



AKC Breeder

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The American Kennel Club's Quarterly Newsletter for Breeders

The Whelping Box

Raising a Breeder Janelle Smedley

If you are considering becoming a mentor for an aspiring breeder, first I would say congratulations and thank you for doing your part to keep all that we love growing and flourishing. Next, there are things I would like you to consider.

Becoming a mentor should not be undertaken without a lot of soul-searching on your part. Are you really ready to not only share your knowledge, but also open your mind to someone who has her own dreams and ideas?

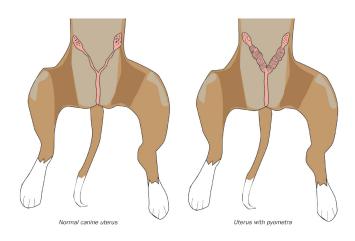
Becoming a mentor is very similar to raising a child. It is your job to give this newcomer all of your wisdom and guide her as she makes their way. After all, you have traveled these roads before her. You have bred multiple litters and seen all that can go wrong, as well as the joy in finding that perfect breeding. You have probably dealt with a lot of different people, some of whom have treated you dishonestly. You have placed multitudes of puppies and know how to pick that perfect home, be it show or pet.

By sharing this wisdom, you hope to help this newcomer avoid some of your mistakes and gain from your successes. Maybe you have hopes that she will someday continue your line in a way that can make you proud.

Just like a parent, however, you must be ready to let her go out on her own. She may make mistakes, and she may get hurt or even hurt someone else. It is okay for her to falter, because you have given her a solid foundation to fall back on.

As a mentor you must understand that

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Pyometra Panic

Warning signs and treatment of a potentially fatal infection

By Beverly Stanley, ELS

Latie bred her first show bitch, Missy, who had four beautiful puppies at age 3. Katie bred her again without success, and then tried again at age 5. About a month after the last breeding, Missy was tired, had no appetite, drank a lot of water, and urinated frequently. Her abdomen was swollen and she vomited and shivered.

Alarmed, Katie rushed her to an emergency clinic. The veterinarian performed an ultrasound, finding an enlarged uterus. Based on her history and symptoms, he told Katie that he suspected Missy had closed pyometra and recommended an immediate ovariohysterectomy (spay) to save her life.

Pyometra is a hormonally influenced disorder of a uterus infected with bacteria. It occurs more often in bitches over 6 years of age and in those who have never had puppies, but it can occur in any bitch at any age after the first heat (estrus). Between two and eight weeks after estrus, infection causes the uterus to fill with pus. Swelling causes pain and distends the abdomen, and sometimes pus comes through the cervix and out of the vulva as a blood-tinged, yellow-green, foul-smelling discharge. This is called "open pyometra" and is more easily discovered. The more insidious "closed pyometra" has no outward drainage of pus from the ballooning uterus. In either case, toxins enter the bloodstream and affect the kidneys, causing overall fatigue, thirst, and frequent urination as the pressure causes pain and gastrointestinal symptoms. Rarely, the uterus may rupture, as in appendicitis, or even more rarely, the contents may backflow into the abdomen, causing severe and often deadly abdominal infection.

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AKC MISSION STATEMENT

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"PYOMETRA PANIC" continued from previous page

There may be no initial symptoms with open or closed pyometra, as the infection is first isolated in the uterus. But the bitch may quickly go into shock as the bacterial toxins and infection leak into her system. Immediate treatment is needed, yet symptoms are easily missed. Periodically checking for pus in the usual white or clear vulvar secretions or observing it in the fur near the vulva (or on the bedding) is a red flag. Fatigue, lack of appetite, and abdominal swelling may go unnoticed or be excused for pregnancy in closed pyometra (as in Missy's case), but vomiting and diarrhea; excessive drinking and urination; a painful, swollen abdomen; and fever (approximately 20 percent have fever) mean an immediate trip to the emergency clinic?don't wait!

Untreated pyometra can be fatal, and immediate surgery may be best for saving the life of a bitch showing severe signs of the disease. Laboratory tests on blood drawn will confirm infection and, more immediately, a vaginal cytology test performed by your veterinarian is an excellent method of diagnosing this condition early on or confirming it after symptoms are observed. Stabilization with intravenous fluids and antibiotic therapy may be necessary before surgery is possible. After surgery, antibiotics will be continued for two weeks or more and will be monitored for symptoms of infection, and kidney, liver, and other organ damage. Missy made a complete recovery after surgery.

What Leads to Infection

Pyometra is not caused by bacteria alone, but from a combination of factors that involve the uterine lining (endometrium), the hormones estrogen and progesterone, impaired immunity, and infective bacteria. In the first phase of estrus, the estrogen level in the blood increases, the vulva swells, becomes warm (thus the term "in heat"), and there's a normal bloody vulvar discharge as progesterone and estrogen cause the uterine glands to grow and thicken to nourish fertilized eggs.

As ovulation approaches in the next phase, estrogen decreases and that decrease greatly stimulates the effects of progesterone on the uterine lining. This helps set the stage for pyometra. The lining is reorganized and

regenerated, pregnancy or not, but incompletely absorbed in some areas. This can then overgrow under hormonal influence and may cause cysts to form in a condition known as cystic endometrial hyperplasia (CEH).

With each cycle, hyperplasia waxes and wanes as the bitch repeats the estrous cycle and it is this process that can lead to pyometra. Themucus secreted by the cysts that form over time inflames the uterine lining, helping to make conditions right for bacteria to multiply out of control.

After ovulation, progesterone decreases the response of white blood cells to sperm to aid in fertilization, but consequently, this action lets the guard down for killing bacteria that may enter the open cervix. Progesterone also decreases uterine contractions and closes the cervix, keeping sperm inside the uterus and trapping the bacteria there as well. They grow hidden and quickly within the inflamed lining, nourished by mucus and protected from body defenses.

Walter R. Threlfall, DVM, is a theriogenologist (reproductive specialist) at the department of Veterinary Clinical Sciences, The Ohio State University. He says, "Endometrial hyperplasia probably occurs in all bitches, but the degree to which it occurs varies. It isn't based on the concentrations of the hormones, but on how each bitch 'deals' with those hormones and that may vary with each heat."

Pyometra may affect bitches of any age following estrus, but it is seen more often in mature bitches due to many years of CEH buildup. Because Missy was not bred for almost three years, CEH could have begun before her first litter, building during the following cycles, providing ripening conditions for finally developing pyometra at 5 years. Natural breeding, artificial insemination, or a urinary-tract infection can introduce variably infective bacteria into a susceptible uterus. Administration of estrogen to prevent pregnancy after a "mismating" or to delay heat presents a significant risk of pyometra.

Alternate Treatments

By the time pyometra is diagnosed, future breeding is questionable. If pyometra is caught early, and the bitch is valuable for breeding, some breeders may opt to treat it with

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Too Darn Hot!

Protect your stud dog from thermal damage

Carolyn Russell Gold

There are many issues that can keep a stud dog from being able to reproduce by affecting sperm production. One is "thermal damage," which can be caused by heat stress, known as hyperthermia.

The information we have about this problem is, unfortunately, anecdotal at this time with respect to dogs. There has been research on the topic with regard to mammalian reproduction in general (see "The Effects of Heat Stress On Mammalian Reproduction" by Peter J. Hansen, Dept of Animal Science, University of Florida),

where farm animals were used for research, but there has not been any research dealing specifically with dogs. (As Hansen's article discusses, hyperthermia can also affect females.)

Reproductive specialist Autumn Davidson, DVM, says she "has concerns about hyperthermia experienced during strenuous training impacting spermatogenesis." Testicles in all mammals are on the outside of the body because the internal, normal body temperature (for humans, 98 degrees Fahrenheit; for dogs, 102), would destroy sperm and the ability to reproduce.

The danger for a stud dog is hyperthermia, where the body temperature rises above normal and kills sperm. The dog can become temporarily—or in very severe cases, permanently—sterile.

There are other issues that can affect sperm production and even cause a stud dog to become sterile, including autoimmune disease, cancer/tumors, certain medications, and infections.

A Watchful Eye

Thermal damage from hyperthermia/heat stress can occur when a dog is exercised strenuously, especially in hot weather, causing the dog's body temperature to rise above normal (102 degrees). This can happen when a dog is exercised for showing, such as by biking or on a treadmill, or when training for field events or any performance event, such as herding, lure coursing, and so on, where a dog is "road worked" alongside a four-wheeler. If he is running free, usually a dog will stop exercising on his own when his body temp rises dramatically to a dangerous point. However, when being trained and exercised when he cannot stop on his own, the danger for hyperthermia and hence, thermal damage, increases.



From the little knowledge we have about this issue, it appears there is not a quantifiable "safe formula" for exercise. It is not possible to say "30 minutes of exercise three times a week in mild safe," weather is conversely, "30 minutes of exercise three times a week in hot weather is not safe and may cause thermal damage." Not enough research has been done to enable a "formula" for safe exercise to be developed and, because individual dogs' bodies differ, as with humans, a "safe formula" may not be possible. Many factors come into play in making a situation

dangerous for a dog to overheat, so making an overall "safety statement" is difficult. A *watchful eye* is your best guide for safety. Strenuous, and especially forced, exercise in hot weather should be avoided. Collecting the stud dog is the best way to determine if his semen is viable for breeding.

Racehorses often have a low sperm count while they are being trained and competed. When they are put out to pasture for stud, the sperm count usually returns to normal. The same is true for stud dogs who are under stress and are exercised strenuously for competition in the show ring or in field and other performance events.

If a dog is collected and found to be sterile and hyperthermia is suspected, healthy sperm should return within 90 days, but only if strenuous exercise is avoided. When healthy, dogs constantly produce sperm. All sperm is replaced within a 60-day period.

Human athletes experience thermal damage from hyperthermia, as can men who sit in hot tubs for too long a time. Letting a stud dog lie on any hot surface repeatedly can cause thermal damage, as in having contact with a hot metal crate-bottom or hot asphalt or cement, or sitting in hot water.

The best way to tell if a dog could be headed for hyperthermia would be to take his temperature before and immediately after exercising to make certain the normal body temperature of 102 is not being exceeded. Thankfully, from what we know, thermal damage is not permanent in most cases. Given rest, the dog's body will heal itself and produce healthy sperm.

Carolyn Russell Gold is the Gordon Setter breed columnist for the AKC GAZETTE. This column originally appeared in the October 2013 GAZETTE.





Inside AKC



Safe and Sound

AKC Pet Disaster Relief rolls out help for pets coast to coast

AKC Pet Disaster Relief, a program dedicated to keeping pets and their owners safe during storms, fires and other natural or civil disasters, presented its first-ever trailer to emergency officials from North Carolina's Pamlico County on October 30, 2013.

The trailer was presented to Chris Murray of Pamlico County Emergency Management during a ceremony held at the Agriculture Building Plaza in downtown Raleigh attended by representatives from the North Carolina Department of Agriculture, including Director of Emergency Programs Sharron Stewart, and the Department of Public Safety, including Deputy Secretary Ellis Boyle, as well as State Representative Michael Speciale.

AKC Pet Disaster Relief supplies create a safe, temporary home-base for at least 50 pets immediately after a disaster is declared, whether it is a for a co-location shelter where people can evacuate with their pets or as an emergency animal shelter for displaced animals. The trailers house and deliver essential supplies such as fans, lighting and generators; cleaning supplies; maintenance items; and animal care items including crates and carries, microchips and a scanner as well as bowls, collars and leashes.

"We were proud to kick off this program in North Carolina, the home state of AKC Reunite [formerly AKC Companion Animal Recovery], and look forward to expanding the program across the U.S. to help as many pets and owners as possible," AKC Reunite CEO Tom Sharp said. "The beauty of successful public/private partnerships like AKC Pet Disaster Relief is that it can help states and counties prepare for disaster without taxpayer dollars."

The purchase of Pamlico County's first-ever emergency trailer was

made possible by \$22,000 in donations and grants from North Carolina's Forsyth Kennel Club, the German Wirehaired Pointer Club of America, the English Springer Spaniel Foundation, the American Chinese Crested Club and AKC Reunite.

In addition to the Pamlico County trailer, members of AKC Kennel Clubs in other cities across the country have dedicated themselves to raising money to supply AKC Pet Disaster Relief to their local Emergency Management. Federal law requires municipalities to prepare and care for citizens and their pets in the event of disasters like floods, hurricanes, tornadoes, earthquakes and wildfires.

Over 65 dog clubs, including national parent club organizations with members in every state and local groups in Northern New Jersey, Arizona, Ohio, New York, Tennessee, North Carolina and Connecticut, have donated money toward AKC Pet Disaster Relief trailers. The national Orthopedic Foundation for Animals has donated a trailer to Missouri, the state where it is located, and Atlanta Kennel Club will have a trailer delivered to Georgia shortly. AKC Reunite has also pledged \$250,000 over the next two years to assist with funding.

Individuals, corporations and other interested parties can donate to trailer projects in local areas or across the country. Donations are tax deductible and accepted online. Approved organizations that raise a minimum of \$1,000 will have their logo featured on the AKC Pet Disaster Relief trailer.

Learn more about how to get involved in AKC Pet Disaster Relief at *akcreunite.org/relief*, or contact AKC Reunite at 919-816-3980 and *relief@akcreunite.org*.





Think legislation doesn't affect you? Think again.

Today your rights as a dog owner and breeder are threatened by unjust limit laws, breed-specific bills, and breeding restrictions. AKC works for responsible dog ownership and responsible legislation. Each year we monitor more than 1,000 state and national bills to protect the rights of dogs and their owners. We can't imagine a world without dogs — can you?

For more information visit www.akc.org/canine_legislation or contact doglaw@akc.org



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Selecting the Most Appropriate Fertilization Method

By Dr. Rick Kesler, DVM

Reproduction management is one of the essential roles of any successful kennel. Its success is generally a result of proper nutrition, environment, hygiene, stress management, whelping area and having a complete understanding of the factors governing reproduction. Reproduction in dogs is the process where the sperm of the male reaches an egg of the female. The egg is fertilized and then moves into the gestation cycle, eventually producing viable offspring. Historically, that process was predominantly achieved though natural mating.

NATURAL MATING

The physical act of a stud and a bitch in heat coming together to breed is known as natural mating. Although this is an innate ability in dogs, it is important to be actively involved in the process to verify that the male and female breed at the correct time in her cycle and to confirm a "tie" is achieved. Successful breeding can occur without a tie, but success rates are generally lower. Mounting and tying are preceded by a short period of interaction including flagging by the bitch and sniffing

by the stud. After mounting and copulation, the tie should last for at least five minutes or up to a half-hour as the vaginal muscles constrict around the bulb of the penis. Despite advancements in the diagnosis of ovulation, it is more sensible to repeat copulation 48 hours later. However, more than two copulations are not necessary if the bitches' ovulations have been monitored closely. There is a risk of superfecundation (fertilization by more than one male) in dogs, so the bitch should be isolated from other males until all signs of estrus have disappeared.

It is possible for a stud and a bitch to be physically or behaviorally incompatible. There can also be anatomical reasons that prevent natural mating from being successful such as a vaginal stricture in the female. If natural mating is difficult for any reason, the breeder may elect to use artificial insemination.







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For more than forty years, Royal Canin and dog breeders worldwide have united in a common goal of improving the health of dogs. Royal Canin's commitment to Knowledge and Respect and the relationship with professionals and experts will continue to serve that goal for years to come.

ARTIFICIAL INSEMINATION (AI)

Today's technological advancements make it possible for a breeder to achieve a healthy litter of puppies through human intervention when challenging circumstances have been encountered during natural mating. Artificial insemination (AI) is a



This involves obtaining semen from a male and immediately inserting it in the female's genital tract so that fertilization can occur in the absence of natural mating.

COMMON REASONS THAT BREEDERS MAY DECIDE TO USE AI INCLUDE:

- Refusal of the stud by the bitch
- Intent to protect the male from sexually transmitted diseases
- Inexperience of one or both dogs
- Anatomical defects of the male or female
- Pain experienced during mounting or copulation (in the vertebrae, hind legs, penis bone or vagina)
- Lack of libido
- Disproportion in the size of the dogs
- Splitting a semen sample to breed more than one female

allowing for the storage of valuable genes for years.

Different AI techniques are available but all have the same goal: to produce viable puppies. AI can be done using fresh, chilled or frozen semen. It is accomplished by placing semen in the vagina, across the cervix, or into the uterus directly. Each technique is different and each has its advantages and disadvantages.

There are disadvantages to AI such as increased expense in some cases. We also need to be aware that we do not use AI to overcome an underlying inheritable disease in which reluctance to breed is a clinical sign (such as hip dysplasia).

ARTIFICIAL INSEMINATION CAN
BE AN EFFECTIVE METHOD TO
ENCOURAGE GENETIC DIVERSITY
AND BREED IMPROVEMENT.

Artificial insemination can be an effective method to encourage genetic diversity and breed improvement. Breeders are able to evaluate semen prior to breeding, making it possible to breed dogs that are separated by

large distances or other barriers and

The use of fresh semen collected by a breeder and placed in the vagina of a bitch was first described in the 1700's. It is always best to use a proven stud that is free of known disease. Collecting semen from the stud is straightforward and easily





accomplished in most cases. The use of a teaser bitch makes this procedure go quicker but many studs can be trained for collection without a female present. Semen analysis (quantity and quality of sperm) is helpful but not critical. It is very

difficult to place the semen in the bitch's cervix since it is at a 90 degree angle to the vagina. In most cases a syringe and pipette are used to place the semen in the anterior vagina. Studies have shown that success rates are comparable to natural breeding.

There are now techniques available that allow fresh semen to be placed across the cervix. The development of the Norwegian catheter allows for semen to be deposited past the anterior vagina. The technique requires patience and expertise in not only passing the catheter but manipulating the cervix anatomically during the procedure. The use of chilled or frozen semen in some studies has shown lower fertility rates. A cystoscope allows for visualization of the cervix and passage of the catheter into the cervix. If the sperm are of adequate number and quality and AI takes place at the right time hormonally than excellent conception rates are achieved.

Intrauterine artificial insemination performed surgically has high success rates but is done only once during estrus due to the requirements for general anesthesia and abdominal surgery. The bitch must be at her most receptive time in her cycle as determined by hormone levels and the quality and quantity of the sperm must be excellent. Sperm from frozen semen once thawed is not viable for long so the timing is critical.

When performing artificial insemination it is important that you know the criteria required by the certification and registration clubs. Frozen semen usually requires that the stud be DNA tested. By determining hormone levels the timing of ovulation can be predicted. Also, by examining the semen for quality and quantity we can achieve success rates that are comparable to natural breeding.



Rick Kesler, DVM

Dr. Rick Kesler has nearly thirty years of experience as a practicing veterinarian and has a special interest in reproduction. As a former breeder, he has been actively engaged with the canine breeder community and continues to share his knowledge by speaking at education seminars across the country. Dr. Kesler works directly with breeders on a daily basis to consult on kennel management, nutrition and reproduction techniques. His passions include neonatology and educating breeders on how to reduce the incidence of brucellosis.









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"THE WHELPING Box" continued from page 1



every breeder has her own vision; she was not meant to copy you but to create something totally new. You can take pride in knowing that you shared your gift and have made your breed stronger.

All too often the mentor-student relationship fails. People who once shared a great friendship become angry and drift apart. The strong emotions associated with dog breeding can get in the way of people seeing the big picture. Just as in a parent-child relationship, there must be mutual respect and at some point a letting-go. The relationship must change to allow for individual goals and beliefs. Instead of letting the relationship fail, a mentor needs to redefine her role. Instead of trying to lead, she can try listening and supporting without judgment. Faith in the character of the student must come into play at some point.

If ego can be put aside, the role of mentor is one of the greatest gifts any breeder can give the breed. Do you have what it takes? It is not always the easy way, but being a mentor can also end up being a gift to yourself. Ask any parent.

Janelle Smedley is the English Toy Spaniel breed columnist for the AKC GAZETTE. This column first appeared in the June 2013 GAZETTE.

"PYOMETRA PANIC" continued from page 2

antibiotics. This is not highly successful because infection will continue unless uterine pus is purged. In countries outside the United States, treatment includes antibiotics in con-junction with prostaglandins to force uterine contractions to expel the infected contents, but these drugs can cause adverse side effects and careful monitoring is necessary. They should not be used in closed pyometra, as it may cause uterine rupture. Treated bitches have reduced fertility and the chance of recurring pyometra is very high (50 to 75 percent). The bitch must be

bred at *every* cycle thereafter to prevent reoccurrence of pyometra. The U.S. Food and Drug Administration (FDA), however, has not approved these drugs for treatment of canine pyometra in this country.

Threlfall says that in the United States the treatment of bitches with a combination of antibiotics and prostaglandin F2-alpha is an acceptable practice, and he has used it since 1980. Lack of FDA approval is a funding, not a safety issue, he believes, and he treats stabilized bitches who are not severely toxic.

If you do not plan to breed your bitch, spaying is the best way to avoid pyometra. The

incidence of this disease increases with time, and the cost of spaying is much less than the emotional cost of losing a beloved pet to a preventable disease. If she is an asset to her breed and you plan litters, be sure to check for symptoms of pyometra, particularly after each estrus, whether she is bred or not. When her breeding days are over, have her spayed. Be sure to discuss these options with your veterinarian.

Beverly Stanley is a medical editor and writer who has bred and exhibited Silky Terriers and Papillons for over 30 years and currently shows a Toy Fox Terrier.



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Hope to see you there soon!



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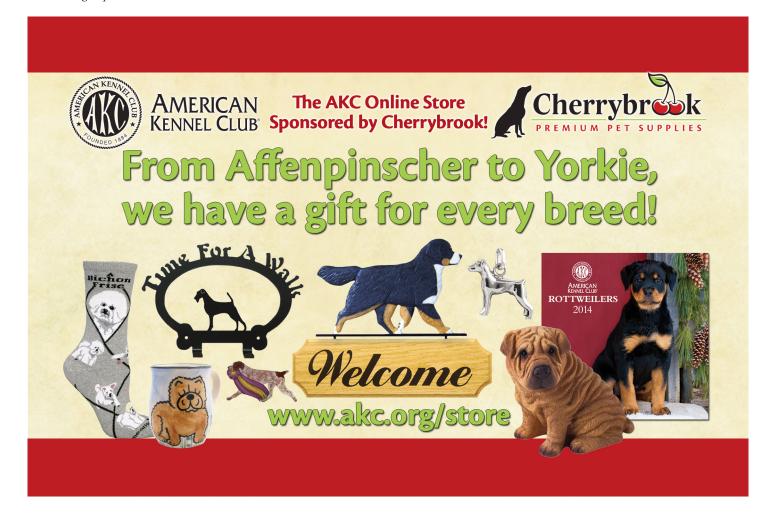
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