecasted for the next couple of months?

Lucky you! In that case, you actually have time to prepare and train your pet.

And here is where things get difficult. Despite the best intentions, people tend not to follow through when embarking on teaching the animal what she needs to know to stay calm during the next storm.

What to do?

Tell your friends what you're planning – that gives accountability!

Tell me – and the other readers of this blog!

The power of placebo

You may have wondered why I include a whole list of scholarly references.

Or maybe not, it's at the end and we're only half way there... Well, most of them are included as links too. ;-)

There's two reasons, actually.

One, I'm showing you that my recommendations are backed up by solid data. For most people, that increases the credibility of the recommendation.

Two, I'm trying to increase the power of the placebo effect. In other words, by making my recommendations more credible, you will have a firmer belief in them. This, in turn, will influence your behaviour. You'll strap on the Anxiety wrap fully convinced that it will work.

It might. After all, it does in most dogs.

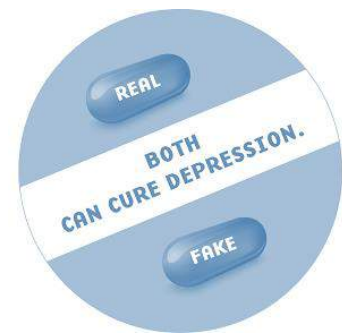
But importantly: you will think that it will do wonders. And so, you will act differently than if you suspect it's going to be yet another failure. You'll likely be less nervous yourself - and guess who will pick up on THAT?

In other words: the combination of a proven product and a confident owner is what has the highest chance of being successful.

I used to believe that the placebo effect meant a drug didn't work. "It's just placebo" is the derogative expression I've sometimes heard.

But placebo is extremely powerful.

For instance, in one study depressed people were told that they were given an anti-depressive drug, when in fact they were just given something completely inert that would not affect their brains. Astonishingly, the scientists found no difference between people given the actual antidepressant and the inert placebo drug. In other words: people felt better because they believed they would, and their brains were lighting up like a Christmas tree in the scanner. ([Mayberg et al., 2002](#))



This doesn't mean that treatments usually don't work, it simply means that believing it works is part of the reason treatments work.

So, I'll keep adding references, so that you'll enjoy the full benefits of the placebo effect on top of the actual effect of whatever technique I'll be discussing.

This detour brings us to the next topic:

OWNER BEHAVIOUR (REVISITED)

This is the easy one, but perhaps also the most difficult. You see, despite the best intentions, people often don't follow through to the not-so-bitter end. They give up. Efforts trickle down to nothing.

So, since this is so important, what can you do to ensure crossing the finish line?

There's actually some research on what characterizes people that have the willpower to follow through.

- Focus on one thing. Rather than redecorating your house, losing weight and writing a novel in your spare time, focus on this one task: helping your dog overcome fear of loud noises.
- Create habits. Instead of thinking "I'm sure going to help my poor pooch", plan to spend five minutes after every breakfast training.
- Be specific. Plan what you'll do. Then stick to the plan.
- Go public. Tell others what you're doing. Tell *me* what you're doing! :-) I'll offer encouragement, and so will others.

You get the idea. Take a moment to think about this and commit to that you're going to be one of the people who see it through.



If your dog is fearful of loud noises, it will very likely get worse if you don't act, as only 4% recover without intervention.

Also, be prepared that you might not feel all that successful. Most animals improve with training, so they'll hide rather than run amok, but many won't be all that happy.

You might have to still rely on a stock of sedatives to help your dog through the noisy events, and continue using many of the tips on this post.

Remember that if you do nothing, things will get worse.

With training, expect most improvement to occur within one month.

LEARNING

The training that you'll be doing involves learning for the dog. Think of it as re-wiring your dog's brain. You want loud noises to become neutral or even nice.

[Systematic Desensitization \(SD\)](#) involves exposing the animal to the fearful stimulus at gradually increasing volume, playing recordings of the sound that is disturbing to your dog.

Attention to detail here can be the difference between success and failure:

- The stimulus that you use should be one that the animal fears, not any random loud noise.
- The exposure, however, should be at such a low level that you see no fear reaction (we refer to this as below threshold). The animal should initially notice the stimulus but not respond fearfully to it.
- Not only should the animal not respond, it should relax.
- Play the sounds frequently rather than long durations: it's more efficient to do 10 minutes 5 times a week than 50 minutes once.
- Don't progress to the next level (increase the volume of the stimulus sound) until the animal ignores it at the present level.
- Combine SD with CC (below!) to advance more quickly.

Here are some [recordings](#) that you could use.

There are also commercially available recordings of thunder and fireworks. In the [Canine Noise Phobia series](#) developed in collaboration with Victoria Stilwell,

those sounds are masked by psychoacoustic music that has been [especially designed](#) to be very relaxing to dogs.

Your animal is likely responding to a range of different stimuli.

Thunder is complex since it involves changes in barometer pressure, the smell of ozone, electrostatic charges, lightning and thunder, which all might be perceived and feared by the dog.

The only variables that you can reasonably try to desensitize are the last two.

However, if you do that successfully you have eliminated some triggers and reduced the trigger stacking that otherwise occurs, so expect improvement!

[Counterconditioning \(CC\) is about re-learning associations.](#) Rather than being frightening, we want those flashes of light and sharp noises to predict wonderful things.

Find something that is irresistible to your animal, such as some favourite treat, toy or scratching their sweet spots.

Consistently give them access to the favourite thing immediately after each exposure to the aversive stimulus. “Bang! – is that chicken liver?”

You get the idea.

[Combine with SD \(above\) for maximum effect.](#)

I'm a fan of empowering animals, giving them more control and choices in their lives. For instance, Grisha Stewart describes how she trains her dogs to *ask her* for the sound, using a [“More Please”](#) signal.

One study found that dogs that learned to problem solve grew less frightened in other situations. ([Zilock et al., 2016](#)). This hasn't been tested with noise phobias but I wouldn't be surprised if there is a correlation between lack-of-control and phobias in general...!

MEDICATION (PRESCRIPTIONS / LONG-TERM)

Given the difficulties in targeting some of the elements that may set off fear, [medication is often part of the solution](#) (together with behaviour modification, described above) to reduce or eliminate noise phobias. A visit to the vet is therefore part of the long-term solution.

Two types may be considered: quick-acting drugs and long-term medication.

Quick acting drugs.

There are sedatives (benzodiazepines) with amnesic properties that you give a few hours before the event.

In other words, your dog will *get drowsy and not remember anything from the noisy episode*. The amnesic effects will reduce the risk of regression in your training.

Side effects may be vomiting, and drugs should be given before the animal shows any signs of fear else it may have opposite effects (worsening fears).

Acepromazine has been widely prescribed, but has dissociative effects and also increases sound sensitivity: thus, it does *more harm than good* and [should be avoided](#).

[Sileo is a brand new drug](#) (May 2016) tested specifically on dogs that works rapidly but wears off within hours — like by the time a thunderstorm or fireworks display is

over. It's a gel that can be applied between the cheek and gum by the owner at the first sign of anxiety or at the first loud noise, and then reapplied at two hour intervals if necessary. Note that this product is so new it hasn't been tested with young or breeding dogs.

<https://www.youtube.com/watch?v=IXHTmKYMRdc>

Wear gloves at administration, as shown in this film.

Long-term mood changers.

Harmonease Chewable tablets are non-prescriptive botanical extracts that have been shown to reduce fear of thunder in 60% of dogs. ([DePorter et al., 2012](#)) - this product has lately been discontinued and replaced by [Zentrol Chewable tablets](#), including novel ingredients.

Another nutritional supplement, [Anxitane](#), containing the amino acid L-theanine, has been shown to decrease anxiety scores during thunderstorms with prolonged use. ([Pike et al., 2015](#))

Your vet will likely give you an antidepressant, such as an [SSRI](#) or [TCA](#).

There are a large number of different approaches to dealing with noise phobia – find the one that works for you!

You'll likely need to use a combination of long term-mood changers, quick acting sedatives, SD/CC and arrangement of the environment to handle the most difficult cases.

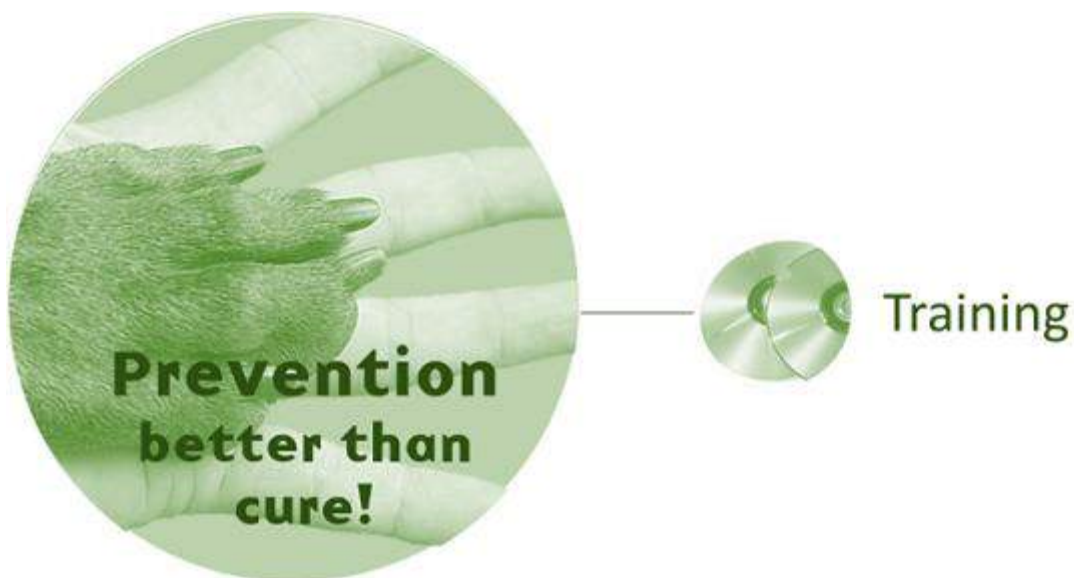
Prevention – don't wait..!

So far, we've addressed the fearful dogs.

Did you just get a new puppy? Is your young dog unafraid of sudden noises, thunder or fireworks? Congratulations!

But wait, if at least 20% of dogs develop fear of noises (and that's the lowest estimate I've seen), doesn't that mean that the new adorable puppy actually might develop fear of noises after the first exposure?

Yes, that's it.



So, if your puppy is unafraid right now – let's *keep it that way!*

Prevention is the most important thing you can do for your dog.

You might think that if your dog was unaffected by noise through the first year, including hunting season, thunderstorms and fireworks, he will now be safe.

I'm sorry to be the one to break it to you, but... that's not true, unfortunately.

More than half the fearful dogs develop fear of loud noises after celebrating their first birthday. For about 1/3 of animals, the onset is gradual.

And to make things worse, dogs with storm or noise phobia may be more at risk of developing separation anxiety later.

What to do:

- don't flood the animal by exposing it to noise and hoping it will habituate,
- use SD/CC, as suggested above,
- when you're expecting noise, use all the other tricks in the bag to set up for success. Don't wait until your dog starts panting in preparing a cosy hiding place.

An ounce of prevention is worth a pound of cure: if you do the right thing now, fireworks or thunder could be a breeze for the puppy later.

More resources on prevention / training dogs to reduce noise phobia:

[Six ways to prepare your dog for fireworks](#) - Eileen Andersson

[Don't "ace" the fear. Why acepromazine may make your dog's fireworks fear worse](#) - Marty Becker.

[Fear, fireworks and neuroplasticity - what you should never do when your dog is afraid](#) - Jennifer Cattet.

[How to train your dog not to be scared](#) - Zac George

[Thunder phobia and sound sensitivities](#) - Patricia McConnell

[Summer sounds - how to help your dog through scary noises](#) - Karen Pryor Clicker Training.

[Dealing with fireworks anxiety](#) - Victoria Stilwell

[Preventing thunder phobia in dogs](#) - Tonya Wilhelm

Recognizing early signs of fear.

Look out for these indicators:

- shaking,
- dilated pupils,
- ears back,
- tucked tail,
- salivating,
- panting,
- attention seeking,
- hiding
- urinating,
- defecating, and
- running away

Herding dogs and herding crossbreeds are [more at risk of developing noise aversion](#), and females are more prone to phobias than males.



Intriguingly, there is a study showing that paw preference (an indirect measure of lateralization in the brain) correlates with noise phobia. ([Branson & Rogers, 2006](#))

Image: Toppl toy.

Try putting a toy stuffed with goodies in front of your dog and watch which paw he uses to interact with it. Spend about half an hour looking at this, and jot down whether he's using the left or the right paw.

If he's using predominantly the left or the right, noise reactivity scores should be reasonably low. If he's alternating between paws, however, reactivity scores could be about 3 times as high as if he's a leftie or a rightie.

According to that study, dogs without paw preferences showed about half of the symptoms above when exposed to noise: In other words, warning bells should go off *if your puppy doesn't show paw preference*.

Dogs with paw preferences, on the other hand, showed on average only two of the symptoms in response to noise.

So, less risky it would seem, but I would encourage working with your animal even if it's not in any of these risk groups, just to be safe.

For most dogs, noise aversion occurs in one-trial learning.

For some, it develops gradually, so that's why I suggest you don't ignore if your dog is only showing a few of the behaviours listed above.

Also, if your dog develops noise aversion (and actually up to 50% of dog owners say their dogs are "scared of some noises"), there is an increased risk of developing separation anxiety. ([Sherman & Mills, 2008](#))

There's simply less time, effort and suffering involved in prevention than trying to fix things once your dog has developed noise phobia and it has generalized into separation anxiety...

Prevention is key. Learn to recognize the early signs of fear in your dog, and you should be able to live through the next thunderstorm or fireworks!

I hope you find this information useful. Perhaps you know someone else whose dog would be helped by this info?

If so, please share this blog post.

Did I forget anything, or should I update the info? Do you disagree with any of these recommendations? Which has worked best for you? Please let us know in the comment's section!

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