Yeast Problems of Baby Cockatiels

Cause, Prevention, and Treatment

by Susanne Russo
Fort Lauderdale, FL

According to the veterinarians with whom I have spoken, roughly 80 percent of the Cockatiel babies seen by them have some form of yeast, bacteria, or both. Having raised over 6000 Cockatiel babies, I have discovered some of the causes and would like to share my solutions for dealing with this problem that needlessly claims the lives of so many birds.

Yeast is the number one cause of death in baby Cockatiels. Yeast has also been the primary reason for breeders and hobbyists "getting out of 'tiels;" they could not cope with the heartbreak of continually losing babies. I do not know the reason that yeast is more common in Cockatiels than in other species of babies.

As a species, Cockatiels are more prone to stress due to changing conditions such as diet, weather, pairing, caging, etc. To add to the confusion, the initial diagnosis is usually "bacterial," when in reality the bacterial problem is often a secondary infection generated from stress to the system from an overgrowth of yeast. It is the stress and conditions that result in yeast that cause the primary infection.

Once the causes of stress are resolved, Cockatiels are very hardy birds and are resistant to most yeast and bacterial problems. In this article, I will use the word "yeast" to also include other terms commonly used such as candida and fungal infection.

First we need to understand how a yeast problem develops. You have heard the saying "It's in there." Yeast, like bacteria, are on and inside all living animals and birds. It is considered a normal environmental organism and normal inhabitant of the avian digestive tract. In most reference books, yeast is listed under the heading, Fungal Diseases. The causative agent is *Candida albicans* which is opportunistic yeast that can cause a variety of problems associated with the avian digestive tract and/or crop in adults, and crop disorders with babies.

In most instances a bird can live its entire life without the resident yeast causing a life-threatening problem. When situations cause stress, the system can respond with a lowered immune response or an upset of the normal bacterial flora, which then can create an overgrowth of yeast. It is this overgrowth of yeast that quickly can become life threatening if it is not recognized and corrected. In other words, what is normally good and beneficial can work against the bird when something triggers an upset and overgrowth.

A culture can determine the extent of the overgrowth of yeast and the proper course of treatment. It also will show overgrowths of bacteria resulting from the yeast overgrowth. If you look at the culture report, you will be sur-

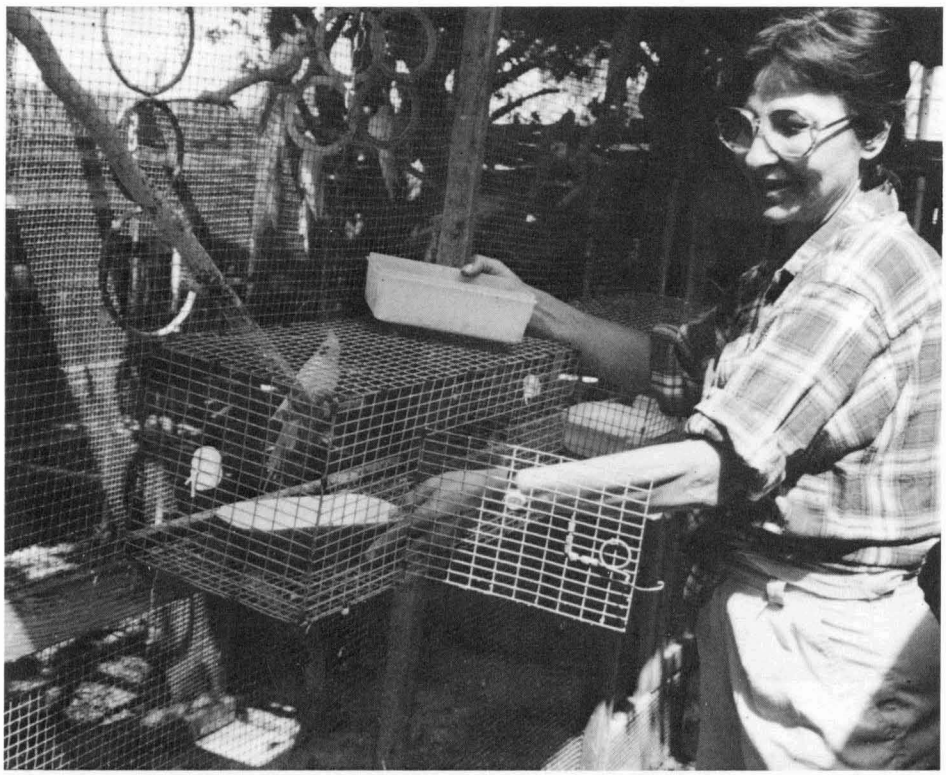

Photo by Carolyn Swicegood and Susanne Russo

Feeding time; Susanne Russo makes the rounds taking care of her birds.

prised at the amount of bacteria listed in addition to yeast. What the report shows is the levels above normal. Most culture reports will have another section that lists recommended medications that will be effective, and other medications that would be ineffective.

Much of the current information available is outdated, and in some cases, impractical. In the early 1990s when yeast showed up in cultures, levels were not really taken into consideration. Therefore many vets automatically prescribed an anti-fungal (yeast) therapy.

Up until the mid-1990s it was common practice to encourage breeders to flock treat if one pair or clutch had yeast, meaning that all the birds got treated whether or not they needed it. Flock and group preventive treatments rarely solved the problems. Treating each bird on an individual basis was not even considered. Rarely were suggestions given or solutions offered to reduce or eliminate outbreaks of yeast.

After studying thousands of babies in the nest, I have noticed that stress is the most common factor in yeast problems of nestling Cockatiels. When there is yeast, it is specific per bird. I have noticed also that if one baby in a clutch or group has yeast, it is not communicable to the other babies.

I have used the word "stress" quite frequently. My definition of stress is anything that can directly or indirectly cause something inside the bird to change or react to a situation or condition. Since yeast mainly affects babies either in the nest or while being handfed, I will focus on possible causes, and what to look for, and suggest preventive measures. Interestingly, from observation of over 6,000 babies in five years, it is rare for a baby to directly contract the yeast from the parent birds. Most yeast problems in the nestbox are what I call system induced, meaning that a form of stress generated the yeast.

The first 10 days of life are the most critical time of risk for the baby in a nestbox to develop yeast overgrowth. Being aware of simple precautions and things to watch for makes a dramatic difference in the rate of survival of Cockatiel babies.

One thing that will help you and your birds is to get them accustomed to you looking and poking around in the nestbox. When you first set them up, do a nestbox check as often each day as you can. This conditioning helps later on when the eggs are pipping and after the babies have hatched. A baby can be perfectly fine in the morning and by afternoon be either sick or dead. So many things can happen in a matter of hours. Simple preventive measures, along with knowing what to look for and what to do, bring joy and satisfaction rather than the heartbreak of another baby lost.

Major Causes of Stress

Listed below are what I consider the major causes of stress that generate system-induced yeast problems.

Poor Parenting or Feeding Skills

New parents or forced (not bonded) pairs are less likely to have a good parenting response. They may not know what to do, or may not even feed the baby. Note: Each pair is different with a new hatch. A baby can go without food for up to 12 hours when hatched. They may be able to go this long without first being fed, but they cannot go without the warmth of a parent covering them. Warmth is a priority over food during the first few hours after hatching. During this time the baby is living off the nutrients from the egg yolk sack which was absorbed prior to hatching.

Some parents will feed a small amount right after hatching or they may wait several hours. The first few feedings will only be visible by a small swelling of the crop at the base where it meets the body of the baby. With each successive feeding the parents will put more food in the crop to increase the crop size. If the crop is totally flat looking for several hours, I would give the baby a drop of warm distilled water, foster it to another pair of birds with a newly-hatched clutch, or pull it for handfeeding until the baby appears to be strong and will beg prior to being fed.

Note: When you foster a baby only give it *half* a feeding. The reason for this is so that it is still hungry and beg-

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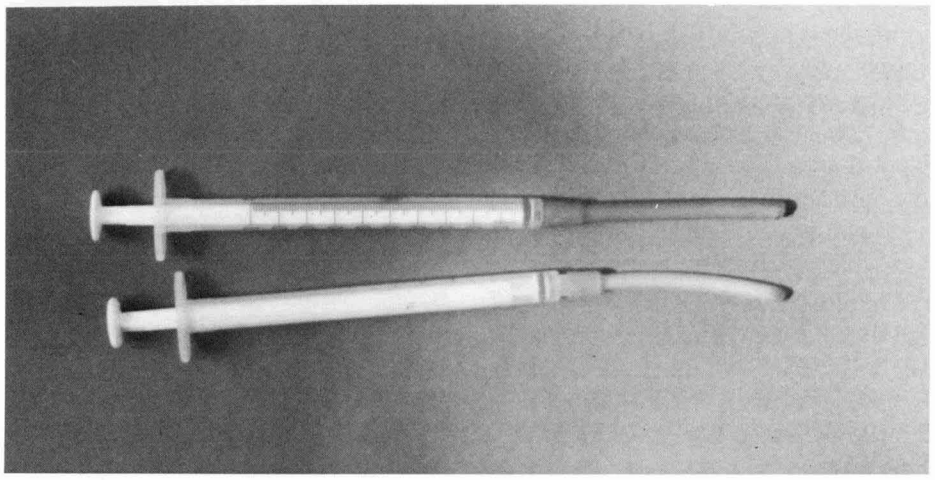
ging when put in with the clutch. Parents will ignore a baby that does not beg, and feed only the ones that are crying and stretching their beaks up to be fed. If a baby has no feeding response even when you try to hand-feed it, something is wrong. The first priority is to keep it as warm as possible, and examine its mouth and crop. The lack of feeding can be enough stress to the baby to generate a system-induced yeast response that can harm or kill it within a day.

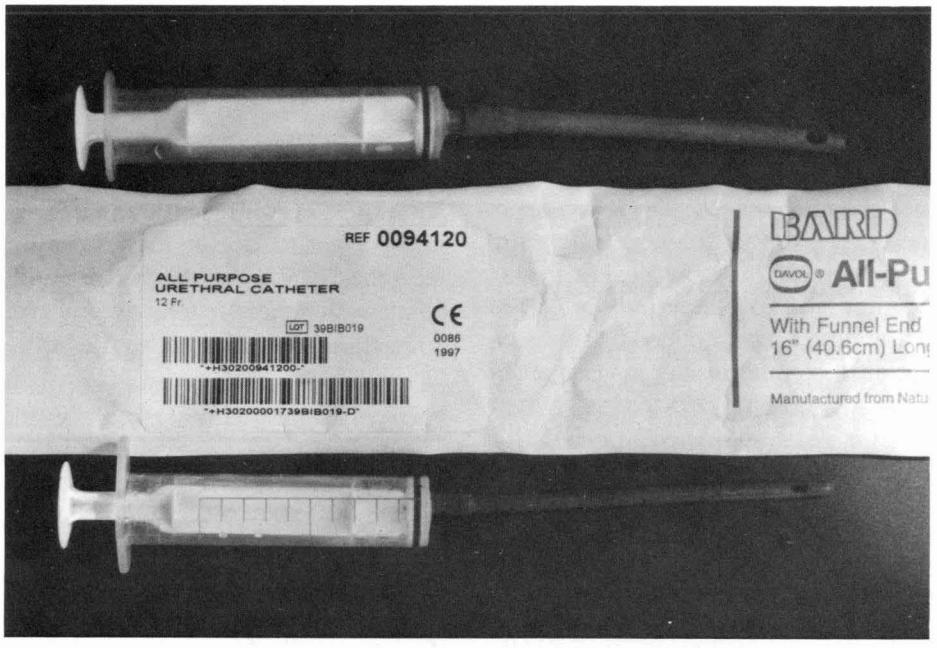
All seed and very little water: What and how a baby is fed makes a difference. Some parents will give a baby all seed and very little water. Most times this is noticed with the last few chicks in a clutch. The crop will have a hard feel to it. When the crop is gently squeezed it will leave an indentation where you pressed. In this instance a baby will quickly become dehydrated from lack of fluids. When I see a dehydrated baby, I supplement feed it a very dilute formula to get additional fluids into it.

Over time, dehydration can cause the baby to develop abnormally and have a stunted look. A stunted baby will have an oversized head, bulging eyes, and undersized wings and feet, in addition to a low-grade yeast and/or bacterial problem.



Photos by Carolyn Swicegood and Susanne Russo

Size 8-10 Fr. tubing on 1-cc syringe for tube feeding medicine and food into tiny birds.



10-cc syringe with catheter attached (size 12-14) for emptying out crops.

Too much fluid: On the other hand, some parents can give too much fluid which will result in not enough nutrients for the baby and/or an over-stretched crop. These parents tend to eat more of the soft foods that are available to them. I have found that with soft foods, the parents tend to be sloppier in how they feed. The baby will often have food crusted on its beak or in its mouth. Sometimes the food can also be matted on the head and in the down feathers on the baby's body. Therefore the next time the baby is fed the new food becomes contaminated by the old food on the beak and mouth.

The food buildup should gently be removed with some warm water on a soft cloth or a tissue. From my own personal experience, most of my yeast problems in the nest came from soft foods. I have found that the best time to give soft foods (egg food, rice, corn, etc.) is first thing in the morning when the birds are hungry. After an hour remove what has not been eaten. Any type of soft food can quickly build up harmful bacteria. I have found that limiting both the amount and the time that the Cockatiels have access to soft foods has reduced my yeast problems by 85%. Therefore, too much or not enough fluids, erratic feeding, and crusty mouths create a stressful situation for the baby. Carefully monitoring

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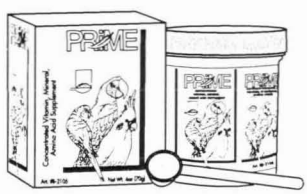

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this situation during the first 10 days greatly reduces the chances of yeast.

Chilled Babies

When a baby gets too cold it has to rely on its own body reserves to generate heat. If there is food in the crop, this also gets chilled which slows down digestion. Most parents are good sitters when a baby is small.

Sometimes a baby can get lost from the clutch and not be able to get back. The parents can move eggs but they cannot move a baby back if it is too far from the clutch. Most babies back up when they need to eliminate. If they back into a low spot in the nesting material, it is hard for them to get back to the clutch. If chilled for too long, they will die. As the babies start hatching I rearrange the bedding slightly so that the bedding in the box is bowl shaped, meaning that the babies are at the lowest point and the edges are higher. This tends to keep the clutch together, with less chance of a baby getting separated and chilled. When you find a chilled baby never assume that it is dead. First warm it up on a heating pad set to a low temperature. If there is still life, the baby should be able to move and be back on its feet within 20 minutes. Give the baby a drop or two of warm water and return it to the clutch. Chilling is another form of stress which can result in yeast, so monitor the baby the first day or two.

Bedding

I have found that the amount of bedding in the nestbox does makes a difference to the babies. Not enough bedding can result in cracked eggs before the baby is hatched. When the baby is on bare wood it is harder for it to stay warm and maintain body temperature when the parents are not sitting. There is also the risk of splayed legs from not being able to get a good grip with its toes. Two to three inches of pine shavings will add additional insulation from the cold, and the bedding tends to hold some of the babies body heat to keep them warmer. Most nestboxes tend to stay dry. The droppings will look like clay balls when dried. What you do *not* want to see is excessively wet bedding from the babies' droppings.

In this case the parents are either feeding the babies too much water or it could be an indication of yeast and/or bacterial problems starting. A sour smell in the nestbox is another indication that a problem is starting. When the bedding is wet, it is harder for the babies to stay warm. A baby's vent should be clean and free of feces. If you see a crusting around the vent, most likely this is from too much soft food, specifically egg nestling foods. Cutting back on the amount given tends to clear up the vent area.

Causes of Stress: a Summary

In summary, poor parenting and feeding skills, how and what a baby is fed, chilling, and nesting material all influence the health and well being of babies while in the nest. I have almost eliminated yeast problems in my nest babies by observing and monitoring these conditions.

Ideally, what you would like to observe during the first 10 days is a clean, healthy looking mouth and beak, and a slightly firm crop. The tongue should be dark pink and it should be free of any white discoloration or food under it. The skin color should have a healthy pink look. The down should be fluffy. The body should have a plump rounded look. The crop skin will have a transparency so that you can see the crop contents. The crop, when full, should feel firm, and you should be able to see a good mix of the seeds and fluids. The texture of the crop skin should be smooth and free of prominent red veins. When fed, the baby should be quiet and should huddle with its clutchmates while sleeping. Once your eye is trained to recognize the traits of a healthy baby, you will be able to spot any changes before problems become life threatening.

These suggestions can help you to prevent stressful situations for the baby, and help you to recognize a healthy baby, but you still need to know how to recognize yeast if and when it does develop.

Recognizing Yeast

Please do not attempt to use this information as a substitute for consulting with your avian vet. The information is intended to offer guidelines for recognizing yeast infections. If you are unsure of what is wrong, take the babies to your vet for treatment, and be sure to provide supplemental heat during the trip. Use this time to discuss with your vet what to look for and what to do in future situations. Several of the treatments that I suggest should be obtained from your vet.

Watch for Changes

Half of the battle is knowing how a healthy baby looks and acts. The other half of the battle is knowing what symptoms to watch for. When a problem starts, you will notice changes in the way that the baby looks and acts.

A hungry or sick baby will always cry and act restless with its wings outstretched. First determine if the crying is because the baby is empty. If so, you can supplement it with a little handfeeding formula and see if it settles down when it is returned to the clutch.

Mouth and the crop changes: If the baby has food in the crop and the body feels warm, look at the mouth and the crop to see if there are any changes. Are the crop contents visible through the crop skin? If the skin has an opaque/whitish cast, yeast could be forming. Is the down still fluffy, or does it have a wet stringy look? If the crop looks small for the age of the baby, and has a thickened look, again this may well be yeast. While in the nest, I treat with Nystatin twice a day for five days. Try to put the Nystatin in the crop when it is empty. Gently massage the crop skin so that the Nystatin makes good contact with the inside surface of the crop. If the crop skin also has visible red veins showing a secondary bacterial problem is starting, in addition to yeast.

Dehydration: Most likely the baby will also be showing signs of dehydration. The body will have a reddish look, and the toes will start to look very thin and "stick-like." Your vet can

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The tongue should be a healthy pink color.

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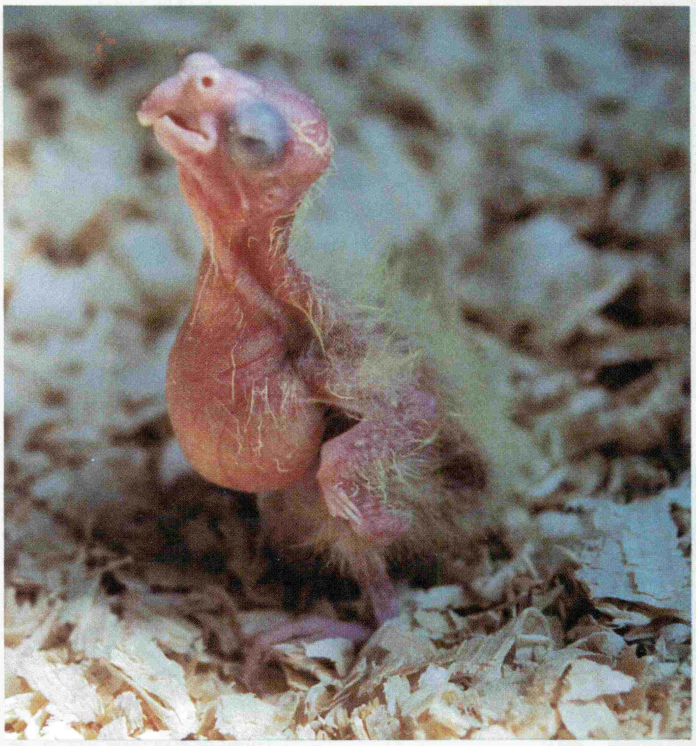
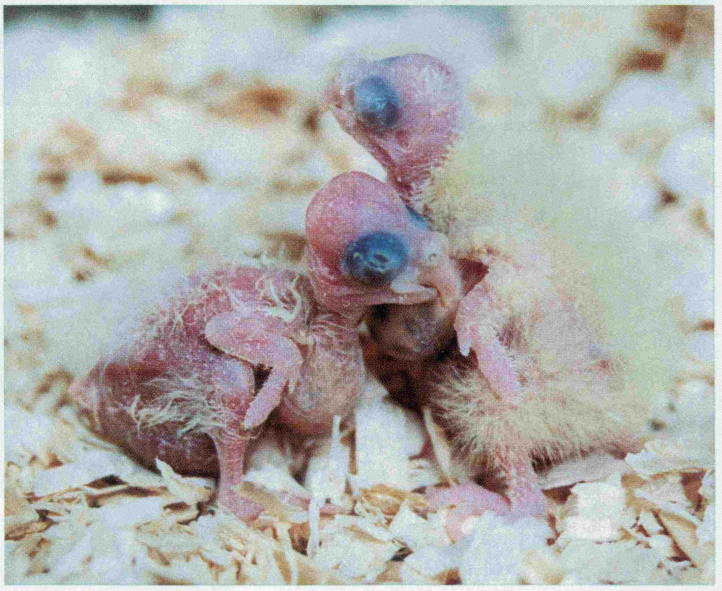


Note the prominent red veins in the crop.



Comparison of a stunted baby and a normal baby.

Outdoor breeder cages.

Photos by Carolyn Swicegood and Susanne Russo

Where it all begins – a pair of Pieds mating.

recommend the proper antibiotic in addition to an antifungal treatment. Note: When a baby is sick and dehydrated, the dehydration must be corrected first before any antibiotic treatment. If hydration is not corrected, this will reduce the chances of a successful treatment. Again, heat is vital when a baby is ill. You can either pull it for handfeeding and treatment or leave it with the parents while you treat it.

When the baby is under 10 days old, I will treat it while it is in the nest rather than pull it. I have found that the survival rate is higher if the baby is left with the parents. Rarely do I pull babies this young for handfeeding and treatment. Medicating at this age is also difficult when using a syringe. I will tube feed the treatment into the baby, using a two-inch length of size 10 French Catheter tubing attached to a 1 CC syringe. You can ask your vet to make or supply one. There is less risk of aspiration this way.

"Cheesy" mouth: If the inside of the mouth has a white or "cheesy" look, you can use a solution of 50% Nolvasan and 50% water to gently swab (with a damp Q-tip) the mouth twice a day. Do not try to "scrub" the build-up loose; just lightly swab the mouth. Also treat with Nystatin two times a day. Usually by the third day the solution will have "lifted" the yeast from the skin surface and chunks will come loose while swabbing.

Where it all ends; if things go well.

Oversized crop: The hardest problem to correct is a crop that looks oversized and has very watery contents, and a "gassy" bloated look to it. The first thing to do is to fully empty the crop. If you have never emptied a crop, have an experienced breeder or your vet show you how. After the crop is emptied, I give some Nystatin and a small amount of handfeeding formula. If I have other nests with babies the same size, I foster the baby to another clutch and monitor it several times a day. Sometimes a different feeder can remedy the problem.

If you have to pull for handfeeding and treatment, remember to keep the baby in a small warm container. Most likely the crop skin will be overstretched, so you will feed less formula more frequently to (hopefully) allow the skin to shrink to normal size. When a crop is grossly overstretched it will droop below the opening to the digestive tract. This opening is located at the base of the neck. When this happens the food cannot get into the digestive tract. Prior to each feeding, the old food has to be removed from the crop.

Crop bra: One excellent remedy for this is to fashion a "crop bra" which is used to lift and support the crop so that the crop is in the proper position for the food to enter the digestive tract. The bra also aids in the support of the tissues and allows them a chance to heal and shrink to normal size. A vet can fashion an H-shaped bra and fit it to the baby. It usually takes up to two weeks for the crop to return to its normal size.

So far we have discussed only problems that can occur in the nest. Yeast also can create havoc once a baby is pulled and is being handfed. Luckily it is easier to prevent when handfeeding.

I will cover this and more in the next issue.