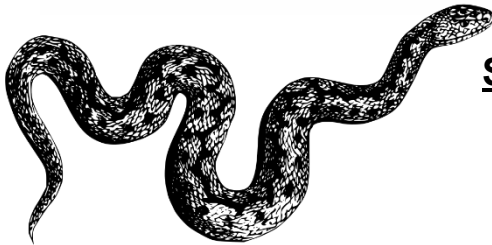




Zoo, Avian, Aquatic and Unusual Pets  
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## Snake Care Guide

This is a general overview on snake care. It will discuss aspects for the more commonly kept snakes in the UK. Please use this as a guide to aid you but note that further information on your species should always be carried out. It is imperative that the correct set up/husbandry requirements are met in order for your snake to thrive.

Please also see our 'shedding for reptiles' guide.

### **General snake overviews:**

#### Californian Kingsnake (*Lampropeltis californiae*):

These snakes are naturally a little more feisty and fast as hatchlings but with gentle and regular handling will calm down quickly. We therefore recommend hatchlings are cared for by moderately experienced handlers to begin with. They are relatively easy to care for and come in many colour and pattern mutations, making them popular pets. They reach sexual maturity within 1-2 years old and can live to approximately 20 years old. Their average length is around one meter with females being larger than males.

#### Corn snake (*Pantherophis guttatus*):

Originating in North America and commonly found in human inhabited areas of homes or barns. Their presence within the cornfields gave them their well-known common name. They are a naturally inquisitive species and so require plenty of cage enrichment which should be changed often to keep your corn snake stimulated. Again, an easy to care for species coming in many colour variations and pattern mutations making them popular pets. They reach sexual maturity within 1-2 years old and can live to approximately 20 years old. Their average length is around one meter with females being larger than males.

#### Garter snake (genus *Thamnophis*):

There are several species and subspecies of Garter snake. Being a relatively small snake (an average length of 45cm) make these snakes appealing to those who don't have as much space. Their average lifespan is between 15-20 years. A shorter lifespan in this species is thought to be linked to an inappropriate diet (see below).

#### Common boa (*Boa constrictor*):



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With the possibility of reaching up to 3 meters in length these snakes require large enclosures. Bare this in mind when buying a hatchling. Like the Californian kingsnake hatchlings can be feisty to handle, so moderate experience in handling snakes is recommended. Once past this stage, boas are relatively easy to handle and maintain. Males become sexually mature within 2 years of age and females take an average 3 years. They can live to average 20 years old.

#### Royal python (*Python regius*):

Also known as ball pythons due to their defence mechanism to curl into a ball in defence. They are one of the 'smaller' python species reaching an average of 1.5 meters in length. Males become sexually mature within 2 years of age and females take an average 3 years. They can live to average 20 years old, however there are records of royal pythons living to 40 years old!

#### **Housing:**

Designs of vivarium's can vary and this will depend on what your preferences are. The main aim is to ensure your vivarium is durable, easy to clean, they have the required space for your snake to exhibit its normal behaviours and it is large enough for a heat gradient to be created.

Minimum sizing of vivarium's is still a talk for debate. Below are what we would recommend as minimums:

Taken from Girling, S J (2013) *Veterinary Nursing of exotic pets* (2<sup>nd</sup> Ed) Wiley Blackwell:

The minimum recommended vivarium size for an arboreal snake (Climbing, tree dwelling snakes) is: Height= 1 x the length of the snake and floor dimensions =  $\frac{3}{4}$  x snakes length by  $\frac{1}{3}$  x snakes length.

The minimum vivarium size for a terrestrial snake (ground dwelling snake) is: Height=  $\frac{1}{2}$  x the length of the snake and floor dimensions =  $\frac{3}{4}$  x snakes length by  $\frac{1}{3}$  x snakes length.

More up to date and specific recommendations comes from the Federation of British Herpetologists. The recommendations are laid out as W x D x H. TL = Total length of the snake.

Californian king snake, Corn snake, pythons and boas: 0.9 x 0.45 x 0.3 TL (ie. To do this calculation it would be: (0.9 X the total length of the snake) x (0.45 x the total length of the snake) x (0.3 X total length of the snake).



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Garter snakes: 1.2 x 0.5 x 0.3

Please ask if you are unsure. Further information can be found here:

- FBH (Federation of British Herpetologists), 2022. *Code of practice for recommended minimum enclosure sizes for reptiles*. (Online) Available at: <https://www.thefbh.org/news>

Common vivarium materials are Perspex, reinforced glass, sealed food or fibreglass. Be wary of using wood enclosures unless the wood has been correctly sealed and treated to prevent moisture damage or rotting. Glass or Perspex are useful to show off a collection but this can mean a degree of stress to your snake who may feel exposed. Snakes can also not always see the vivarium sides and so will rub their snouts along the glass causing abrasions which can become infected. It is more appropriate to have a side of the tank fully covered to allow the snake to feel less exposed and a tape strip on the outside of the glass sides will allow them to appreciate a barrier exists.

### **Heating:**

Snakes are ectothermic meaning they require an external heat source to warm their bodies up to carry out normal metabolic processes.

A basking heat lamp, a ceramic bulb that does not emit light should be placed at one end of the enclosure. This will create a focal 'hot spot'. Allowing your snake to bask underneath the heat source to get to their preferred temperature. They can then slide away to the cooler end of the vivarium when they are overheated. This allows your snake to maintain their preferred temperature as they can place themselves in different areas of the vivarium throughout the day. The heat lamp should be protected by a cage to ensure your snake does not wrap itself directly around the bulb and become burnt.

A back ground, continuous heat source is also advised. This can be in the form of a heat mat on the outside of the vivarium. This raises the vivarium temperature above room temperature and aids in keeping a temperature gradient within the vivarium. A rough rule is to use a heat mat that covers 1/3 to 1/2 of the longest side of the vivarium. '*A form of insulation on the outside of the mat to increase reflection of heat into the vivarium is also useful.*' (Girling, 2013)

Hot spot temperature ranges (taken from BSAVA Manual of exotic pet and wildlife nursing, 2012):

Californian king snake: 24-28 °C



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<u>Corn snake:</u>	24-28 °C
<u>Garter snake:</u>	24-28 °C
<u>Common Boa:</u>	28-32°C
<u>Royal python:</u>	22-28°C

### **UV Lighting:**

The benefits of UV lighting include maintain the correct vitamin D3 and calcium levels, supporting the immune system and maintaining circadian rhythm.

There are many resources which will discuss snakes being able to tolerate the absence of ultraviolet and some keepers do not routinely provide it. The theory is that snakes gain sufficient preformed vitamin D3 in their diets to cope. As long as the snake is provided with the correct diet they will remain healthy.

However, research conducted in 2016 by FRANCES M. BAINES, M.A., VetMB, MRCVS, explored the different levels of UVB light a reptile is exposed to in the wild. This uses the concept of Ferguson Zones, which estimates the natural UV exposure a reptile is subject to. This research places commonly kept pet snakes into Ferguson zone 1, which is a UV index zone range of 0-0.7. With a maximum UV index of 0.6-1.4. You can have a look at the research here: <https://www.jzar.org/jzar/article/view/150>

This means that snakes probably would benefit from having a maximum 2.5% UV light in their enclosure for a few hours of the day. It is worth noting that snakes are sensitive to excessively bright artificial light so please avoid this.

Please also have a look at the following website for further information: <http://www.uvguide.co.uk/whatreptilesneed.htm>

### **Humidity:**

Humidity can vary according to snake species, so please do check this.

A hygrometer is used to measure the humidity and can be placed in the middle of the vivarium. All snakes should be provided with a water bowl, as an option for drinking water and self-bathing. This water bowl should be shallow but larger enough for them to be able to curl up and sit in comfortably without submerging their head/snout. Correct humidity will also aid your snake to shed their skin correctly.



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Californian king snake: 40-55%

Corn snake: 40-50%

Garter snakes: (usually live near a body of water so humidity levels are higher)

75 – 90%.

Common boa: 60-70%

Royal python: 50-60%

### **Cage enrichment:**

All snakes should have a 'hide'. This is important as many snakes do not like to eat their prey out in the open. Ensure the hide is larger enough for your snake to coil into and turn around comfortably. Providing more than one hide will provide enrichment for your snake.

Branches and smooth edged rocks can be added into the vivarium for your snake to wrap or move around. Branches can be artificial or real, however do not use any branches that produce sap as this could cause damage to their skin. All branches and rocks should be thoroughly cleaned before being placed into the environment. This can be done by soaking them in a product called F10 which is available to buy on the internet.

### **Diet:**

As discussed above water should be freely available to your snake. Any prey provided should be thoroughly defrosted and ideally warmed to 37 °C before feeding. Do not handle the prey directly to avoid contamination of the prey with human scent. Tongs or tweezers should be used.

As a guide the following can be given:

Californian king snake: Mice of appropriate size, starting on pinkies as hatchlings and progressing to full size mice when mature. Males require more frequent feeding. Ensure all food is thoroughly defrosted and the width of the prey is no more than 1.5 times the widest part of the snakes body.

Corn snake: As above.

Garter snakes: Wild diet is varied and can include earthworms, tadpoles and small fish. In captivity they are mainly fed rodents which is thought to shorten their life span.



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Supplementary dusting of food with vitamins and minerals is advised. Therefore a varied diet including fish should be given. Fish low in thiaminase (such as salmon and trout) should be given, as too high levels can become poisonous. Shop bought earth worms can also be provided. Note. Do not feed wild earth worms as these will contain parasites.

Common boa: Will take small mice as their first meal. Difficult feeders can be encouraged to eat by 'scenting' prey with yolk from a chick. They can then progress onto rabbits or chickens but generally are maintained on large rats. Males tend to be prone to periods of non-feeding, often with a correlation in night time temperature drops and or reproductive activity.

Royal python: Start on small mice as hatchlings and progress onto small rats. Feeding is usually fairly infrequent to mimic their wild diet. Some individuals are prone to periods of non-feeding.

Due to snakes having periods of non-feeding it is imperative that you weight them regularly (at least once a week). This way you can monitor trends in your snakes weight and if your snake is drastically losing weight they should be seen by the Veterinary Surgeon.

### **Companions:**

Snakes should not be housed together due to risk of cannibalism and disease/parasite transmission. Snakes housed together can become incredibly stressed and may stop eating, develop a weakened immune system and become seriously ill.

If you have more than one snake ensure you have strict bio-security and hygiene rules between caring for each snake. To include and not limited to: Using the WHO (World Health Organisation) hand wash technique (a series of steps to correctly ensure your hands have been cleaned effectively. A poster can be found here: [https://www.who.int/docs/default-source/patient-safety/how-to-handwash-poster.pdf?sfvrsn=7004a09d\\_2](https://www.who.int/docs/default-source/patient-safety/how-to-handwash-poster.pdf?sfvrsn=7004a09d_2) ), separate feeding equipment/boxes, not sharing cage furniture and separate cleaning equipment where possible.

If a new snake is to be added to a collection they should be quarantined for a minimum of six months. This will allow for any underlying diseases to present themselves. We recommend viral screening of all new snakes to detect any pathogens early. This ensures treatment can start promptly and risk to other snakes in the collection is minimised.



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The following diseases could be tested for include: Nidoviruses, Sunshine virus (a paramyxovirus), Ranavirus and Reovirus.

At least one mode of transmission for these viruses is the faecal-oral route meaning bio-security and hygiene must be adhered too. Initial studies show these viruses are either intermittently shed or shed for only short periods. This means multiple sampling throughout the quarantine period may be required in order to rule out any chance of the pathogens being spread.

These can be tested for via a PCR test from an oral swab.

If this is not possible as a minimum a faecal sample should be sent off and screened for parasitology from any new snake being added to a collection.

### **Medical conditions we most commonly see:**

Many cases are connected to poor husbandry. Try to meet all their husbandry needs to avoid a vet visit. Conditions we may see are:

- Endoparasites (worms or protozoa): This is why we ask you to bring a faeces sample in when coming to your appointment. This is something we can easily rule out at the clinic if we have a fresh sample to check.
- Dysecdysis (Problems shedding)
- Respiratory issues
- Burn wounds: This can be avoid by ensuring all heat sources are correctly protected and the snake can not wind themselves around them.
- Obesity leading to other conditions

### **Insurance:**

Unfortunately, we can never predict what may happen to our snakes, so we highly recommend getting pet insurance. A monthly fee can give you peace of mind knowing your pet is covered for the best treatment should anything happen. There are many insurance companies available, so we advise contacting each of them to find a policy that is right for you. We advise a policy that will cover your snake for its whole lifetime, for chronic illnesses and for the maximum amount that is available. If this is not possible then covering your snake for as much as you can afford will give you peace of mind should an accident or emergency occur.