

# Liberty Wildlife Medical Services

Medical Services  
Training Program

• Section Four •

Assessment

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## **Introduction to Assessment**

Assessment is the process by which we determine an animal's condition and decide what action to take.

There are many factors to be considered in assessing an animal. How much handling can the animal tolerate? What is the priority of treatment? Should food and water be offered? All of these are important questions that must be answered to properly assess a new animal. There is much to learn! Let's begin.

## **Medical Abbreviations**

New wildlife must be checked in upon and there are many abbreviations you will use in your observations.

### **Common medical abbreviations**

BAR	Bright, alert, and responsive
CNS	Central nervous system
Df/Dx	Differential diagnosis
Dx	Diagnosis
DOA	Dead on arrival
FOG	Found on ground
Fx	Fracture
g	Gram
gm	Alternative for gram
HBC	Hit by car
H <sub>2</sub> O	Water
Hx	History
Lat	Lateral (x-ray position)
NPO	Nothing per os (nothing by mouth-no food or water)
NSF	No significant findings
PLR	Pupillary light response
PO	Per os (by mouth)
PRN	As needed
PTS	Put to sleep
Rads	Radiographs (x-rays)
Re✓	Re-check
R/O	Rule out
Rx	Medications
Sx	Surgery
Tx	Treatment
V/D	Ventral/Dorsal (x-ray position)
w/ or c	with
w/o	without
WDQ	Warm, dark, and quiet

### **Common animal abbreviations**

BCNH	Black crowned night heron
CB thrasher	Curve-billed thrasher
GBH	Great blue heron
GHO	Great horned owl
HH	Harris hawk
I dove	Inca dove
M dove	Mourning dove
RTH	Red-tailed hawk
SS hawk	Sharp-shinned hawk
WW dove	White wing dove

### **Assessment Charting**

Whenever you assess, treat, or move an animal you will be responsible for recording the information in its chart and completing any accompanying paperwork correctly.

#### **The Medical Chart**

Each animal must have a medical chart completed upon assessment. The medical chart records assessment information and treatment on the animal and follows the animal throughout its treatment.

The medical chart consists of three separate sections.

1. The first section contains the record information on the animal, including the species, date in, and the log number.
2. The second section contains the condition of the animal upon check-in, any initial treatment administered, and a section for additional notes or comments.
3. The third section is the ongoing care log where additional treatments and ongoing condition reports are recorded.

Liberty Wildlife uses two types of medical charts. The large charts are 8 1/2 X 11 pages which are lined on the front and back. These are used for the large birds or unusual birds. Small blank cards are used as medical charts for dickie birds. Both type of medical charts should include all three sections.

## **Recording in the Medical Chart**

When writing in medical charts use proper terminology. If you are not certain of a term, look it up or ask. If you can't identify a location, describe the area surrounding the location and include directional information.

When recording information on a medical chart it is important to note information that is *known*, not that which you assume. This is important in any type of observation. For example, if an animal is found on a road, record "found on road", not "hit by car". When an animal does not hold up its head, record "head hanging", not "broken neck". Clear, descriptive information is the best communication.

Record what you find, both normal and abnormal observations. For example, you might note "mouth clear, eyes bright, cloudy discharge from both nostrils, and color good".

It is important to make regular notations on the medical charts. These remarks will include progress of condition, treatments given, medications started or stopped, outside treatments such as X-rays or visits to specialists, and even behavior notations. Be sure to use language that communicates plainly and clearly. Write clearly or print at all times using only black or blue ink. Record the date and your initials on all notes.

Education animals have medical charts, too. Items that should be recorded are wellness checks, any medical concerns or treatments, beak coping, talon trimming, jessing, behavior changes, cage movement, or any other information that might prove valuable to have on file.

## **Medical Chart Location**

When an animal with a large medical chart is actively being checked or receiving treatment, the chart will usually be attached to the front of its Intensive Care cage. When the animal is stable, the chart will be placed in a folder and filed with other *Intensive Care* charts.

Small animals have their medical chart (the small card) attached to the front of their cage until they leave Intensive Care.

Active medical charts are kept in a file cabinet in the Intensive Care area. When animals are moved out of Intensive Care you must indicate the specific cage where the animal has been moved and place the chart in the appropriate section in that cabinet. There are sections for *Close Monitoring Outside*, *Active Rehab Outside*, *Non-Releasable Outside*, *Ready For Release*, and *Final Disposition*.

## **Stress Management**

Before you assess an animal, it is crucial to understand the effects of stress.

Stress alone can kill an animal. Wild animals do not want to be around people. If you approach animals in the wild, they will usually retreat to a safe distance. Being held by a human is very stressful for a wild animal. *They do not understand that you are trying to help.* Sometimes, even critical, life-saving measures may be too much for an animal to tolerate.

Quite often, only the bare minimum of treatment can be initially tolerated. You may not have time to complete a thorough assessment. It will be up to you to make sure that the animal's condition is carefully monitored and that care is taken to limit the animal's stress at all times. It is often a very fine line that we walk during assessment. Keep any contact short, concise, and as low-stress as possible.

The following points will help avoid over-stressing wildlife.

- Keep animals warm, dark, and quiet
- Know when *not* to treat
- Keep bird's head and face covered when possible
- Do not peek in cages
- Do not handle an animal unless absolutely necessary
- Do not put an animal next to a predator that it can see
- Do not place an animal's bin where it can see people *above* it
- Limit the time needed for assessment

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## Think About It... 90,000 Pound Animals

by Jean Peters  
Columbus, OH

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This morning I tripped over my cat. With a cranky *yeow!*, he once again ran out from under the behemoth (me). He is used to this huge animal tromping around the house. As an ex-farm girl, the thought occurred to me that he must perceive me the way I would perceive a horse or cow when I am near them. I am always cautious around those very large animals. Even at their most friendly and calm, their mere body size can give me a nasty bump or broken bone by a misplaced foot or toss of their head.

I then computed how big people must be to my cat, just to get a perspective from human terms. Henry is very fat, around 15 pounds. Assuming a person is 150 pounds, then that is ten times bigger than my cat. An animal that is ten times bigger than a 150-pound human is a 1,500-pound animal! I suddenly had profound respect for all my cats. It must be a daily exercise of faith for them to lay sprawled on the floor with me stumbling around.

Then I thought about all those little animals at the OWC clinic. What would it be like to be a bird that weighs .25 lb., and that has never been touched by human hands before? A 150-pound human weighs six hundred times more than a .25 lb. bird. It would be as if we humans were being handled by something that weighs 90,000 pounds! What a fright!!

I thought how we humans are carnivores, complete with pointy teeth. What would I feel like being held by a 90,000-pound carnivore who was tossing me from paw to paw while I watched its open mouth as it howled (i.e., talked and laughed) with the 3-4 other 90,000-pound carnivores surrounding me? How would I feel if I was confined in a small cage where 90,000 carnivores could grab me at will? My adrenaline would be pumping, to say the least.

We humans are arrogant even in our kindness. We think that because we have good feelings and intentions our actions can have no negative impact. Well, I do not care how friendly any 90,000-pound carnivore would be. I would be scared for my life around it, whatever it was doing. Its size alone could cause me to be squashed like a bug.

So, let's remember that we cannot ever neglect to look at our actions from the animals' perspective. Dr. Burton says we should be able to give a thorough physical exam in under a minute or two. We urge people to be quiet in the treatment area when an animal is being examined. We ask people to keep doors closed to the clinic wards. The animals are the reasons for these policies. Under a minute could be a code of ethics that wild animals would really like when it comes to the 90,000-pound human beings surrounding them.

Jean Peters is newsletter editor of the Ohio Wildlife Center volunteer newsletter and Secretary and newsletter editor of the Ohio Wildlife Rehabilitators Association.

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# Stress Management in Songbirds

By Bea Orendorff

## **Introduction**

One of the top killers of songbirds in a captive rehabilitation situation is stress, including stress induced problems. Songbirds are prey species and as such are instinctively always on the lookout for danger, which causes them constant stress. If a prey animal such as a songbird is injured or sick, it must hide its injuries or increase the chance of becoming someone's meal and predators would rather go after a debilitated animal than a healthy one because it is easier to capture.

Even nestling and fledgling songbirds can be adversely affected by stressful situations and instinctively hide discomfort as long as possible. By the time a songbird exhibits obvious signs of illness it is often too late for effective treatment. Rehabilitators must always be alert to any changes in behavior, however slight because it may mean the difference between life and death. This paper will suggest ways to reduce stress in young and adult songbirds by modifying their environment as well as the rehabilitators housing and husbandry protocols.

## **What is stress?**

Webster's College Dictionary defines stress as 1. Physical, mental, or emotional stress or tension and 2. a specific response by the body to a stimulus, as fear or pain, that disturbs or interferes with the normal physiological equilibrium.

## **Physiological effects of stress on the body**

Clinical signs of stress include muscle weakness and trembling, bilaterally symmetrical alopecia, atrophy of temporal muscles, enlarged abdomen, weight loss, increased susceptibility to bacterial infections, impaired antibody response, high blood pressure, anorexia, poor wound healing, frequent urination and high consumption of water (Fowler, 1986).

From a medical point of view, there are two types of stress. Acute stress (sudden but limited in duration and usually not fatal, unless the animal is severely compromised); and chronic stress which lasts for long periods of time. Rehabilitators are concerned and deal primarily with the latter.

Early on, a stressed animal tries to produce glucose for energy to cope with the stress. In its effort to do that, the body tries to break down other tissues such as proteins and fats. As a long-term result, the animal uses up its store of glucose and breaks down its muscle tissue. If the stress is kept to a fairly low level and the animal is eating well (taking in up to 150% of its normal food intake), it might be able to survive for a long period of time. However, the more the body works to respond to stress, the more difficult it is for it to direct its energy to healing. The body may simply not have the resources to make good quality protein, bone or collagen while it is responding to stress.



When a captive animal is under stress for long periods of time (days, weeks or even months) the body produces hormones called corticosteroids from the adrenal glands. These hormones change the balance of almost every chemical reaction in the body. Corticosteroids have a depressing effect on the immune system of the body, reducing the body's ability to respond to and fight infectious organisms such as viruses and bacteria. When the level of corticosteroids is high, the cells in the body which normally respond to infectious organisms either are not produced (mononuclear cells like lymphocytes) or are not able to completely fulfill their function (e.g. polymorphonuclear cells such as heterophils can grab bacteria but cannot break them down).

In cases where stress continues for a prolonged period, an animal reaches a point where it can no longer respond to the demands placed upon it; it simply can't catabolize (oxidize) any more of its muscle mass. Picture the following scenario: You have an animal which seems to be holding its own and looks fairly healthy. You pick up the bird to treat it, and it dies. This is a case of acute stress adding to chronic stress in a bird which was just barely dealing with the situation (Pokras, 1984).

Severe physiological and/or psychological stress can also have serious effects on the feathers. Two conditions frequently seen in rehabilitation facilities are:

1. Stress marks (a.k.a. stress lines or stress bars). Stress marks are caused by severe stress that occurs at a particular point in the growing feathers' development such as in nestlings or fledglings whose feathers were not fully developed at that time, or adults during molt. Stress marks look like opaque, thin (usually less than 1/16" wide) lines that may extend across the width of the entire feather or just across part of it. They are most noticeable on tail and wing feathers but can occur on any feathers (Orendorff, 1997). These weak spots are not waterproof and are very susceptible to breaking (Erica Miller, 1998).
2. Sheaths that are not breaking away from wing and tail feathers of a nestling. Each feather is only partly free of its sheath and the rest of the feather (one half to two thirds) remains encased in its sheath. This occurs when a nestling has undergone severe stress (such as losing its parents, starvation, etc.) at the critical time when its feathers were supposed to erupt from their sheaths (Ordenforff, 1997).

Rehabilitators should keep in mind, however, that stress is not just a six-letter word. Some degree of stress is necessary to stay alive. That same surge of adrenaline that the body releases when faced with acute stress caused by fear is responsible for the fight or flight mechanism taking effect. This adaptation for survival insures that, when faced with danger, an animal will respond by either fleeing or fighting, depending on which is appropriate to its species.

### **Causes of stress**

Psychological Stress. Inability to flee: fear any unknown or unfamiliar situation, sight or sound: humans: cats and dogs: other unfamiliar animals (such as farm animals for city birds): loss of habitat mate, offspring, nest: solitude (or signal birds): being housed with other birds (for solitary ones): rest-rank inability to make choices (perhaps one of the most stressful factors in captivity and one of the easiest to correct) are all examples of psychological stress.

Physiological Stress. Pain, hunger, temperature extremes, disease, injury, drugs or other chemical substances, restraint, molting, egg production.

Let's go back to the two dictionary definitions of stress: 1. Physical: mental or emotional strain or tension and 2. a specific response by the body to a stimulus, such as fear or pain, that disturbs or interferes with the normal physiological equilibrium. In addition to having lost the basic needs of any animal, a captive wild bird is also suffering from the physical, mental and emotional strain, and the fear and (often) pain described in the dictionary definitions of stress!

Psychological well-being is just as important as physical well-being and just as conducive to healing for captive birds, young and adult. Often, psychological stress can cause physical stress and vice versa. In general, a bird will be stressed by anything physical, emotional or mental which deviates from the norm for its species. A health bird in the wild and under normal conditions is able to deal with some variants (depending upon their nature and severity) at any given time with few if any lasting ill effects. However, a bird in a rehabilitation facility is not living under normal conditions. Its entire world has been devastated, starting with the original cause of admission (nest loss, car collision, etc.) to the rehabilitator's facility. Added to that is the close proximity to humans (the one(s) who found the bird and the rehabilitator); and the unfamiliar surroundings such as the car in which it was transported, housing, sounds, and foods. The more variants we can eliminate or minimize, the less stressed the bird will feel and the more likely it is to heal.

### **Reducing stress in hatchlings and nestlings**

**Feeding and diets:** Young songbirds need to consume a certain amount of food (in the form of a nutritionally balanced diet) per 24-hour period for good growth and development. To achieve this in captivity, they should be fed 12-14 hours daily (i.e. 7am to 9pm). This is even more critical in the smaller species, since they cannot miss several feedings a day for several days and remain healthy. If they survive, most of them seem never to catch up, remain weak and are slow to develop.

At Wild Bird Rescue, Inc. (WBR), if any feeding is missed, it is added to the end of the day rather than try to feed twice as much at the next feeding to make up. In the author's experience, the most common cause of high death rates of uninjured young songbirds that are fed a nutritionally balanced diet, is that they are not fed enough (Orendorff 1997).

**Housing:** Nestlings feel secure and therefore less stressed in nests that are appropriate for their species. Open, cup-shaped nesters should be housed in open, cup-shaped substitute nests. Cavity or enclosed nests can be simulated by simply draping a dark, clean, ravel-free cloth over the artificial nest. It is absolutely essential that the artificial nest be neither too wide or too high, nor its bottom too smooth. An overly smooth substrate, such as a totally flat tissue, does not provide footholds for the toes of the growing bird. Nests should be lined with several white unscented tissues. The tissues should be stacked together, and pushed down in the center of the nest with one finger. When the birds are placed in the nest, the tissues will fold over them, giving them a sense of security, as if a parent were brooding them.

Hatchlings do not require the same degree of snugness as a nestling. In the wild, hatchlings lay on the bottom of the nest and there is some space around them. This is normal and therefore does not stress them unduly. They are incapable of much movement other than raising their heads to feed and barely elevating their rumps to defecate.

Nestlings, on the other hand, must fit snugly in the nest thus providing support for each other. When the nest is too wide, the birds are unable to support themselves and each other (Beaver, 1986). They appear to be very uncomfortable as they flail around, the wings droop and their legs spread out on either side of their bodies. Because of this posture, young birds are often unable to raise their heads to feed. When these birds are switched to an appropriate-sized nest, they quickly burrow down, side by side. They arrange their wings on their backs, tuck their feet under themselves in a natural position and may rest their heads on the edge of the nest. Once comfortable, they close their eyes and fall asleep.

If the nest sides are too high, the nestlings are unable to raise their rumps over the edge to defecate. This appears to be frustrating to the nestlings who, instinctively, know they must defecate over the edge; they repeatedly try to reach the tip of the nest but are unable to do so and give up after several attempts. This wasted effort, besides adding stress to an already compromised nestling, consumes energy (calories) that would be best used for growth and recuperation (as in the case of starving or ill nestlings).

**Sights and sounds:** Studies have shown that birds possess color vision and are able to hear as soon as they hatch or even before! (O'Connor, 1984). Rehabilitators should strive to minimize human-related sounds such as human or pet animal voices, laughter, car sounds, music, etc., because the birds could become habituated to them with long exposure. Tapes that contain nature sounds but not music may be played, but care must be taken that they do not contain the sounds of songbird predators.

### **Reducing stress in fledglings**

**Feeding and diets:** It is critical that diets are nutritionally balanced to help birds develop good feathers and weight similar to those of their wild counterparts. Studies show that among wild birds, dominance and survival are size-related (O'Connor, 1984).

**Housing:** Ideally, any bird old enough to perch should be housed in the same size enclosure as the adult of the species. Fledglings that are kept in enclosures too small for them to freely hop from perch to perch, vigorously flap their wings and attempt flight are stressed.

Fledglings are increasingly aware of their surroundings and instinctively react with caution to unfamiliar situations. However, with repeated exposure, birds may become habituated (therefore not stressed) to sights and sounds that should stress them (therefore make them cautious) when they are released into the wild. These include exposure to pet animals, cars and humans.

**Sights and sounds:** The same apply as in "Reducing stress in hatchlings and nestlings".

### Reducing stress in adults (including parent-reared fledglings)

Birds admitted as fledglings or juveniles should be housed and managed as adults, since for all intents and purposes, their temperament and “mind-set” are those of adult birds. Birds admitted as older fledglings are usually quite wild because, having been with their parents for most of their formative days, they already know they are wild birds. Even if they self-feed, they do not consume enough for good health. If they are young enough to need complete hand-feeding, they can be quite difficult to manage because, depending on the species, they may become highly stressed whenever they are handled to feed, may refuse to swallow, may spit out the food, or when placed into their container, may fling themselves around and injure themselves (Orendorff, 1997).

When transporting adult songbirds, unless medically contra-indicated, always provide them with a securely placed perch, completely cover their container, and protect them from all unnecessary human sounds and sights. Some species may be harder than others but, in my opinion, all wild birds are affected negatively by close proximity to people when they do not have the choice of flying away, as is the case with our patients. It is important to explain to the public that when transporting adult birds in a car they should not talk or play the radio.

When treating a songbird, all drugs and equipment should be assembled ahead of time to reduce stress and handling time. Talking should cease while the bird is handled or, if it is necessary to talk, voice should be soft. Hand movements should be slow. The number of people present should be kept to an absolute minimum. While holding the bird, the rehabilitator should refrain from switching the patient from hand to hand, squeezing, or repositioning or moving his/her fingers because this is interpreted by the bird as being killed.

Birds should be encouraged to self-feed as soon as possible to minimize the stress of handling to tube-feed. Tube-feeding should only be considered if a bird has not self-fed at the end of admitting day or if it is emaciated. The number of hours rehabilitators can wait to see if a bird will self-feed depends on the species (large ones can go longer without food than small ones), whether the bird is fat, thin or emaciated, and the temperament of the species. If a bird is thirsty and is allowed to lose much weight, it is often very hard to get its weight back up by tube-feeding alone. Sometimes it seems to be a catch-22 situation: tube-feeding an easily stressed species might cause its death, but not tube-feeding if it refuses to self-feed for long may also contribute to its death.

If treatment is to be lengthy (longer than it takes to perform a single task such as one injection or tube-feeding) the bird’s breathing should be monitored with averted eyes. The following will reduce stress:

1. If the bird starts mouth-breathing (a sign of stress) it should be placed back in its housing for 10-15 minutes.
2. The bird’s head should be covered but the bird should be observed closely. If there are any changes in its breathing the bird should be placed back in its housing for 10-15 minutes.

Whenever possible, all husbandry tasks, such as feeding, watering, cleaning and medicating, should be done once a day, at one time.

All indoor temporary confinement and recovery housing should have a drop cloth secured above the opening of the enclosure that can easily be pulled down to cover the opening. This should be done any time a rehabilitator plans to spend more than a few seconds in the room, such as when several patients are treated and fed. The drop-cloth eliminates visual contact with the person thus minimizing stress. Talking should, again, be done only when absolutely necessary and then only with subdued voices.

The floors of temporary confinement and recovery enclosures should be lined with several sheets of newspaper, covering the entire floor. To remove fecal matter and other waste from the floor the rehabilitator should simply pull out the top sheet each day or whenever necessary. This reduces human contact with the patients.

The above, as well as taking out and replacing water and food dishes, should be done with the drop cloth down so the bird cannot see the whole person.

With the exception of crows, grackles or other such naturally messy birds, it is unnecessary to clean the inside of temporary confinement and recovery enclosures more than once weekly for most species.

When it is necessary (such as to administer medications) to take a songbird out from the temporary confinement and recovery enclosure, the rehabilitator should avoid chasing the bird around, even if the enclosure is small enough that only hands are used to do so. A less stressed way to accomplish the task is to note where the bird is perched, then turn the lights off in the room, and gently pick up the bird. Before the lights are turned back on, the bird's head should be covered to eliminate visual contact. To return the bird to its enclosure, the procedure is reversed.

Outdoor enclosures should not be in close proximity of humans. If this is not possible, the side of the enclosure entering the area where people approach should be constructed of non-transparent material and talking with hearing range of the enclosure should be avoided.

When making housing choices for adult songbirds rehabilitators should keep in mind the type of habitat from where a particular bird came. Country birds are more susceptible to stress from human-related sights and sounds because these are not as much a part of their daily life and therefore are not habituated to them. People are an unknown entity. A Robin or starling that grew up in a nest located by a busy city road hardly pays attention to cars zooming by as it goes about its search for food. A country bird would not cope as well in the same situation.

Foods inappropriate to the species that are not recognized by the bird may cause it stress, both emotional (fear of the unknown) and physical (hunger).

### **For all ages**

Rehabilitators must know the bird's natural history, to make appropriate choices for housing and feeding, to provide the typical habitat, and to house with other birds or by itself.

Having the appropriate substrate on which to stand may lower stress. Young plovers such a killdeer does well with a somewhat rough substrate such as Astroturf or Rubbermaid® shelf-liner. If their substrate is smooth, such as newspaper, they have difficulty standing and may develop splayed legs. As one may imagine this is stressful emotionally and physically. Long-legged waders such as herons do well on Astroturf or carpet indoors, sand or pea gravel if outdoors.

Like other animals, birds feel most comfortable in familiar surroundings. These can be simulated in captivity by implementing as many of the following as possible:

1. All temporary confinement enclosure fronts can be positioned to face the outdoors, provided the view is a natural setting such as a wooded area, a garden or grassy meadow.
2. The ceiling of any indoor room can be painted to look like the sky. Include a few clouds.
3. Cabinet fronts or sides that face the confinement enclosures can be decorated with live-scale photographs of outdoor scenes, or trees and flowers can be painted on them. A coat of clear acrylic will prolong the life of such scenes. All painting, including the application of the acrylic coat should be done when no birds are housed in the room (to lower stress) and with good ventilation (for the rehabilitator's health).

Glass aquaria make excellent enclosures for recuperating songbirds. Stress for the inhabitant can be lowered by either of the following:

1. The Aquaria can all be placed on a shelf, side by side, with one short end facing the outdoors. The other three sides should be covered with nature photographs. To ease cleaning and prolong the life of the pictures, they can be positioned and taped on the outside of the glass and light green, white or light beige contact paper (to allow plenty of light) can be used to cover the entire sides of the aquaria. All husbandry should be performed from the back.
2. If it is not possible to position the aquaria on shelves facing the outdoors, all sides should be covered with nature photographs or the bare side should have a drop cloth (made of nature-colored cloth) positioned above it that can be easily raised or lowered to block the inhabitant's view.

The floor of the indoor recovery room should be painted an earth color or green.

Temporary confinement enclosures that do not have see-through tops through which the "sky" can be seen as would be the case with aquaria with screen tops, can be painted with skies and small white clouds.

All colors in the indoor facility should be earth-related, such as shades of brown, grey and green. In some classes of animals, certain bright colors have been associated with aggression. While the author is not aware of any research that has demonstrated this to be true with birds, she believes that earth colors will not stress them.

Songbirds of any age in any stage of recuperation should not have visual or auditory contact with humans or human-related sights and sounds unless necessary. This includes care sounds, radios, laughter, coughing, TVs, etc.

Conditioning cages should provide songbirds with an area where they can hide when they feel threatened. Evergreen branches, nest boxes (for cavity nesters), or perches placed behind baffles and positioned as high in the cage as possible provide songbirds with such a place.

It is important that the rehabilitator be able to observe birds in a conditioning (for release) enclosure to ascertain their progress. However, staring at them (a sign of impending attack by a predator), even for a short time, causes them stress and their behavior is guarded or fearful rather than natural. Conditioning enclosures that have one solid side with one-half inch holes drilled at eye level allow the rehabilitator to observe the birds without their knowledge. Care must be taken not to make any sounds while observing the birds through the peep holes.

Songbirds should not be housed within plain sight of raptors, crows or mammalian predators.

Overly long day or night photoperiods (Gallerstein, 1984) can be detrimental because they upset the birds' biological clocks, thereby causing them physical as well as emotional stress (because they cannot respond appropriately).

Any prolonged procedure which may cause pain and/or excess stress should be performed under anesthesia. Anesthesia should only be performed if the bird is deemed healthy enough and if performed under veterinary supervision.

Birds may or may not show obvious signs of stress. In some species the signs may be very subtle such as flinching, blinking, barely shifting weight or very obvious such as fluffing up their feathers, or tucking their heads back under a wing.

Euthanasia should be considered for birds that are so debilitated that the rehabilitation process may be as stressful or dangerous as the initial problem.

The USF&WS decrees that any birds which are not suitable for release, including those that have sustained injuries requiring amputation of a wing at the elbow (humero-ulna joint) or above a leg or a foot, and/or are blind should be euthanized. Permittee should not sustain the life of any migratory bird that cannot after medical management feed itself, or has an impairment that prevents it from perching upright, or cannot ambulate without inflicting additional injuries to itself. Permittee must contact the issuing office prior to euthanizing bald and golden eagles, endangered or threatened species.

In the author's opinion however, non-releasable songbirds that can perch, fly a little and, in general survive in captivity, should also be euthanized. While such birds may become habituated to humans and survive for long periods of time in captivity, the author believes this practice to be unethical.

In her opinion, there are two exceptions: 1. Non-releasable endangered species should be placed in a breeding program (if such exists and pertinent USF&WS permits can be obtained), and 2. hand-reared, tame individuals could be used as surrogate parents, again, if pertinent USF&WS permits can be obtained and suitable facilities can be built to house them.

When handling birds, all hand movements should be slow and deliberate and only when necessary. Always remember that songbirds are prey birds and therefore live on the edge.

Placement of temporary confinement enclosures should take into consideration the natural history of the species. Arboreal birds should be housed in enclosures that are high above the floor and terrestrial ones on ground level.

As anthropomorphic as it sounds, rehabilitators should put themselves in the wild bird's place. If you were a wild animal, you would want as few human interactions as possible. You would not want potential predators eyeing you or coming near you, especially when you have no means of escape. You would want indications from humans in the room that they do not have their attention focused upon you. Every time you were handled, you want it to be swift and non-traumatic. As a wild animal you would have had no previous experience or understanding of being petted by a human; a hand reach over your head would be extremely threatening. Finally, you would want your period of captivity to be as short as possible so that you could return to live free in the wild (Deering, 1993).

### **Conclusion**

As rehabilitators, we must insure that our patients survive captivity because of our management procedures not in spite of them. By being sensitive to captive birds' needs and with some thought and planning, rehabilitators can modify their husbandry techniques and the appearance of their facilities and enclosures to simulate the birds' natural environments. Providing captive songbirds with species-appropriate food, shelter and comfort will decrease the birds' psychological and physical stress which in turn, may increase the rates of recovery and release.

A wild creature who finds itself in a rehabilitation situation is like a traveler caught in a foreign country. Sounds, sights, food, microbes, language, healing ways, routines, pace, one's means of support, and relationships and all are changed and foreign. It's a lot to adapt to at once. Our jobs as rehabilitators includes recognizing and minimizing these foreign stresses, and returning the visitor on its own land as soon as possible (Stevens, 1991).

The author welcomes additional suggestions for managing stress in captive songbirds.

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# **Assessment Basics**

## **Before You Begin**

### **Touch**

You must be gentle. A laceration can be cleaned with the lightest of touch. Feathers can be carefully moved aside to examine tissue and bone. Opening a beak can be accomplished with an action that does not overextend the jaw. Ask yourself over and over again: “Am I interacting with this animal in the gentlest way I can?”

Always remember you can be in control of the animal and still be gentle.

### **Handling**

The handling of each bird should be kept to a minimum. When you are assessing a bird, take it out of its container for the assessment and *put it back while you are preparing for treatment*. Never hold a bird in your hand while opening or closing medications, packaging, jars, or other items. Do not walk around the room carrying the bird.

### **External Observations**

You have many tools at your disposal to help you assess an animal--the most important of which is your ability to observe. *A good assessment begins before you touch an animal.*

First, look at the check-in form. It may provide much-needed clues. You might be able to determine how long an animal has been in its current condition or what may have caused the condition. You can also get other valuable information such as the species and where it was found. Early care notes on the animal while it was in transit also may be important. Verify the animal's species as guesses made by the public are not always correct.

Check the substrate of the animal's container or enclosure for fresh droppings or mutes, or for pellets. Droppings should be consistent with the species without blood, strong odor, or unusual coloration. If pellets are seen, they should be well- formed and normal in color.

Next, look at the animal as it rests in its enclosure. You will often notice if it is favoring a leg or foot. A drooping wing might indicate a problem with the wing, or it may be the result of trying to balance on an injured leg or foot.

When an animal is brought in by a Rescue and Transport volunteer ask about the animal's condition or its actions before and during capture. Was it on the ground? Did it fly at all? Was it near a road or beneath a power pole? The Rescue and Transport group may be able to give you valuable insight for your assessment.

As you begin to open the container, note the animal's behavior. A wild animal should show signs of agitation when approached. An animal that just stands, puffed and unmoving, is more than likely very ill.

## **The Head**

### **Positioning and movement**

A basic point, but one worth mentioning, is that an animal's head should be correctly situated on its body. If an animal has a tilted or inverted head, it might be a sign of a neurological problem. The head should be still, or smooth and even, in its movement. Jerky, repetitive motion (tracking) can also be a sign of head or neurological trauma.

### **Skull**

The bird's head should be free of any abrasions. In most species the feathers should be smooth and lying flat. The top of the head can have injuries to the skin which leave the skull completely exposed. This area must be checked carefully as the skin may appear intact because of dried blood or feathers covering the area.

### **Ears**

The ears are located on the sides of the head, usually in a directional path back from the eyes. The ears should be clear and open, without obstruction or swelling. They should be free of mites, maggots, or other parasites.

### **Eyes**

The animal's eyes should be open. Pupils should be equal and reactive. (Some species, such as owls, can dilate their eyes separately in which case irregular pupils may be normal.) The eyes should be clear, without drainage, oozing, or weeping. The area surrounding the eyes should be normal for the species, without crustiness, swelling, or lesions.

### **Beak and Cere**

The beak of the birds should be checked, too. It should be intact and without cracks. Its shape should be correct for the species. Some species, such as curve-billed thrashers or raptors, can develop over-grown beaks. The nostrils should be clear and without drainage. The cere should be of normal size for the species, without swelling, crustiness, or lesions.

### **Mouth**

Carefully open the mouth. The mouth and throat should be clear and open, without blood or stringy saliva. The trachea usually should be visible and clear, and should indicate normal breathing without jerky or exaggerated movements. The mucous membranes should be moist, not tacky. The mouth color should be consistent with the species (commonly pink) and without unusual fading or discoloration. The mouth should not have a bad odor, although it may after a recent prey meal.

## **The Body**

### **Feathers**

Feather condition is very important on a bird. The feathers should be clean and smooth without “stress” lines or fractures. Individual feathers should be unbroken and healthy in appearance, without debris or oil. Tail feathers should be clean and unbroken. Feathers should be free of mites or lice.

### **Crop**

Not all birds have crops, although they are found on many species. The crop is located on the ventral side of the body between the neck and the keel, although it can extend to the dorsal side of the neck, too. The crop may be full or empty, depending on the timing of the animal’s last meal. It should always be soft, not hard or doughy. It should also be of normal shape, not over-extended. The crop should not have a bad or unusual smell.

### **Keel, Coracoid, and Clavicle**

Check the keel for the proper thickness of muscle, a good indicator of proper weight. The keel may be more or less pronounced depending on the species and age, but the surrounding muscle should be full and rounded, away from the ribs and even on both sides. The keel bone itself should also be checked. It should be smooth on its edge, without protrusions or indentations. The cranial end of the keel supports the *coracoid* bones. Palpation of this area should indicate a solid structure without unusual movement. The *clavicle*, located on the cranial ventral position of the body and anterior to the keel, can sometimes be carefully palpated. It should be smooth and solid.

### **Torso**

Look beneath the body feathers at the skin. It should be smooth and uniformly colored without dry or flaky areas. It should be free of open wounds, bruising, or debris such as twigs or cactus needles. The body should be free of ticks or other parasites. The skin should be attached to the body and not lifted above it by air or fluid. The rib cage should feel solid without unusual movement.

### **Back**

The back should be straight, without distortions in the spine. Check carefully for abrasions or punctures. Back injuries can cause a variety of symptoms which may include inability to stand, difficulty in walking, inability to defecate, “shrimping” of the tail, or paralysis of the feet or legs.

### **Vent**

The vent and surrounding area should be clean, not caked with feces. The tissue should be free of any lesions or swelling.

## **Thoracic Limbs**

### **Wings and Front Legs**

The bones of the wings should be smooth without interruption. The joints should be of normal size with the proper range of motion and degree of articulation. The wing should snap back into place after extension. The animal should fly if its age and development permit.

The skin covering the wing should be normal, without lesions or flaking, and smooth, without swelling or bruising. The wings should be free of ticks or other parasites.

The tissue located between the wrist and the shoulder is the patagium. The interior tissue in this area is extremely thin and vulnerable to tearing. It should be smooth and uninterrupted. The patagial tendon is located in the fibrous thickened anterior edge of this area. This tendon should have elasticity when palpated.

## **Pelvic Limbs**

### **Legs and Hind Legs**

The bones of the legs and feet should be smooth without interruption. The joints should be of normal size with the proper range of motion and degree of articulation. The skin covering the legs should be normal, without lesions or flaking, and smooth, without swelling or bruising. The legs should be free of ticks or other parasites and free of constricting items such as string, fishing line, wire, or bands. The legs should support weight and should function in a normal manner.

### **Feet**

Feet should open and close properly. The temperature of the feet should feel the same. The bottoms of feet should be healthy with good color and normal tissue. The skin surface should be free of lesions, unusual crustiness, or cactus needles.

## **The Two-Minute Exam**

One important way to limit an animal's stress is to limit the time spent on assessment. The best way to do this is to start an imaginary time clock when you begin, and finish the exam within two minutes.

First, decide if you have the luxury of conducting a full exam. There will be times when an animal will be too stressed or too depressed to tolerate even a quick assessment. Make sure the environment (conversation or noise level) is appropriate for an assessment. If you can do so safely and effectively, conduct the assessment, keeping the entire process to under two minutes whenever possible.

Next, organize! Make the chart and a pen available for jotting down notes. Set- up the proper enclosure so that the animal can be moved to it immediately after assessment. If you are able to provide treatment, prepare the supplies you may need before handling the bird.

Prepare, assess, and then place the animal in its enclosure. Immediately record your notes on the medical chart, include the date and your initials.

The following areas should be checked as part of the two-minute exam:

### **Head**

- Positioning
  - Correctly situated on its body, no tilt or inversion
  - Smooth and even movement, not jerky or repetitive
- Eyes
  - Open and clear
  - No crustiness, drainage, cloudiness, blood, lesions
  - Pupils are equal and reactive
  - Eye area not swollen, without lesions or crustiness
- Ears
  - Clear and open, without obstruction or swelling
  - No mites, maggots, or other parasites
  - No blood or lesions
- Beak
  - Intact and without cracks
  - Shape should be correct for the species, not over-grown
- Cere
  - Normal size and without lacerations
  - No lesions, swelling, or crustiness
  - Nostrils clear, without drainage
- Mouth
  - Mouth and throat open without or growths
  - Throat or trachea clear, without blood or stringy saliva

- Good color, pink, no anemia or discoloration
- Normal respiration, no bad odors

## **Body**

- Feathers
  - Clean and smooth, healthy appearance
  - No stress lines or fractures
  - No mites or lice
  - No debris, tar or oil
- Crop
  - Should be soft, not doughy or hard
  - Normal size and distention
  - No holes or lesions
  - No unusual odors
  - Note status (full or empty)
- Keel
  - Proper thickness of muscle, full and rounded
  - Muscle even on both sides
  - Bone smooth, without protrusions or indentations
  - Coracoid bones solid, without unusual movement
  - Clavicles smooth and solid
- Torso
  - Skin smooth and uniform, without dry or flaky areas
  - Free of open wounds or bruising
  - No debris such as twigs or cactus needles
  - No ticks or other parasites
  - No unusual air or fluid pockets
  - Rib cage solid without unusual movement
  - Back straight, without spinal distortions
  - No “shrimping” of the tail.
- Vent
  - Clear, not caked with feces
  - No lesions or swelling

## **Thoracic Limbs**

- Wings
  - Bones smooth without interruption or fractures
  - No lesions, swelling, or bruising
  - No mites, lice, ticks, or other parasites
  - Joints normal, proper range and articulation
  - No dislocations
  - Wing snaps back into place
  - Patagium elastic
  - Bird should fly, if development permits

## **Pelvic Limbs**

- Legs
  - Bones smooth without interruption or fracture
  - Joints normal, proper range and articulation
  - No dislocations
  - No lesions, swelling, or bruising
  - No mites, lice, ticks, or other parasites
  - Legs should function in usual manner and support weight
  - No constricting string, fishing line, wire, or bands
- Feet
  - Should open and close properly, and support weight
  - Good circulation, both feet at same temperature
  - Bottoms of feet clear and without lesions or swelling
  - No cactus needles

## **External**

- Feces/Mutes
- Color should be in acceptable range, not bright green
- No blood, unusual odor, or undigested seed

## **Know when not to treat!**

Sometimes the most important thing to know is what *not* to do.

For example, an animal may arrive in an emaciated (starving) condition. Giving that animal food could actually cause it to die.

When an animal is extremely compromised and depressed, its body systems may have shut down. Digestion is a body system that expends energy. When the body is forced to digest food, the animal must tap into its already limited energy resources to support digestion. This expending of precious energy could be enough to actually cause the animal's death.

In this circumstance, hydrating the animal may help to stabilize it. Later, when the animal is more stable, *slowly* introducing easily digestible nutrition may make the difference between life and death.

That was just one example. There are many more you will encounter. Take time to think each situation through before reacting. Remember, *first, do no harm*.



If the following life-threatening or other serious conditions exist, do not treat an animal for other injuries unless absolutely necessary:

- Over-heated
- Over-stressed
- Unconscious, down, extremely depressed
- Has difficulty breathing
- Internal bleeding
- If *you* haven't done it before

For example, an animal may have one or more of these symptoms and have a fracture of the wing, foot, or other limb. Do not treat the fracture until the bird is stable enough to handle the stress of treatment.

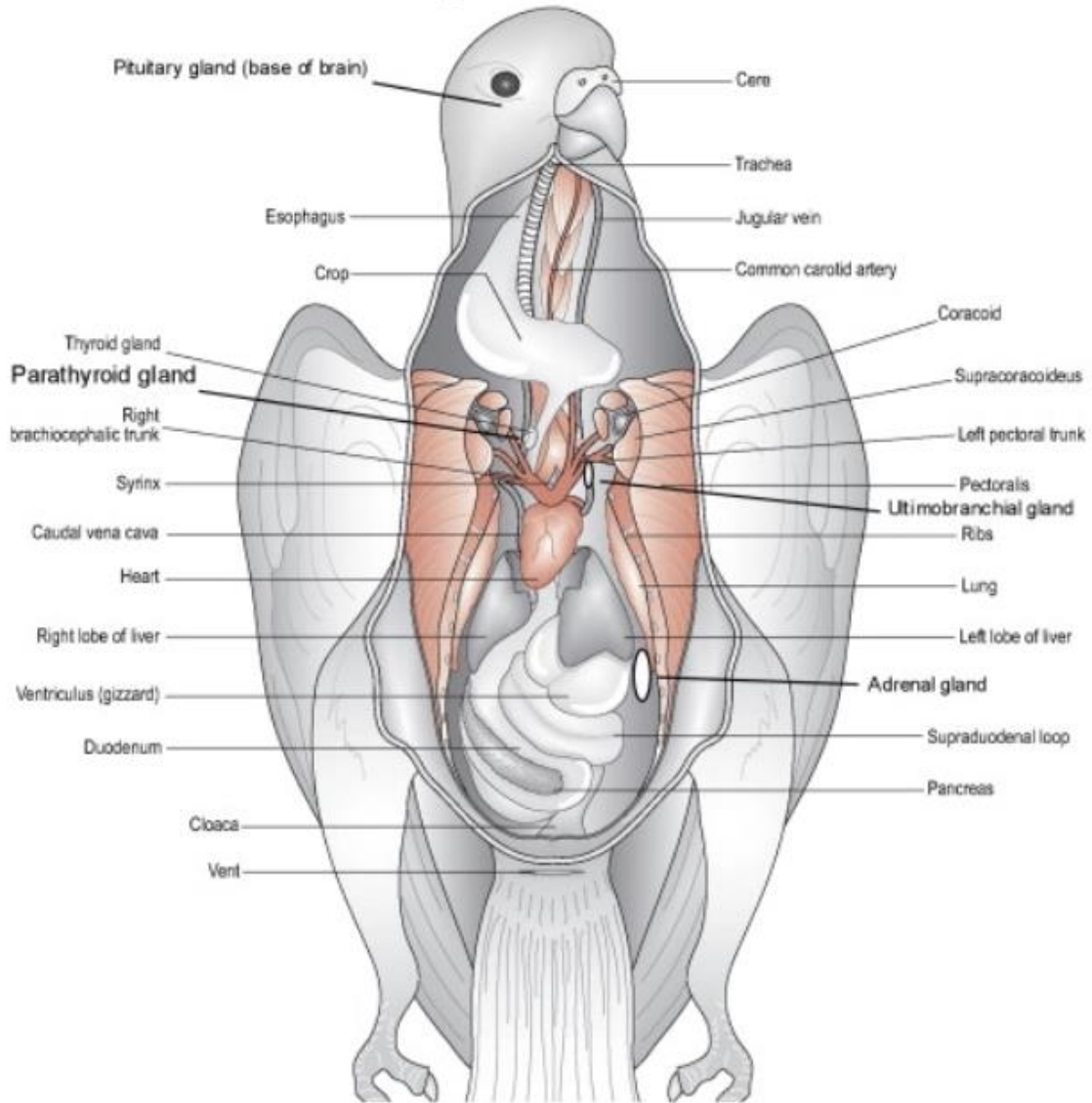
If any of these conditions exist, contact experienced medical staff immediately. Remember, *warm, dark, and quiet* are often the best treatment.

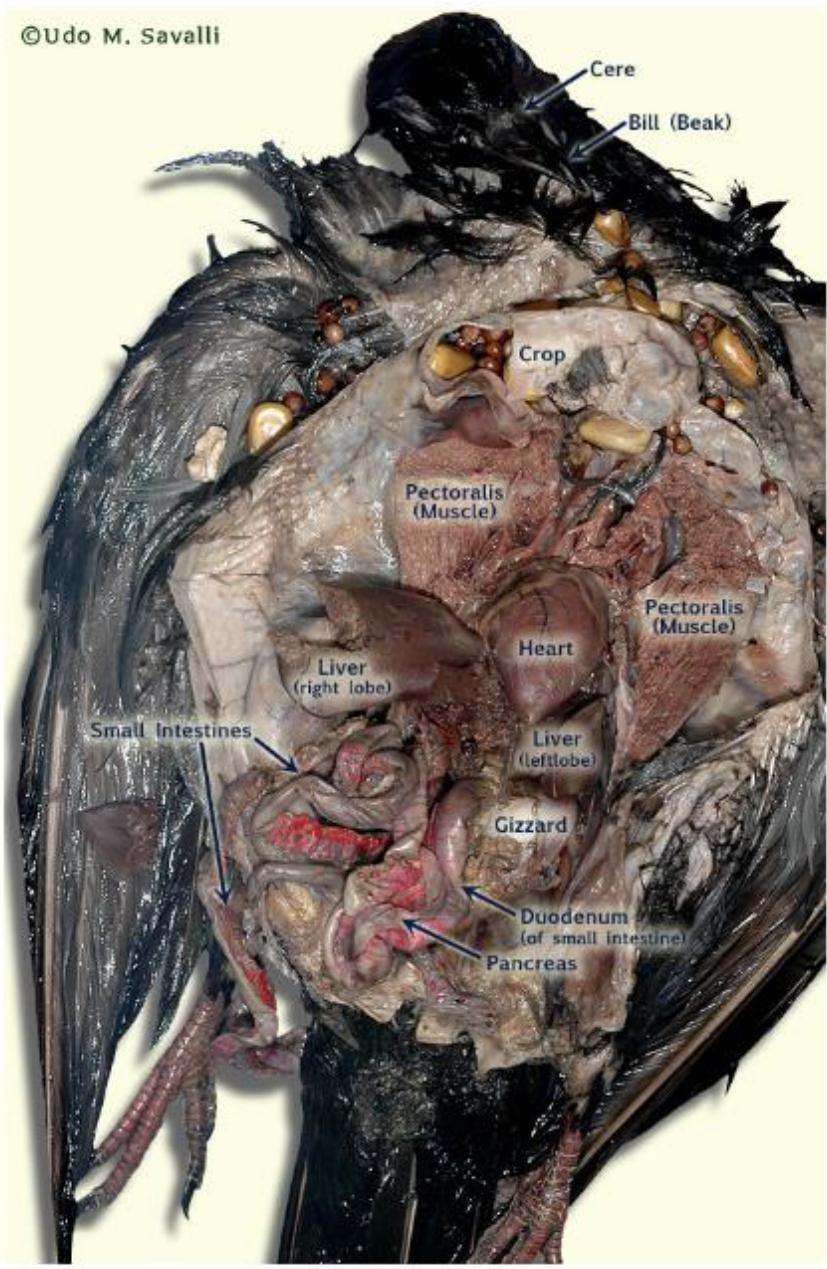
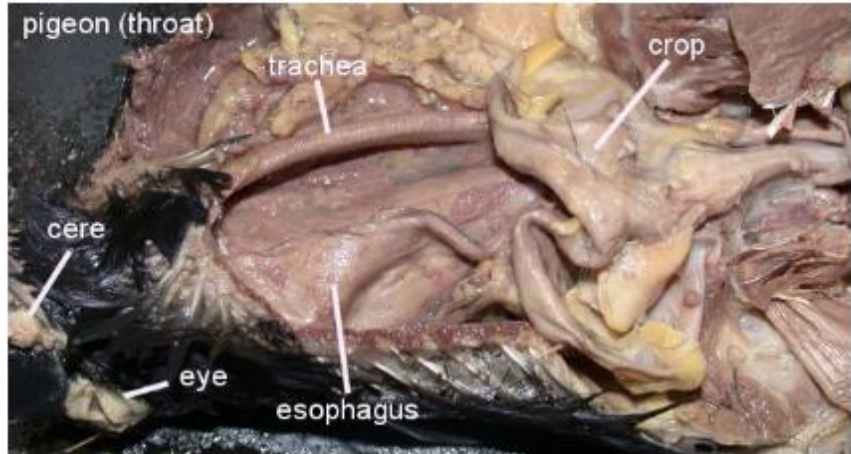
# Brooder Temperature Table

32– 38c is the ideal range

TEMPERATURE CONVERSION TABLE		
°C	°F	
25	77	
26	78.8	
27	80.6	
28	82.4	
29	84.2	
30	86	
31	87.8	
<b>32</b>	<b>89.6</b>	<b>Feathered</b>
<b>33</b>	<b>91.4</b>	<b>Feathered</b>
<b>34</b>	<b>93.2</b>	<b>Feathered</b>
<b>35</b>	<b>95</b>	<b>Non Feathered</b>
<b>36</b>	<b>96.8</b>	<b>Non Feathered</b>
<b>37</b>	<b>98.6</b>	<b>Non Feathered</b>
<b>38</b>	<b>100.4</b>	<b>Non Feathered</b>
39	102.2	
40	104	
41	105.8	
42	107.6	
43	109.4	
44	111.2	

# Internal Organs of Birds





# Medical Services Practice Worksheet

## Section Four • Avian Assessment Abbreviations

Write the correct term next to its abbreviation.

1. BAR \_\_\_\_\_
2. GHO \_\_\_\_\_
3. Dx \_\_\_\_\_
4. CNS \_\_\_\_\_
5. RT \_\_\_\_\_
6. DOA \_\_\_\_\_
7. GBH \_\_\_\_\_
8. Fx \_\_\_\_\_
9. FOG \_\_\_\_\_
10. Df/Dx \_\_\_\_\_
11. gm \_\_\_\_\_
12. HBC \_\_\_\_\_
13. BCNH \_\_\_\_\_
14. NPO \_\_\_\_\_
15. Hx \_\_\_\_\_
16. NSF \_\_\_\_\_
17. PRN \_\_\_\_\_
18. WDQ \_\_\_\_\_
19. PTS \_\_\_\_\_
20. R/O \_\_\_\_\_

21. Information is recorded in the medical chart when

- a. An animal is assessed
- b. An animal arrives
- c. An animal receives a scheduled drug dose
- d. An animal is moved
- e. An animal is released

22. List the three sections of the medical chart and what they contain

- 1.
- 2.
- 3.

23. When recording in the medical chart you should use

- a. Blue ink only
- b. Ink or colored markers only
- c. Pencil or ink
- d. Anything handy
- e. Blue or black ink only

24. It is important to understand the following facts concerning stress management.

- a. If you approach animals in the wild, they will always cower
- b. Being held by a human is very stressful for a wild animal.
- c. Wild animals do not want to be around people.
- d. If you hold an animal, it will calm down.
- e. Stress alone can kill an animal.

25. List five points to remember to help avoid over-stressing wildlife.

- 1.
- 2.
- 3.
- 4.
- 5.

26. A good initial assessment...

- a) Begins before you touch an animal.
- b) Should take less than two minutes.
- c) Begins with the head.
- d) May be the decision not to assess.

27. Name the five areas of the head and what you hope to see (what is healthy) during an assessment

1.

2.

3.

4.

5.

28. Name the five areas of the body and what you hope to see (what is healthy) during an assessment

1.

2.

3.

4.

5.

29. Name the five points to observe during assessment of the thoracic limbs.

1.

2.

3.

4.

5.

30. Name the five points to observe during assessment of the pelvic limbs.

1.

2.

3.

4.

5.

31 Use the back of this page to describe the basic technique for a two-minute exam.

32. List five examples of circumstances when it could be detrimental to treat an animal.

1.

2.

3.

4.

5.

33. When should you provide an animal with warm, dark, and quiet?

34. What do you feel was the most interesting part of this section on Assessment?