



Overstimulation in Cats

What is Overstimulation?

Have you ever been petting a cat and then suddenly they turn around and bite or scratch “out of nowhere?” Odds are that the cat was **overstimulated**, even if you weren’t doing anything and the cat was just lying there! Most often overstimulation happens when cats are playing or exposed to a lot of noise and/or visual stimulation—but it can happen even when it’s quiet and calm around.

Cats have **incredibly sensitive** skin and pain receptors, far more sensitive than humans’. They also have whiskers in multiple locations around their body—not just their face! Cats have whiskers on their face, chin, above their eyes, and on the back of their front legs, to help them locate small animals that they prey on, and we believe they can even sense vibrations in the ground from small animals like mice with these whiskers! So you can imagine how it must feel to be rubbed all over by a big hand when your sense of touch is that sensitive! **Some scientists have even proposed that too much sensory input to a cat’s sense of touch can actually be painful for them.**

A helpful metaphor is to think of cats like balloons. They constantly build up energy that they take in from their delicate senses, like balloons build up air, and then when they get too full, they pop! Cats are predators and hunters, and they hunt several times a day in their natural habitats, killing and eating small animals like mice. The build up of energy in their bodies is very helpful to them in their natural environments, allowing them to stay in shape and keep up this regular hunting routine. However, in our homes, they are often not afforded this much exercise or stimulation, meaning that they have to release the energy that builds up in their bodies some other way. Oftentimes this happens when we’re petting them: the balloon was almost full of air *before* we touched them, and when we touch them to give them friendly petting, the balloon pops and the cat lashes out at whatever happens to be near them—which is often a person petting them! **Most of the time, cats do not harbor any negative feelings about the person they just lashed out at; they are simply full of energy and need to release it. It’s not personal!** They are simply reacting out of instinct. This behavior is very normal and easily managed in most cases.

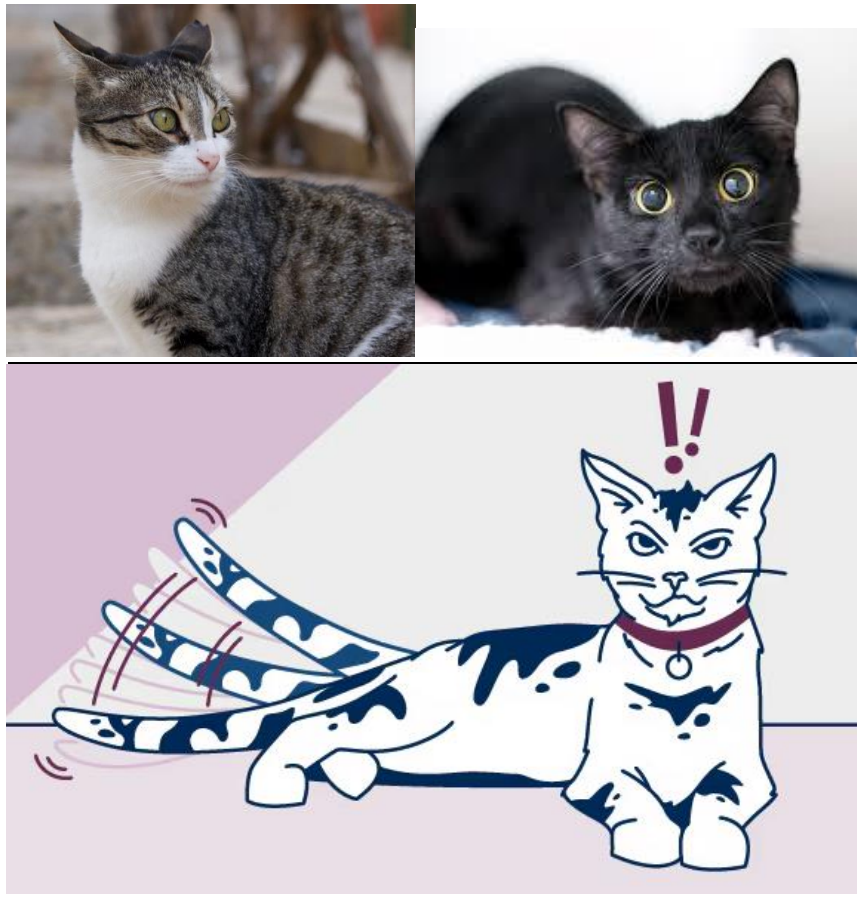
- ★ **IMPORTANT!** Cats can also become overstimulated **even without any physical touch.** If there is a lot of stimuli in the environment (sights, sounds, even smells, etc) cats will take all that in and can become similarly “overloaded” with information when it’s too much to process. They can also be overstimulated even without stimulation from the *current* environment at all. There may be a build up of **internal** stimulation that reaches a breaking point. This is a common cause of what’s called “redirected aggression,” in which the cat may turn and hiss, swat at, scratch, or bite the closest thing to them—which may be a person or another animal! Many times the cats are blamed in this situation, and people may say that they attacked “out of nowhere” when there was a perfectly

reasonable explanation; we just didn't see it **from our perspective**.

Signs of Overstimulation

Cats are harder to read for us humans than dogs are. They give more subtle signs and signals than dogs do, in huge part due to the fact that they are not as social of a species as dogs are (they often live alone instead of in groups), so they didn't develop as many communication signals. **The signs of overstimulation in cats are often very subtle and very easily missed or misinterpreted.** And they're not going to go out of their way to give you a heads up that they're overstimulated! This is why it's so important to pay close attention to your cat's body language and learn to read their signals.

Most often, overstimulation presents itself as a **wagging/lashing tail**, which we often think of in the context of dogs—a **wagging tail on a dog is often a good sign, but a wagging tail on a cat means the cat is upset or overstimulated!** Another (again subtle) sign of overstimulation is the ears rotating back (what is often called “airplane ears”), or eyes dilating. Keep in mind these signs are subtle, and they may not all present—you may only get one—and they can happen very quickly. A cat can go from relaxed to overstimulated in a second, and lash out even faster. But if you keep a close eye on their body language you may be able to catch signs of an escalating arousal level before the cat is completely overstimulated. You may start to see an increase in vocalization, the skin on their back “twitch” or “ripple,” or their heads start whipping around to orient towards your hand.



Picture credit PetMD

It is important to note that these signals may happen **even when the cat is soliciting attention** (such as with bunting [rubbing] or purring or kneading), which is what leaves so many people confused and offended when the cat lashes out at them. But a cat who is overstimulated may not understand their own needs, or may want attention more than their physical senses do, or they may be **conflicted**, meaning they both want attention and interaction while **also** being overstimulated. The best thing to do when a cat is showing signs of overstimulation is to **immediately stop interacting with them and give them space, even if they are seeking you out**. Another alternative is to **give the cat a kicker toy (a long stuffed toy they can grab and kick with their back legs) or an interactive play session to help release some energy**.

How to Avoid Overstimulation

1. **Increase enrichment/exercise!** If your cat is chronically **under-stimulated**, then they will become **overstimulated** very easily. We recommend at least two 10-15 minute **interactive** play sessions daily for most cats (wand toys, pipe cleaners, etc). This doesn't mean leaving toys lying on the ground for them—it means actively making them jump and chase and catch toys! Appropriate interactive play mimics their natural hunting behavior.
 - a. Be careful with laser pointers, as they may increase frustration for some cats, which may lead to overstimulation.
2. **Keep petting sessions short** if your cat is frequently overstimulated by being physically touched. As stated above, petting is the most common time that cats become overstimulated due to their delicate senses. If your cat frequently gets overstimulated by petting, start with shorter petting sessions, then **gradually** increase duration (by a minute or less at a time!), while keeping watch for signs of overstimulation and stopping immediately when you notice them. Continually petting a cat to the point of overstimulation can create negative associations with people/petting and could lead to petting-induced aggression, or cats who are intolerant of petting. The hard truth of cat ownership is that sometimes we have to just accept that some cats simply don't enjoy being petted long and there's nothing we can do to change that—and that's okay!
 - a. One of the areas that frequently contributes/leads to overstimulation is the rear. This could be due to the scent glands located in that area. **Even if the cat likes their rear scratched**, if they have a tendency to become overstimulated, be cautious with petting their rear and keep it short!

Happy Cat Checklist

Food

- Provide **nutritional** food with serving sizes suited to your cat's age and weight.
 - Look for a whole meat like chicken or fish (not "meal" or "by-products") as the first ingredient.
 - Avoid foods with a lot of fillers like corn, wheat, and other grains.
- If your cat can regulate their own food intake, free feeding/grazing may be the best option. If not (many cats will overeat with free feeding), provide your cat multiple small meals a day.
- Provide multiple food bowls in multiple **different** locations for a multi-cat household.
- Food bowls/feeders should be in a separate room, or separate area of the same room if space is an issue, as water bowls/fountains or litter boxes.
- Feed your cat with interactive/puzzle feeders instead of bowls (*if your cat enjoys them*)!

Water

- Use either a bowl or a fountain, whichever your cat prefers.
 - Ceramic and stainless steel are easier to clean than plastic, but experiment with which texture your cat prefers (if any).
- Water bowls should be low and broad enough that your cat doesn't bump their whiskers (which can be very uncomfortable and/or startling to some cats!).
- Water bowls shouldn't be near food bowls or litter boxes.
- Provide **multiple** water bowls/fountains in multiple **different** locations throughout the house.
- Provide **fresh** water **every day**.

Litter Boxes

- Keep litter boxes clean (scoop **every day** and deep clean once a month)!
- **No self-cleaning litter boxes!**
- Use the litter substrate that your cat prefers (*typically*, the finer and more sand-like the better).
- *Most* cats find litter box liners aversive.
- Don't use strong scented litter or cleaners on (or near) litter boxes to deep clean them (just soap and hot water is best).
- Provide multiple litter boxes—even with only one cat—distributed in multiple **different** locations across home.
 - General recommendation is one **more** than the amount of cats
- Provide a litter box that is big enough and deep (or shallow for older/injured/disabled cats) enough for your specific cat.

- Most cats prefer 1-2 inches of litter substrate, but some cats may prefer **more** or **less**.
- If your cat has very low mobility and/or can't step up at all, consider potty pads (or anything else that is flush with the ground) with some litter sprinkled on top of them.
- Most cats prefer a litter box without a flap or even a cover.
- Place litter boxes in quiet, low traffic, but **open and easily accessible**, locations (not in corners or end of hallways or in areas with loud appliances like laundry rooms or kitchens)

Scratching

- Provide scratching boards, posts, or trees that are tall/long enough for your cat to **fully stretch out their whole body/legs**.
- Provide scratching boards/posts/trees that are **sturdy** and **stable** (most cats won't use them if they wobble or fall over at all).
- Provide multiple **different scratching surface options** (the most common materials for scratching are *sisal*, *carpet*, and *corrugated cardboard*).
- Provide both **horizontal** and **vertical** scratching options.

Play

- Provide at least one **interactive** play session daily (two or more for more active cats).
- Play should be interactive and challenge your cat to use their **natural hunting skills**.
- Self-play toys should be switched out regularly to retain interest.
- Provide appropriate enrichment to encourage species-specific behavior ("cat TV," window access, food puzzles, enclosed patios, etc).

Mental and Physical Health

- Your cat should go to the vet for a yearly checkup and recommended vaccines (and is kept on heartworm and flea prevention).
 - Spend time introducing your cat to nail trims/medical procedures and handling **gradually** and **with treats** to make a positive association.
- Your cat should have **agency** (opportunities to make choices) in their daily life (always in interacting with other people/pets, but also with things like food/play choices).
- Your cat's daily life, **and the way in which everyone interacts with them**, should be as **routine** and **predictable** as possible.
- Your cat should have safe spaces to hide (like covered beds/boxes), and access to **elevated** spaces (perches, shelves, trees, etc).

Healthy Relationships

- Provide **separate** resources (food, water, litter boxes, sleeping areas/beds) for **each cat** in your household.
- Be aware of your cat's body language and respect their boundaries (don't touch/interact with them if they don't want you to, and stop petting when they tell you they're done).

- Don't pick your cat up if they don't want to be picked up.
- Never **punish** your cat (yelling, hitting/"spanking," spraying with water, etc).
 - This usually does not stop unwanted behavior and will most likely make your cat behave aggressively towards you, or even people in general, in the future.