



Generic Rearing Protocol for Birds of Prey.

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Brooding

Newly hatched chicks are placed in a still air incubator or brooder running at no lower than 95.0 f. This temperature can be reduced by 1 degree a day until the secondary down comes through and young birds are able to thermo regulate, or are returned to parents or foster parents.

Newly hatched birds are put in containers that are designed to hold legs neatly tucked under the birds. Splayed legs can occur in a matter of one hour or less if birds are kept on the wrong surface. A plastic ½ gallon ice-cream or margarine container, with at least two inches of sand formed into a hollow with a fist and covered in two pieces of kitchen towel is ideal. This is placed in the brooder at least 24 hours before needed will provide a warm and stable nest cup for young birds. The kitchen towel can be replaced after each feed and the cup can be reformed.

If rearing a number of clutches of young raptors, it is probably easier to have several brooders at constant known temperatures and move the growing young rather than altering the temperature of one brooder. Overheating can kill very quickly, a good, calibrated thermometer should be reading the temperature close to the young at all times. A steady temperature in the brooder room makes the rearing of young much easier. It is very inadvisable have young in the same room as incubating eggs as young birds are considerably less clean than eggs and cross infection could occur.

Various brooding methods have been tried, still air incubators - although these are excellent they are only suitable for the first few days of life with all but the tiny species, or problem young. A disposable card-board box with heat lamp, washable plastic containers such as water tanks with the bottoms cut off (Parry-Jones 1984) and either overhead heat lamps or low heat plastic veterinary recovery pads underneath containers. Heated water pads ("K-Pad" - available in USA) that young can move up to or away from (Burnham 1983). We choose a still air brooder for the first few days, moving to a perspex box

with a heat lamp which young can move towards or away from depending on their requirements.

As long as care is taken to keep young as clean as possible, warm, well fed and on surfaces that will allow the correct growth, that is all that is needed.

Young that are too cold will huddle together and cry. Young that are too hot will pant, spread out away from one another and also cry, but it is different noise. Experience will soon tell the technician what is needed. Over heating is more likely to lead to weak and ill young.

With all but the smallest of species supplemental heating should not be required after 10 days if the brooder room is at 70.F (21.C) and no lower.

Containers are washed daily to remove build up of faeces.

Feeding.

More young raptors are killed by overfeeding, than probably any other cause. Unless dealing with tiny young, such as African Pygmy Falcons or other young weighing less than 10 grams at hatch, it is best to leave the first feed for at least twelve hours and more likely 24 hours with larger species and if the chick is showing no signs of hunger. Newly hatched chicks that look distended with fluid should be left without food until the stomach is flaccid and soft to the touch.

A mixed diet of finely minced or chopped meat is suitable for most species. Quail, skinned, gutted with the gizzard, feet, wings and head removed, Rabbit skinned, gutted, feet and head removed, Rats treated the same way, plus chop off the tail. Day old chicks, skinned, and mice skinned. All these put through a commercial mincer make excellent food for young raptors. The bones will be utilised by all but the youngest of chicks and these can be pushed to one side when feeding for the first couple of days. A probiotic supplement giving the right bacteria and microbes should be added to the feeds for several days for young chicks. 'Avipro Paediatric' made by Vetark is specially designed for this purpose and contains a starter kit for newly hatched birds at their first feed. Too high a protein diet and too much food, particularly for larger owls, can cause problems in some of the large fast growing raptors.

Using forceps tiny pieces of minced food can be offered to the chick, which should raise its head to accept feeding. Falcons need food to be placed in the beak, often with the upper palate being touched by the food before they will close their beaks and swallow. The rest of the diurnal raptors, with the exception of the New World vultures will respond to the food being brought in slowly towards the beak at about their eye level and will then attempt to snatch the food from the forceps. Owls need to have the side of their beaks touched and they will then readily take food. Young chicks are pretty inept to start with, missing the food, or falling over, however they soon get strong enough to take food more easily. The New World vultures naturally feed by putting their beaks inside the parents' beak and receiving regurgitated food. By gently encircling

the beak with finger and thumb the adults beak can be represented and then the young birds will take food from forceps touching the side of the beak.

Some Vultures may do better if a digestive enzyme is added to the food as well as a paediatric probiotic. Dampening the food for all young raptors makes feeding a little easier and keeps young birds from getting dehydrated. Apart from the smallest of young (the under 10gms hatch weight) four feeds per day is sufficient to give good weight gain and growth rate. To keep a check on the health and growth of young birds they can be weighed regularly. Weighing before and after every feed gives a good idea of food intake and growth.

Rings

Once young birds have reached ten to fourteen days old, most of them can be ringed. Although there is no legal requirement for many species, it is advisable to ring all but the New World Vultures, as this gives an external way of marking and keeping track of captive birds. Closed rings can be obtained from good commercial producers and they know most of the correct sizes required. It is vital to use the correct ring and size. Much damage can be done to the leg of a bird with a poorly fitting ring. It is a legal requirement to ring some species and the rings for these are obtained from the Department of the Environment Transport and the Regions.

See **Legislation 2.7**.

Casting Materials

Casting materials to allow the young bird to form pellets for regurgitation can be introduced to the food at about ten days to two weeks, for small to medium sized birds and up to one month for larger ones. Just stop skinning the day old chicks and that will give sufficient. Casting material is not vital in the early stages, in fact the birds could probably do without it until feathering up. The adult birds very carefully select the pieces of food they think the young can manage and usually fur or feather is thrown aside or eaten by the parent. It **is** vital to feed the bones and minerals that come with mincing whole yet gutted and skinned animals. Small birds such as merlins do better without casting material until they are feathering up.

Supplements.

Added vitamins and calcium can be very useful. Many collections may behave to use frozen food items and some of the goodness is lost in this process. A good multi vitamin supplement should be added in powder form on the food - do not exceed recommend doses. Calcium has to be used carefully; sterilised bone flour can cause imbalances in phosphates. The most highly recommended is Nutrobal which seems to work well in raptors without causing any problems if used as directed.

Water

Young raptors do not drink until they have left the nest and can reach water for themselves; however they not only obtain water from the meat they eat, but

the parents drip an oral secretion onto the food while feeding the young. As stated earlier, by damping or dunking the food prior to feeding the chicks, with either water or a ringer's solution this will stop dehydration and assist growth of young.

Age of returning young to parents or foster parents

Once young birds have reached ten to twelve days, are looking healthy, eating well and have been ringed, they should wherever possible be returned to parents or foster parents.

If this is not possible then all through the rearing the young should have as little as possible in the way of contact and handling from the humans caring for them. Puppets shaped to the colour and build of the adult can be used to assist in avoiding any severe imprinting on keepers. Most raptor species will learn to pick up food for themselves at about 10 days old. Encourage any young that have to be totally hand reared to learn to feed themselves as quickly as possible, but spend as little time as possible exposing them to human interference.

If the young are going to be put back, not so much care is required to avoid human contact, as it will soon be forgotten once the birds are being reared by parents. If returning the young is left much longer than 14 days not only will there be more of a chance of the young retaining some human imprinting but they will be mobile enough to try to get out of the nest in fear when they first come face to face with their parents.

First time parents are an unknown quantity and keepers should always make sure that they have plenty of time set aside on the day chosen to return young. Birds will have to be watched for several hours, possibly for one or two days to check that all is well. Some birds are really difficult to monitor as they will not do anything while under observation, these birds can have to be watched from a distance with binoculars.

Two keepers, both wearing a falconry type glove should be available to return the young. The young ready to be returned should be placed in a bowl for ease of carrying to the aviary. Returning the young is much the same as taking eggs. One person fends off the female with the net while the other removes the eggs and replaces them with the young. If the parent birds have been sitting on dummy eggs, these need not be handled that carefully, however if the birds have recycled and are sitting on fertile second clutches, great care must be taken in removing the eggs, following the previous egg collection procedure.

A moment standing still by the nest ledge to watch the first reaction of the parent birds is advisable. If you are really lucky, the female will immediately come up to the nest - watch for her 'balling' her feet - and may even cover the young straight away. The enclosure should still be observed as the reaction of the male has to be assessed before keepers can relax. If the female takes to the young it is rare for the male to cause problems, however it can happen and should a young bird be picked up or grabbed by either of the adults, keepers

should run towards the enclosure and bang loudly on the side while someone goes in to rescue the youngster.

What more often happens is that the two adults will sit away from the nest watching the new young and probably wondering what has happened to their eggs. The keeper can only watch and wait to see if either parent will go down to the young. It can be a good idea to leave fresh food on the side of the nest to encourage feeding.

Eventually most birds will show some sign of reaction. It is rare for birds to completely ignore the young and refuse to either to sit or try to feed the young. If that does happen a decision has to be taken whether or not to leave the young in the nest over night. This will probably depend on the weather conditions, if it is very warm and the keeper can be about at first light to monitor the enclosure, then the young can be left. One day without food will not harm the young at this stage and sometimes the calling they do if they get a little cold or hungry will bring a favourable response from the parents. More than two days probably means that a different approach will be needed the following season and young will have to be removed and placed elsewhere.

A bad reaction from a parent does not necessarily mean that they will never be a good parent - it just takes more time and more playing around to get things just right for that individual pair. Once a pair has made it as successful parents it makes things so much easier that the effort put into achieving that is well worth it.

Don't forget that if the eggs removed are the second clutch they should be swiftly and carefully taken to the incubators, weighed and measured if that has not already been done, and placed into a clean incubator safely while others watch and safeguard the returning of the young.

Foster Parents.

Most Buteos will rear any other species of buzzard, hawk, eagle, or other similar species. Most falcons will rear any falcon, although species size should be taken into consideration. It is unwise to ask very large species to rear the young of very small, even though related species. Most owls will rear most species of owl, but the size of the species has to be reasonably similar to the parent bird. If keepers stick to using falcons for falcons and mixing buteos, accipiters, and the eagles, for rearing any of those families it has been proved to work, similarly owls have been excellent foster parents. Don't forget that some young from eagles will indulge in cainism if not treated in the correct manner

Some species really need their own kind as parents or fosters. Common Caracaras have a fairly bare face and once full, a very bare crop, this is a little too different for only distantly related fosters. It also means that what might be termed 'odd' species may not be able to be mixed with the young of the more ordinary species for the same reasons.

Monitoring

Once young are successfully accepted by parents or fosters they should be monitored to check there are no problems. On rare occasions chicks in stick nests have got a twig caught under the ID ring - this does not normally cause problems if see early but can damage a bird permanently if left unnoticed. In clutches of two or more, one young may just not be doing as well, removing either the smaller chick, or the largest and hand feeding it for a few days should solve the problem, the chick can then be returned to the nest.

Great care should be taken entering aviaries or nest areas once the chicks are close to flying. Young birds bailing out of the nest early can injure themselves.