

# Identification and Care of Chicks, Nestlings and Fledglings

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# Caring for Chicks & Nestlings

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## Equipment and food

Housing	Food	Utensils
Ice cream containers Margarine pots Shoe box or wine cask Paper towel Toilet Tissue Newspaper	Wombaroo Insectivore, Lorikeet mix, Granivore, Avione hand rearing food Vetafarm Neocare hand-rearing food Rehydration fluid, Polyaid, Egg and biscuit mix Mealworms Budgie or canary seed Chicken/turkey starter crumbles	Syringes with plastic tubing Droppers Forceps Digital thermometer Heating pad Hot water bottle 25/40 watt coloured globes Scales Crop feeding needle

## The rescue

When sent on a young bird rescue, it is advisable to take a variety of containers, such as margarine and /or ice cream containers, warmed hot water bottle, cardboard box or pet carriers, as well as some cloth for 'nest' padding. People have different definitions for 'small' and 'large' birds.

Many calls for baby birds have in fact been for something quite different so be prepared. A baby emu turned out to be a plover, a baby pelican was an unfeathered Indian mynah, a sea eagle was a starling and so on! Try to identify the bird as soon as possible.

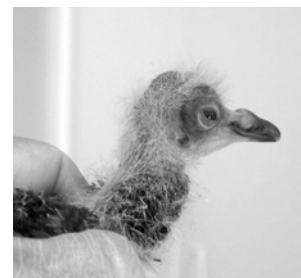
### Clues to identification are:

- Where it was found?
- What type of nest, if available?
- What is the colour inside the mouth?
- What does the beak look like?
- What is the colour of the skin, down or feathers?
- What sound does it make?
- What size is it?

### Things to check are:

- Has the chick been blown or washed out of the nest
- Is the chick injured
- Does it have a large parasite load
- Has it been displaced by a cuckoo
- Has it been taken from the nest by a currawong and dropped
- Have the parent birds been injured or killed

If the chick is injured or very cold it should be taken into care and monitored. Take note at the rescue site of exactly where the chick was found, whether there is a nest around, if the parent birds are around and are predators such as cats or currawongs there. If the chick recovers well it might be possible to take it back to its parents. The following steps should be taken.



## Reuniting with parents or adoption

Every year the lives of many young birds are upset by people who mean only to help. Fledglings leave the nest some time before they are able to fly. They are left for a time by the parents while they search for food. At this time the young birds sit quietly waiting, apparently abandoned. It is now that well meaning people find them and by mistake think they need help. Always ensure that rescue is necessary. These members of the public often can help identify reasons for the chick displacement. The birds most commonly brought to us unnecessarily are noisy miners and magpies that are just fledged and plover chicks that have just jumped from a high nest site.

Returning a nestling to its parents requires either making a substitute nest or replacing the young in its original nest. An artificial nest can be made out of a flower pot, ice cream container or similar. Always make sure there is a drainage hole in the bottom.

A chick that is perching can either be returned to its parents or in the case of many Australian birds may be introduced to a substitute family. Birds that breed communally can often be persuaded to take and care for unrelated young. If you have orphaned kookaburras, noisy miners or magpies that are attracting the interest of your local group it might be possible to encourage them to come down, feed and in time take the fledgling off with them. Other species that have been reported adopting orphans are peewees, wrens, currawongs, lorikeets, rosellas and silver eyes. Never try to put unrelated seagull chicks in a nest in the wild - they will be killed instantly.

Don't feed the chick before returning it as it is important that it beg for food and screech and scream to attract its parent's attention. Monitor from a distance to make sure that the parents recognise the chick and go down to feed it. If the chick is not claimed by the birds within two hours it must be taken into permanent care or maybe returned a couple of days later to see if it is subsequently accepted.

## Chick Definitions

### Altricial young

**Hatchlings** are young between the ages of 0-7 days, or until the eyes begin to open. Altricial young are helpless, fragile, bottom-heavy and unable to walk. They rely on the parents totally for food and warmth. These chicks require an ambient temperature of 33-37C, and relative humidity of 50-60%. Hatchlings should be fed a diet consisting of more fluid than solids.

**Nestlings:** are chicks still in the nest, with open eyes and quills. Chicks should be fed a slightly higher proportion of solids than hatchlings. After about 10-12 days, the nestlings may be able to thermoregulate.

**Fledglings:** are young birds that have full length primaries. When nestlings approach the fledgling stage they will become more active. They may start hopping around or may instantly fly. At this stage they should be transferred to a lined cocky cage or small aviary. At first they should be still kept indoors, then after a short time the young should be moved to a sheltered outdoor aviary.

### Precocial young

**Chicks:** are the young of precocial birds. They are able to see from the moment they hatch, are covered with down and many are able to thermoregulate at this stage. They imitate the parents, and some start self-feeding straight away, others are fed by the parent for some time as they learn. They snuggle up to the parent at night and in inclement weather for warmth and protection.

## Reasons for chicks coming into care

### Blood sucking insects

Nests accumulate a number of parasites - fleas, lice, fly larvae and mites - which can be discarded with the nests, but re-used nests, particularly nest hollows, are likely to carry parasites from previous years.

The nests of swallows, martins and swifts are notorious amongst bird nests for their high ectoparasite populations. Two entire families of specialist lice-like flies feed on the bird's blood, whilst their maggots feed on skin fragments and chick's blood. Unfortunately the more bugs in a nest the more weight a nestling loses each night when the bugs bite. Sickly chicks may be kicked out of the nest by the parents.

### Cold

Cold is another killer. Both altricial and precocial birds need to be kept warm for several days after hatching. Swifts and swallows must leave their chicks alone in the nest in order to maximise their food-collecting abilities. Their chicks, sheltered from the rain in a semi-enclosed nest, are none the less prone to chilling. Swift chicks, therefore, conserve fat reserves by remaining torpid until their parents return. Whereas most chicks would die without daily feeding, swifts can survive for a week or longer. ('The Private Life of Birds')

Hole nesters like kingfishers and kookaburras, are at an advantage where chilling is concerned but they can accidentally fall from the nest doorway as they back up to the light to defecate. These young can usually be safely returned to the nest hole to rejoin their siblings. However, if they are cold or slightly injured they can be kept in care for a short time before returning them to their parents.



### Natural hazards

Leaving the nest is the most hazardous step for a young bird, and for some this can be a rather premature but nevertheless essential event. Wood ducks nest in high tree hollows, but almost immediately after hatching the chicks are forced to follow their mother down to the forest floor. They bounce on the leaf litter at the bottom and, although there are some casualties, most chicks make it and run away with mother.

In the city, plovers often nest on the roofs of buildings, the chicks are also forced to follow the parent to the ground, often onto the concrete pathway or parking lot below. Some make it and run off with the parent but others injure themselves and are rescued by caring people.

Some just get left behind in the rush to find cover and if the family is tracked they can be reunited. At this stage there is a lot of elastic cartilage in the skeleton instead of bone and the young appear to hit the ground and bounce, without damage.

A Shearwater chick is hatched in a deep dark hole in the ground with no siblings for company. The parents spend their days foraging for fish which on their return they regurgitate into the chick's mouth. When the chick is one huge ball of fat the parents then go off and leave it alone. Instinct or frustration tells the chick to crawl out of the burrow. Everything looks OK out there and with a flap of the wings the young bird takes off and heads for Alaska! No wonder, therefore that in autumn we find some of these juveniles on our beaches, exhausted, bewildered or just plain 'lost'. A few days of care are generally sufficient to see them on their way, refreshed and confident.

## Cuckoos

Brood parasites, such as cuckoos have a hollowed back. When the young of the host bird touch the cuckoo's back it rears up against the side of the nest and heaves it out. Since the host parents are unable to retrieve it, the tiny, naked, blind nestlings die, or are brought to a carer to rear.



## Starvation

Some birds, such as herons lay eggs at intervals. They hatch at intervals and if there is a shortage of food available the younger ones are the last to be fed. Sometimes the parents leave the nest with the larger birds, leaving the smallest to look after itself. These are often picked up on the ground weak and thin. They can be cared for, and in the case of the White-faced Heron, returned to the parents should they return in a week or two when the first young are able to care for themselves.



## Predation

Precocial chicks, whilst able to feed themselves, are still dependent on their parents for defence. The first line of defence is the alarm call. On hearing this, chicks freeze, making them less obvious to predators. Unfortunately dogs, cats, foxes and cars are not anticipated. The chick may be told to freeze on the approach of a human being. This human, being well meaning, sees the chick all alone and picks it up unnecessarily to care for it.

If a nest full of young birds approaching fledgling stage are disturbed by a predator they will leave the nest even earlier than normal, scattering into whatever cover is available, even though unable to fly. This desperate reaction may allow some to survive. This, and the earliest stages of flight when fledgling, will usually explain why seemingly helpless young birds are sometimes found.

A substitute nest can often be made from an ice-cream container, and the young put back into the tree in a sheltered spot.

The young of open nesting birds are often preyed upon by larger meat eaters such as kookaburras, magpies and currawongs. They have been known to drop their prey after being hassled by the distraught parents. A sign in this instance is often bruising on the neck of the dropped chick.



## Humans

Seagulls chicks are commonly brought in around Christmas time. The parents lay their eggs on boats and come holiday time people find them and they intend going away on holidays. Some are brought into WIRES, some are just thrown overboard, to be fished out and brought to us by caring people.

## First Aid

Hopefully, your homeless or orphaned chick will not arrive injured. Some chicks hardly seem to notice that they have been through any trauma at all and are ready to be fed. Others may be suffering from some degree of shock or stress, and may be cold. A chick will normally feel quite hot as its body temperature can be five degrees hotter than a human's. If it is cold, then your first priority will be to put it in a warm, dark box in a quiet place to recover and get its body temperature back to normal. Don't feed the chick until you are sure it is warm and stable.

Rehydration - a chick coming into care will be suffering from some degree of dehydration. Dip its beak into some warm water or alternatively dribble it onto the outside of the beak and wait for it to swallow it. One teaspoon of glucose in a cup of warm water is acceptable, but there are also special products available such as Vetafarm "Spark". A dehydrated bird will have wrinkled skin. In severe cases subcutaneous fluids can be injected under the skin by a very experienced carer or veterinarian.



## Altricial Nestling Housing

Unfeathered birds need a temperature between 33C and 37C. This would need to be gradually lowered as the feathers grow. You will need to estimate the maturity of your bird and the temperature it may require. The nest will be placed in a hospital cage or brooder, and the environment should be kept humid. This can be done by placing a dish of water in the brooder. It will be easier to feed the bird if the accommodation has a door that opens from the top.



**Cup nesting birds** can be housed in a lined dish or ice cream container depending on the bird's size. Bunch up the material (paper towelling or toilet tissue) so that the nestling is cushioned on all sides, not floundering loosely. The bird can be covered with a light cloth to simulate the mother sitting on it. The container should be of such a size that the nestlings can place their behinds over the edge to deposit the neatly packaged faecal sac.

**Hole nesting birds** however will need a different arrangement. A shoe box or wine cask with an opening at the end is suitable. This can be lined at the inner end with tissues, and the nestling will move backwards towards the hole and defecate through it. Hole nesters include lorikeets, kookaburras, kingfishers and galahs.

How to recognise the correct temperature?

- Does the chick feel hot or cold? A bird's body temperature is 42C. As this is higher than a human body temperature the chick should feel warm to the touch.
- If it is restless and the wings are extended, it is too hot. It may also breathe with its mouth open wide and neck stretched to attempt to cool itself.
- If it is lethargic and the crop isn't emptying, it may either be too cold, or very sick.

The small bird species may require a higher temperature than a larger species, as the small birds lose body heat much faster. Chicks will expire faster if overheated than if under-heated, so start with a lower temperature and increase it until the optimum temperature is reached.



If you are using a light bulb as a source of heat, it is preferable to use coloured 25 or 40 watt bulbs rather than white or clear ones. To increase or decrease the temperature, adjust the height of the bulb or install a dimmer switch. If you are using a pet heat pad, you may need to add additional towels on top of the pad to ensure the chick isn't too hot. The chicks are then placed in their container on top of the covered heat pad.



A thermometer placed close to the bird's body will enable you to check that the temperature is right at a glance.

All birds need some sunlight in order to produce vitamin D which is essential for the absorption of calcium. Ideally the bird should be situated where it receives some sunlight each day (not through glass). If you are unable to do this, "full spectrum" lighting is the next best thing this can be obtained from aquarium shops. Alternatively, Vitafarm 'Calcivet Liquid Calcium and Vitamin D3 Supplement for Birds' is specially formulated as a supplement providing calcium, magnesium and Vitamin D3 to be used in drinking water, sprinkled over food or directly into the crop. Nestlings of hollow-nesting birds, however, appear to be able to manufacture calcium without sunlight. It is still a mystery how they do so. As soon as they fledge and leave the nest hollow they must be given sunlight or vitamin D as with all other fledglings.

## **Precocial chick housing**

An aquarium or cardboard box is ideal as it can be heated and kept covered. Temperature is important, and initially it should be about 32°C in part of the enclosed aquarium or box. This temperature can gradually be lowered, as the feathers grow, until it is equivalent to the outside temperature. A desk lamp with a 40 watt globe can be suspended over one end of the box or aquarium and a heat pad can also be placed under the warmed section. They must have enough room to get away from the heat if they become too hot. The little birds themselves will tell you how they feel. Their behaviour indicates the correctness of the temperature: if vigorously pursuing their routine activities, they are perfectly comfortable; if huddled under the light and peeping distressfully, they are too cold; if pressed as far as possible from the source of the heat and panting they are too hot.

Precocial birds are stressed by alien sights and noises and are best caged in quiet areas, away from other animals and work areas. A visual barrier, such as a towel, should be placed over the front of the cage, and a feather duster taped to the corner of the box is a fantastic de-stresser..

Flooring Cleanliness is extremely important in order to keep the birds' feet in good condition as they tend to walk through the food, and in the case of ducklings their faeces are prolific and liquid. Young plovers do well with a somewhat rough substrate such as astroturf. If their substrate is smooth, such as newspaper, they have difficulty standing and may develop splayed legs. Precocial chicks can also be housed on polystyrene foam (such as that sold by hardware shops for ironing boards), it is absorbent, it is not slippery, and it is easy to wash and dries very quickly. Long-legged waders such as herons also do well on astroturf. Water should be in a non-slippery shallow dish. Ducklings, especially Black Ducklings, can get inhalation pneumonia if the food dish is too deep.



Some birds require more vitamin D than others. They should be housed under a full spectrum lamp, or given access to full sunlight (not through glass) for at least 4 hours a day. Vitamin D3 must otherwise be added to their food.



**Juveniles** can be housed as above but outside on a grassy area with added insect-laden leaf litter during the warm part of the day. The best type of housing is a rabbit hutch type run with three sides protected. A baby's playpen wrapped in shade cloth and with a wire mesh top is also suitable. They must have a box or bunches of leaves in the corner for protection should they become afraid. When they panic they can pile up in a corner with consequent suffocation. The warmth at night can gradually be reduced as the chicks become acclimatised.



## Duckling Housing

**Ducklings**, will initially require a box that is partially covered and later they should be moved to a larger container with a sheltered area, for example a rabbit hutch or large box enclosed on all four sides in which they will feel secure. If they can see out they often stress and die as they frantically search for "mum". The top must be covered to prevent them jumping out. A lamp with 40W red coloured bulb should be suspended over one end of the box to provide warmth, with soft bedding placed underneath it. Bedding must be replaced and cleaned 2 or 3 times a day. A mop head placed in the warm corner of the box will give them a secure area in which to hide should they become afraid. If a duckling has to be raised alone, a mirror will give it a sense of companionship and reduce the stress that it would otherwise feel.

These two different methods for hand rearing ducklings is taken from the **Brown Teal Recovery Group** husbandry manual, Northland, NZ.

Wet rearing Advantages	Dry rearing Disadvantages
Ducklings are waterproofed before being moved outdoors, with good feather condition	Ducklings are not water-proofed until after being moved outdoors, with good feather condition taking longer to achieve.
Ducklings can be moved from the confined indoor brooder to an outdoor pen at an earlier age (3 weeks old).	Ducklings are moved from the confined indoor brooder to an outdoor pen at a later age (up to 5 weeks old).
Ducklings, once water-proofed, are active preeners, staying clean and in good condition.	Ducklings can get quite dirty (down matted with faeces) and have no water available for preening.
Ducklings usually have clean feet and a more natural foot/leg muscle development	Ducklings can get dry (sometimes cracked) feet which can get caked in dried faeces and food.
Ducklings can come off heat at an earlier age outdoors as the risk of chilling is less.	Ducklings require a heat source outdoors until fully water-proofed.
Behaviour is enriched both in and outdoors.	Less behavioural enrichment in the indoor brooder



Preening activity is increased	facility.
<b>Disadvantages</b>	<b>Advantages</b>
Ducklings require more initial observation when first introduced to water as downies.	Ducklings are not as vulnerable to chilling in the early stages unless very dirty.
Indoor brooder design must accommodate certain important modifications.	Indoor brooder design is of a relatively simple design.

Dry method: ducklings are reared in a dry indoor brooder, with no access to water to bathe in until feathering is well underway, at which point birds are moved outdoors and introduced to water.

Wet method: ducklings are gradually introduced to water in the brooder at a relatively early age (when still downy) and as a consequence are fully water-proofed when moved outdoors.

Bathing is required to activate the preen gland: delaying access to water causes a delay in water-proofing and can cause plumage problems when ducklings are older. The wet method has some associated risks, but these can be overcome with careful brooder design and techniques.

## Initial Feeding and Rehydrating

There are whole books written on the subject, and there are numerous diets and feeding methods used by rehabilitators. Some points, however, that are essential are a high protein content (26% to 28%), a calcium phosphorus ratio of 2:1 and a balance of vitamins designed specifically for birds.



Very young birds need to be kept warm when being fed. Never feed a cold lifeless bird. Always warm it up first. Warm your hands and keep the chick wrapped - a facial tissue will suffice. Have the food at body temperature. Never feed a dehydrated bird, rehydrate it first. One teaspoon of glucose in a cup of warm water is acceptable, but there are special products available such as Vetafarm "Spark". A dehydrated bird will

have wrinkled skin.



As a general rule, feed small meals often. After rehydration, newly hatched nestlings should be fed at least every half hour, 14 hours a day. Partially feathered young of good weight can be fed every hour or two. The exception is for parrots and lorikeets that should be fed only when the crop is nearly empty. Baby birds are susceptible to bacterial and fungal infections, so maintain strict hygiene.

Weigh daily to monitor weight gain and therefore indicate adequacy of diet.

## Feeding

### Parrots and lorikeets

Birds with crops, lorikeets, rosellas and cockatoos for example should be fed Vetafarm Hand Rearing Food, Avione hand rearing food, or Wombaroo Granivore and only when the crop has emptied. A nicely rounded crop should empty within 3 hours of feeding. It is important not to top-up a half empty crop as this can cause sour crop which can occur when the food in the crop begins to ferment and bacteria develop. The temperature of the food is critical - it



should be about 40C, or the same as the bird's body temperature. Quantity will be about 20% of the bird's body weight a day. As the bird grows the mixture should be thickened gradually. These birds can be crop-fed or fed using a bent spoon, shaped to resemble the parent's beak. To feed them insert the first part of the spoon into the beak shaking it a little and allow the food to dribble into the birds beak. Soon they will begin to avidly feed.

Keep all utensils and the bird clean. Utensils must be sterilised with an antibacterial solution. Wash all spilt food off the bird with a dampened, warm cloth or cotton wool. Wipe the base of the beak forward, so as not to push food particles into the nostrils. Food left around the beak will cause bacteria to build up. Lorikeet mix must be cleaned off the feathers immediately as it will otherwise stick like glue and may have to be cut off.

### Granivores

If you are unsure what type of bird you have, and therefore what to feed it, you can generally assume that a diet high in protein will be safe. Most species of bird, whether nectivorous or granivorous feed insects to their young. The Rainbow Lorikeet is an exception, they must be crop-fed lorikeet nectar mix. An excellent starter food is a mix of equal part Wombaroo Insectivore and High Protein Baby Cereal, or Vetafarm Neocare. This should be mixed to a slurry. As it reaches fledgling stage the bird should be eating the type of food it would find in the wild - nectar, insects, seeds, fruit etc. Small seed eaters will require about 25ml food per kg body weight - 1ml for a 50gm bird or 10ml for a 500gm bird per feed.



### Seed-eating pigeons and doves



These birds are fed by placing their beak inside their parent's beak. This can be imitated by placing the food in a small container such as the cover of a lipstick tube. The bird's beak is then inserted into the mixture. Unlike all other birds pigeons can submerge the whole beak in the liquid and suck it up. Very young chicks are fed by its parent a highly nutritious substance called 'crop milk', this can be substituted in captivity by giving them one of the commercial chick rearing foods such as neocare, or granivore mix.

### Omnivores and insectivores

Young magpies, ravens or butcherbirds or insectivores like swallows, flycatchers, pardalotes, kingfishers, miners or nightjars (including tawny frogmouths) should be offered a 'meat mix' as a captive diet. This is a 50/50 mix of beef mince and either Insectivore Mix (Wombaroo) or 'Insecta-pro' (Vetafarm). To feed these birds place small food items in their mouth with tweezers, forceps or the blunt end of a toothpick (for smaller species). Food should be placed well back in the mouth when the chick gapes. This is supplemented with mealworms and insects as well as insect-covered foliage. Chicks also require 2% of the meat weight in calcium as well as 1g of avian vitamins per 200g of food. This will ensure that the chick receives the correct nutritional content that it requires to grow healthy strong bones. As a general rule, carnivorous birds may take up to 50ml/kg body weight per feed. Do not necessarily feed until begging stops; chicks may beg well past fullness. Smaller insectivores like pardalotes, wrens, spinebills and swallows are very high-energy birds and require frequent feeding (this can be as often as every half an hour).



**Precocial chicks** will in time feed themselves, but will need to be shown how initially. Because most species need a high protein starter diet and prefer to peck at red, green and yellow objects, greenfly (shaken off a plant), small earthworms or mealworms usually start chicks feeding. Commercial chick crumbles are a suitable basic diet for many species; grains (small bird seeds) and insects can be given as they grow. Also, sprinkle egg and biscuit mix and moistened Insectivore mix on the cage floor. Hills Science Diet Feline Growth is a very good high protein food for the first few weeks. Simply soak then crumble the biscuits. Turkey starter crumbles also have a high protein content and are suitable for the first few weeks, changing later to chicken starter crumbles.



Then, with a thin barbecue stick offer food to the bird and tap the floor repeatedly. After a while the chick will look and start pecking. The time taken teaching a chick to peck varies species by species. Ducklings learn very quickly whereas rails may take a week to master this activity.

Chicks of rails, crakes, swamphens or moorhens are similar in their initial requirements in care. They are all precocial and dependent mainly on their parents for protection and instruction. They eat worms, snails, spiders, tadpoles, insect larvae and seeds of aquatic plants and fallen fruits. Generally the parent will pick up edible morsels and drop them in front of the chick and this method of feeding should be imitated while in care.



### Waders and seabirds



Most fish eating birds are reluctant to eat in captivity and will initially have to be force-fed. One person can do this, but you may need someone to give you a hand when first doing so. A whole small fish must first be dipped into salted water (for seabirds) and then placed head-first down the throat of the bird. Massage the throat very gently and after feeding it 3 or 4 small fish leave the bird secure and alone or it may regurgitate the lot. This force-feeding may last only a few days, then the bird may suddenly decide to help itself. They often have a very sharp point on the tip of their bills.

## Hygiene

- Wash hands before and after feeding young chicks
- Clean the bill and surrounding skin after feeding.
- Food should be fresh, and warmed immediately before feeding.
- If reheating food in a microwave stir it thoroughly to avoid hot spots that can cause crop burn.
- Unused food should be discarded.
- Clean feeding implements immediately after use. Sterilise if the chick is unfeathered.
- Most altricial chicks will defecate over the edge of the nest. They will back up to the edge of the nest and deposit their faecal sac over its edge. If the edge of the artificial nest is too high for them to do this it is important to change the shape of the nest provided.
- Never under any circumstances leave nestlings in a nest that might have been brought with them. It is impossible for us to keep this type of construction clean.
- Older chicks start to poop over the side of the nest and can require much more attention to cleaning the nest and environment.
- Birds which nest in holes or hollows often back up to the opening of the nest box and propel their faeces as far away from the hollow as possible - this liquid waste can be propelled quite a range.
- Chicks will normally defecate immediately after being fed. Remove faeces immediately.



## How some precocial chicks are fed by their parents

### Grebe

After the young hatch, they ride on the back of one parent while the other brings food for them to eat. Periodically there is a change-over. The parent carrying the brood rises up and flaps its wings; the young tumble into the water, swim to the other parent and clamber aboard using the parent's foot as a ramp. Adult Grebes eat their feathers and feed them wet to their young.

### Coot

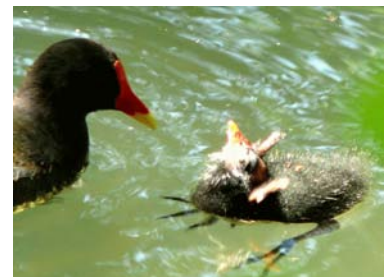
Young coots are inexperienced feeders, unable to dive until about three weeks old, and are partially dependent on their parents for food until about 7 weeks.

### Brush Turkey

After hatching, the chick struggles to the surface of the mound and goes straight into the bush to begin a solitary and independent life. It can run as soon as it leaves the mound and flies within hours.

### Quail, Rail & Crakes

As soon as the young hatch, they leave the nest to be guarded closely, brooded, and led by parents in scratching for food. In about 6 weeks they are fully feathered and about two-thirds grown, and they can fly well. From then on, parents force them to leave.



### Dusky Moorhen and Purple Swamphen

Newly hatched young are taken to a second, nursing nest over deeper water and brooded there for about three days. After that they are led on



foraging forays by one adult at a time. For the first four weeks they are fed intensively and taken back to the nursery to sleep, brooded, at night. Parental feeding stops at about nine weeks.

### **Oystercatchers**

The young leave the nest within 1-3 days of hatching but are still fed by the parents for several weeks. They are defended by elaborate injury-feigning displays. Young typically, run hide they press themselves flat on the ground, legs tucked forward under their body and head stretched out.

### **Bush Thick-knee**

Young hatch together and can walk in a few hours. Parents teach them to feed by dropping food in front of them, and will carry them off under their wings if danger threatens. To shelter



they walk up to and stand on their parent's feet; to hide they press themselves flat on the ground, legs tucked forward under their body and head stretched out.

### **Unusual food soliciting behaviour**



Begging behaviour varies with different species - the figbird shivers uncontrollably, the firetail turns its head inside out.

## **How to get young birds to gape**



Baby birds respond in different ways to the arrival of their parents at the nest. In some species, the movement of the nest itself is the stimulus, and if you tap the edge of the nest you might get an instantly open mouth waiting to be filled. If this doesn't happen straight away try variations, such as tapping hard or more softly, on the nest or beside it.



If nest tapping doesn't work try gently touching the fleshy sides of the beak (the flanges). This visible and often highly coloured area of the chick's mouth serves to direct the parent bird's attention to its offspring, and gradually shrinks as the chick gets older and less dependent.

If you still don't get a gaping response from the chick, experiment with altering light and shade. The chick may well gape when you place something between it and the source of light. It is responding to what it thinks is its parent's shadow.

Some chicks will not gape at all until they hear their parents returning to the nest and calling them, and this is where you can experiment with various calls.

If all fails, then you might have to resort to opening the chick's mouth and very gently putting food into it. Never crop feed a tawny chick as they go straight to insects as soon as they are hatched.



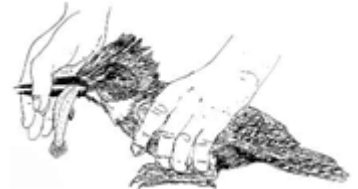
# Feeding methods for nestlings and chicks

## Stick feeding

Small insect-eaters such as **silveryeyes**, **wrens** etc. - put tiny amounts of meat mix onto the end of a toothpick. Feed tiny amounts often.

**Noisy miners** are insect eaters and nectivores. They are fed insects by their parents when young. Feed on end of blunted skewer or with tweezers.

Magpies, currawongs, cuckoo-shrike, kookaburra, koel, tawny frogmouths - place a ball of meat mixture on the end of a stick, or held with tweezers. Dip in water and deposit at the back of the bird's mouth.



## Bare hands method

Some birds can be difficult to encourage to open their beaks, kookaburras, herons, waterbirds and seabirds are very often difficult. In this case the beak should be prised open close to the base of the beak and the wetted food placed behind the tongue and past the trachea. If the head is held upright for a short time this will encourage the bird to swallow and not spit out the unfamiliar food.

## Syringe feeding

This is often necessary for chicks whose parents regurgitate food for their young, such as galahs, lorikeets, rosellas, cockatoos. Care must be taken not to overfill the crop as food will then be brought up and may be inhaled into the windpipe. This can be fatal.

Very sick or debilitated birds that cannot be fed in any other way, can be crop fed but it is essential that the feeder is familiar with the anatomy of the bird's mouth as it is critical that no food is allowed to enter the trachea (windpipe) either while feeding or as a result of over-feeding.

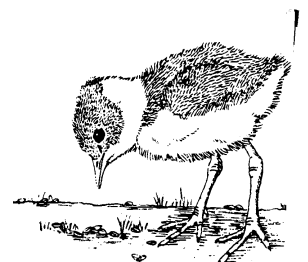


## Spoon feeding

Juvenile cockatoos, rosellas, lorikeets and galahs will eat from a suitable sized spoon bent up at the sides to resemble the parent's beak. The warm 'porridge' is then spooned into the bird's beak. This can be a very messy business and the beak and head must be thoroughly cleaned after feeding to ensure the feathers are not damaged and bacteria allowed to develop.

## Self feeding

Ducks and plovers may need encouragement to start pecking. One method is to put food onto a shiny surface of tinfoil then tap the foil to make the food move, or wait for the chick to walk on it and disturb the food themselves. A thin layer of leaf litter can be placed on the floor of the container and tiny insects and mealworms placed on it. You can also 'play' with the food yourself picking it up and dropping it in front of the chick.



## Imprinting

Any young chick that is hand-reared alone will to some extent become imprinted on the carer. This might not be immediately obvious to the carer but on release its conspecifics will notice the difference and may shun it. Research has found that these human imprinted birds seldom breed in the wild. All its social behaviours will be misdirected towards people. When feeding chicks, therefore, try to do so in a way that the bird does not see you and above all avoid eye contact. The less handling that the bird has the better. Do not keep chicks that need frequent feeding in the kitchen even though it might be convenient to you.

It is vital, therefore, that a chick coming into care be buddied with others of its own kind immediately. If this is impossible, a mirror in the cage might help it to recognise others of its species. When they fledge they should be with a group in the aviary.



## Stress

Even nestling and fledgling birds can be affected by stress. The more obvious signs of stress are fluffing-up their feathers or tucking their head under the wing. Appropriate food, shelter and comfort will decrease stress, which in turn, may increase their rates of recovery and release.

**Nestlings** feel secure and therefore less stressed if the nest size and shape is appropriate for the species. The artificial nest for cup nesting birds must be neither too high as they must be able to raise their rumps over the edge to defecate, nor too wide, as they will flail around, their wings will droop and their legs splay out on either side of their bodies. The nest material should not be too smooth. The nest should be lined with several layers of soft tissues and when the birds are placed in the nest, the tissues should fold over them, giving them a sense of security.

With **juveniles**, the housing should be lined with shade cloth and face the outdoors, with a cover to insulate them from human sights and sounds. Whenever possible all husbandry tasks, such as weighing, watering, cleaning and medicating should be done once a day at the one time. Arboreal birds (especially kingfishers) should be housed in enclosures that are at head height and ground dwelling ones lower down.

Cages should have an area where the birds can hide when they feel threatened - nest boxes or tree hollows for cavity nesters or perches placed as high as possible in the cage, with some leafy branches for shelter.

## Release

A common mistake is to keep birds too long, and in some species they regress back to "baby" behaviour and lose interest in feeding themselves. A perfect example of this are Swallows. If kept for longer than 16-21 days they do downhill rapidly. A general rule of thumb for altricial nestlings is to release them 5-6 weeks from the time of first perching. This however is different for birds like Magpies which stay with the parents for some months.



Precocial birds are generally ready for release when they have full plumage and are able to take-off from the ground and fly.

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