

## Breeding Iguanas - Part 2

### Plan ahead to account for a female iguana's reproduction cycle.

*By Doug Mader, DVM, DABVP*

#### Post-Ovulatory Conditions

In the second scenario with the healthy female iguana, the ova will eventually ovulate and be transported to the shell gland where they undergo calcification. (Note: Iguana eggs do not harden like a bird's egg; they have a leathery texture.) Once all of this occurs, again, assuming that the female is in appropriate calcium homeostasis, she will ultimately oviposit, or lay her eggs, if the housing is correct (proper nesting sites available).

As mentioned, calcium is extremely important in maintaining normal physiology. This includes the muscle contraction needed for egg laying. Some females that have ample calcium stores to produce the shelled eggs may run out of the necessary mineral when it comes time to start contraction of their shell glands, a necessary step in egg laying.

These iguanas may also experience hypocalcemic tetany. However, these patients are not as critical as those in the pre-ovulatory tetany. They still must be managed medically, but once stabilized it may be possible to induce oviposition and avoid the need for surgery.

The key is to warm the animal to near the middle to high end of its preferred optimum body temperature, which for green iguanas is in the mid-90s. Once at the core temperature, the patient starts on oral or injectable calcium supplements, depending on the severity of the condition. Once stabilized, which may take a few hours to a few days, the animal can be induced to lay, assuming all other medical factors are in check or, if not, taken to surgery for removal of the eggs.

#### Determining Pre- Versus Post-Ovulatory Conditions

The most important factor to determine when deciding to manage the iguana medically or surgically is whether it has a pre-ovulatory or post-ovulatory condition.

In pre-ovulatory egg retention, the animal develops mature follicles, but due to some physiological intervention, there is follicular stasis prior to actual ovulation. The ova remain on the ovaries and do not resorb. If left in that condition, the follicular membranes will coalesce, forming one large mass of friable yolk. These will readily rupture (which can happen with rough handling), causing severe inflammation of the coelomic cavity, and death of the patient if not treated immediately and aggressively.

In post-ovulatory egg-retention, the ova have actually ovulated and then been picked up by the shell glands. They may or may not acquire a shell at this time, but for whatever reason, oviposition, or egg laying, does not occur.

It is essential that these two conditions be differentiated, because pre-ovulatory egg retention is not responsive to medical therapy. All of the injectable calcium and egg-laying hormones in the world are not going to help the patient. In fact, administering oxytocin, a hormone used to induce egg laying, may possibly do harm from the straining that the drug induces.

You can't always differentiate between the two different conditions. It is sometimes possible to distinguish between pre- and post-ovulatory egg retention by taking an X-ray. The only way you can tell for certain is if you see actual shell membranes around the eggs. If you do not see membranes, it may still be a post-ovulatory condition, it is just in the stage prior to the deposition of the shell. Oxytocin should never be tried unless the individual shell membranes are visible on an X-ray.

#### Initial Examination of the Patient

From my perspective, I would have to say that the majority of iguana owners have no idea that their pet is gravid (pregnant). The majority of cases that I see go like this:

Mr. John Doe brings in his pet iguana because it's not eating. It may be bloated, it may have difficulty walking, and it may be twitching. Mr. Doe does not even know the sex of his pet (good thing he named it Iggy).

Most of the time, I can tell the sex just by looking at the animal from across the room. Mature male iguanas have a very typical appearance: broad heads; large, ornate opercular scales; extensive, fanlike gular flap; impressive dorsal spines;

and often, especially in breeding season, brilliant colors.

Females, on the other hand, are usually more defined, having smaller, streamlined heads; small opercular scales, gular flaps and dorsal spines; and often, a pear-shaped abdomen.

Gently turning the patient over and examining the femoral pores will usually be the definitive test. Mature males have larger, better-developed femoral pores, many times excreting a wax-like substance. Caution, however, as I have seen many males with fairly small pores, and more than an occasional female with very masculine-sized pores. It is best to take all the factors into consideration when assessing gender.

If you suspect that your pet may be gravid, have it examined by an experienced herpetoculturist or your favorite herp veterinarian.

Just as in people, it is important to prepare for the event by ensuring proper nutrition (if your pet is still eating), housing, temperature, humidity and nesting material. Even in those animals that have stopped eating, I recommend balanced pre-natal vitamins, or at least a calcium supplement.

At the time an animal is brought to me for a "pregnancy" evaluation, the first thing I do is try to determine the stage of gestation. Actual gestation (the time it takes from the beginning of egg formation until egg laying) takes about eight weeks. For the first four weeks, the animal does not show many overt changes other than an initial increase in appetite and a slight weight gain. If in good condition, the gravid female will usually stop eating during the last four weeks of gestation. As mentioned, this is because the egg masses essentially fill the coelomic cavity, not leaving room for stomach filling.