CITES Cheetah Trade Resource Kit

Long-Term Captive Care and Management Guide

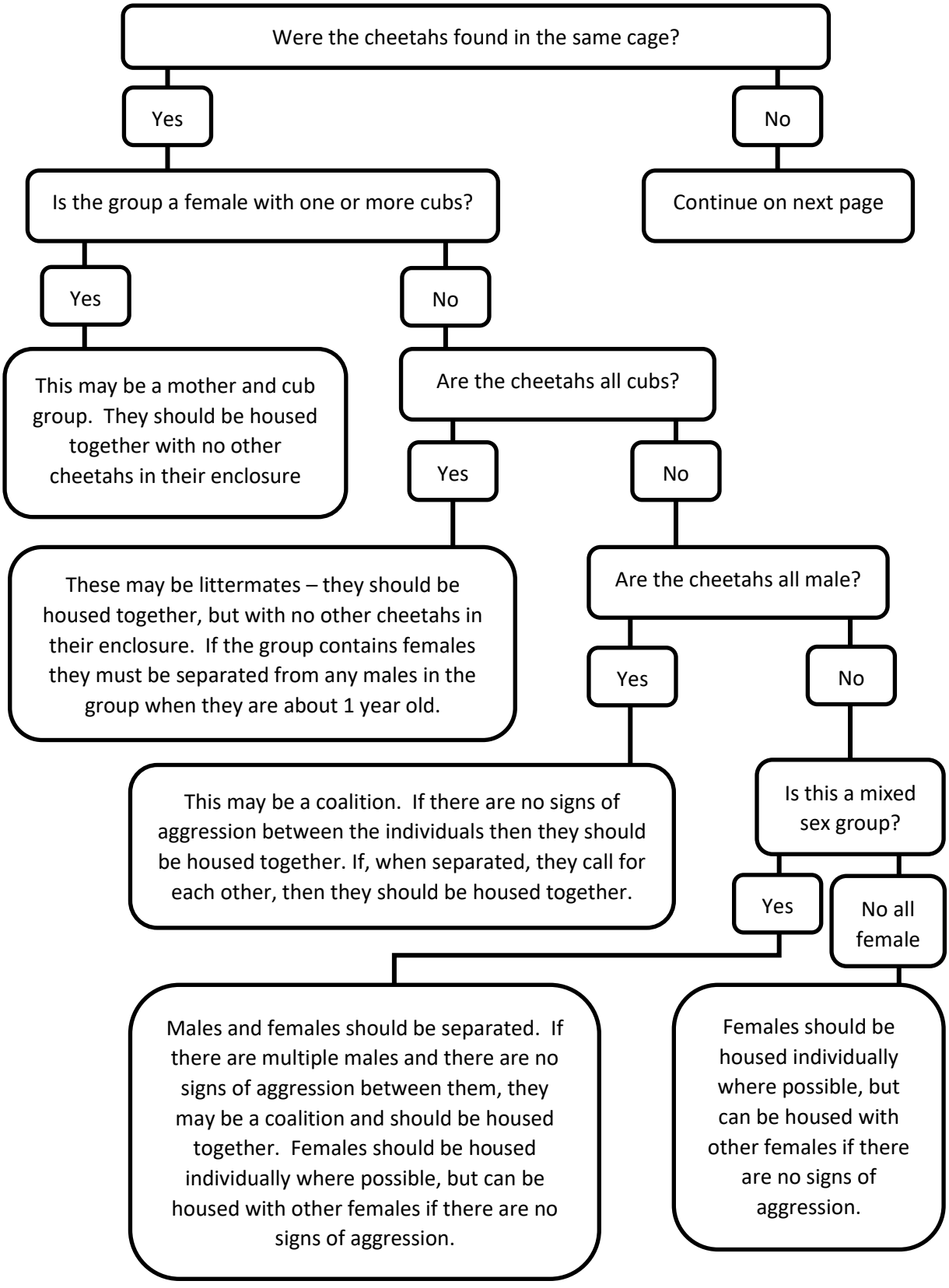
This section gives guidance on long term care for cheetahs

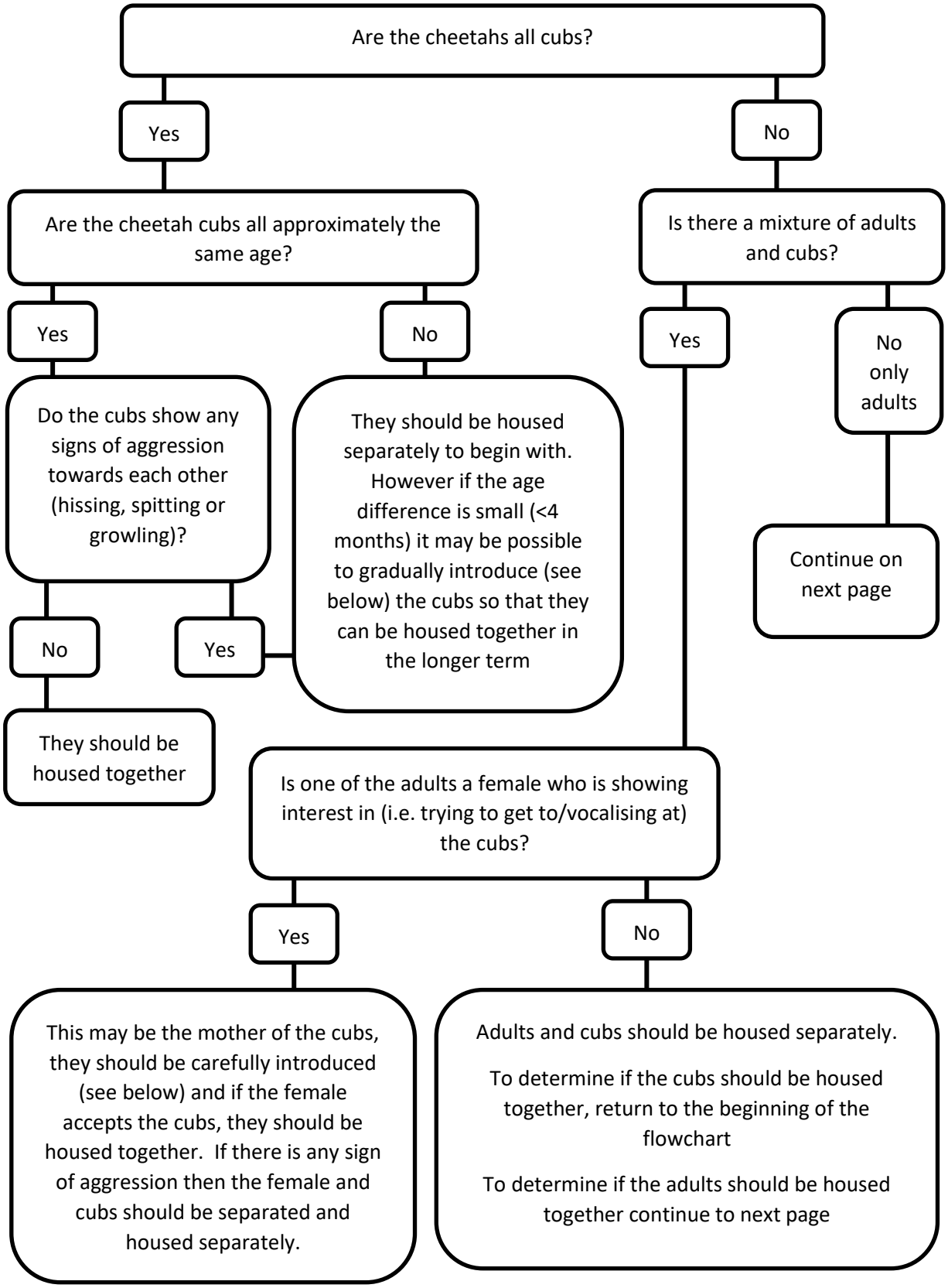
It includes information on the long-term captive management of cheetahs; including enclosure design, quarantine and long-term health care management.

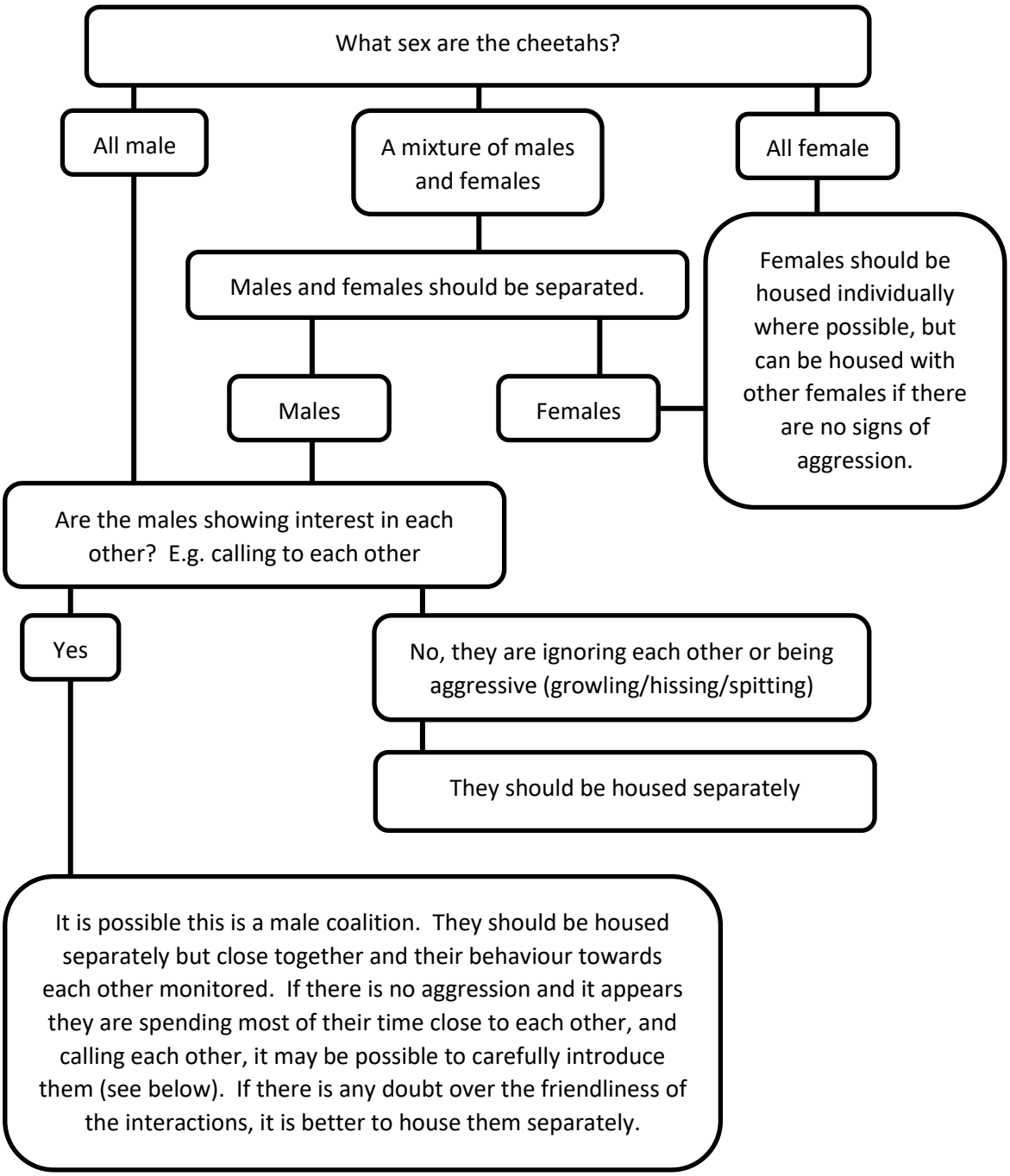
Contents

1. Housing Multiple Individuals

The cheetah is a semi-social species, which does not live in large family groups and therefore should generally be kept individually (i.e. one cheetah per enclosure). However, there may be some exceptions to this rule. If multiple individuals are found as part of a seizure, then follow the key below to determine whether they can or should be kept as a group.




Are the cheetahs all cubs?
Yes
No
Are the cheetah cubs all approximately the same age?
Is there a mixture of adults and cubs?
Yes
No
Yes
No
Do the cubs show any signs of aggression towards each other (hissing, spitting or growling)?
They should be housed separately to begin with. However if the age difference is small (<4 months) it may be possible to gradually introduce (see below) the cubs so that they can be housed together in the longer term
No only adults
Continue on next page
No
Yes
They should be housed together
Is one of the adults a female who is showing interest in (i.e. trying to get to/vocalising at) the cubs?
Yes
No
This may be the mother of the cubs, they should be carefully introduced (see below) and if the female accepts the cubs, they should be housed together. If there is any sign of aggression then the female and cubs should be separated and housed separately.
Adults and cubs should be housed separately.
To determine if the cubs should be housed together, return to the beginning of the flowchart
To determine if the adults should be housed together continue to next page


What sex are the cheetahs?
All male
A mixture of males and females
All female
Females should be housed individually where possible, but can be housed with other females if there are no signs of aggression.
Males and females should be separated.
Males
Females
Are the males showing interest in each other? E.g. calling to each other
Yes
No, they are ignoring each other or being aggressive (growling/hissing/spitting)
They should be housed separately
It is possible this is a male coalition. They should be housed separately but close together and their behaviour towards each other monitored. If there is no aggression and it appears they are spending most of their time close to each other, and calling each other, it may be possible to carefully introduce them (see below). If there is any doubt over the friendliness of the interactions, it is better to house them separately.

2. Introducing Cheetahs

These guidelines are not intended for introducing cheetahs that are unknown to each other, only for safely reuniting established social groups.
Introductions between cheetahs that are not known to each other is an extremely risky and very lengthy process, for which there is no guarantee of success.
Introductions are **inherently risky** and **should only be attempted where there is likely to be both a high probability of success,** and for it to be of **benefit to the welfare** of the cheetahs involved.
Cheetahs, particularly males, will fight unknown individuals and these fights can result in serious injury and/or death.
Introductions between seized cheetahs should only be conducted where it is believed that there is a prior relationship between the cheetahs (e.g. coalition partners not caged together) and should always be done **extremely carefully and cautiously**.

The key to successful introductions is time and patience.

Cheetahs should initially be able to see and smell each other but not actually reach one another.

Ensure that some of the fence line around the enclosures are covered by visual barriers so that the cheetahs have areas to retreat to where they cannot be seen by the other cheetah.

Evaluate the cheetahs' reactions to each other – if there are signs of aggression between them these individuals should not be introduced.

If the cheetahs are reacting positively towards each other (chirping/churring/purring) then they should be put in adjoining pens where they can get close to each other but where there is still the physical barrier of a fence between them.

Again the cheetahs' reaction to each other should be evaluated over the ensuing days.

A physical introduction could be attempted if all the following are true:

- the cheetahs are spending much of their time close to each other, particularly when they are resting
- there are no aggressive interactions between them
- they are acting in a friendly manner (licking/rubbing heads through the fence) towards each other

Introductions should only be attempted after several days of observing the cheetahs behaviour towards each other.

If there is any doubt as to whether the cheetah's behaviour towards each other is friendly then a physical introduction should not be attempted. Either extend the observation period, or abandon the possibility of an introduction all together.

Physically introducing cheetahs, where there will be no barrier between them, is very risky and needs to be carefully managed.

At least two members of staff should be present, in order to attempt to separate the cheetahs, **however they must not be in physical contact with the cheetahs – the health and safety of keepers must not be put at risk**.

Keepers should have equipment for distracting the cheetahs should a fight break out in order to try and separate them. These can include water hoses for spraying water at the animals, or objects for making noise.

Staff must remain separated from the cheetahs by a physical barrier (e.g. fence) at all times.

If the cheetahs are aggressive towards each other they should be separated as soon as possible. If the cheetahs have fought, any wounds should be carefully checked and monitored in case they require veterinary attention.

If the cheetahs are not aggressive, but where there may still be some doubt over whether they were part of a social group, it may be advisable to separate them after a short time and then gradually increase the amount of time the cheetahs spend together each day.

3. Quarantine Protocols

3.1. Summary

- Animals should be quarantined for at least a 30 day period (ideally 60 days)
- Cheetahs should only leave quarantine when they have passed the end of quarantine health checklist
- Seized cheetahs should be kept isolated from other cheetahs at the facility
- Cheetah should be given some time (minimum 2-3 days) to acclimatise to new surroundings, then a full veterinary check should be conducted (including taking blood samples for analysis where possible)
- Faecal samples should be collected throughout quarantine period and checked for intestinal parasites
- Body condition and indications of general health levels should be continually monitored throughout the quarantine period as these can act as early warnings of disease

3.2. Why is quarantine important?

It is important that newly seized cheetahs undergo a period of quarantine before they are managed alongside a wider captive population.

Quarantining animals gives time for any diseases that they may be carrying to be discovered before any other captive animals are exposed to them. This enables swift treatment and prevents the spread of infectious diseases.

3.3. Quarantine Protocols for Seized Cheetahs

3.3.a. How long should seized cheetahs be kept in quarantine for?

Newly seized cheetahs should be kept in quarantine for a minimum of 30 days before they are incorporated into existing captive populations.

This period covers the incubation period of most infectious diseases that the cheetah(s) could be carrying, but for which they are not yet showing symptoms of.

As the origin of seized cheetahs will generally not be known, a longer quarantine period is recommended of 60 days.

This extended period allows time for diseases to become apparent, but also means there is a longer period of time between moving the animals, which may help reduce stress levels.

3.3.b. Samples for Screening for Disease

If blood samples can be obtained from the cheetah, the samples should be sent for laboratory analysis to screen for diseases.

Samples should be sent to a reliable, well-equipped laboratory with experience in screening for disease.

If the samples must be sent to another country for analysis, ensure that the appropriate CITES export and import permits are first obtained. Many countries have a simplified permitting system for facilitating the transfer of diagnostic and/or health/disease screening samples for analysis. Contact your national CITES authority for further information.

3.3.c. Multiple individuals

Cheetahs seized from the same shipment can be kept in quarantine together (although not necessarily in the same enclosure – see section on housing multiple individuals). If there are cheetahs from multiple seizures/shipments they should be kept separately from each other.

3.3.d. Isolation protocols

Many diseases can be spread between species. Whilst animals are in quarantine, care should be taken to keep them in isolation not only from other cheetahs, but also other animals kept in captivity. People responsible for caring for the animals should ensure that they:

- Keep the equipment for animals in quarantine separate from equipment used for other animals. For example, allocate food or water containers that are only ever used for quarantined animals.
- Disinfect equipment that has been used for a quarantined animal before it is used for another animal.
- Provide a disinfectant foot bath for keepers at the entrance and exits of the quarantine area (e.g. a trough with disinfectant wash that people step into when entering and leaving the area).
- Wear overalls when dealing with quarantined animals. These should only be put on when entering the quarantine area and should be removed when leaving the area.
- Only people who are involved in the care of the cheetah should be allowed access to the cheetah's enclosure.

3.3.e. Health and safety for keepers

Many diseases carried by animals are also able to infect humans, therefore it is very important that keepers should also follow strict health and safety protocols.

These include:

- Wear disposable gloves while in contact with quarantined animals and equipment.
- Wear face masks to reduce contamination from animals hissing and spitting.
- Wash hands thoroughly after removing disposable gloves.
- Wash hands thoroughly when leaving the quarantine area.
- Do not eat, drink, smoke or touch your face whilst in the quarantine area.

3.3.f. Staffing Quarantine Areas

Where possible a small team of people should be responsible for animals kept in quarantine and visitors should be kept to an absolute minimum.

Cheetahs that have been seized will be subject to high levels of stress. Stress is very dangerous to cheetahs – it often results in them refusing food which can then lead to nutritional problems and/or starvation, it can also directly lead to their death through stress induced gastritis (which cheetahs are particularly prone towards) and heart attacks.

Keeping the number of people involved the cheetah's care to a minimum can help reduce the cheetah's stress levels as the cheetah will become familiar with the keeping staff. Visitors should also be kept to an absolute minimum during this time in order to minimise stress to the animal.

Having a small group of staff responsible for quarantined animals also helps reduce the risk of cross-contamination to other animals in the captive population.

3.4. Health Checklist for the End of Quarantine

Cheetahs should only be moved out of quarantine when the answer to questions 1 – 11 is "Yes" and the answer to questions 12 – 17 is "No".

Answer should be Yes:

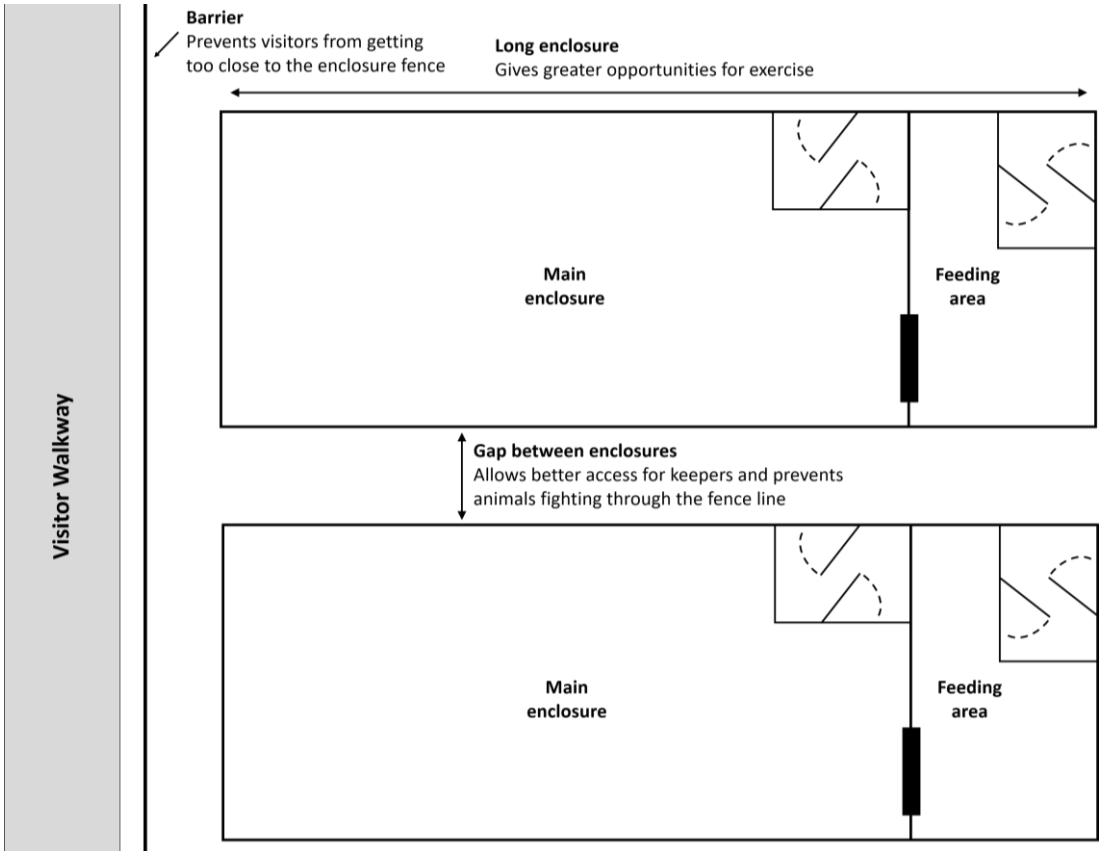
1. Is the cheetah's body condition score normal? (see Section 5.3 on page 33 for further info)
2. Is the cheetah drinking normally?
3. Is the cheetah eating normally?
4. Is the cheetah urinating regularly?
5. Is the cheetah producing faeces regularly?
6. Is the cheetah alert?
7. Has the cheetah been given all the required vaccinations?
8. If the cheetah has had blood tests performed, were the results normal?
9. Have the cheetah's faeces been tested for endoparasites?
10. If the faecal parasite tests were positive, has the cheetah been dewormed?
11. Does the cheetah seem well in itself and is taking an interest in its surroundings?

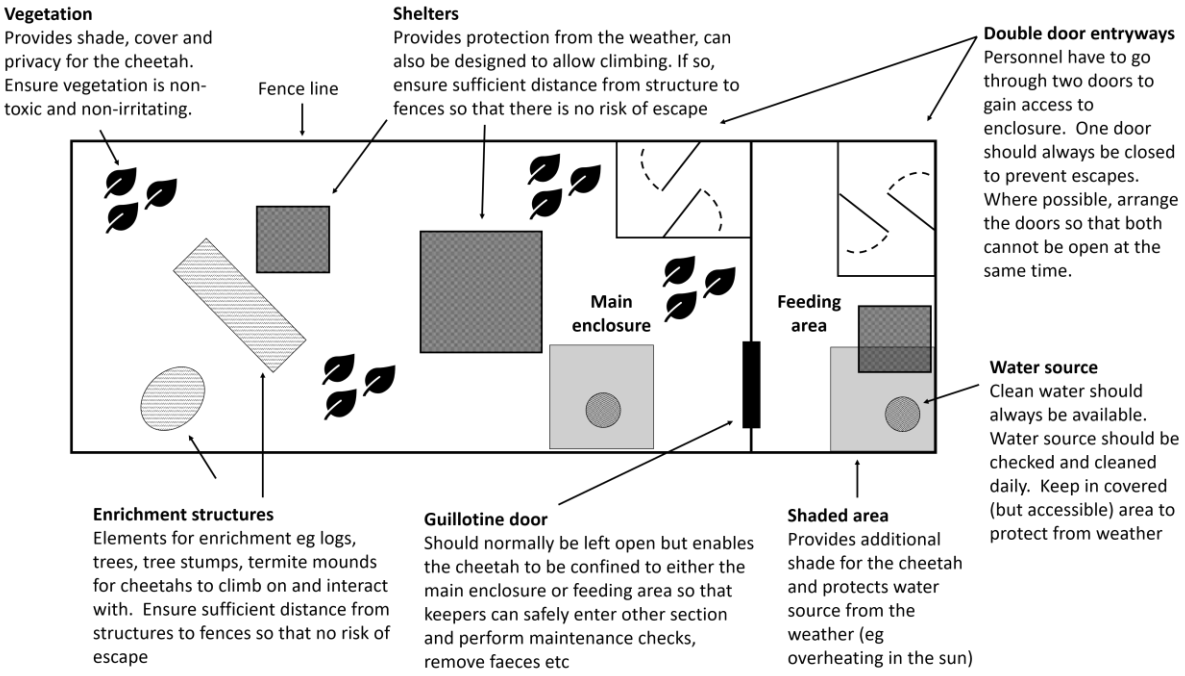
Answer should be No:

12. Is the cheetah showing signs of diarrhoea?
13. Has the cheetah been vomiting?
14. Has the cheetah been coughing or sneezing?
15. Does the cheetah have any discharge coming from its nose or mouth?
16. Does the cheetah have any wounds or injuries?
17. Does the cheetah have any other health concerns?

4. Enclosure Design

4.1. Suggested Enclosure Layout





4.2. Enclosure Size and Proximity to Other Enclosures

Enclosure size can vary but ideally should be at least 1 ha per individual.

Where space is limited, rectangular (ie long) enclosures are generally better than square ones. Having a longer enclosure means the cheetah is able to run further, therefore giving them more opportunities for exercise.

Except for specialised enclosures where animals are kept while being evaluated for introductions, there should always be gaps between enclosures. This prevents animals fighting through the fence and means that keepers will be able to move around the entire outside of the enclosure, giving them better visual access for monitoring the cheetahs.

4.3. Substrate

Cheetahs should not be kept on concrete (or other hard surfaces).

Some areas of the enclosure can have a concrete floor (for example the feeding area), but the majority of their enclosure should not be a hard surface.

Standing on hard surfaces for long periods of time will damage the cheetah's paws, lying on hard surfaces can cause sores to develop. Natural soil with some vegetation (e.g. grass) is usually the best option.

4.4. Double Door Entryways

Enclosures should always have a double door entry system.

Both doors should be kept closed, and ideally locked, whenever there is a cheetah in the enclosure.

When a staff member is entering the enclosure they should open the outer door, enter into the entryway and ensure the outer door is securely closed before opening the inner door into the enclosure. This will prevent any risk of the cheetah escaping from the enclosure.

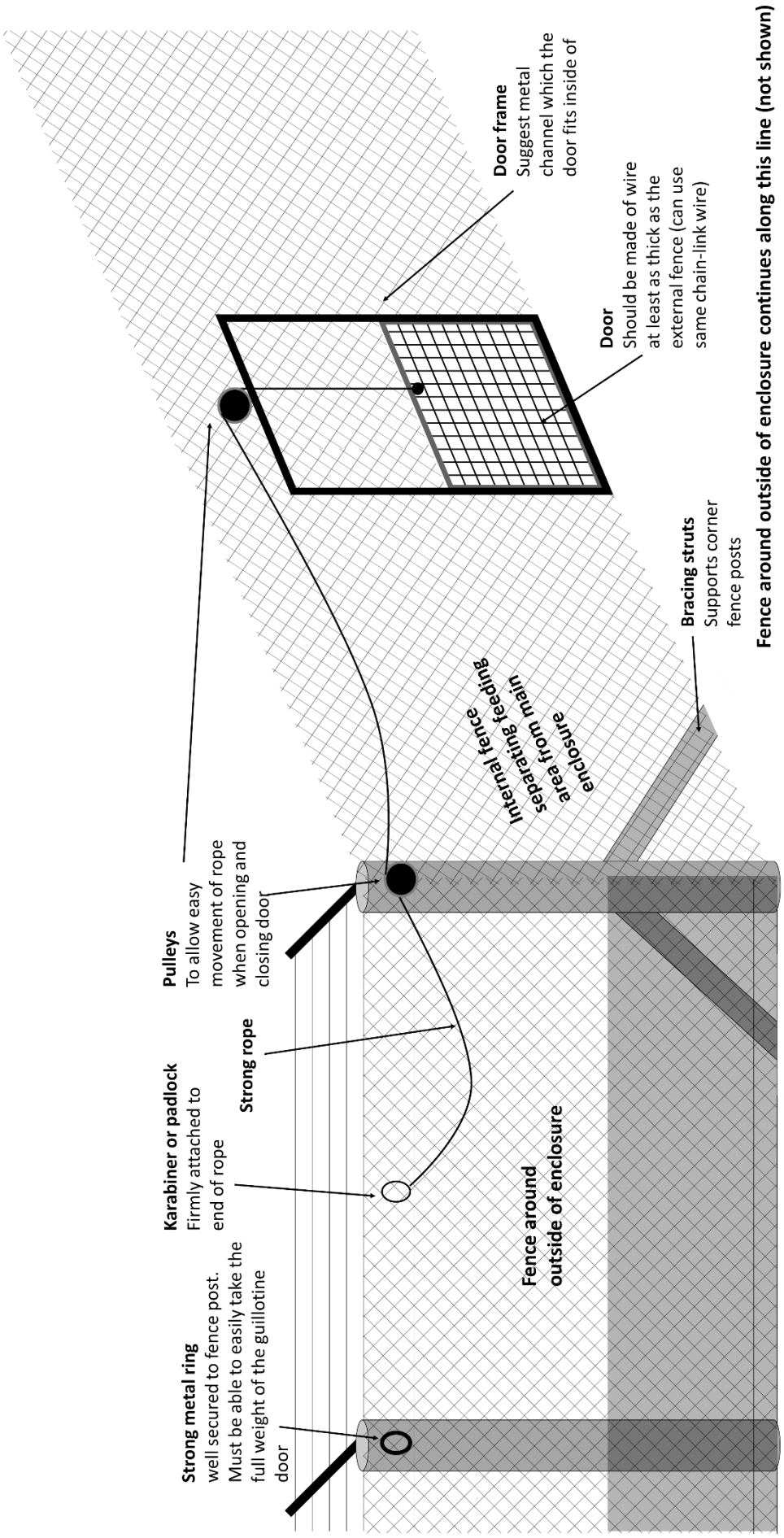
There should be double door entryways into both the feeding area and the main enclosure. This is because **people should not enter the enclosure with the cheetah(s)**. Having entryways into both sections means that, using the guillotine door system described below, the cheetah can be confined to one area of the enclosure so that keepers can safely access the other part of the enclosure in order to perform maintenance checks, or clean the enclosure (e.g. remove faeces, remove old food).

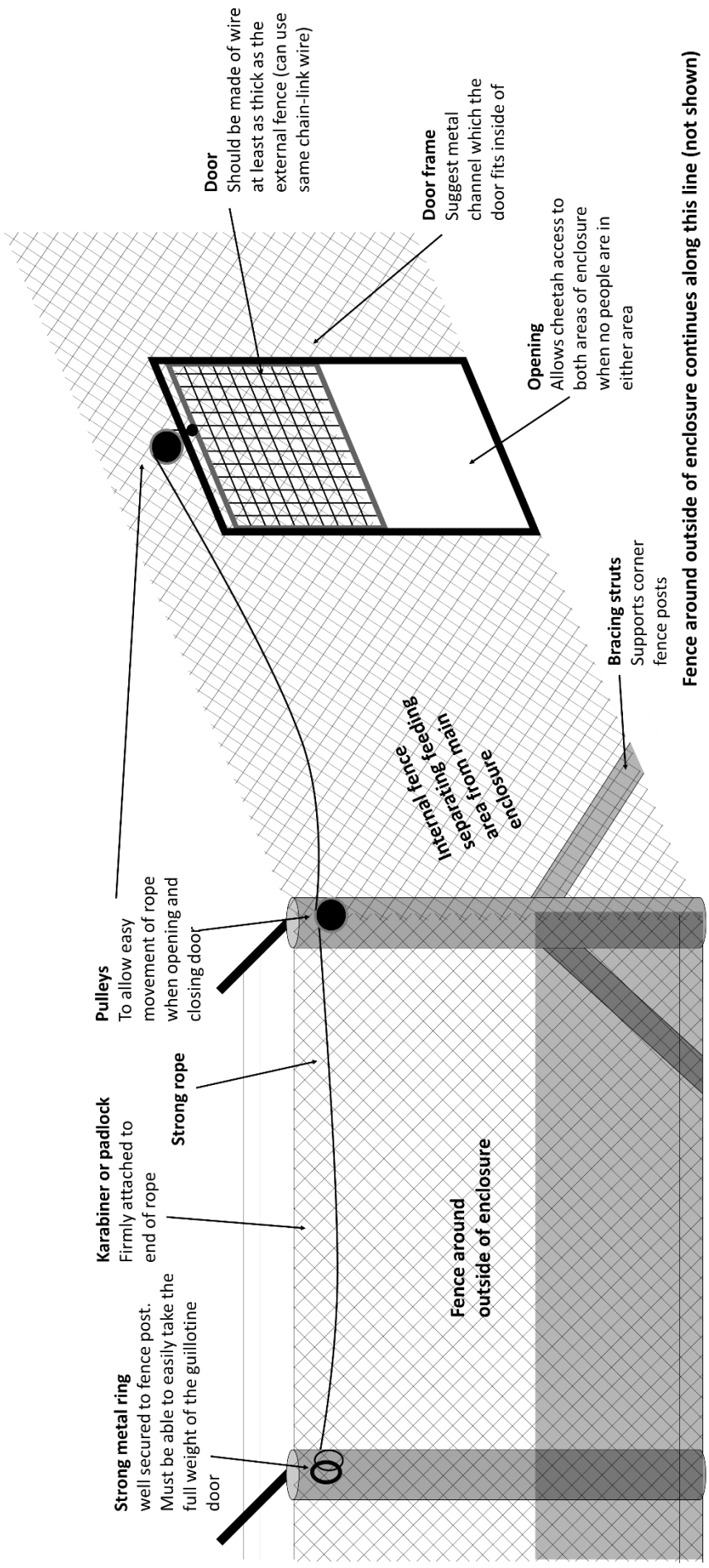
4.5. Guillotine Door

A guillotine door should be fitted between the feeding area and the main enclosure. This should normally be left open so that the cheetah is able to access all parts of its enclosure, but can be closed so that the cheetah is confined to one part of the enclosure so that keepers can safely enter.

People should not enter the enclosure if they may come into direct contact with the cheetah(s).

Cheetahs do not normally attack humans, however seized cheetahs are likely to be highly stressed and/or traumatised – if they feel cornered without means of escape they may lash out and could cause serious injury. The best way to prevent such accidents is to avoid putting any people or cheetahs in a position where they could occur, by always ensuring there is always a physical barrier between them.


Door frame
Suggest metal channel which the door fits inside of
Door
Should be made of wire at least as thick as the external fence (can use same chain-link wire)
Bracing struts
Supports corner fence posts
Fence around outside of enclosure continues along this line (not shown)
Internal fence separating main area from feeding enclosure
Pulleys
To allow easy movement of rope when opening and closing door
Strong rope
Karabiner or padlock
Firmly attached to end of rope
Strong metal ring
well secured to fence post. Must be able to easily take the full weight of the guillotine door
Fence around outside of enclosure


Door
Should be made of wire at least as thick as the external fence (can use same chain-link wire)
Door frame
Suggest metal channel which the door fits inside of
Opening
Allows cheetah access to both areas of enclosure when no people are in either area
Bracing struts
Supports corner fence posts
Fence around outside of enclosure continues along this line (not shown)
Internal fence separating main area from feeding enclosure
Pulleys
To allow easy movement of rope when opening and closing door
Strong rope
Karabiner or padlock
Firmly attached to end of rope
Fence around outside of enclosure
Strong metal ring
well secured to fence post. Must be able to easily take the full weight of the guillotine door

4.6. Water Sources

Cheetahs must have ready access to clean water at all times.

Water can be provided in buckets, however **ensure that the water is changed daily and the bucket regularly cleaned.**

If water is provided in free-standing buckets then it must be checked often to ensure that the bucket has not been tipped over, and the cheetah therefore left without water. A simple way to prevent a bucket being tipped over is to put heavy (clean) rocks in the bottom or to put the bucket inside an old car tyre.

Do not use rubber buckets as water bowls as the cheetah(s) may chew them, and ingestion of the material can cause serious illness or be fatal.

When providing water for young cubs, ensure that the water is not too deep, and that if a cub gets into the water container it will be able to get out again. This will minimise the risk of accidental drowning.

4.7. Enrichment Structures

Ensuring that the enclosure has things for the cheetahs to interact with and climb on will help to lower stress levels and improve the overall welfare of the animal.

These enrichment structures are an important aspect of caring for cheetahs and should always be included in enclosure design.

It is important to include areas where the cheetah is provided with some level of privacy. However, this must be balanced against a need for keepers to be able to monitor the cheetah. By including vegetation, such as patches of long grass or bushes, the cheetah will have an area where it can rest without being in full view, but where the keepers will still be able to see the individual.

Other alternatives include removable materials (e.g. wooden boards or cloth) around the outside of the enclosure fence – these can be left in place to give the animal privacy but if the keeper needs to see the cheetah, can be removed from the outside of the enclosure. If the cheetah is very shy and skittish, using such screens but including small holes that the keepers can look through without being seen by the cheetah can be helpful in monitoring without disturbance.

It is also helpful to have features in the enclosure for cheetahs to climb on, for example trees, tree stumps, large logs or rocks or artificial structures such as platforms. In the wild, cheetahs often rest on naturally occurring platforms such as termite mounds and fallen trees to watch for danger or potential prey, and they find such structures reassuring.

Note: **Ensure that any vegetation in the enclosure is non-toxic and non-irritating**.

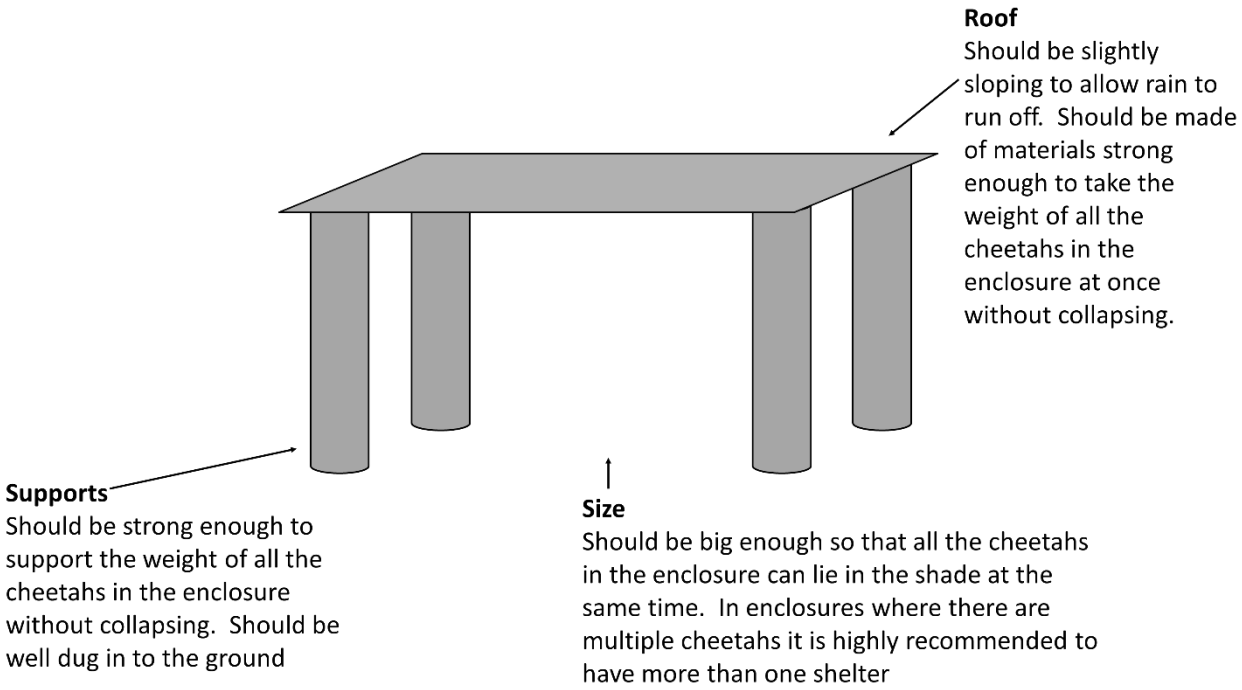
Note: **it is important to ensure features that cheetahs may climb on are located away from fences**. Whilst cheetahs are not agile climbers, they can and do climb and are good jumpers. It is also important to ensure that any trees or other objects that animals can climb on are away from the enclosure fences so that individuals cannot escape their enclosures.

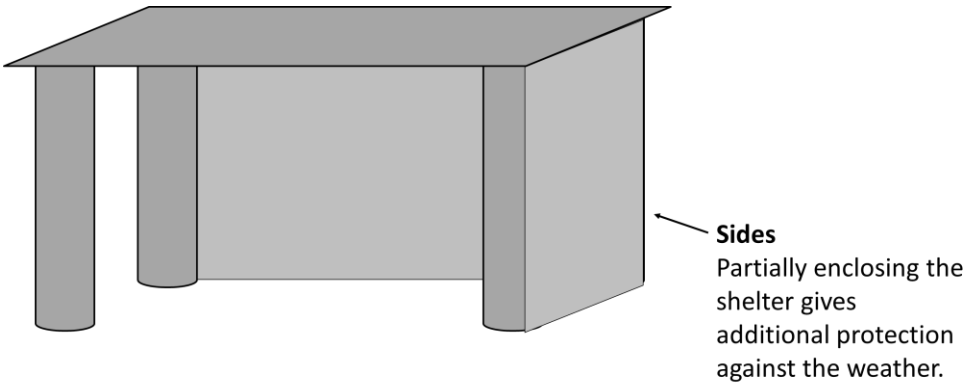
4.8. Shelters

Enclosures should always include a shelter, so that the cheetah is able to shelter from the weather. A simple wooden shelter is adequate, as this will provide shade from the sun and some shelter from rain.

Shelters should be made to be sturdy, as cheetahs may climb on top of them and lie on the roof (hence shelters can also contribute to enrichment). As such, shelters should not be positioned close to the fence lines as it may encourage cheetahs to attempt to escape their enclosure.

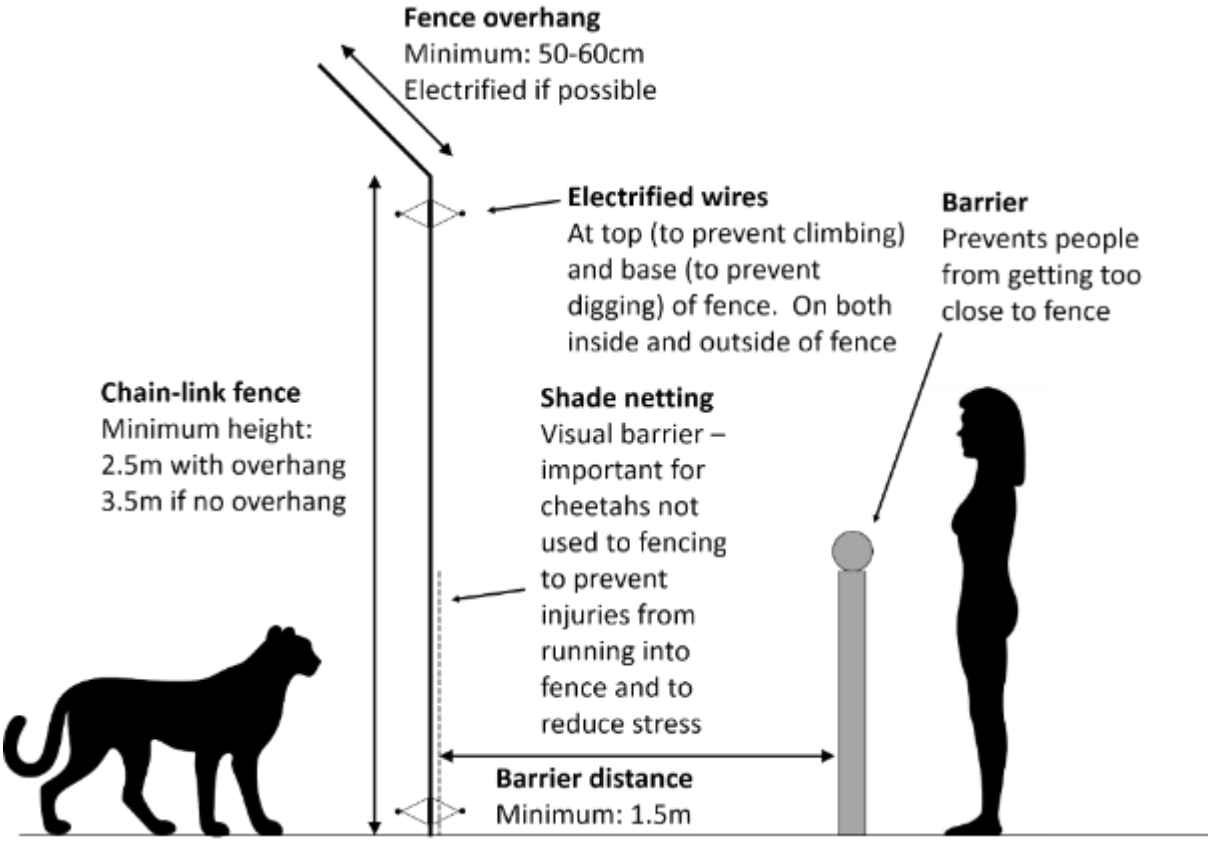
4.8.a. Example shelter designs

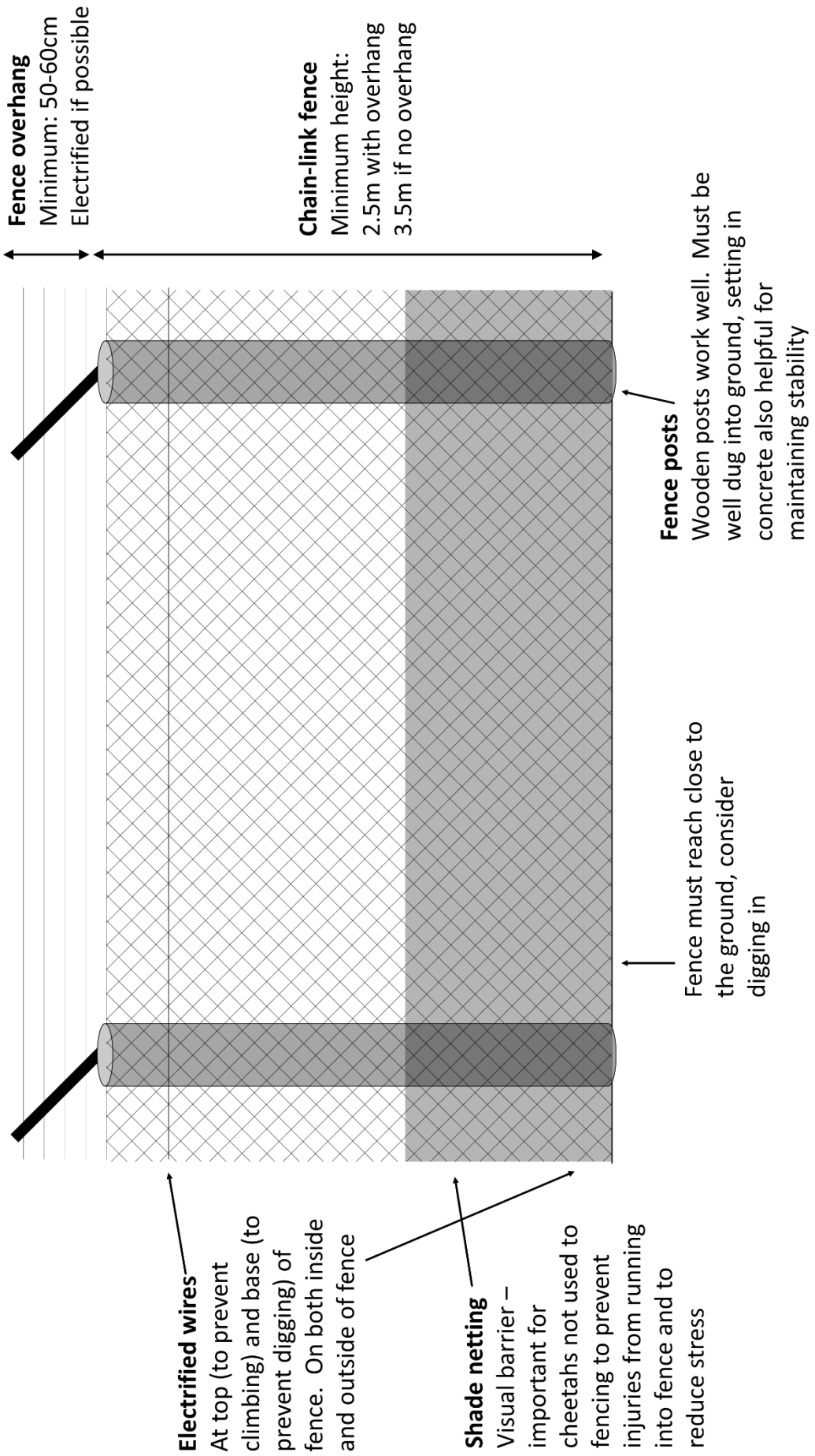




4.9. Enclosure Fencing

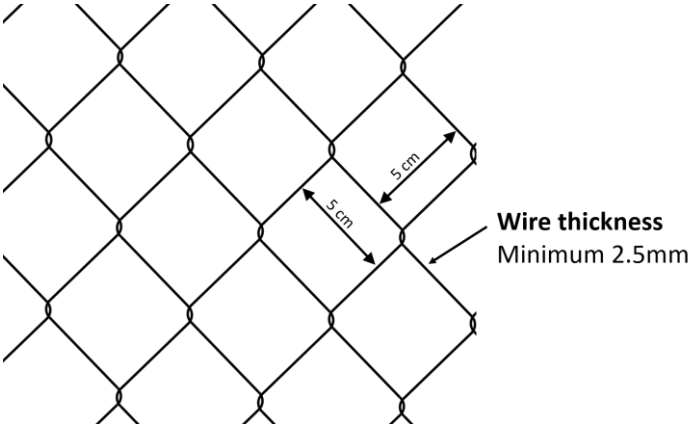
4.9.a. Suggested Fence Design




Fence overhang
Minimum: 50-60cm
Electrified if possible
Chain-link fence
Minimum height:
2.5m with overhang
3.5m if no overhang
Fence posts
Wooden posts work well. Must be well dug into ground, setting in concrete also helpful for maintaining stability
Fence must reach close to the ground, consider digging in
Electrified wires
At top (to prevent climbing) and base (to prevent digging) of fence. On both inside and outside of fence
Shade netting
Visual barrier – important for cheetahs not used to fencing to prevent injuries from running into fence and to reduce stress

4.9.b. Fencing materials

Chain-link fencing is widely used and highly suitable for cheetah enclosures. The fence wire should be at least 2.5mm thick (11 gauge). Chain-link space should be no more than 5cm x 5cm.



Fencing should reach the ground with no gaps.

Cheetahs do not generally dig but for extra security, digging the bottom 10-20cm of the fence into the ground will reduce the chance of gaps developing over time.

4.9.c. Fence Height and Overhang

Fences should therefore be at least 2.5m tall, with an overhang of at least 50cm at an angle of 45° towards the inside of the enclosure. Having an overhang substantially increases the security of the enclosure, so should be used where possible.

If the fence does not have an overhang it should be at least 3.5m tall.

Although cheetahs are not very agile climbers, they can and do climb (particularly cubs) and they are able to jump very high. Fences must be high enough to prevent them escaping from the enclosure

4.9.d. Shade Netting

Seized cheetahs may have been taken from the wild and will therefore be unused to people and to being in a fenced enclosure. This can mean they are likely to be stressed by people and are at risk of injuring themselves by running into fences, particularly as they may not yet realise that fences are a barrier.

To prevent this, **shade netting (or similar) can be placed around the fence lines (on the outside of the enclosure) to make a more obvious visual barrier**. This also has the benefit of providing a barrier to the cheetah's line of sight which can help with reducing stress levels.

4.9.e. Fence Posts

Wooden posts are often most readily available and are suitable for enclosure fencing, however other materials, such as metal can also be used. Posts should be carefully installed, well dug into the ground and ideally set in concrete.

It is important to ensure that any treatments applied to the post material (e.g. wood preservatives or paint) are non-toxic and non-irritant.

Posts should be regularly inspected for signs of wear (e.g. to ensure wooden posts are not rotting, metal posts are not rusting) and repaired/replaced as necessary to maintain the integrity of the fence.

4.9.f. Electrified Wires

Using electrified wires helps to maintain the integrity of the fence line by discouraging animals from closely investigating the fence.

Electrified wires should be put on both the inside and outside of fence – this will keep captive animals in and other animals out of the enclosure.

Electrified wires should be put at the top of the fence, and ideally on the overhanging section, to prevent climbing. Wires should also be put at the base of the fence to discourage digging.

4.9.g. Barriers to Keep People Away from Fences

Barriers should be erected outside enclosures to prevent people from getting too close to the fence line.

This is particularly important if visitors, who may not be familiar to the cheetahs, visit the facility.

Barriers can also be used to ensure that people stay in designated areas, and do not have access to all parts of the enclosure (e.g. keeping them away from entryways).

It also prevents people from being tempted to try and touch the animals, or put their fingers through the wire, which could result in an injury.

Ensuring people cannot get too close to the enclosure is also important to reduce the stress levels of captive animals.

4.10. Enclosure Maintenance Checks

Daily

- Water points – does the cheetah have ready access to clean water?
- Clear the enclosure of faeces
- Check fence wire – are there any signs of holes or rusting?
- Check electric fence wires – are they intact? Is electricity flowing?
- Check base of fence for holes – are there signs that animals have been digging to try and get into/out of the enclosure?
- Check integrity of base of fence – is it still close to/ below ground level? Are there any signs of it being pulled up and a gap developing?

Weekly (and after significant weather events e.g. high winds)

- Check integrity of fence posts
    - Are the posts still securely in the ground? Have securings come loose?
    - Are the posts still in good condition? Are they rotting/rusting?
    - Do the posts still properly support the fencing?
- Check contents of enclosure
    - Are shelters in good condition? Are there any signs of wear and tear that could present a hazard to the cheetah(s)?
    - Are the enrichment items in good condition?

5. Long-Term Health and Welfare Management

5.1. Diet – Cubs and Adults

(The following recommendations are based upon AZA and EAZA guidelines – for further details see Section*: Further Reading* on page 41)

Cheetahs are carnivores and so **should be fed meat**.

Cheetahs are particularly prone to gastric problems – feeding them properly is vital for their health.

Cheetahs that do not have an appropriate diet are likely to become very ill, very quickly.

Cheetahs must only be fed very fresh meat – cheetahs that are not fed fresh meat will develop digestive problems.

Cheetahs should be fed a diet which mimics, as closely as possible, their natural diet.

Where it is available, fresh wild game meat is a good choice (ideally giving whole carcasses), otherwise whole rabbits or chickens (that still have their skin, fur/feathers and their internal organs intact) can be fed.

If wild meat, rabbit or chicken are not available, camel, goat, donkey or horse meat are also suitable, however it is important that cheetahs are regularly (though not exclusively) given organ meat – ideally >50% of their diet should consist of whole carcasses.

Cheetahs will not survive if they are only fed muscle meat – this is why it is important not to remove the internal organs from the wild game, rabbits or chicken before giving them to the cheetah. There are nutrients that are vital for the cheetah's health that are not found in muscle meat, but that are in the internal organs (particularly the heart, liver and kidneys) of prey animals. This makes feeding whole carcases, including internal organs, an easy way of helping to ensure that cheetahs get all the nutrients they need.

If only muscle meat (regardless of whether on or off the bone) is available, then the cheetah MUST be given additional nutritional supplements or it will develop vitamin deficiencies and may die.

Rather than feeding the cheetah exclusively from one animal species, it is helpful to vary meat from different animal species to ensure cheetahs receive a variety of nutrients.

It is a good idea to leave the skin and fur/feathers on carcases as this provides them with additional fibre and helps maintain a healthy gut and promotes dental hygiene.

If animals being fed to the cheetah were shot, ensure all pellets are removed from the carcass before giving it to the cheetah.

If there is any chance that the cheetah may eventually be released into the wild where there may be issues around human-wildlife conflict, the feeding of goats, sheep or other livestock that the cheetah could attempt to attack should be avoided. Where these are the only types of meat available, then it is important to skin

the meat, as this may reduce the association between eating the meat and live goats and sheep etc. In this case it is important to leave cartilage and tendons etc intact to provide some fibre.

Ensuring that cubs get the correct diet is also extremely important for their long-term health. There are many disorders that cubs can develop due to not getting the correct nutrients, and some of these will affect the cheetah for the rest of its life.

Cubs are even more prone to gastric issues than adults, and because they are growing, they are particularly prone to nutrient deficiencies.

It is important to monitor the amount that cubs are eating, this may be difficult if cubs are fed together but it is vital in order to ensure that each cub gets sufficient nutrients.

Young cheetah cubs (2 – 6 months old) should be fed the same types of meat as adults (see above) however, they may not be familiar with how to open a carcass – in this case it can be helpful to partially open the carcass for the cubs to allow them to more easily access the meat inside.

If young cubs have trouble feeding, even when carcases are opened for them, it may be helpful to try mincing their food before giving it to them, as this can make it easier for them to eat (particularly when they are very young). When mincing food it is VITAL to include the bones and internal organs of the carcass.

The amount of food a cheetah requires varies between individuals and across ages.

Guideline amounts are given below, however it is important to monitor the weight and/or condition of the cheetah – if the cheetah is losing condition it may require additional food.

Males and females usually need similar amounts of food. However, females that are pregnant or lactating will require additional food – increase the amount provided by approximately 10% in the first instance and monitor the female's condition, then adjust as required.

As well as monitoring weight and body condition, it is important to monitor the cheetah for other signs of ill health. In particular, faeces should be monitored for signs of diarrhoea or constipation (indicated by a lack of faeces). If the cheetah vomits multiple times this is also a sign of illness and veterinary attention should be sought.

The table below gives guidelines on how much to feed cheetahs at different ages.

These guidelines may need to be adjusted for different individuals.

If you are not sure how old the cheetah is, use the Cheetah Cub Ageing Guidelines in Subsections: *Cheetah Cub Ageing Guidelines* and *Adult Cheetah Ageing Guidelines* in Section: *Identification Guides* to estimate age.

Age	Type of Meat	Total Quantity of Meat to be Fed	Number of Feeds per Day
2 months	Carcass / Ground	150g – 180g	3 (i.e. 3 x 50 – 60g)
3 months	Carcass / Ground	180g – 210g	3 (i.e. 3 x 60 – 70g)
4 months	Carcass / Ground	300g – 350g	2 (i.e. 2 x 150 – 175g)
5 months	Carcass / Ground	450g – 650g	1
6 months	Carcass	600g – 750g	1
7 months	Carcass	1kg	1
8 months	Carcass	1.2kg	1
10 months	Carcass	1.4kg	1
12 months	Carcass	1.5kg	1
18 months	Carcass	1.5kg – 1.7kg	1
2 years and over	Carcass	1.5kg – 2.5kg	1

These amounts are approximate guidelines only, the amount that a cub will eat will vary between individuals and they may require larger quantities of meat at a younger age than suggested above. Monitor the cub's weight gain and feeding behaviour, and offer additional meat as appropriate.

5.1.a. Supplements

Cheetahs are particularly sensitive to nutrient imbalances, therefore to ensure that the cheetah is receiving all the nutrients it needs, it is a good idea to add a supplement to its food.

This is particularly important if the cheetah is not being given a variety of different types of food, or has been mostly fed muscle meat – muscle meat is nutrient poor and an unvaried diet may not provide all the nutrition the cheetah needs to stay healthy.

Supplements that have been used to good effect in cheetahs are:

- Predator Powder (7.5g powder per 1kg meat)
- Mazuri carnivore
- Mazuri Feline
- Calsup powder
- Felivit powder
- Nutrobal (for calcium)
- Carnivit

5.1.b. How to Feed the Cheetah – Early Stages

In the early days of a cheetah being in a new environment, implementing a routine can help to reduce stress levels as the cheetahs know what is going to happen to them. Therefore, feeding them at the same time each day in the same area is helpful.

If the cheetah is shy or skittish (as it is likely to be particularly in the early days in captivity) it is important that you leave the cheetah alone while it eats.

Put the food into the enclosure and then leave the area. Return after 1-2 hours, if the food has not been eaten then remove it and try again in a few hours' time.

If the cheetah does not seem keen to eat, then try changing the place the food is put – it may be that the area the food has been left is too open and the cheetah feels too threatened to come and take it.

Ensure that the cheetah is able to move the food. Then the cheetah can pick the food up and move it somewhere where it feels more comfortable to eat it.

5.1.c. How to Feed the Cheetah – Once the Cheetah is Settled

Once the cheetah is settled in its new surroundings and has become less shy and stressed, then adding some variation to how the cheetah is fed helps with enrichment.

This could mean varying the time of day that the cheetah is fed, or changing how the food is given – for example attaching the food to something that the cheetah has to pull against (ensure that the food is attached using a material that is non-harmful to the cheetah, and that it is not attached so firmly that the cheetah may injure itself trying to release the food).

When first introducing these changes, do them slowly and one-by-one. The cheetah's reaction to any changes should be closely monitored to ensure that it is not becoming stressed – if it is showing signs of stress, or if the activities are putting the cheetah off eating the food, then discontinue the activity.

It may also be that the cheetah will simply not engage with some activities in which case they should be discontinued.

5.2. Diet – Newborn and Very Young Cubs

If cubs are seized together with their mother then they should always be left together – if the mother cheetah is cared for appropriately then she will produce milk and feed the cubs herself.

This will give the cubs all the nutrients they need in their early weeks. As the cubs get older (around 2 months) they will begin to eat some solid food, however they will continue to suckle until they reach weaning age at between 4-5 months.

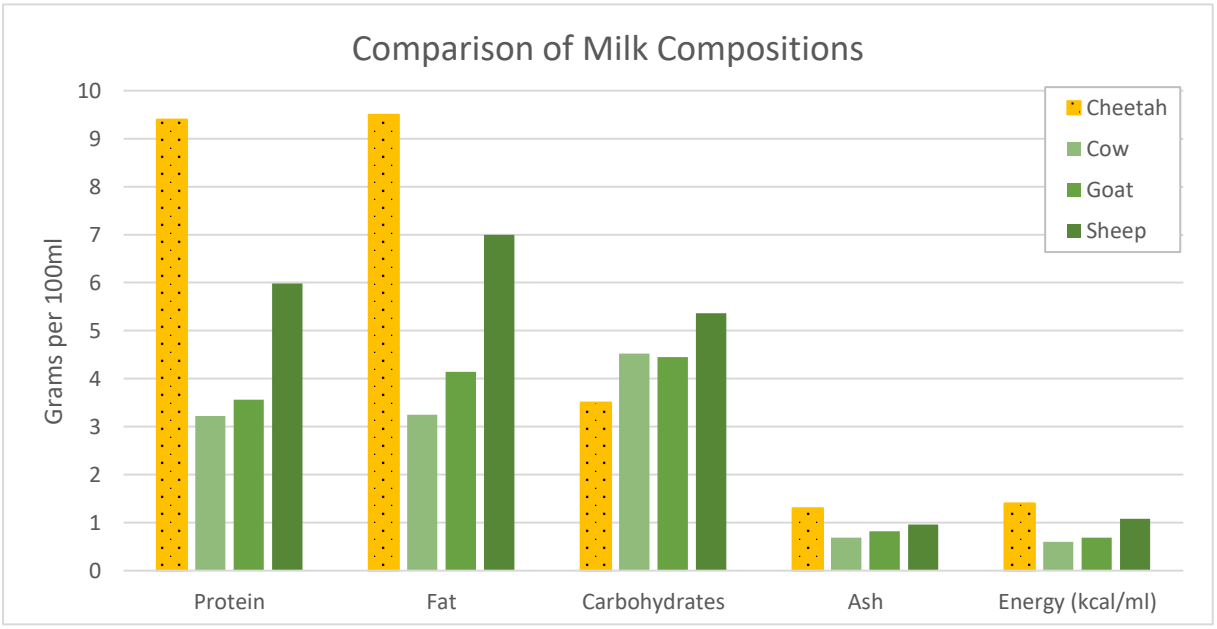
If newborn or very young cubs are seized on their own, without their mother, they need specialist care and a specialist diet. At this age, cubs are not able to survive on meat alone, they require milk, as it is easier for them to digest and extract nutrients from (see Section 5.2.b).

5.2.a. What Not to Feed

Newborn and very young cheetah cubs should only be fed specialised milk replacements, designed for carnivores.

Milk from cows, goats or sheep is not suitable – it is likely to cause them serious gastric problems which may result in the death of the cubs.

This is because the nutritional make-up of these milks is not suitable – the protein and fat, and therefore calorie contents are too low (meaning that the cubs will not take in enough energy to grow properly) and the carbohydrate concentrations are too high, which will give the cubs diarrhoea.



5.2.b. What to Feed

There are commercially available milk replacement formulations that have been used to hand-rear cheetah cubs. However, there is no milk replacement currently available that exactly mimics the composition of cheetah milk, therefore modifications are required to make existing milk replacements suitable for cheetah cubs. Two milk replacement options are:

1. KMR® (42/25) + Multi-Milk® (30/55) + water

1 part KMR + 1 part Multi-Milk + 2 ½ parts water

Calorie content: 1.26 kcal/ml

KMR® (Kitten Milk Replacement) is a product manufactured by Pet Ag™, designed for the hand-rearing of domestic cats. As such the carbohydrate concentration is higher than that found in cheetah milk, and so feeding KMR® on its own could cause gastric problems in cheetah cubs. Multi-Milk® is also manufactured by Pet Ag™ and has a low carbohydrate concentration – combining the two replacements, according to the formula above, results in a milk that has a composition closer to cheetah milk.

2. Esbilac® (33/40) + Multi-Milk® (30/55) + water + Taurine supplement

1 ½ parts Esbilac + 1 part Multi-Milk + 3 parts water + taurine (250mg per cub per day)

Calorie content: 1.4kcal/ml

Esbilac® is designed for domestic dog puppies but has been used to feed cheetah cubs – however it MUST be supplemented with taurine. Esbilac does not contain taurine and this is a vital nutrient for cheetah cubs, without it they will go into rapid decline. Esbilac should be combined with Multi-Milk, with the taurine supplement, according to the formula as indicated above.

3. Zoo Matrix (33/40) + water

1 part Zoo Matrix + 3 parts water

Recommended by Cheetah Conservation Fund vets as suitable for cheetah cubs.

5.2.c. Introducing the New Food

Introducing a very young cheetah cub to a new diet is difficult and should be done slowly using oral electrolytes to maintain hydration.

If a new diet is introduced too rapidly then the cub is likely to develop diarrhoea and gastric distress which can lead to death.

A suggested introductory period would be:

Initial 2-3 feedings: oral electrolytes only (no milk) e.g. sodium lactate solution or paediatric electrolyte solution

Day 1: 1 part mixed milk formula (using formula 1 or 2 above) : 4 parts water

Day 2: 1 part mixed milk formula : 3 parts water

Day 3: 1 part mixed milk formula : 2 parts water

Day 4: 1 part mixed milk formula : 1 parts water

Day 5: 2 parts mixed milk formula : 1 part water

Day 6: 3 parts mixed milk formula : 1 part water

Day 7: Mixed milk formula only

The cub's faeces should be monitored throughout this process. As the dilution changes, the cub's faeces may become looser, however they should return to normal within 2 feeds.

If they stay the same or improve then continue to change the diet as planned.

If the consistency become runnier, or the faeces become pale in colour then do not give milk for the next 2-3 feeds, instead just give the electrolyte solution.

Reintroduce the mixed milk formula after this, but at a lower concentration (e.g. if the cub was being fed at a 1:1 ratio, reduce to 1 mixed milk formula: 2 water). Once the cub is producing normal faeces again continue to the next step.

The volume of electrolytes that should be given depend on the cub's stomach capacity. How to calculate the cub's stomach capacity is described in the next section.

5.2.d. How Much to Feed

How much to feed a cub depends on how big the cub is.

It is very important to never attempt to feed a cub more than its stomach capacity.

The cub should be weighed every day so that it's growth can be monitored and to allow adjustment of the size of its feeds.

Ideally, weight gain should average about 5% of the cub's body weight per day (i.e. a cub weighing 1kg should be gaining about 50g per day).

Keep records of the cub's weight and how much it has been fed so that its progress can be monitored over time.

There are four steps for calculating how much to feed a cub – these are:

Step 1 – Calculate how many calories the cub needs

This is done using the formula:

(Cub's body weight in kilograms ^ 0.75) x 210 = kcals the cub needs

Step 2 – Estimate the cub's stomach capacity

This is done using the formula:

Cub's body weight in grams x 0.05 = cub's stomach capacity in millilitres

Step 3 – Calculate how much milk the cub needs each day

This is done using the formula:

Calories needed by cub (from step 1) ÷ calorie content of the mixed milk formula per ml

Step 4 – Calculate the number of meals the cub needs each day

This is done using the formula:

Mixed milk formula needed (from step 3) ÷ cub's stomach capacity (from step 2)

For example – these are the calculations for a cub that weighs 600g and is going to be fed on the KMR milk formula:

Step 1: (0.6 ^ 0.75) x 210 = 143 kcal

Step 2: 600 x 0.05 = 30 ml

Step 3: 143 ÷ 1.26 = 113.5 ml

Step 4: 113.5 ÷ 30 = 3.78

It is very important never to attempt to feed a cub an amount that exceeds its stomach capacity. Therefore always ensure each feed is less than the cub's stomach capacity in Step 2. This means you will need to round up the number of feeds in a day – in this case 4 feeds should be given, of 28.5 ml each.

Feeds should be given at regular intervals. The minimum time between feeds: 3 hours; maximum time between feeds: 8 hours.

If milk can be kept refrigerated until it is needed then milk can be mixed up to 24 hours in advance of feeding, if refrigeration is not available then it needs to be mixed up fresh each time prior to feeding.

When using powder mix, it is important to ensure the powder is very thoroughly mixed and no lumps are left. If lumps of powder are left and fed to the cub then this can cause gastric distress and diarrhoea.

5.2.e. How to Feed

Warm the milk (or electrolyte solution) to 38°C before feeding it to the cub. It is the right temperature if you can put a drop of the milk on the underside of your wrist and not feel it.

Cheetah cubs normally lie on their stomachs with their necks extended to feed.

5.2.f. Feeding Behaviour

If a cub finishes its entire meal, it is common for it to eat less of the subsequent meal. However, if the cub does not finish several meals in a row then this needs close monitoring, as it may be a sign of gastric problems.

If a cub does not entirely finish one meal, do not add the remaining amount to the next meal. The volume a cub is fed should never exceed its stomach capacity.

5.2.g. After Feeding

Newborn cubs (less than two weeks old) need to be stimulated to make them produce urine and faeces. This is an extremely important part of their care.

To stimulate the cubs, use a cotton wool ball or cloth which has been dampened with warm water to massage the anogenital region. **This should be done before or after every feed.**

Cubs will usually urinate every time they are stimulated.

They will usually produce faeces 2-3 times per day. If no faeces are produced for 24 hours the cub is likely to be constipated. Gently massage the cub's belly to encourage it to produce faeces.

If the constipation continues, contact a vet.

5.2.h. Growth Rates

When on milk, cubs should increase in weight by approximately 5% per day on average.

Once on solid food their weight should increase by 8-10% per day.

If a cub is consistently gaining more than 10% of its body weight each day, its food intake must be reviewed and possibly reduced. Excessive growth can lead to bone deformities and factures.

5.2.i. Weaning

Cubs should begin to be introduced to solid food at when they are about 4 – 5 weeks old, or about 2kg in weight.

At this stage, cubs should be given ground meat, with milk formula poured over the top.

They should continue to receive their planned amount of milk, until they are seen to be eating measurable amounts of the solid food, at which point the amount of milk can begin to be reduced.

Whole rabbits, that have been skinned and then minced will provide the key nutrients required by a cheetah cub.

It is important that the <u>whole</u> rabbit, including bones and internal organs, is used as it is the bones and internal organs that contain the majority of the nutrients required.

Cubs should be weighed regularly throughout weaning to ensure they are achieving the required growth rates.

5.2.j. Behaviour of Hand-Reared Cubs

Hand-rearing cheetah cubs means that they will lose most of their fear and wariness of humans.

This can cause problems as they grow older, as **what begins as playful behaviour by a small cub can become dangerous behaviour when it is exhibited by an adult**. It is therefore vital to manage the cub's behaviour appropriately from a young age to ensure problems do not develop.

Never allow a cub to stalk, paw, bite or jump on people. They should be prevented from participating in any play with people that simulates any form of rough, aggressive or hunting behaviour.

Discourage these forms of interactions and set boundaries for acceptable behaviour by making it clear that the cub has overstepped.

Do this by giving a short, firm command "NO" then ignoring the cub for a short period and immediately removing any food (or other reward) from the situation.

Unless there is a risk of injury, do not necessarily leave the room/enclosure as this may inadvertently encourage the behaviour – e.g. the cub may learn that if it wants people to leave its space it should bite them.

If their behaviour is managed carefully from a young age, then hand-reared cubs should become adults that are easy to work with in captivity. If their behaviour is not managed effectively then they can become unpredictable and dangerous.

5.3. Body Condition Scoring

It is not always possible to physically weigh cheetahs in captivity, instead Body Condition Scores (BCS) can be used as a proxy to monitor the cheetah's condition over time.

This is an important aspect of their care, because when cheetahs are first seized they may be underfed.

Recording a cheetah's BCS allows the increase in their weight to be tracked over time to assess return to full health.

Equally, BCS can be used to ensure that the cheetah has not been overfed, and is instead kept at a healthy weight.

Cheetah BCS can be scored on different scales, but we suggest a scale from 1 to 9 is used, where 1 is severely emaciated, 5 is ideal condition and 9 is severely obese. This is the scale used internationally by zoos to monitor the condition of the cheetahs in their care.

The cheetah's BCS should normally be evaluated once a month, however it may be appropriate to score the cheetah more frequently; for example, in the months after a seizure, particularly if the cheetah was in poor condition. In such cases weekly or fortnightly scoring may be useful to monitor the cheetah's progress.

Where possible, ensure the same person scores the cheetah's body condition each time. Although the BCS is highly repeatable, people may interpret the descriptions in slightly different ways. Having the same person repeat the scoring reduces observer bias. Where it is not always possible to have the same person scoring the cheetah's body condition, ensure that two or more observers score the cheetah separately but at the same time, so that scores can be adjusted for any differences between observer scores.

The table below gives guidance on the features of the cheetah's physique to evaluate in order to work out its BCS:

1 **Emaciated**	2 **Very underweight**	3 **Underweight**	4 **Slightly underweight**	5 **Ideal**	6 **Slightly overweight**	7 **Overweight**	8 **Very Overweight**	9 **Obese**
Extremely thin. Appears skeletal. Noticeable loss of muscle mass. No visible fat covering. Ribs, base of tail, hip joints, and pelvis projecting prominently. Bone structures of neck, shoulders and back very visible. Cheek bones prominent and facial features very gaunt. Severe abdominal tuck.	Very thin. Very slight fat covering. Ribs, base of tail, hip joints, and pelvis prominent. Bone structures of neck, shoulders and back visible. Thin neck. Cheeks and face gaunt. Prominent abdominal tuck.	Thin. Thin fat layer covering ribs, base of tail, hip joints, and pelvis. Bone structures of neck, shoulders and back distinct but individual bones not visible. Thin neck. Cheeks and face gaunt. Prominent abdominal tuck.	Very lean. Slight ridge along back. Outline of ribs slightly visible. Shape of pelvis is discernible but hip joints are not. Neck and shoulders not noticeably thin. Base of tail visible but beginning to blend into hip Noticeable abdominal tuck.	Lean, muscular appearance. Obvious delineation between shoulder, stomach and pelvic regions. Back is flat – neither creased or ridged. Muscles of shoulders and thighs visible when walking. Visible abdominal tuck.	Slightly chubby appearance. Slight crease down back. Ribs well covered. Slight fat deposits around shoulders and neck. Rounded torso. Abdominal tuck less present.	Noticeable fat deposits. Shoulders rounded. Neck is thick. Fat deposits around shoulders and neck. Base of tail not visible. Abdominal tuck disappearing – cheetah constantly looks as though has just finished a meal.	Very noticeable fat deposits. Crease along back. No abdominal tuck.	Substantial fat deposits. Obvious crease along back. No muscle definition. Extremely rounded torso and rear end. Fat along inner thighs may rub together. Large fat pad in abdomen. Rounded, bulging abdomen.

5.4. Welfare and Stress Management

5.4.a. Why Manage Stress Levels?

Captive cheetahs are very prone to stress, this causes problems because **many of the common diseases and long-term health concerns that cheetahs may develop are either caused or made worse by stress**.

By managing stress levels, it not only makes life much better for the cheetah, but it also saves the longer-term costs of high veterinary expenses and treatment.

5.4.b. Signs of Stress

Different cheetahs will exhibit signs of stress in different ways. Signs that the cheetah is stressed include:

- Lack of appetite
- Hiding
- Pacing
- Repetitive behaviour (eg pacing)
- Aggressive displays (e.g. growling, snarling, hissing, mock charging)
- Self-mutilation and harmful behaviour (e.g. tail sucking or excessive wound licking)
- Any behaviour that cannot be stopped by distracting the cheetah

5.4.c. Identifying Causes of the Stress

To reduce stress, you first need to identify what is worrying the cheetah. The best way to do this is to see if there are any activities associated with the cheetah becoming stressed by:

1. Record when the behaviour occurs
2. Record how long the behaviour lasts
3. Record what activities are going on in and/or around the cheetah's enclosure when the behaviour occurs
4. Record when the behaviour stops

This helps identify patterns and potential causes.

For example, it may be that the cheetah always begins pacing at a certain time each day, which coincides with when its enclosure is cleaned. If so, then take steps to try and reduce the stress that these activities cause – either by stopping those activities, reducing the frequency of the activities or reducing their impact on the cheetah (see below).

5.4.d. Reducing Stress

Once the cause of the stress has been identified, measures should be put in place to reduce the stress they cause to the cheetah. This can be done by:

1. **Stopping the activity** – for example, if the cheetah is stressed by the presence of a cheetah in another enclosure nearby, then the line of sight between the two enclosures should be completely blocked by erecting a solid barrier between them.

2. **Reducing the frequency of the activity** – for example, if the cheetah is stressed by people walking close to its enclosure, people should be requested to avoid the enclosure unless absolutely necessary.

3. **Reducing the impact** – for example, if the cheetah is stressed by keepers entering its enclosure to remove faeces, a sight barrier can be installed between the two sections of the enclosure so that the cheetah does not see the keepers when they are in the enclosure, or the cheetah could be provided with a den box as a safe area that it can retreat to and hide inside while the keepers are in its enclosure.

Reducing an animal's stress levels can be difficult and may take some time. It may be necessary to try several different things before finding something that works for each individual cheetah.

5.4.e. Managing Stress and Promoting Good Welfare

Have a small number of dedicated keepers for each cheetah. This is because the cheetah and the keepers will, over time, "get to know" each other. This will allow the keeper to learn what the cheetah can cope with and what causes it stress.

Establish a routine. It often helps animals if there is a routine so they know what is going to happen to them, this is particularly important in the early days of captivity.

Give the cheetah somewhere to hide. Cheetahs are predators – they are used to being able to watch things without being observed themselves, finding themselves exposed and constantly watched is extremely stressful for them. Incorporating vegetation and hiding places into their enclosures helps with this.

Introduce new things slowly. Give the cheetah time to get used to new things – some cheetahs will adapt faster than others. Monitor the cheetah's reaction and proceed accordingly.

Give the cheetah options. This can be as basic as putting two or three different shelters into the enclosure, so that the cheetah can decide which one it wants to use. Do not force the cheetah to do things it does not want to.

Do not over-clean the enclosure. The enclosure must be regularly cleaned of faeces, and bedding material must be washed/changed if it becomes soiled, however it is comforting for the animal to have things around it that smell familiar. If the enclosure is deep-cleaned too regularly then it is like constantly moving the cheetah into new surroundings, which will raise stress levels.

Consider clustering stressful experiences. If there are several things that need to be done to the cheetah that are likely to be stressful, consider whether it might be possible to do them at the same time. This is dependent on the cheetah – and if the cheetah becomes extremely stressed then it will need to be left to calm down, and additional things will have to be abandoned. However, if there are several low to medium stress procedures that need performing, consider doing them in one day rather than spread over the course of a week, possibly resulting in chronic stress and anxiety to the cheetah.

5.5. Exercise and Enrichment

Providing exercise opportunities and other types of enrichment are also valuable for promoting good welfare and reducing stress levels.

Captive facilities across the world have designed enrichment programmes which attempt to recreate specific behaviours seen in wild animals. Some basic enrichment activities that can be tried are:

Lures	Attach a piece of meat or skin to the end of a rope and drag it quickly away from the cheetah to encourage the cheetah to chase it. Ensure the rope is made of non-toxic, natural material that will not cause illness if ingested.
Zip Wires	Set up a strong wire which comes down into the cheetah's enclosure (but is out of reach of the cheetah). Food can be attached to this and sent down into the enclosure – this encourages the cheetah to chase the food, jump at it and pull against it to get the food and eat it. Ensure the way the food is attached to the zip wire is made of non-toxic, natural material that will not cause illness if ingested.
Tug of War	Attach some meat to the end of a rope which is secured to a solid point that the cheetah can pull against. Ensure the rope is made of non-toxic, natural material that will not cause illness if ingested.
Balls	Balls (e.g. footballs) can encourage play, particularly with younger animals. This encourages the cheetah to chase and provides additional interest. If the ball is inflatable it needs to be big enough that the cheetah cannot bite it, and sturdy enough to withstand their claws. Ensure the ball is made of non-toxic, natural material that will not cause illness if ingested.
Novel Smells	Introducing new smells adds additional interest for the cheetah and gives them something to explore. This could be some perfume sprayed on something, or putting some (non-toxic) herbs in their enclosure. Scent trails can also be laid around their enclosure by dragging an animal skin around (and then possibly hiding some food somewhere at the end of the trail)
Novel Items	Putting new items into their enclosure adds interest and gives the cheetahs something new to explore. This could be a new feature, such as a new shelter, or something smaller like some new vegetation or bedding. Ensure any items used are made of non-toxic, natural material that will not cause illness if ingested.
Puzzles	Putting items into their enclosure that will require the cheetah to explore them and interact with them for a more extended period of time provides important enrichment. This could be something like putting some meat into cardboard boxes filled with hay and giving them to the cheetah. This will mean they have to work out how to open the boxes and then search through the hay to find the meat. Ensure that any plastic tape etc is removed from any boxes before use.
Whole Carcasses	Giving the cheetah a whole carcass instead of cuts of meat encourages natural feeding behaviour. It also means they will take longer over their food, and is better for them nutritionally.
Lookout Points	Giving the cheetah elevated platforms (although not too close to the fence lines) allows them to climb and watch their surroundings from a higher vantage point, as they would do in the wild. In natural environments, siting enclosures in locations with a good view provides the cheetahs with more distractions for them to watch.

5.6. Interactions with Visitors

Having visitors to the captive care centre, can be a stressful experience for the cheetah as the people will be unfamiliar to them.

In some cases, where the cheetah is highly traumatised, it may not be possible to allow any people to visit except when absolutely essential e.g. for veterinary care.

Below are some guidelines for reducing stress levels and preventing any negative impacts on the cheetah:

1. **Make sure cheetah is fully acclimatised to its new living conditions before visitors start coming.** Cheetahs that are only recently arrived in their new surroundings are likely to already be highly stressed. If visitors start coming to see them immediately then the cheetah may associate the visitors with this stressful experience. This will mean it will take much longer for the cheetah to acclimatise to its surroundings, and to having visitors.
2. **Introduce the cheetah to having unfamiliar people nearby slowly.** For example, only have one person or small group visit the cheetah to begin with, then slowly increase the number and frequency of visits as the cheetah habituates to it.
3. **Visitors should be quiet and not make sudden movements.** People speaking loudly and making sudden gestures may frighten the cheetah.
4. **Keep a routine.** Have people visit at the same times each day.
5. **Ensure the cheetah has somewhere to hide.** Then, if the cheetah is feeling uncomfortable, it can get away from the situation.
6. **Never allow visitors into the cheetah's enclosure.** The cheetah is a large carnivore – allowing people into its enclosure puts both the people and the cheetah at risk of serious injury.
7. **Do not allow visitors to attempt to touch the cheetah.** The cheetah is a large carnivore – allowing people to attempt to touch it puts both the people and the cheetah at risk of serious injury.

6. Health and Safety of Keepers

Cheetahs are dangerous wild animals and therefore it is important to take precautions to avoid risking injury to the people looking after them.

Cheetahs will not normally attack humans, in the wild cheetahs will usually run away from danger rather than confront it. However, in captivity, the cheetah does not have the option of running away and therefore, if it is feeling threatened, the cheetah may lash out – this can result in serious injury to the person involved.

The simplest way to prevent accidents and injuries with a captive cheetah are:

- Never allow anyone to be in direct contact with the cheetah (unless it has been fully anaesthetised first)
- Never enter any part of the cheetah's enclosure while the cheetah also has access to it
- Do not stick fingers or hands through the fence

These are particularly important with hand-reared cub/cheetahs as they will often not have any fear of humans and therefore may be more likely to attack.

If it is absolutely necessary to enter the cheetah's enclosure while the cheetah is in it, people should not go in on their own – having two people present reduces the chance of attack. They should also carry a tool, such as a long wooden stick or a broom – this is not to be used as a weapon against the cheetah but to encourage the cheetah to keep its distance.

If cubs are being hand-reared it is important to discourage them from behaving in a way that could be dangerous when they are adults. For example, a 4 month old cub pawing at, or jumping on, its keeper may not be a problem, but once that cub has grown up this sort of behaviour will be dangerous and can cause injuries. Behaviours such as biting, pawing, jumping on, and stalking people should always be discouraged.

6.1. Risk Assessments

A key part of maintaining health and safety of all people coming into contact with seized cheetahs is to conduct risk assessments.

Conducting a risk assessment is an opportunity to think about the risks that people might be exposed to because of the activities they are undertaking, and what steps can be taken to prevent harm from happening.

Step 1: Identify the potential hazards in a situation. These could include:

- Being injured by the captive cheetah
- Working at height, for example when building or fixing fences
- Exposure to hazardous chemicals, for example exposure to bleach when cleaning equipment

Step 2: Evaluate how big a risk these hazards are. Risk can be split into three levels:

Low	Minor injuries might result
Medium	Injuries might result that take up to a week to recover from, but a full recovery will be made
High	Could result in a long-term injury, a permanent injury or death

Each of the hazards that have been identified should be assigned to one of these risk categories

Step 3: Identify who could be harmed by each of these risks – is the risk only likely to affect keepers, or could visitors also be harmed?

Step 4: Find ways to minimise the risks. This could be by removing the risk entirely, changing working practices so that different less risky procedures are used, or by ensuring that people wear suitable personal protective equipment.

One of the key ways to reduce risk is to ensure that staff are fully trained in all aspects of their role, including safety.

It is also important to record accidents if and when they happen – this way lessons can be learnt and steps taken to prevent the same problems happening again.

7. Further Reading

Captive Care and Husbandry Guidelines

EAZA Best Practice Guidelines Cheetah (*Acinonyx jubatus*) https://www.eaza.net/assets/Uploads/CCC/EAZA-Best-Practice-Guidelines-FINAL-SM.pdf

AZA Husbandry Manual for the Cheetah *Acinonyx jubatus*

Body Condition Scoring

Dierenfeld E, Fuller L, Meeks K. Development of a standardized body condition score of cheetahs (Acinonyx jubatus). In: Proceedings of the 7th Conference on Zoo and Wildlife Nutrifion 2007.

Reppert A, Treiber K, Ward A. Body condition scoring in cheetah (Acinonyx jubatus): advancements in methodology and visual tools for assessment. Proc Nut Adv G. 2011:40-8.

Veterinary Information

Anaesthesia

Woc Colburn, A. M., Murray, S., Hayek, L.-A. C., Marker, L. & Sanchez, C. R. CARDIORESPIRATORY EFFECTS OF DEXMEDETOMIDINE-BUTORPHANOL-MIDAZOLAM (DBM): A FULLY REVERSIBLE ANESTHETIC PROTOCOL IN CAPTIVE AND SEMI–FREE-RANGING CHEETAHS. J. Zoo Wildl. Med. 48, 40–47 (2017).

Euthanasia

American Association of Zoo Veterinarians (AAZV) Guidelines for Euthanasia of Nondomestic Animals (2006)

Leary, S. L. et al. AVMA guidelines for the euthanasia of animals: 2013 edition. in (American Veterinary Medical Association Schaumburg, IL, 2013).

Flu

Crossley, B. et al. Pandemic (H1N1) 2009 in Captive Cheetah. Emerg. Infect. Dis. 18, 315–317 (2012).

Gastric and Nutrition

Chesney, R. W. & Hedberg, G. Metabolic bone disease in lion cubs at the London Zoo in 1889: the original animal model of rickets. J. Biomed. Sci. 17, S36 (2010).

Citino, S. B. & Munson, L. EFFICACY AND LONG-TERM OUTCOME OF GASTRITIS THERAPY IN CHEETAHS (ACINONYX JUBATUS). J. Zoo Wildl. Med. 36, 401–416 (2005).

Whitehouse-Tedd, K. M., Lefebvre, S. L. & Janssens, G. P. J. Dietary Factors Associated with Faecal Consistency and Other Indicators of Gastrointestinal Health in the Captive Cheetah (Acinonyx jubatus). PLOS ONE 10, e0120903 (2015).

Herpes

Flacke, G. L., Schmidt-Küntzel, A. & Marker, L. TREATMENT OF CHRONIC HERPESVIRAL DERMATITIS IN A CAPTIVE CHEETAH (ACINONYX JUBATUS) IN NAMIBIA. J. Zoo Wildl. Med. 46, 641–646 (2015).

Witte, C. L. et al. DEVELOPMENT OF A CASE DEFINITION FOR CLINICAL FELINE HERPESVIRUS INFECTION IN CHEETAHS (ACINONYX JUBATUS) HOUSED IN ZOOS. J. Zoo Wildl. Med. 44, 634–644 (2013).

Witte, C. L. et al. Epidemiology of clinical feline herpesvirus infection in zoo-housed cheetahs (Acinonyx jubatus). J. Am. Vet. Med. Assoc. 251, 946–956 (2017).