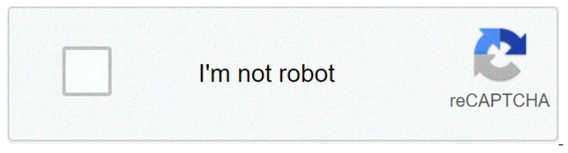

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Kitten coming out tail first

Vetsuite Veterinarians General Practice & Preventative Medicine - Theriogenology BE PREPARED Pregnancy and giving birth can be a frightening, confusing and painful experience for both you and your cat. However, understanding proper pregnancy care can help make the process go more smoothly and help you know what is normal. It can also help you to determine when it is time to get the veterinarian involved. GESTATION Many people consider the time from breeding to delivery to be gestation but this is not completely accurate. The true definition of gestation is the time from conception to delivery. In the queen, a female cat, gestation is 63 days. Knowing the exact time of conception, however, is difficult since a queen can be receptive to the male before and after ovulation. For this reason, the time from breeding to delivery is usually somewhere between 58 to 70 days. Your veterinarian can help narrow this time frame by examining the cells of the vaginal wall.Be aware that because your queen bred, this does not mean she is pregnant. For confirmation of pregnancy, an examination, with ultrasound and possibly x-rays by your veterinarian is suggested. NUTRITION Once pregnancy is confirmed, proper care of the mother-to-be is very important. Before breeding, make sure she is up to date on all her vaccinations. It is not recommended to vaccinate your cat during pregnancy. Also, make sure she is dewormed and tests negative for feline leukemia and feline immunodeficiency virus. After breeding and conception, the nutritional demands of the mother increase. This need for more increased calories and increased food continues throughout pregnancy and nursing. At the time of breeding, begin slowly changing the queen's diet to a growth formula or a pregnancy and lactation diet. Continue this diet throughout the remainder of pregnancy and until the kittens are weaned. Vitamins or other supplements are not recommended nor needed. With a proper diet, your cat will receive the proper amount of nutrients. Excessive amounts can actually result in birth defects. PREPARING FOR DELIVERY As the time of delivery approaches, you way want to make a queening box to provide a safe, clean and comfortable area for your cat to deliver. Queening boxes should be easily accessed by the mother but escape-proof for the new arrivals. You can use wood, Formica or any easily cleaned building material. Some people use small plastic children's wading pools. Whichever type of box you choose, make sure it is large enough for the queen to stretch out comfortably. Make sure the sides are just low enough for the mother to step over and place the box in a warm, dry, draft-free area. If possible, try to choose a quiet and secluded area. Initially, place newspapers on the bottom of the box for easy clean up. Once all the kittens are born, place blankets or towels to provide some footing for the kittens. Be aware that you must get the queen used to the queening box before the birth. If not, she may make her own decision on where to have the kittens – and this may be a closet, a pile of fresh clean laundry or even in the middle of your bed.An additional suggestion is to have your cat examined by a veterinarian toward the end of pregnancy. A thorough physical exam, along with ultrasound or x-rays can help determine how many kittens you can expect. This way, you will know when she is done delivering and not just in another resting phase between kittens. LABOR AND DELIVERY As the time of delivery approaches, twice daily monitoring of the queen's body temperature will help alert you to the impending birth. About 24 hours before the beginning of labor, there will be a temporary drop in the body temperature. Normal temperature is 101 to 102.5. Twenty-four hours prior to labor, the temperature can drop to 98 to 99 degrees. LABOR STAGE I After the temperature drop, stage I labor begins. This is the time when the queen becomes restless and anxious. You may notice panting, pacing, refusal of food and maybe vomiting. Nesting behavior begins. This is the time to place her in the queening box (hopefully she is already accustomed to the box). After getting settled in the queening box, you may notice her dragging clothing or fabric to the area to form a comfortable bed. You may want to remove any clothing as queening begins or these pieces of clothing may be permanently stained. This stage of labor typically lasts 6 to 12 hours. At the end of stage I, the cervix is completely dilated. If your cat has not started queening within 24 hours after starting stage I labor, veterinary assistance is recommended. LABOR STAGE II Stage II labor is defined as the part of labor when the kitten is delivered. Visible contractions begin. The abdomen tenses and the queen begins straining. This action will appear similar to the queen trying to have a bowel movement.The first kitten should be delivered within 1 to 2 hours of the onset of contractions and straining. Veterinary assistance is strongly encouraged if the first kitten is not delivered within 2 hours after the onset of contractions.After delivery of the kitten, the queen may enter a resting phase that can last up to 4 hours but typically only lasts about 30 minutes. Active straining will begin again and more kittens will be delivered. If you know there are additional kittens yet to be born and the resting period is longer than 4 hours, veterinary assistance is necessary. This resting phase may not occur after each delivery. Sometimes, several kittens may be born rapidly. LABOR STAGE III After delivery of a kitten, the queen may enter stage III labor. This is the time when the placenta, or afterbirth, is delivered and usually occurs 5-15 minutes after delivery of the kitten. If multiple kittens are born rapidly, several placentas may be expelled together. After the passage of the placenta, the queen will return to stage II labor. She may continue the resting phase or begin contracting. Throughout queening, the queen will fluctuate between stage II and stage III labor until all the kittens are born. It is very important to keep track of the number of placentas. There should be the same number of placentas as kittens. If a placenta is retained in the uterus, the queen will eventually become quite ill. QUEENING As soon as the kitten is born, the mother should immediately start cleaning the kitten. She should lick the kitten vigorously, remove him from the amniotic sac if it is still present, and chew the umbilical cord. She may even ingest the placenta. This is not necessary and, sometimes, can lead to vomiting and diarrhea. Prompt removal of the placentas can get them out of the way and help you keep track of how many placentas she has passed.Those kittens that are born still in the sack need immediate help. If the mother does not open the sack and begin cleaning the kitten, it is up to you to help. Tear the membrane of the sack and begin cleaning and rubbing the kitten with a clean dry towel. You may have to clean other kittens if the mother is not showing much interest in her newborns. Tie off the umbilical cord about 1 inch from the belly wall using string, thread or dental floss. Cut the cord off on the other side of the tie. Clean and rub the kitten vigorously until you hear crying. Place the kitten back with the new mom and make sure she allows her kittens to nurse. Being prepared to assist and understanding newborn kitten care is essential to help the mother and her babies through these first steps of life. Articles Home Dog Care Cat Care Diseases Symptoms Drug Library Tests Procedures The beauty of birth is a rewarding experience, but most cats don't want onlookers during delivery. It is important in cat care to be ready in case complications occur. Despite all your preparations, the cat may have them someplace else.In preparation for queening or a cat giving birth, the cat will become very restless and very vocal. Often a queen will dig around the queening box as if nesting and will lose interest in food. These signs may indicate birth will occur within 24 hours.If any of the following situations occur, the cat needs immediate veterinary care:Failure to deliver within three hours of intermittent laborFailure to deliver within 30 minutes of continuous hard labor.Heavy, bright-red bleeding during labor.Brown or foul-smelling discharge during labor.General weakness of the mother.Failure to deliver by the 66th day of gestation.Presentation of the first water sac with no delivery after one hour.It is absolutely vital to provide a secluded place for the mother to have her litter. After delivery, the kittens should not be touched or disturbed. If a cat is having problems with the birthing process, use the following cat care tips.If the Kitten is Stuck in the Birth CanalMethod AStep 1: Grasp the kitten with a clean towel.Step 2: Applying steady traction, gently pull the kitten at a slight downward angle. Continue pulling gently and steadily until the kitten is delivered.Step 3: If you are unable to remove the kitten, or if the mother is uncooperative, contact the veterinarian immediately.If the Kitten Isn't Cleaned by the Mother After DeliveryMethod BStep 1: Put the kitten, covered in the fetal membrane, into a clean towel.Step 2: Peel the membrane off its face immediately.Step 3: Continue to pull the membrane from its body. The membrane will collect around the umbilical cord. Do not pull on the umbilical cord.Step 4: Wipe any fluid off the kitten's nostrils and mouth. Rub its body vigorously with a towel to stimulate breathing.Step 5: If there is heavy mucus in the mouth and nose, clean out what you can with your finger.Step 6: If the kitten is still having trouble breathing:Step 6a: Place the kitten on its back on a towel in the palm of your hand.Step 6b: Cradle its head by closing your thumb toward your fingers.Step 6c: Using your other hand to secure the kitten, lift your hands to head level and swing firmly down toward the floor. Repeat several times.Step 6d: Vigorously rub the kitten again with the towel.Step 6e: Stop when the kitten is actively moving and crying.Step 7: Tie a thread around the umbilical cord about one inch above the kitten's abdomen. Leaving the tied position attached to the kitten, cut off the rest of the umbilical cord and fetal membrane.Step 8: Place the kitten with its mother. She will take care of the rest. If she does not take care of the kittens, or if any other problem develops, contact the veterinarian as soon as possible.©Publications International, Ltd. While many authors believe that problems in parturition (birth) are rare in the cat, others feel that with the progression of selective breeding these problems are becoming more common. The effect of this has been shown in a survey of over 700 breeding cats, which found that cats with extremes of conformation, such as Siamese and Persians, experienced much higher levels of dystocia (difficult births), 10 per cent and 7.1 per cent of births being affected respectively, compared to only 2.3 per cent of births being affected in cats with normal conformation. It is therefore very important that breeders are aware of the details of normal parturition so that they can recognise a problem when it arises. In pregnancy, the foetuses are spaced along each horn of the uterus. Each foetus is contained within its own membranes and has its own placenta through which it derives nourishment. The uterus may be considered as a muscular, sausage-shaped bag, capable of contracting both around its diameter and along its length. To help in its passage, each foetus is contained within a fairly tough double-layered bag of foetal membranes, which are filled with slippery fluid in which the foetus floats. This serves as both protection and lubrication and provides a distending, stretching and dilating force when the uterus relaxes in front of it and contracts behind it during the course of parturition. Late pregnancy and premonitory signs of parturition In the cat pregnancy generally lasts for 63 to 65 days; however, it is not unusual for some cats to carry a normal litter for either a shorter or longer time (range 58 to 70 days). The cat's behaviour alters little until the final week of the pregnancy. During that final week, the search for the most suitable kittening bed becomes the dominant factor. Cats should be confined from this time to allow for observation of labour. Generally, two types of temperament are seen in cats at kittening: the independent type which will go to extreme lengths to discover a dark enclosed space well away from human contact, and the dependent type which will go to equal lengths to seek comfort in the presence of its owner and may well choose the owner's bed as the best place for kittening. The stages of parturition For the stages of birth see here. Interrupted labour So-called interrupted labour is common enough in the cat to be considered a normal occurrence. In this case, when one or more kittens have been born, the mother will cease straining and rest quite happily, suckling those kittens already born. She will accept food and drink and is in every way completely normal except that it is obvious from her size and shape, and the presence of foetal movement, that there are still kittens waiting to be born. Some rather dependent cats will deliberately delay or interrupt labour if the owner has to go out. This resting stage may last up to 24 or even 36 hours, after which straining recommences and the remainder of the litter is born quite normally and easily. Abnormalities of labour – dystocia Dystocia (difficult birth) can be classified as either maternal or foetal in origin, depending on whether it is caused by problems with the queen or kittens. Dystocia can also be classified according to whether it arises from obstruction of the birth canal or a functional deficiency of the uterine muscle. Obstructive dystocia is caused by disproportion between the size of the kittens and the maternal birth canal. Factors resulting in an inadequate size of the maternal birth canal may include disorders of the maternal skeleton (healed pelvic fractures), the pelvic soft tissues (severe constipation), or the uterus itself (uterine torsion or rupture). Foetal causes of obstructive dystocia may result from malpresentation, severe foetal malformation (eg, hydrocephalus, Siamese-twins), foetal oversize or foetal death. Functional dystocia is usually termed inertia and can be either primary or secondary. Primary inertia is by far the most common cause of dystocia in cats. It is seen when the uterus produces none, or only weak, infrequent contractions and there is a failure of expulsion of normal kittens through a normal birth canal. Primary inertia may be related to stress, old age, obesity, ill health or the administration of certain drugs. It has been suggested that very small or very large litters may result respectively in inadequate or excessive uterine distension, and that this may result in primary inertia. However, recent work found no difference between the litter size of cats with dystocia due to primary inertia and the litter size of cats with dystocia for other reasons. Primary inertia due to stress, also termed 'hysterical inertia', is not uncommon, and is seen particularly in the Oriental, Siamese and Burmese breeds. In this condition extreme apprehension during the first stage causes all progress to cease. The affected cat is markedly and vocally distressed, crying constantly and demanding attention. She may be positively hysterical, and in such cases, immediate relief may be obtained by the use of tranquillisers. In an emergency, this would be administered by a veterinary surgeon by injection, but if the cat in question is known to behave in this fashion, the breeder may be equipped with tablets which can be given by mouth at the start and will be equally effective. Abnormalities of the first stage Abnormalities of the first stage can include all forms of primary inertia, and occasional rare disorders, such as torsion or rupture of the uterus. These latter two conditions can result in major emergencies in late pregnancy or first stage labour. Torsion implies a twisting of the uterus, cutting off its blood supply, and making delivery of the contained foetus or foetuses impossible. It also causes what is quite obviously an acute emergency with a very ill and shocked cat. Torsion is usually presumed to have occurred during jumping or some violent movement which imparts a swinging motion to the heavily gravid uterus. Rupture is more usually the result of an accidental blow from a vehicle or other violent trauma, or can occur from violent straining upon a complete obstruction. A rupture occurring at the time of parturition will give rise to the same signs of acute emergency as a torsion. It has been known for rupture to occur early in pregnancy and for the foetus(es) to continue to develop outside the uterus in the maternal abdominal cavity. In these cases, the placenta becomes attached to one of the abdominal organs but it is unusual for such foetuses to develop to full term and, of course, impossible for them to be born without an abdominal operation. Abnormalities of the second stage Secondary inertia arises after prolonged second-stage labour, and may be associated with obstructive dystocia, muscle fatigue, or excessive pain. Obstructive dystocia may occur for many reasons, but probably the most common causes are maternal pelvic malformation following a pelvic fracture, and foetal malpresentation/malposition/malposture. Interrupted labour, as already described, is definitely not an inertia, as the cat is manifestly normal, labour recommences normally, and kittens are born alive and normal. An important point of difference between the two is that secondary inertia follows previous difficulty or delay and the cat is often restless and exhausted. Foetal malpresentations, malpositions and malpostures may all lead to dystocia. Presentation indicates which way round the foetus is coming (ie, head or tail first), position indicates which way up it is (ie, rotated or unrotated) and posture indicates the placing of the head and limbs (ie, extended or flexed). Some people believe that foetal malpresentation in cats rarely causes dystocia, except when combined with other problems such as poor cervical relaxation or relative foetal oversize. However, others have found foetal malpresentation to be the most common cause of dystocia of foetal origin, while relative foetal oversize was very rare. Malpresentation Posteriorly presented, or tail-first, kittens occur quite frequently, so much so that this could almost be considered a normal presentation, often causing no delay in birth. If, however, the first kitten comes tail-first there may well be delay owing to the absence of the wedge-shaped head pushing behind the fluid-filled membranes. The kitten is usually passed eventually. However, it does have an increased risk of drowning in its own foetal fluids if the time from placental separation to when its nose is free from its membranes is too prolonged. Malposition Malposition usually occurs when a kitten has died in utero prior to rotation. It is uncommon except in cases of illness, infection or prolonged delay in a late-coming foetus. The presence of a dead foetus within the maternal pelvic canal can, in itself, result in functional or obstructive dystocia. Malposture Malposture is of most importance in relation to the position of the head. Brachycephalic cats may have difficulty at the point where the foetal head first engages the opening of the maternal pelvis. The lack of a wedge-shaped muzzle increases the risk of the head becoming deflected to one side, downwards between the forelegs, or onto the chest. Occasionally, one or both forelegs may lie back along the body, and in posterior or tail-first presentation one or both hind legs may be retained forwards alongside the body to give the breech posture. All of these situations may give rise to either a temporary delay and necessitate extra efforts by the cat or, at worst, result in complete obstruction. Inhibitory behaviour A late manifestation of inhibitory hysterical behaviour may cause delay when the kitten is already through the maternal pelvis and protruding through the vulva. This may cause some pain, so at this point, the cat appears to give up trying and waits for, or demands, help. If this is not immediately forthcoming, the particular kitten involved may die, especially if it is coming tail first. Midwifery The above was a rather daunting, but by no means exhaustive, list of what can, but rarely does, go wrong. Breeders or owners may want to know what can be done to recognise trouble early and how it can be avoided or overcome. It cannot be too firmly stressed that a normal cat needs no intervention. The good midwife is essentially a good and unobtrusive observer until trouble occurs. Midwives should have provided, as far as possible, the ideal kittening bed which should be warm, comfortable and safe, but should also be observable, ie, a happy medium between confinement and relative freedom within the confined area. During the first stage of labour, they may need to provide either moral support or remain unobtrusive as dictated by events. They should have at their fingertips a history of any previous births by the cat in question and, if possible, information relating to earlier generations and related animals. They should have observed the changes during pregnancy and be aware of the degree of abdominal distension, amount of fluid, and perhaps have a rough idea of the number of kittens to be expected. They should have been looking for behavioural changes in the queen, such as nest-making or visits to such desirable spots as in the owner's bed or in the airing cupboard. Facilities for help or examination should be at hand if needed (convenient table, access to running warm water, soap and towel). An internal examination is resented by most unsedated cats and should not be undertaken by the unskilled. If problems are anticipated the veterinary surgeon should have been alerted and given the probable parturition date before the event and informed of the start of labour so that if a call for help becomes necessary it is expected and can be promptly answered. Treatment Apart from the value of observations and knowledge of the behaviour of the cat, breeders can, and in some cases must, be responsible for the treatment of some parturition problems. The secret, if there is one, of the recognition of trouble lies mainly in the recognition of delay. The hysterical dependent cat is obvious enough and easy enough to deal with, provided the necessary tranquilliser is at hand. Identification of delays later in the course of kittening will again involve observation of behaviour. In the case of the normal interrupted labour, it will be evident that the cat is in no distress, has a normal appetite and is perfectly happy with the kittens already born. Straining in the course of a normal parturition, while it may or may not be vigorous, is clearly productive in moving the kitten along and does not appear to give rise to pain. Obstruction, on the other hand, shows as a cat that strains without producing any results, may pant, cry, or appear exhausted, is restless and unsettled, and finally desists in an attempt to recover sufficient strength for a further, although decreased effort. This is the cat that requires help. Feeling from the outside around the perineal area under the tail will indicate if a kitten is already through the pelvis, and a view of nose or feet and tail at the vulva indicates that birth must be imminent if the kitten is to live. If no progress is being made and the kitten is clearly visible, it is up to the breeder to give immediate help since, unless the veterinary surgeon literally lives on the premises, veterinary help may not arrive in time for that particular kitten. If nothing can be felt at the vulva and the hold-up is evidently further forward, then it is time to send for professional help. Diagnosis and treatment of the serious dystocia must be in the hands of the veterinary surgeon. Because of the small size of the cat, manipulative correction of malpostures from within the vagina is rarely possible and is, in any case, a job for skilled hands. To compensate for this, manipulation from outside the abdomen can often correct a malposture such as a laterally deflected head; again professional skill is needed. Often, in any real hold-up, a Caesarian operation is the preferred method and provided that the cat is neither desperately ill nor very exhausted, it is a safe and routine procedure. Present-day methods of anaesthesia are much less likely to depress respiration in the kitten than was once the case, and even in major crises the cat's ability to survive an acute abdominal emergency is exceedingly good and surgery is always worthwhile. The case where the breeder has to help is that of the cat who gives up trying with a kitten hanging visibly from her vulva. If it is coming head first, the first urgency is to clear the membranes away from its nose and mouth to allow breathing to take place. The kitten must then be eased gently out, alternating the direction of traction, first freeing one side then the other, and always directing the pull slightly downwards. Since kittens are slippery and wet at birth, clean pieces of towelling or soft paper towels may help to get a grip. If the kitten has only the tail and hind-legs showing, delivery is even more urgent and the problem of holding the slippery subject more difficult, but the same principle applies. Hold the hind-legs above the hocks, ease gently to alternate sides, and if progress is not made with the aid of a strain or two on the cat's part, try gentle rotation through a few degrees before continuing the easing-out process alternating the direction of pull. Pull and traction are probably misleading words to use here to convey the sensitivity required to co-operate with the cat as she strains and rests momentarily in between, so that progress continues without fear of injury to cat or kitten. Make haste slowly. Immediately the kitten is out, clear the mouth and nose of all membranes and fluid. Methods of kitten revival The normal mother cat will generally make a much better job of cleaning and drying her kittens than any human, so do not interfere unless necessary. If, however, a kitten has had to be helped out and is not breathing, or on those few occasions when the maternal instinct appears to be lacking and the kitten is ignored, reviving it becomes a matter of urgency. Observation of the cat's own methods show the order in which to imitate them to the best advantage. The cat's first act is to see that the kitten's nose and mouth are clear. Next, with a nipping/licking action the cat picks up, then chews through, the umbilical cord and in the process provides a stimulation to the abdominal navel area, getting respiration going. If this is not sufficient, a vigorous licking massage of this area follows. Finally, a more general drying lick and some attention to the posterior part of the abdomen and anal area is given to start the bowel and bladder movement going. Then, if it is needed, a nudge towards the maternal nipples. The human imitation can follow much the same plan with additions in a real emergency. Tear the membranes from the nose, wipe the nose and open the mouth, tilt the kitten head down and clear away any fluid. If the cord has not broken on delivery, tear it a good inch from the kitten and remove the membranes. Complicated cutting and tying of the cord are not necessary. The cat would chew it through, providing a blunt crushing action to prevent bleeding; tearing it between the first two fingers and thumb does much the same thing. The kitten should be supported and the cord held at the kitten end so that the risk of pulling on the kitten is minimised. If the kitten is not breathing and obviously vigorous, or if it has come tail first and possibly inhaled fluid, it is necessary to clear debris and fluid from the air passages. If gentle suction equipment is available this can be done by sucking debris out of the airway. This can also be achieved using a Jackson cat urinary catheter attached to a 5-10ml syringe. This can also be used to induce the kitten to sneeze and cough by stimulating its nose/throat. One of the traditionally used methods involves swinging the kitten. To do this, place the kitten in the palm of the hand, its back towards the palm and neck between forefinger and third finger, its head protruding between the fingers. Enclose the kitten in the fingers and, turning the hand palm downwards with the arm extended, give a very gentle swing; make quite sure first that you are not too near the table or other protruding edge or disaster will follow. The swing will have the effect of forcing fluids out of the air passages and a further wipe of nose and mouth will clear it away. The swing will also serve to stimulate respiration. Take care; if performed too vigorously this method can result in brain haemorrhage. • The next move imitates the licking of the abdominal wall and stimulates respiration. It comprises a stroking, rubbing movement with a clean towel. Assuming that the kitten is by now showing regular breathing, this can be followed by a brisk general rub dry. If the kitten is not is not breathing, some form of artificial respiration may be necessary. Mouth-to-mouth respiration can be useful, but only if very carefully carried out. There are several essential points to remember. It is no use blowing fluids and debris further down; these must be cleared away first (see above). Secondly, the capacity of kitten lungs compared to the human is minute. Blow very gently and allow a pause for expiration. Repeat this cycle every three to five seconds. Breathing into the kitten's airway through a small endotracheal tube or drinking straw may help to reduce the risk of over-inflating the kitten's lungs, and be more hygienic than direct mouth-to-mouth. Various other methods have been used to make the new-born animal gasp. Among these may be listed brandy or other spirits transferred via a fingertip to the tongue, flicking the chest sharply but gently with a fingertip, and alternate hot and cold water applications. While some of these techniques may work, a more reliable treatment is the application of a drop of doxapram to the underside of the kitten's tongue. If in doubt persist with stimulating the kitten; some can still be revived over 30 mins from birth. That said, the longer the duration before breathing, the higher the risk of hypoxia causing brain damage or blindness. Warmth Warmth is a primary essential for the newborn. The kitten cannot react to cold by shivering and cannot control its own body temperature. Normally, warmth would be obtained by direct body contact with the mother and conserved by the maternal choice of an enclosed kittening bed. The first point to remember if help is required is that a newborn wet kitten loses heat very rapidly, hence the brisk rub dry. Follow this, if the mother is ill or not co-operative, by contact with a warm, well-covered hot water bottle and conserve heat with a covering blanket. Great care must be taken not to inflict contact burns by having the bottle too hot. An acceptable alternative is an infra-red lamp widely used for pigs and puppies and readily obtainable. Its disadvantages are that many cats dislike the open bed required for its use and that it may make both mother and kittens too hot and lessen the close normal nursing contact between cat and kittens. The significance of congenital defects Congenital defects that are obvious at the time of birth, and may be involved in dystocia, include: Severe hydrocephalus with marked skull enlargement Anasarca or generalised oedema (waterlogging of the tissues) Spina bifida or incomplete development of the dorsal body wall Hernia or incomplete development of the ventral body wall Gross deformity or absence of limbs Many serious inherited abnormalities are not obvious at birth and abnormalities of the eyes, hearing and heart fall into this category. Suspected abnormalities of joints and limbs should be viewed with caution unless utterly self-evident such as severe shortening of a limb. Joints at birth are very incomplete structures and most apparent 'double-jointedness' or rotation of limbs right themselves by the time the kitten is really becoming mobile. The most difficult decision usually concerns the kitten persistently rejected by its mother, despite its apparent normality. The choice, in this case, lies between hand rearing, fostering or destruction, and in this connection, it should be remembered that the completely hand-reared kitten will be at a disadvantage in its behavioural responses to its own species. The decision can only be made by the breeder after full consideration of the circumstances. An additional consideration is that the rejected kitten may well be a defective kitten ('mother may know best') in which case hand rearing will not be successful. Post-kittening or puerperal complications Retention of foetal membranes Occasionally a cat may fail to pass the final set of foetal membranes after parturition appears to be complete. She will probably show some signs of restlessness and of abdominal discomfort and may be unwilling to settle with her kittens during the 24-72 hours after parturition. Her appetite will probably be poor and a brownish vaginal discharge may be seen. Examination will show a raised temperature and palpation through the abdominal wall will disclose a thickened lumpy area of womb containing the membranes. Broad-spectrum antibiotic cover is necessary and prostaglandin F2-alpha may help to induce expulsion of the retained membranes. If this fails, an emergency ovariohysterectomy (spay) may be required. Metritis Metritis (inflammation of the uterus) occurs occasionally, usually within three days of parturition. The cat is much more obviously ill than with simple retention of foetal membranes. She will be dull and lethargic, ignore her kittens, refuse food, become polydipsic, and may vomit. A purulent, foul-smelling vaginal discharge is present along with fever. Abdominal palpation may cause the queen pain and the uterus usually feels thickened. Antibiotics should ideally be chosen according to culture and sensitivity. However, first-line treatment usually consists of a broad-spectrum antibiotic, eg, amoxycillin-clavulanic acid, or a cephalosporin. If this fails, an emergency ovariohysterectomy (spay) may be required. Uterine problems Uterine prolapse describes the telescoping of the uterus which then protrudes from the vulva. It occurs rarely, where it is seen as an acute post-parturient emergency. The appearance of the invaginated uterus at the vulva is self-evident. Initially, the cat is noticed to be straining and uncomfortable despite the completion of parturition. If treatment is delayed the cat will rapidly become dull, shocked and lethargic, in a similar manner to the animal with a uterine rupture. Uterine prolapse constitutes an emergency requiring immediate medical support and surgical intervention. Mastitis Mastitis (inflammation of the mammary glands), as an acute suppurative form, sometimes occurs during early lactation. It is usually confined to one gland and may follow a simple congestion or overstocking. The affected gland will be tense, hot, painful and enlarged. If it is only congested, the application of heat and subsequent gentle massage will bring normal milk out of the teat orifice, and the situation may be speedily relieved by milking the gland concerned. If an abscess is present, the cat will become anorexic, dull and feverish, and in addition to pain and swelling in the gland, a pointing, or purplish area of fluid pressure from the accumulation of pus will be seen. Antibiotics are essential. While, ideally, they should be chosen according to culture and sensitivity, first-line treatment usually consists of a broad-spectrum antibiotic, eg, amoxycillin-clavulanic acid, or a cephalosporin. Lactation tetany Lactation tetany could, in theory, occur during, or at any time after, parturition. Early cases are well known in the bitch. However, in the cat, most cases have been recorded later in lactation, 17 days to eight weeks post-kittening being most typical. While the precise causes of the condition are not known, it involves a sudden drop in the amount of calcium circulating in the bloodstream. It is undoubtedly connected with the demands of milk production and the affected cat usually has a fairly large litter to suckle. The first signs of the onset of the condition usually include lack of coordination and tetanic muscular spasms with later collapse and coma. Treatment by the intravenous injection of calcium preparations leads to a spectacular reversal of the condition. A later subcutaneous injection may be required to maintain the recovery. Kittens should be removed from the cat if old enough, otherwise, their numbers must be reduced or supplementary feeding given. Any affected cat should only be allowed to rear a small number of kittens at any subsequent litter. Lactation tetany often occurs after each kittening so this fact must be remembered when considering the advisability of breeding again and taking prophylactic measures, or alternatively of neutering. Thank you for visiting our website, we hope you have found our information useful. All our advice is freely accessible to everyone, wherever you are in the world. However, as a charity, we need your support to enable us to keep delivering high quality and up to date information for everyone. Please consider making a contribution, big or small, to keep our content free, accurate and relevant. Support International Cat Care from as little £3 Thank you. Donate Now