

Back to Back Breeding

The Australian Journal of Professional Dog Breeders

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Revisiting back to back breeding

February 5, 2011 By [Dr Kate Schoeffel](#) [3 Comments](#)

By Dr Kate Schoeffel

It is frequently claimed that breeding dogs on every heat or “back to back breeding” is bad for a bitch’s long term health and well being. However the research in canine reproduction shows that *not* breeding a dog when it comes into heat can in fact be bad for its health.

Scientists have shown that pseudopregnancy ['phantom pregnancy'] increases the risk of mammary cancers which are the second most common cancer in dogs after skin tumours and are 3-5 times more common than breast cancers in women¹:

Pseudopregnancy often occurs when a bitch is not bred. She will show signs such as nesting, weight gain, mammary enlargement and lactation – usually about 6 to 12 weeks after oestrus. Pseudopregnancy represents the extreme of the changes which normally occur during the oestrus cycle and it is suggested that it is a hang over from dogs evolution from wolves. Subordinate non breeding pseudopregnant female wolves in a pack can help to raise pups by nursing the litters of other females”²

In 1994 Donnay and his associates showed that there is a relationship between the number of pseudopregnancies a bitch goes through and the development of mammary cancer – see Table 1 below³. Versteegen and Onclin (2006)¹ have also studied canine mammary cancer and found that a large number of bitches presented for mammary tumours also show pseudopregnancy, that a large percentage of these females had had frequent pseudopregnancies and that the bitches with recurring pseudopregnancy at each cycle tended to develop mammary tumours significantly earlier than other animals.

Both of these authors say that there is need for more research but clearly bitches which don't breed are likely to become pseudopregnant and pseudopregnancy increases the risk of cancer.



Skipping cycles in breeding has been linked to mammary cancer

Pregnancy protects against life threatening uterine diseases. The most common uterine disease in the bitch is cystic endometrial hyperplasia. It is linked to several serious uterine diseases including the potentially life threatening disease “pyometra” (literally – a uterus full of pus) which affects nearly one quarter of dogs under 10 years old which are not desexed⁴. According to canine reproduction specialist Dr S. Romagnoli “bitches whelping regularly throughout their reproductive life almost never develop pyometra, while those who whelp rarely or never in their lives have a greater chance of developing this condition”. Furthermore a standard textbook of veterinary internal medicine notes that uterine diseases are less common in kennels where bitches are bred and conceive regularly indicating that pregnancy has a protective effect on the lining of the uterus or “endometrium”^{5,6}

Given that artificially restricting bitches, which haven’t been desexed, from breeding is bad for their health, it is not surprising that many breeding dogs bred have reproductive problems. If they are show dogs they often don’t start breeding until they are three years old, and have finished their show career, and then kennel club rules and even government regulations require that the bitch is only bred on every second season. Frequently older bitches need veterinary intervention to reproduce, and good bitches may end up being bred well beyond 6 years of age when their fertility is beginning to decline.

No responsible breeder who cares about their dogs would breed their bitches until they are exhausted, and rules certainly need to be in place to ensure that irresponsible breeders don’t exploit their dogs, however the current regulations in place in some states do not take into account the biology of the bitch. Breeding should be regulated by limiting the number of litters a bitch can breed or the age at which they should be desexed and retired.

Breeding dogs regularly while they are young, followed by desexing and rehoming them early is in the best interest of the bitch and a good pet breeder can use this knowledge to work with the natural biology of their animals.

Breeders must be aware of and comply with any government regulations regarding dog breeding in their state and unfortunately in Victoria, NSW and QLD current regulations do not permit this approach to dog breeding.

Pseudopregnancy	Dogs with history of pseudopregnancy		Odds Ratio
Frequency			(IC 95%)
	With tumours	without tumours	
< 3, non systematic	108	158	1.5 (0.99 – 2.3)
> 3 , systematic	73	109	1.9 (1.15 – 3)
Total	181	267	1.6 (1.14-2.3)

Table No 1: Odds ratio for the risk of mammary tumours development related to the frequency of pseudopregnancies. (from Donnay et al. 1994). In this study, bitches with > 3 episodes of pseudopregnancy in their lifetime had a higher risk of developing mammary tumours.

1. J.P. Verstegen III and K. Onclin. Prolactin and Anti-Prolactinic Agents in the Pathophysiology and Treatment of Mammary Tumors in the Dog. NAVC Proceedings 2006, North American Veterinary Conference (Eds).

2. Canine Pseudopregnancy: A Review (Last Updated: 23-Aug-2001)

C. Gobello¹, P. W. Concannon² and J. Verstegen III³, Recent Advances in Small Animal Reproduction, Concannon P.W., England G., Verstegen III J. and Linde-Forsberg C. (Eds.)

3. Donnay I, Rauis J & Verstegen J – Influence des antécédents hormonaux sur l'apparition clinique des tumeurs mammaires chez la chienne. Etude épidémiologique. Ann. Med. Vet. 1994, 138, 109-117

4. Simón Martí Angulo Clinical aspects of uterine disease in the bitch and queen. Proceeding of the Southern European Veterinary Conference

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5 Davidson AP, Feldman EC. Ovarian and estrous cycle abnormalities. In:

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6 Johnson CA. Cystic endometrial hyperplasia, pyometra, and infertility. In:

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