

Lactation - getting the right start

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The majority of people know about the importance of nutritional and immunological properties of colostrum and milk. However, few understand the physiological toll of producing these on females on top of pregnancy and birth. Therefore it is vital to have a clear understanding of these processes and any long term implications on health. Diet, husbandry and environment need to be carefully controlled to prevent long term adverse effects to both mother and offspring.

Milk Production

Milk is produced by mammary glands, which are modified sweat glands and form two parallel rows located on each side of the midline of the abdomen. In bitches, there are five pairs with eight to twenty teat openings and the queen has four pairs with four to seven teat openings. During pregnancy, hormonal stimulation causes hypertrophy of the mammary gland in preparation for the production of milk, with mammary secretions produced at the end of pregnancy.

Nutritional requirements of lactation

Milk production is affected by protein quantity and quality supplied in a diet. The owner therefore must supply a food that is energy and nutrient dense but also highly palatable and highly digestible. An inadequate diet will mean that the mother feeds her litter at the expense of her own body reserves resulting in both a loss of weight and condition.

Another factor for diet consideration for a nursing bitch and queen is the size, age and number of the litter. For female dogs, the last two weeks of pregnancy and subsequent lactation are the times when the diet needs to be adjusted (normally a puppy food). This usually means an increase in calories with up to a five times increase at peak lactation (usually when pups are three to four weeks old).

For female cats, they may eat more and gain weight during the first week of conception. This weight gain is stored and then used during lactation. From five weeks of pregnancy up to end of lactation, the queen requires an ad lib high energy; high digestibility diet- normally a commercial kitten food is adequate.

The first milk and feeding

Colostrum is the first milk produced and is crucial to the survival and ongoing health of the young. It contains maternal antibodies to help protect against infection and provides nutrients to protect against hypoglycaemia. Among other things it contains a laxative means to aid expulsion of meconium .

In cases where colostrum or the mother is unavailable, the only options for feeding include finding a foster mother or using a suitable commercially available milk formula following manufacturers' instructions. In this case, milk can be administered via syringe feeders, hand rearing devices or via a stomach tube.

When colostrum is available, healthy young will usually find a teat as soon as the mother has finished cleaning them. They should have had their first feeding ideally within four hours continuing to feed every two to three hours thereafter for the first five days or so.

Potential Complications Prior to or During Lactation

Agalactia-	Mastitis-	Eclampsia-
Failure to produce milk generally due to c-section, premature birth, hormone insufficiency (oxytocin)	Inflammation of the mammary glands caused by a bacterial infection	Is where Hypocalcaemia (reduced calcium levels) can cause fits, even death if misdiagnosed, Caused by inadequate feeding
Treatment includes quiet environment to relieve stress, encouraging young to suck, oxytocin admin.	If possible, removing the infected fluid can help along with bathing. Antibiotic will also be required.	Vet attention- Administration of calcium borogluconate 10% via slow intravenous injection (rate of 2-5ml for cats and 2-20ml for dogs) Oral supplementation with calcium may also be necessary.

Lactation is an essential part of a neonate’s development and ongoing health. Inadequate nutrition to either the mother or offspring during this period may have negative lifelong health results. It is massively important to provide the correct nutritional support during this time.

For further information please contact the clinic on 091-752014